# Electric Railway Journal

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**THE CRYING NEED IN POLITICS**

We are suffering in this country from a lack of trained leadership in public affairs, particularly in relation to the administration of the regulative functions of government. When a man like Colonel Goethals undertakes a public work and puts it through effectively, the achievement is heralded not only for its intrinsic value but to prove that it is possible for a government official to serve the public effectively. The inference, however, is that such service is unusual. An analysis of the actual conditions shows that the increase in the demands of public service for trained workers recently has been so rapid that the supply is far less than the demand. We are far from believing that it is wise to create a large office-holding class. At the same time if the government is increasingly to undertake functions of a regulatory and executive character it is extremely important that the details of the work should be in the hands of men trained for this particular task. Elsewhere in this issue we publish a brief account of a conference to bring about such a plan, called by Mayor Mitchel of New York and held under the auspices of the American Political Science Association. The conclusions reached were that the plan was worth while and that the proper place to turn for assistance was to the colleges.

**COLLEGES AND PUBLIC SERVICE**

We have a right to look to the colleges to help in this work. This is not because they possess a monopoly of learning, but they are the crowning feature of our educational system and have been organized to give training of an especially high character to a small proportion of population, qualified by natural endowments to profit by such training. Too often the college man of to-day considers that he performs his civic duty by complaining about the existing situation. Dr. A. C. Humphreys of the Stevens Institute referred to this condition in an address in Philadelphia last week when he criticized the teaching of civics in modern educational institutions as neglecting the practical and placing undue stress on the theoretical, and added: "The so-called educated man—meaning the man of school, college and books—is to blame far more than the less favored man if his ill-considered words lead others astray." The fact that some college men are active in attacks on capital is no reason why the colleges cannot do an important work in training the right kind of men for civic service. The exceptions really prove the rule. There is no reason why the colleges should not be able to turn out men as well trained in civic matters as they do men trained in engineering, and we hope that Mayor Mitchel's plans will be successful. Certainly there are enough practical problems in social and political economy to call for the services of the best men whom the colleges can produce. After all, the real test of the value of the colleges and the training which they impart is the effectiveness with which the recipients of this training address themselves to their civic duties.

**DANGERS OF PUBLIC SERVICE**

The present disgraceful attack on Bion J. Arnold and George Weston of the Board of Supervising Engineers, Chicago Traction, by the Mayor and a supporting group of newspapers shows how good public service may fail of appreciation if the expert opposes the wishes of the politician. The Board of Supervising Engineers is strictly non-partisan and non-political, as required by ordinance. As a result of careful engineering study it could not support Mayor Harrison's plan for a comprehensive subway system in Chicago, and this opposition undoubtedly contributed in large part to the defeat of the Mayor's subway plan at the recent municipal election. Now we learn that the accounting methods of the board have been attacked with a view to discrediting the responsible engineers. As Mr. Arnold cannot be removed without due and elaborate process the attack is turned on Mr. Weston, the city's representative, who can be displaced with less ceremony providing public opinion does not protect him. Mr. Arnold is a fighter where right principles are to be maintained. He has answered his critics in a patient, painstaking manner, but he will see this thing through as he has done before in the case of similar although less vigorous opposition. It is discouraging for the advocates of good government and high-grade public service to see men of high character and attainments treated in this fashion, and we confidently believe that the civic spirit of the great city of Chicago which, when roused, is overwhelming, will make itself felt in the interest of fair play. There is evidence that the tide is already rising. In the Board of Supervising Engineers the city of Chicago has a unique and simple device for safeguarding the public interest. The maintenance of such a body of competent engineers is possible only because the magnitude of the work is so great. The board has, during the rehabilitation period, effectively supervised vast expenditures. It has demonstrated its ability to cope with complicated situations. It was supposed to be free from political machinations. The good citizens of Chicago owe it to themselves and to the country to see to it that the good name of the board is safeguarded.

## THE SAN FRANCISCO MUNICIPAL RAILWAY REPORT

The report of the Geary Street Municipal Railway, San Francisco, Cal., for its first year of operation, from Dec. 28, 1912, to Dec. 31, 1913, has just been made public and is abstracted elsewhere in this issue. It is a valuable contribution to electric railway financial data, for it is the first municipal railway report in this country that has been presented on a sufficiently standardized basis and in sufficient detail to permit a ready analysis of the results of municipal versus private operation.

The structure of the report is a source of much gratification to the Electric Railway Journal, for several of the defects in the report for the first six months of operation, as pointed out in an editorial in our issue of Oct. 11, 1913, have been recognized in principle if not in all practical details. Thus in the official report presented to the Board of Public Works for the period from Dec. 28, 1912, to June 30, 1913, the total investment was given as $1,680,255. In the present report the cost of construction has been set at $1,657,251 and a list of "general expenditures" covering organization and development items which apparently did not appear in the prior report has been added. These general expenditures include the cost of engraving and advertising the bonds, early legal expenses, the interest during construction and the cost of the two special municipal ownership elections of July 30, 1909, and April 22, 1913. Altogether they aggregate $181,890, making the total investment $1,839,142. We do not quite understand why, if the justice of capitalizing the cost of the two last elections is admitted, the cost of the special elections on the same questions taken on Dec. 2, 1902, Oct. 8, 1903, and June 24, 1909, should not also be made a part of the capitalization, but perhaps this was considered too great an allowance to be made at one time.

One item, however, about which the municipal line still maintains a discreet silence is the $350,000 appropriated for plans and specifications prior to the 1906 disaster. Whether this sum was entirely expended in the preliminary engineering work on the proposed road or sank out of sight in the earthquake, no one seems to know. Nevertheless, it is a legitimate construction charge, and when one considers that it is over 19 per cent of the stated cost of road and equipment and general expenditures, its omission assumes a position of serious importance.

Another improvement in the form of report is that the charges for taxes, depreciation and insurance have been reduced from the former "mythical" form into concrete estimates. In the latter connection, it may be well to note that although in the main the Interstate Commerce Commission accounting classification is followed, there can be no justification found therein for carrying in the income statement a reserve of 18 per cent for "depreciation" when, as explained in a solitary note in the report, 4 per cent of this amount is for injuries and accidents. The mere fact that reserves are set up to cover injuries and accidents as well as depreciation confers upon the accountant no right to class the two as "depreciation." The effect to others than the close analyst is bound to be misleading.

On its face the report shows a profit, after the deduction of operating expenses, taxes and interest on the funded debt, of $45,304.47, and for this reason we assume that the road will be hailed by municipal ownership advocates as a demonstrated success. Let us see, however, just what this apparent profit amounts to in percentage on the investment. We shall take as the "investment" only the figure $1,839,142 quoted above and omit, so that there shall be no dispute, any capital charges which are not given in the report. The return to the city consists first of $73,887 for interest, including interest of $29,584 computed semi-monthly on the actual investment from Dec. 28, 1912, to June 30, 1913, and interest of $44,302 at 4½ per cent on $1,969,000 of funded debt from June 30, 1913, to Dec. 31, 1913, and second, of profits of $45,304.47 for the year. The total amount available, therefore, for interest and profits was $119,191, which on the basis of the total investment of $1,839,142 means a rate of return of 6.48 per cent.

Let us now consider what return would have to be earned to encourage private capital to engage in this class of enterprise. Fortunately we have this information right up to date, and in regard to enterprises in the same locality, through the testimony which A. F. Hockenbeamer, of the Pacific Gas & Electric Company, offered to the California Railroad Commission last March, as abstracted in the last issue of this paper. Mr. Hockenbeamer presented a list of all of the recently authorized public utility securities in California and showed that the prospect of net profits of at least 8½ per cent upon the total investment was necessary to attract new capital. He gave as a reason for this statement the fact that wage disputes, new inventions, rapid obsolescence of apparatus, engineering and operating mistakes, etc., give the operation of electric railway and power companies certain hazards and that these necessitate a higher rate of return than that required simply for the use of the money where there is not an equal amount of risk. Now the mistake of the municipal ownership adherents lies in imagining that these hazards will be any less under municipal than under private ownership. Certainly, if the city is not securing a rate of return adequate to cover those losses which cannot be foreseen but are certain to come it is operating at a loss. The only reason that an investor will accept the low rate of interest which goes with the San Francisco city bonds is because he knows that if the business venture does not pay the city can and will raise the interest money by taxation. If the city had provided for these risks by establishing a reserve to cover the difference between the present rate of return and 8½ per cent, the rate at which Mr. Hockenbeamer estimates the cost of money for the other California utilities, there would have been a deficit of slightly more than $37,000, or nearly the amount which is now claimed as a surplus.

Thus far we have considered only the capital account of the Geary Street line, the omissions therefrom and the rate of return on the stated total investment.

There are other interesting points connected with the report and with the ability of the road to increase or even to maintain the present rate of "profit" for a series of years. A discussion of these points, however, must be deferred until a later issue. Suffice it to say now that conditions point to a decline rather than to an increase in the net income.

## MR. McCARTER ON MUNICIPAL OWNERSHIP

Mr. McCarter's argument against municipal ownership of electric railways in the District of Columbia, published in the ELECTRIC RAILWAY JOURNAL of last week, centered on two fundamental points. These were: First, that public ownership is not sound public policy for this country; and second, that if, notwithstanding this consideration, the cities embark on municipal ownership experiments they must value the existing properties fairly, with allowance for franchise rights where those rights exist. From these two standpoints Mr. McCarter argued to persuade the committee not to follow the course proposed in the bill before it. He has been supported in his arguments by officials of the properties directly affected as well as by those who appeared before the committee this week to give testimony.

Mr. McCarter has wisely schooled himself to meet the large public questions of the day that affect properties of the kind he directs. By so doing he has set an example to other public utility operators. Concerning the policy of the frankness shown by Mr. McCarter in his discussion before the committee there can be no reasonable dissenting voice. Attention is called here to his evident willingness to answer freely and fully all questions asked by members of the committee because that is the proper attitude for a public utility official to adopt in his dealings with all bodies representing the public. The fact that all officials have not done so in the past is one reason for the birth of the troubles that they have felt so heavily during the last few years.

There can be no doubt that regardless of whether the bill was meant seriously by its framer or whether the committee that has it under consideration takes it seriously, the thing for the company and the industry generally to do is to look at it as a grave issue. The time passed long ago when any movement affecting public utilities could be dismissed with a cool wave of the hand. Unfortunately that was the attitude with which some operators dealt with regulation when this powerful force first made its unwelcome appearance. To those men the policy of regulation then seemed unthinkable. After years without supervision they could not bring themselves to realize that a radical change could occur. What did take place is proof, if proof be needed, that indifference or off-hand dismissal of public issues is not the best way. These issues must be answered. Mr. McCarter was controlled by a willingness to heed the plain fact that a bill was introduced in Congress providing for public ownership of the properties. We believe that the public generally is unresponsive to a political movement of this kind now, but he did not propose to be influenced to do other than appear and place himself on record against it. It is far wiser to follow such a course, to accept the gauntlet thrown down and to meet the issue than to avoid or belittle it.

The voice of Mr. McCarter on the public ownership issue is needed. We do not want to be understood as believing that there is a strongly-defined tendency toward municipal ownership in this country at this time. We think that there is not such a tendency in the country. There is, however, a strongly developed radical movement. Some of the functions and avenues of government are in the hands of radical individuals who do not know much about the danger of the courses which they advocate and who care less. They should not be allowed the free rein in action which they claim in speech. Every influential voice that can be raised against proposals to recast radically the national customs and institutions should make itself heard. If municipal ownership does come in time the approach to it should be through sober channels with a full recognition of the rights of the companies whose properties are taken as the basis for public systems. The clauses in some of the recent electric railway franchises, giving cities the right to acquire the property eventually, are outcroppings of tendencies, like the bill pending in Congress, on which the conservative forces of the times should express their opinion.

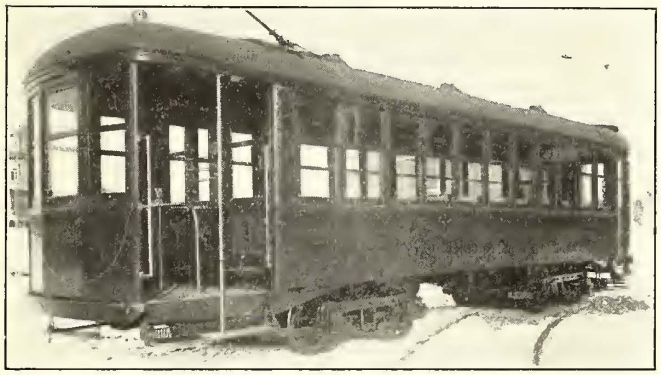
The other phase of Mr. McCarter's argument dealt with the rights of the company under its franchise contract and the value of its property. He made it clear that the public did not lose all of its rights when it granted a franchise which he regards as perpetual. It still has the power to require good service and to make rates. It still may have the power to condemn and take the property. Mr. McCarter's contention that the best public policy is that of private ownership with complete public regulation is, we believe, based on a fair regard for both the public and the corporate interest. If public ownership is substituted ultimately it would be desirable that the community should recognize the capitalization. This assumes, of course, that the capitalization issued is not unreasonable. An unreasonable capitalization, issued without regard to value or fair chance of a return, falls of its own weight in time. But capitalization that represents fairly the costs that, with careful management, made the property what it is to-day and that is capable of a fair defence under the existing settled policies of courts and commissions, should be treated justly. If such treatment is not given through recognition of the capitalization as such, but is given through a valuation, the desired protection of securities issued properly will be obtained.

The value to be allowed for the property in the event of ultimate municipal ownership, which may never take place, is not of controlling importance at the moment. What is of controlling importance is that the policy of private ownership with public regulation is on trial as the answer to the public ownership cry in scattered camps of radicals. It is the duty of both the public leaders and the company leaders to let the trial proceed fairly.

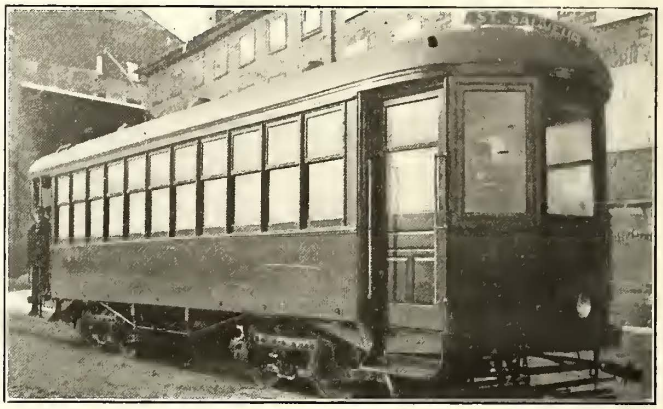
# Traffic Development at Quebec

How Traffic from the Local Population at Quebec Has Been Created by More Frequent Car Service and How Additional Business Has Been Secured by Making the City Accessible to Tourists Other than the Well-to-Do by Means of Sight-Seeing Cars

The history of recent traffic development in Quebec is a striking proof that there is little in the belief sometimes expressed that people will ride because they must or that they will visit an attractive place without urging. Perhaps no city railway in America is justified in expecting a heavier traffic from an area of equal size and population than the Quebec Railway, Light & Power Company. The steep grades, particularly between the business and residential parts, certainly conduce to local riding, while the location, romantic history and many ancient houses of Quebec make it one of the most attractive tourist cities in the world. The following paragraphs will show that because of innovations in service and advertising the traffic has been developed remarkably.



Quebec Traffic Development—Double-Truck Prepayment Car, Showing Arch Roof Construction, and Open Rear Platform with Dividing Rails



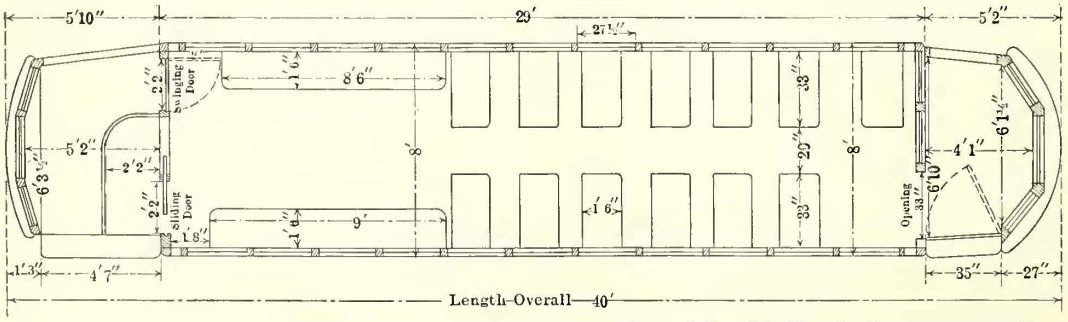
Quebec Traffic Development—Double-Truck Prepayment Car, Front Platform Inclosed with Full-Width Swinging Door

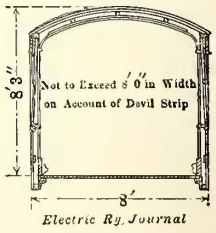
### DEVELOPING LOCAL BUSINESS

The question of giving increased service for the Quebec public was taken up early in 1912 by H. G. Matthews, the incoming general manager. Ample rolling stock was on hand, yet altogether too many cars were idle. The normal number of cars in all-day use during the summer had been forty, this corresponding to a three-minute headway on the main line of the Lower Town and to a five-minute headway in the Upper Town. The number of cars was increased to fifty with a maximum of fifty-eight during the rush hours, to sixty-six on Sundays and to seventy-seven on extraordinary occasions, like fair and circus days. The addition of these cars made it possible to cut down the headway in the Lower Town to two minutes and in the Upper Town to two and one-half minutes. The immediate effect of this sudden increase in service was to cut down the earnings per car mile considerably, but the public learned to appreciate the extra service so rapidly that to-day the earnings actually exceed the original figures by 1 cent to 2 cents per car mile. This experience has demonstrated that in a hilly city like Quebec people will ride very short distances provided that frequent cars are available.

### INCREASED ROLLING STOCK FOR CITY SERVICE

The increased business soon took up the rolling stock reserve and brought with it the addition of two double-truck cars of the type hereinafter described. Single-truck cars are best adapted to Quebec conditions except on the longer Crown Street main line and suburban extensions. The company now has fifty-seven closed cars, forty nine-bench and ten ten-bench single-truck open cars and two observation cars. Of the cars in service, sixteen are new prepayment cars of the single-truck type, furnished by the Ottawa Car Company, and five are cars converted to prepayment operation.



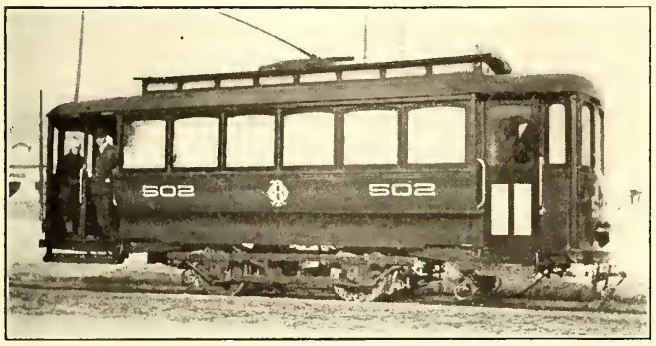

Quebec Traffic Development—Plan of Double-Truck Prepayment Car

The two new double-truck cars illustrated are of arch-roof design. The length of 40 ft. over all is set by the narrow streets common to the older parts of the city. The body is 29 ft. over vestibule corner posts, the front platform 4 ft. 1 in. over all, the rear platform 5 ft. 2 in. over all, and the width 8 ft. over all. Although Quebec has some very cold days, no door is provided at the front bulkhead. The exit door is also an unusual

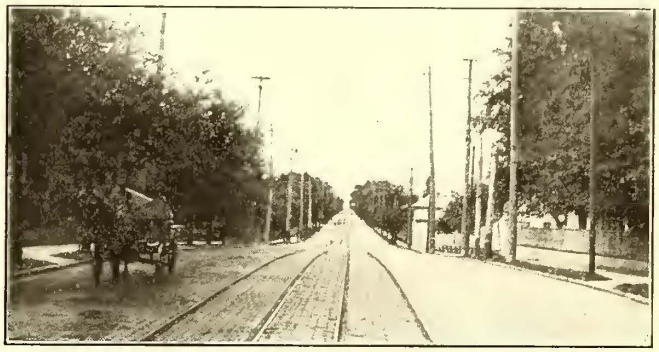
feature, as it covers the entire step width. The rear body doors are of the sliding type for exit and of the swinging type for entrance. The seating plan is the favorite combination of longitudinal seats at the entrance and cross seats in the rest of the car. The omission of a cross seat opposite the front exit, the absence of a door at that place and the opening of the entire front platform are features which greatly encourage the passengers to leave at this end rather than at the rear, where they would oppose incomers.

The body, which was furnished by the Ottawa Car Company, is fitted with upward sliding sashes, which make the car very agreeable for summer service. The Taylor trucks are equipped with four Westinghouse 101-B-2 outside-hung motors and S.M.E. air brakes. These cars are the first in Quebec to have air brakes and steel-tired instead of cast-iron wheels. Ventilation is effected by Brill roof ventilators. The cars are electrically heated. Both cars are operated in regular prepayment service with the Coleman fare box and without the use of any registration devices. Up to Aug. 20, 1913, each car had run more than 20,000 miles without overhauling, the cars thus proving as satisfactory to the company as they have shown themselves to the public.

It is planned to splice sixteen of the single-truck open cars in order to convert them to fourteen-bench open cars 40 ft. over all and equipped with maximum traction




**Quebec Traffic Development—Standard Single-Truck Car, Rebuilt for Prepayment Service**



**Quebec Traffic Development—Stone Paving on Grand Allée, One of the Chief Residential Streets**

trucks. The single-truck cars of the 500 type illustrated were rebuilt for prepayment at an average cost of less than $500, thereby lengthening the life of the car by about five years.

### DEVELOPMENT OF CITY TOURIST BUSINESS

Although Quebec has always been a most attractive place to tourists, the railway did not realize until 1912 that it had not been catering to the much larger number of people who would be glad to visit the town if they could see the notable places in a few hours at nominal expense. Most of the tourists had been people who could afford to stop at the hotels for a week or more and go to each place leisurely in carriages in preference to the street railway. Nowadays, the observation car service is so well advertised that thousands of people come to Quebec by boat in the morning, take in the town by trolley and leave by boat in the evening.

In 1912 Ralph Mayne Reade, superintendent of the city division, prepared the first trolley trip guide ever issued by the company on the attractions of Quebec. This booklet described the many historical places of the city in a pleasing style. The photographs, which were made cheaply with a kodak of post card size, were also taken by Mr. Reade. Of this edition of the guide, 40,000 copies were printed and distributed among tourist agencies, steamship lines and other organizations in touch with travelers. It was found that the guide increased the general traffic but did not help the business of the sight-seeing cars because it had been made out to cover individual trips, each of which would cost but 10 cents per round trip. In 1913, when an edition of 50,000 copies was printed, 50,000 dodgers were also included. The latter, which were handed to tourists when they arrived at Quebec, advertised the observation car as the one way to see the city. The result was an increase of almost 100 per cent in the observation car business. A convenient feature of the guide is that the text is arranged to follow the route of the observation car so that "he who rides may read" to the best advantage. As the text and pictures of the booklet were prepared by one of the officials of the company, the actual production cost was very reasonable. Furthermore, about one-half this cost was made up by securing local advertising at the rate of $50 per page.

It is planned to print 100,000 booklets for the season of 1914 and to distribute them among forty-eight tourist agencies instead of twenty-four. The extent to which even the 1913 booklet was circulated appears from the fact that 2000 copies were sent to the London (England) emigration office of the Province of Quebec. Not only is the railway company doing its share to advertise the city in this way, but it has also been one of the first to appreciate the greater population and prosperity that must come to Quebec with the opening of the Quebec Bridge and the completion of its harbor and other improvements. In harmony with this spirit, the next guide will contain industrial data to exploit the merits of Quebec as a manufacturing and distributing center. An alphabetical list of all products manufactured in the city will be presented so that outsiders will know what Quebec lacks as well as what it has.

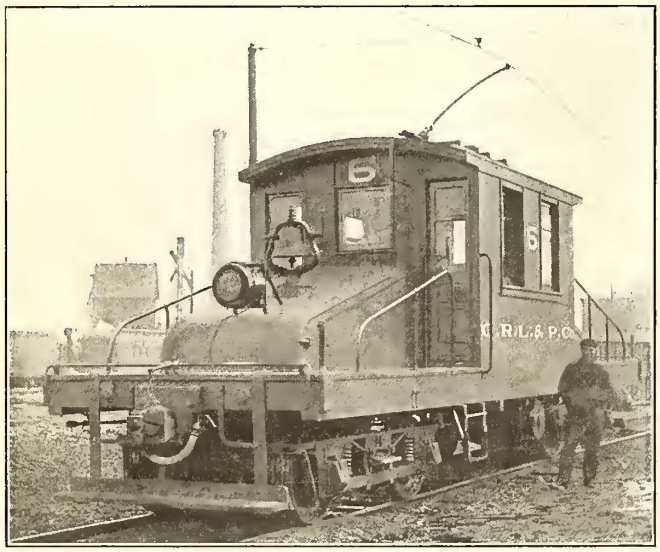
The first observation car was installed in 1910 and the second in 1911. The cars are of the open-tier type used in Montreal. As each pair of seats is one step above those immediately ahead, everyone has a good view and may take snapshots from almost any position. The car is not roofed, but several light brass arches are attached to carry lamps for night service. Each car seats forty-two with a maximum of fifty when camp stools are placed in the aisle. With one of these cars a person can see the principal parts of the city in one hour and forty-five minutes for the nominal price of 50 cents and have a competent guide explain everything of interest along the route. On the other hand, a carriage trip costs at least $3, covers far less territory and is often in charge of a driver who speaks little or no English. To be sure, the observation car when used in this manner does not give a detailed view of every object, but, as an American humorist lately said, most wanderers are "tourists" who lack the money and leisure of "travelers." Quite a large number of riders on the observation cars are people who have just landed from European steamers and are obliged to wait about three

hours for train connections. Such persons are led to spend their free time in visiting the city, because their attention has been directed to the trip by means of dining-room advertisements of the sight-seeing cars. During the first sixteen days of August, 1913, the earnings of the observation cars exceeded $100 on all but three days, whereas in the same period of 1912 the earnings fell below $100 on all but three days. The maximum earnings of the two cars in one day came from 374 passengers at 50 cents each.

It is rather difficult to estimate just how much of the increased business should be ascribed to the local traffic and how much to tourist travel, but the accompanying table, covering operations for the same five months of 1911, 1912 and 1913, will show that conditions have been greatly improved.

Operating Data, Showing Growth of Quebec City System for Five Months of 1911, 1912 and 1913

| | Car Days | Car Miles | Average Earnings Per Car Day | Average Earnings Per Car Mile, Cts. | Passengers Carried | Total Earnings | Operating Expenses per Car Mile, Cents |
|---|---|---|---|---|---|---|---|
| July, 1911 | 1549 | 169,423 | $27.15 | 25 | 929,006 | $42,060 | 13.00 |
| July, 1912 | 2012 | 210,362 | 22.38 | 21 | 1,002,820 | 45,031 | 12.33 |
| July, 1913 | 1904 | 207,265 | 26.30 | 24 | 1,127,085 | 50,079 | 14.00 |
| August, 1911 | 1653 | 180,416 | 28.26 | 25 | 1,017,514 | 46,716 | 12.00 |
| August, 1912 | 1971 | 207,004 | 25.44 | 25 | 1,103,174 | 50,149 | 12.25 |
| August, 1913 | 2005 | 223,412 | 30.25 | 27 | 1,336,932 | 60,661 | 13.40 |
| September, 1911 | 1531 | 162,219 | 24.63 | 23 | 849,402 | 37,718 | 12.40 |
| September, 1912 | 1652 | 184,187 | 23.07 | 20 | 874,254 | 38,119 | 12.25 |
| September, 1913 | 1801 | 200,529 | 25.62 | 23 | 1,063,125 | 46,146 | 14.60 |
| October, 1911 | 1364 | 156,443 | 23.56 | 20 | 752,540 | 32,140 | 13.00 |
| October, 1912 | 1534 | 176,373 | 23.12 | 20 | 838,300 | 35,479 | 11.66 |
| October, 1913 | 1760 | 191,054 | 24.24 | 22 | 1,010,040 | 42,671 | 14.00 |
| November, 1911 | 1350 | 146,508 | 21.17 | 18 | 675,188 | 28,587 | 13.20 |
| November, 1912 | 1449 | 167,866 | 21.87 | 18 | 752,843 | 31,701 | 13.75 |
| November, 1913 | 1629 | 181,438 | 23.09 | 20 | 895,051 | 37,613 | 14.50 |



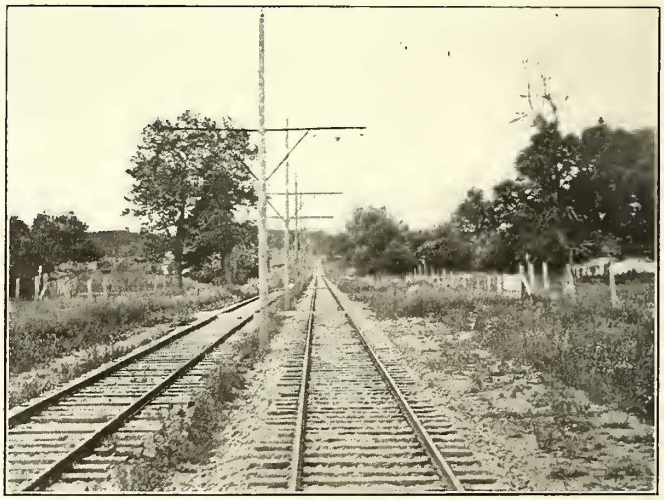

**Quebec Traffic Development—Home-Made Locomotive for Interurban Division**

### MONTMORENCY INTERURBAN DIVISION

The Montmorency division of the Quebec Railway, Light & Power Company includes the line to the famous shrine of Ste. Anne de Beaupré, over which route a great many steam trains are operated directly in addition to the regular electric service. This business has increased from year to year. It was only 80,000 in 1889, the first year in operation; 649,087 in 1901, when the road was electrified, and 1,800,000 passengers in the fiscal year ended June 30, 1913. Of this last number 160,000 passengers were pilgrims who came to the shrine on steam trains. A maximum of 20,000 passengers is carried on Sundays. A most enviable record of this line is that not one passenger has been killed on it despite the heavy service and the mixture of electric and steam trains. All trains are dispatched by telegraph.

Although the traffic of Ste. Anne's would be heavy without any advertising, it has been increased by the use of a personal service for visitors. Thus in 1910 the company began the operation of a train known as the "tourist special." This is an extra-fare train, with guide, which makes no stops between Quebec and Ste. Anne de Beaupré except at Montmorency Falls. By special arrangement, the visitors on reaching the shrine are taken in hand by a Redemptorist brother, who escorts them through the church and the near-by chapel. This good brother wittily expounds the difference between "visitors" and "pilgrims."

At Kent House, Montmorency Falls, the company operates a hotel and park. Formerly the only way to reach the park was by the regular line to Ste. Anne and by an elevator at the falls. In 1911, however, the company built an upper level line which goes directly to Kent House. The construction of this 4-mile line permitted a lower total fare and consequently has greatly increased the popularity of the park. This extension consists of 4 miles of double track. A thirty-minute service is now given to Kent House all the year round, while on the lower level line an hourly service is given to Ste. Anne in the summer and a two-hour service in the winter. The increased travel on the Montmerency division will soon require additional equipment.



**Quebec Traffic Development—Sillery Line of Quebec City System**

The very latest scheme for advertising the Montmorency division is a moving picture reel 680 ft. long which was made in September, 1913, by the Vitagraph Company. These pictures were secured originally in connection with a drama, but the moving picture company presented to J. A. Everell, superintendent of the Montmorency division, that part of the film showing views along the line. This film has since been used by a lecturer for talks in the United States and Canada.

As the pictures were taken from a moving train, they show the line exactly as the traveler would see it.

### TRACK AND EQUIPMENT ON MONTMORENCY DIVISION

At one time the company had much trouble from weeds and spent about $3,000 a year to kill them. Lately it has used with great success the waste tar from its gas plant. As there is no market for tar or tar water in the city, this by-product is not distilled for sale. A dense tar solution is sprinkled over the right-of-way when the weeds first begin to appear and thinner solutions are applied monthly until fall. About 1000 gal. is used per mile of double track. The tar has the double advantage of killing the weeds and giving a dustless road. Incidentally, it helps to preserve the ties.

The equipment on the Montmorency division consists of eight steam locomotives which can haul fourteen to fifteen trailers when necessary, twenty-two steam trail cars, eleven motor cars and one electric locomotive. The last was constructed by the company in 1911 primarily for freight service, but it also hauls eight to ten passenger cars when required. It is 34 ft. long over all,


**Quebec Traffic Development—Passenger Station of Wood Faced with Tin**

8 ft. 8 in. wide, weighs approximately 98,000 lb. and has two trucks of 6½-ft. wheelbase, 28 ft. 8 in. center to center. The wheels are of 33-in. diameter. The longitudinal frame of the locomotive consists of two 12-in. x 5-in. pine sills and four 9-in. x 4½-in. inside sills.

The equipment consists of four Westinghouse 303-A motors, geared 16:61, and an L-4 controller which is placed in the center of the steeple cab. The normal speed is 18 m.p.h., and on a level the train will haul 400 tons at 10 m.p.h. Resistances and other equipment are carried under the sloping ends. Westinghouse air brakes are used.

### TRACK AND EQUIPMENT EXTENSIONS

In Quebec's Lower Town the soil is largely "made" land, whereas Upper Town is almost entirely on foundations blasted in solid rock. The standard city rail is a 6-in., 80-lb. T. The ballast is of broken stone laid to a depth of at least 4 in. below the ties with a concrete filling and a sand cushion for scoria block. This block has been standard in Quebec since 1903. It is made with a plain bevel to make a runway for wagon traffic. The company must pay the city for the maintenance of all pavement within 2 ft. of each side of the rails.

The extensions made in the suburbs of the city within recent years were with 5-in., 80-lb. T-rail. The upper level line to Kent House has already been noted. Between August, 1910, and June, 1911, 4.8 miles of track, or 2.4 miles of route, were built from Maple Avenue to Sillery and Bergerville. An extra fare of 5 cents is charged on this extension. On weekdays passengers for the extension transfer at Sillery Junction, but on Sundays a through service is given from the Chateau Frontenac, which is the principal hotel and is adjacent to Dufferin Terrace, the famous boardwalk on the cliffs of the St. Lawrence River.

The city system has just been extended by 1 mile of double track into Limoilou Ward from Victoria Bridge at Charles River. This line will open up territory for settlement on the north side of the Charles River. A half-mile of single track has also been built on St. Valier Street to serve the large shops of the Transcontinental Railway which are under construction at St. Malo, directly opposite the latest carhouse of the electric railway company.

## NATIONAL CONFERENCE ON UNIVERSITIES AND PUBLIC SERVICE

A unique conference was held in New York City on May 12 and 13 for the purpose of considering the subject of better preparation for public service on the part of individuals ambitious to enter public life. The conference was held in response to a call issued by Mayor John Purroy Mitchel, who aims to improve conditions in city administration in his own territory by adopting modern means for training employees. It was planned and directed by the committee on practical training for public service of the American Political Science Association. The assembly hall of the Merchants' Association of New York and the council chamber of the New York City Hall were used for the meetings. As the future of electric railways is tied up with the development of federal, state and municipal officialdom, the conference has significance to every one connected with this public utility. A synopsis of the salient features having direct or indirect bearing on electric railways is therefore given below.

In the first place the speakers emphasized the well-known fact that the public service in this country is furnished with workers in a very inefficient manner. There is little incentive for men of the right stamp to enter the service, as there is a lack of provision for systematic promotion and adaptation of men to their tasks, and the tenure of office is uncertain. The result is that public offices are filled with men who are not particularly well fitted for their work.

The question then arises as to the best means for training public servants. This is an involved matter, and Mayor Mitchel believes that co-operation between the universities and municipal governments is necessary to secure efficient men for the latter. The committee of the Science Association plans to furnish a means for bringing about the desired co-operation by securing practical work in government bureaus for students. It will also maintain a system of records by means of which properly prepared men can be recommended for particular lines of work.

The movement is under the direction of Charles McCarthy, chief of the legislative reference library of the University of Wisconsin, Madison, Wis., who has had long experience in educational work.

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J. M. McElroy, general manager, Manchester (Eng.) Corporation Tramways, has presented to the tramways committee a comprehensive report dealing with the Manchester transportation problem as a result of the investigations into the traffic systems of New York, Philadelphia, Boston, Chicago, Pittsburgh, Newark, Toronto, Montreal, Paris, Berlin, Vienna, Hamburg, London and Glasgow.

# Meeting of Illinois Electric Railways Association

Abstract of the Discussion at Chicago on "Present-Day Problems"—A Paper on This Subject Was Presented by R. B. Stearns of Milwaukee

More than eighty members and guests attended the meeting of the Illinois Electric Railways Association at the Hotel La Salle, Chicago, on May 15. The program included a business session in the forenoon, a luncheon in the meeting hall, and an inspection trip through the Fisk Street and the Quarry Street generating stations of the Commonwealth Edison Company. This trip occupied the greater portion of the afternoon.

During the session of the association, B. I. Budd, Chicago Elevated Railways, president of the association, occupied the chair.

After several brief committee reports, W. B. Griffin, secretary, announced that work on compiling the map of the electric railway lines in Illinois was now rapidly nearing completion. The draft of the map was on hand for the inspection of the members. It was expected that every line in the State would be shown on the map and it would then be submitted to the roads for approval before the engraving was made.

Mr. Patten, Chicago Elevated Railways, announced that the proposed central distribution point for advertising and publicity matter of the member roads of the State was still under consideration, but if any lines had folders, circulars or printed matter that they wished to have distributed in Chicago, he might be addressed on the subject, and he in turn would discuss the best method of distribution with the publicity committee of the association.

President Budd announced that tentative arrangements had been made for holding the next meeting of the association at Keokuk, Ia., in the latter part of June. As special features of that meeting it was expected to have in attendance members of the Public Utility Commission of Illinois, who would talk on the new public utility law, and also an engineer from the Stone & Webster organization, who would read a paper on the Keokuk hydroelectric plant.

### PRESENT-DAY ELECTRIC RAILWAY PROBLEMS

President Budd next introduced R. B. Stearns, vice-president The Milwaukee Electric Railway & Light Company, who presented a paper entitled "Some of the Present-Day Electric Railway Problems." This paper will be found in abstract on another page.

Mr. Stearns supplemented his paper with interesting descriptions of the welfare work carried on by his company. The various organizations for welfare and recreation have a combined membership of over 4000 of the employees. The headquarters of the various organizations are in the Public Service Building, which provides extensive accommodations including a theater seating approximately 1500, club halls, kitchens, billiard room, bath rooms, library, etc. The several welfare organizations described by Mr. Stearns were the Employees' Benefit Association, the Employees' Mutual Savings, Building & Loan Association, and The Milwaukee Electric Railway & Light Company sections of the American Electric Railway Association and the National Electric Light Association.

The Mutual Benefit Association has a lodge hall and holds initiations, thus maintaining exceptional interest in its meetings. The third degree carries with it insurance features. These contemplate benefits of $1 a day for sickness and $300 for death. The cost to the employees is 50 cents per month premium, and in addition to the other benefits, membership in this association entitles employees to free medicine and free medical attention. The association has a reserve of approximately $25,000 invested in securities, and last year the premiums just about balanced the sick benefits.

The Building and Loan Association is authorized to issue $5,000,000 capital stock. At the first meeting $506,000 in stock was subscribed for, to be paid in cash.

### COMPANY SECTION OF A. E. R. A.

On the invitation of President Budd, Mr. Stearns described rather fully the workings of the Milwaukee company section, and afterwards Mr. Budd said that the results at Milwaukee warranted every Illinois member of the American Electric Railway Association in making a careful study of the plan and in starting a local section.

In describing the Milwaukee company section Mr. Stearns recited how the parent association, in October, 1911, authorized the member companies to organize local sections according to a plan somewhat similar to that of the National Electric Light Association. The scheme was simple when a company had enough men of the supervisory class to insure that regular meetings could be held. There was very little "red tape" to the company sections. The by-laws were short, meetings were held monthly and the dues were but $5 per year per member. The payment of these dues entitled a member to all the benefits of associate membership in the American Electric Railway Association and to the publications of that association. The Milwaukee company pays half the dues of any employee whose salary is less than $75 a month. This gives the young men a chance to enjoy the educational benefits. The membership in the Milwaukee company section is largely made up of the supervisory force, and it does not include many of the trainmen, shopmen or trackmen, although a number of these have joined. The attendance at regular meetings ranges from 150 to 250.

The programs of the monthly meetings of the company section are miniatures of the big annual electric railway convention programs. Papers on many subjects are read by the members. The discussions are free and active. The meetings are lightened by amateur entertainment of various sorts, and much latent talent has been developed. Several employees have so perfected themselves in giving entertainment to the company section meetings that they have since been engaged for the professional vaudeville stage. Mr. Stearns was especially enthusiastic in explaining the high value of the company section, its low cost and the many features of improvement in the men which it had brought about in Milwaukee.

### POWER PRODUCTION

An illustrated talk on power production for electric railways in Illinois was given by Peter Junkersfeld, assistant to the vice-president Commonwealth Edison Company, Chicago. Mr. Junkersfeld first spoke of the comparative amounts of power purchased from central stations for railway operation. In 1902 the census did not even take account of purchased power for railway use. In 1912, ten years later, 33 per cent of all the power used by electric railways in the United States was purchased. In Illinois, during the same ten years, the amount of purchased power had grown to be 58 per cent of all of that used by the electric railways, and

during the first four months of 1914, in Chicago, 90 per cent of the power used was purchased power. Economic reasons, of course, account for this development. The electric-service company specializes in the production of electrical energy, and by serving the diverse wants of the community and by utilizing the most economical apparatus in large units, it is often able to sell electricity for the operation of electric railways cheaper than the electric railway companies can manufacture it.

Slides were displayed which showed the curves of purchased power in Chicago. During 1913, $3,750,000 worth of power was sold in Chicago. Assuming an average load factor of 40 per cent, the rate at which electrical energy is furnished by the Commonwealth Edison Company to the railways of Chicago works out a little over 0.7 cent per kw-hr. In 1902 the rate was approximately 1.03 cents per kw-hr. The amount paid by the Chicago electric railways for purchased high-tension energy in 1913 was, in round numbers, $3,750,000. The cost per unit has so far shown a constant tendency to decrease. During the last six years electric-railway power houses with a total rating of about 80,000 kw have been shut down in Chicago, owing to the fact that their owners purchase energy from the electric-service company.

Until very recently the local railways have purchased power on the high-tension side of their substations. A new conversion service is now being instituted which gives the railways the benefit of practically twice as many feeding-in points, due to the existence of many substations operated by the Commonwealth Edison Company which formerly had been used only for lighting and industrial power purposes, and which now will serve as direct-current feeding points for the trolley and third-rail distribution systems. The new conversion service contemplated the sale of direct current to the roads rather than high-tension current delivered at the incoming side of the substations. Where each of the two surface lines in Chicago formerly had eight substation distribution centers, under the new conversion plan each will have sixteen, and thus the copper in the distribution systems can be worked much more effectively. The elevated system in Chicago also will have sixteen, instead of eight, central direct-current energy distribution centers.

Mr. Junkersfeld exhibited a number of curves, one showing how the investment and operating costs are much less for the railway customers than for the average lighting and power customers, thus indicating how it is possible to sell the energy purchased wholesale for railway operation at such a low rate. A curve of annual load factors showed that as the output per capita increases the load factor improves and the income and cost per kw-hr. decrease. Another diagram gave a graphic illustration of the manner in which the diversity factor enters into the economical production of central-station energy.

Mr. Junkersfeld showed charts prepared by Samuel Insull, president of the Commonwealth Edison Company, as the result of a study of all of the electrical power generation and consumption centers in the State of Illinois outside of Cook County. The total maximum demand for the State exclusive of Cook County was about 306,000 kw. In order to handle this the estimated maximum generating capacity was 437,000 kw. If this demand could be handled by one station or a group of stations tied together so that the diversity factor could be taken advantage of, the capacity of the generating equipment could be reduced about 30 per cent.

After luncheon, and at the invitation of the Commonwealth Edison Company, Mr. Junkersfeld escorted the delegates and their guests through the Fisk Street and Quarry Street generating stations of his company. These two stations have a rating of 350,000 kw and burn more than 1,500,000 tons of coal per year. This is 37,800 carloads of fuel. In 1900 the fuel consumption was 6.90 lb. per kw-hr. In 1913 it was 2.87 lb. per kw-hr.

At the Fisk Street station the visitors were particularly interested in two large new turbine units. One of these, an English unit of the Parsons type, has a rating of 25,000 kw, and the other, a Curtis unit, has a rating of 20,000 kw. Additional boiler capacity has just been installed for feeding these new turbines, which shortly will be supplemented by two more large turbines of the horizontal type. An interesting feature of the boiler installation was the use of a sheet-steel jacket for each boiler. This jacket is made absolutely air-tight, and although its first cost is rather high, Mr. Junkersfeld pointed out that the prevention of air leakage more than warranted the installation cost of the steel jacket.

## SOME OF THE PRESENT-DAY ELECTRIC RAILWAY PROBLEMS

BY R. B. STEARNS, THE MILWAUKEE ELECTRIC RAILWAY & LIGHT CO.

Your secretary has suggested that I say something about the Milwaukee group of utilities and some of the problems in the operation of these properties.

Briefly summarizing, the territory within which the Milwaukee group of utilities, controlled by the North American Company, operate, consists of the southeast portion of Wisconsin, extending about 45 miles along the shore of Lake Michigan, running from Kenosha on the south to Milwaukee and its suburbs on the north, and about 55 miles west to Watertown. Within this territory, comprising about thirty-eight cities and towns, these utilities supply practically all the street and interurban railway service, electric lighting, power and heating, together with gas service in three of the important cities. The property owned consists of 417 miles of track in the city, suburban and interurban service, with 686 passenger cars, the usual quota of service cars and construction equipment, together with eight car stations and the extensive Cold Spring Avenue repair shops, which is among the best equipped of its kind in the country and where all new cars are built. A total of 18,000,000 car miles were operated over this system in 1913, and 150,000,000 passengers were carried.

The steam power electric generating plants, common to both railway, light, power and heating utilities, have an aggregate capacity of 79,925 kw, not including 6000 kw of water power, transmitted at 40,000 volts 111 miles from the Wisconsin River. There are fifteen substations with a combined capacity of 38,068 kw in rotary converters, motor generators and frequency changers; light and power service being supplied to 43,000 customers. The combined gas manufacturing plants have a daily capacity of 2,040,000 cu. ft. distributing service through 151 miles of mains to over 14,000 customers. The franchises under which the street and interurban railways operate are of varying duration, but none expire prior to Dec. 31, 1934. These franchises may, however, be extended by surrender and acceptance of indeterminate permits as provided for by the laws of Wisconsin.

### QUESTIONS OF THE DAY

Increasing demands of the public for greater transportation facilities in the way of increased service or extensions of lines, extension of city fares and the attitude of legislators and the courts in modifying

existing statutes or interpreting old statutes and constitutional provisions under which franchises were granted, are probably the most interesting developments of recent years and should properly give electric railway operators the greatest amount of concern.

The courts are inclined to construe broadly the rights of municipalities under the police power granted by their charters or general statutes, and we find the electric railway business one of decreasing returns with increasing volume. In this regard it differs from almost all other industries.

The nickel fare for city and suburban and interurban zones cannot now properly be regarded as the smallest practicable coin which the American people are willing to carry and exchange for a ride. It is probably true that to-day in many cities electric railway operators regard their franchises as definitely fixing the rates of fare during the lives thereof, but these franchises may probably fail to give the protection which they expect should they be brought into question in the face of adverse regulation.

As we look around we conclude that much of this legislation and judicial determination depends upon what may be called for our purposes "the rule of reason." Most of the requirements imposed by municipalities, regulating commissions and under the interpretation of statutes provided in court decisions depend in large measure upon their "reasonableness." A public utility is supposed to be entitled, unless it contracts away this right, to a "reasonable return" upon the "reasonable value" of its property devoted to public use.

The reasonable value of the property is one of the principal elements involved in the determination of the reasonableness of the given regulation. Since a fair return depends upon operating revenues and operating expenses, many other considerations involve this factor.

Operating revenues depend upon the rates of fare and the system of charging. Operating expenses depend upon taxes, depreciation, wages and the cost of material and supplies, and the distance which passengers are hauled.

Many of these items are in turn affected by the amount of service and its distribution throughout the day, and the amount of service in turn depends upon the loading allowed on the cars, the community habit, the system of operation permitted and the accuracy of the fit of car service to the traffic demand. The whole subject is an exceedingly complicated one, and no problem can be accurately solved by the application of general reasoning. Clever and specious arguments may be of use temporarily, but they will sooner or later fall, as does the platform of the demagogic politician.

Many of the questions involved in the reasonable solution of the many problems that can arise in street railway operation and the relation between the utility and the public depend upon certain elementary principles with respect to which there are wide differences of opinion at the present time.

In the solution of any of these problems one of the first questions involved is: "What does it cost?" One of the elements of cost is the investment charges on the property used and useful. The value of the property depends upon a number of things. We recognize the fact that one of the principal factors of value is that of physical property.

How shall the value of the physical property be determined? Shall it be on the basis of the reproduction value new as determined by an inventory, and the application of unit prices to the property as it is found, or shall it be on the basis of actual cost as disclosed by the books of account?

In either case shall the value of the property be depreciated on account of its age or condition of preservation?

If the property is to be depreciated how shall the amount of accrued depreciation be calculated?

Does depreciation exist as an insurance charge against future replacements, or does it exist only in the way of deferred maintenance? If it exists only in the way of deferred maintenance and has to be made from time to time by charges through ordinary operating expenses, will regulating commissions and courts make allowances for depreciation, or will they eliminate such allowances as separate items of charge?

Shall appreciation in land values and rights-of-way be allowed to the utility, or shall the benefits be assumed entirely on behalf of the public?

Shall property constructed from surplus earnings be allowed to the utility, or shall it be appropriated for the public?

Among the elements of cost of service is the rate of return upon the value used and useful. What is a reasonable rate of return?

Shall it be: 1. Limited to the interest rate on farm mortgages? 2. Shall it be comparable with the interest on municipal bonds issued with the credit of the entire taxable land values of the municipality behind them? 3. Shall a reasonable rate of return be comparable with the rates of return allowed industrial enterprises having somewhat similar hazard?

What is adequate service? How is adequate service to be measured? How is a minimum allowable headway in municipalities to be determined? How is reasonable car loading to be determined?

Are these questions matters of fact, or do they depend on reasonableness under all the circumstances and go back to the allowable return on investment?

Adequate is defined as equal to some requirement or occasion, proportionate, fully sufficient. Reasonable is defined as having the faculty of reason, rational, endued with reason, governed by reason, being under the influence of reason, not excessive, within due limits, proper, just. Many of the public demands are usually regarded as reasonable unless they are confiscatory, regardless of the tributary population, possibilities of later development of the territory, and the right of the utility to a reasonable return upon its investment.

In conclusion let me state that I have endeavored not to express to you any individual opinions of my own or those of my associates. The problems I have referred to deserve the careful study of all electric railway operators, with respect to which they should all search out the truth.

Matters so intimately affecting the electric railway business and the financial results of its operation are necessarily causing increased work on the part of electric railway executives and bringing up from day to day and from year to year new problems, of which those who electrified the horse and cable lines had little conception.

Frank recognition of progressive legislation and court decisions along lines producing results just described is essential if the electric railway industry is to be preserved from large losses. Facts alone must be the basis of our defense in preserving the proper ties.

These problems are not confined alone to the electric railway industry. Other public utilities are facing the same questions in somewhat different form.

None of us should hide his face in the sand, in the belief that he is secure against the storm. We all have much work to do, and as I have said before, our task is not becoming easier with the lapse of time. The more we learn the less we know. It is to a consideration of the great importance of some of our newer problems that I direct your attention.

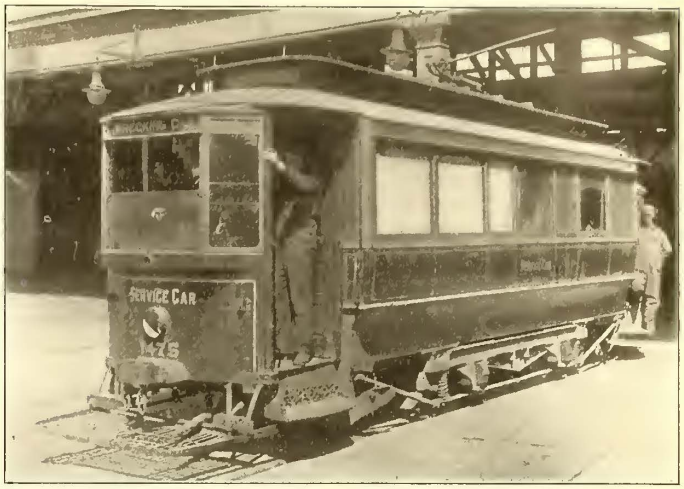
Our future success depends, as do most other things, upon our arriving at the proper solutions of the problems before they are forced upon us by others whose interest is adverse to ours. In other words we should "get there first."

## REMOVAL OF SURFACE OBSTRUCTIONS

BY EDWARD DANA, ASSISTANT SUPERINTENDENT OF SURFACE LINES, BOSTON ELEVATED RAILWAY

The Boston Elevated Railway Company operates more than 475 miles of surface track in an area of 105 sq. miles, and it has become necessary to provide a considerable emergency equipment. At ten of the company's twenty-three carhouses there are maintained fully equipped emergency cars. They are of the single-truck type like the one shown in the illustration and are former passenger cars which have been removed from service and fitted up for this purpose. A list of the equipment carried is shown in the accompanying table. The carhouse foreman is responsible for the prompt availability of these cars as well as the upkeep of the equipment and efficiency of the service rendered. A crew for accident calls consists of the carhouse foreman, a competent motorman and three men from the pit room. These cars have the right-of-way over other cars and display red flags in front by day and red oil lights in front and rear during the night.

At other operating carhouses there are maintained standard emergency outfits which can be placed upon the first available cars if time and convenience can be better served thereby. These also are under the supervision of the carhouse foreman.




**Boston Elevated Railway—Service Car for Use in Removing Obstructions**

At seven other convenient points on the system there are maintained emergency wagons equipped in a manner similar to the cars, only limited in the amount of equipment.

Two of the emergency wagons are in charge of the carhouse foreman, and the remainder are cared for by the "line emergency service," which cares for the line troubles as well as does light repair work. This service

TABLE SHOWING LIST OF TOOLS CARRIED ON EMERGENCY CARS, BOSTON ELEVATED RAILWAY COMPANY

| | |
|---|---|
| Axe | One. |
| Bars | One 8-ft. boom bar with chain. |
| | One 60-in. claw-bar. |
| | One 36-in. claw-bar. |
| | Two 30-in. cutting bars. |
| | One extension drawbar. |
| | Two ice bars. |
| | Two 60-in. pinch-bars. |
| | Two 36-in. pinch-bars. |
| | Two 30-in. punch-bars. |
| | One 10-ft. pry-bar. |
| | One 8-ft. push-bar. |
| Box | One box "first aid to injured." |
| Bolts | Two each motor bolts of all kinds. |
| | Two each motor eye-holts. |
| | Four bolts 8 in. x ¾ in. |
| | Four bolts 12 in. x ¾ in. |
| | Four bolts 18 in. x ¾ in. |
| Bolt Cutter | One ¾-in. |
| Blocking | Eight 6-in. x 6-in. x 2-ft., for vehicles. |
| | Eight 4-in. x 6-in. x 2-ft., for vehicles. |
| | Eight 2-in. x 6-in. x 2-ft., for vehicles. |
| | Eight 1-in. x 4-in. x 2-ft., for vehicles. |
| | Four 3-in. x 8-in. x 2-ft., broad, for jack foundation. |
| | Four 3-in. x 8-in. x 4-ft., broad, for jack foundation. |
| | Four 2-in. x 8-in. x 6-ft., light, for jack foundation. |
| | Four 2-in. x 4-in. x 12-in., light, for jack foundation. |
| | Four 4-in. x 4-in. x 12-in., light, for jack foundation. |
| | Four 4-in. x 6-in. x 12-in., light, for jack foundation. |
| | Four 6-in. x 6-in. x 12-in., light, for jack foundation. |
| Blocks | Two, for broken axles. |
| Brooms | Two push-brooms. |
| Cages | Four drawhar cages, one of each type. |
| Chains | Four, for lashing motors, trucks, wheels or brakes with grab-hook and ring, ⅜-in. chain, 6 ft. long, four pieces. |
| | One drag chain, ¾ in. |
| | Four lashing chains with rings and grab-hooks, ¼-in. chain, 12 ft. long. |
| Chisels | Four hand chisels. |
| | Two handles for chisels. |
| Connections | Six No. 6 two-way connections. |
| Fuses | Twelve M.M. fuses. |
| Gloves | One pair rubber gloves. |
| Grease | One 5-lh. pail cup grease. |
| Hammers | Two hand hammers, 2½-lb. |
| | One sledge hammer, 10-lb. |
| | One sledge hammer, 14-lb. |
| Hawkes' Device | One for broken axles. |
| Jacks | Two 15-ton Norton jacks with traversing base. |
| | Two 5-ton jacks. |
| | Two quick-acting jacks. |
| Lamps | One extension lamp. |
| | One five-lamp cluster with pole. |
| Lanterns | Four lanterns. |
| Ladders | One 24-ft. extension ladder. |
| Oil | One 4-qt. can lubricating oil. |
| Plates | Four extension plates for chafe irons. |
| | Four clamping plates with bolts, 4 in. x ¾ in. x 12 in., four 1-in. holes. |
| Plank | Four pieces 8 ft. x 2 in. x 8 in. |
| | Four pieces 8 ft. x 4 in. x 8 in. |
| Pliers | One pair gas pliers. |
| | One pair cutting pliers. |
| Picks | Two picks. |
| Pins | Twelve cotter pins, ¼-in. |
| | Twelve cotter pins, 3/16-in. |
| | Twelve cotter pins, ⅛-in. |
| Punches | Two handle punches. |
| | Four drift punches. |
| Pails | Two sand pails with scoops. |
| Replacers | Four car replacers. |
| Ropes | Two drag ropes. |
| | One drag rope, ¾-in. wire, 100 ft. long. |
| | Two lashing ropes, 20 ft., ⅝-in. rope. |
| | Two lashing ropes, 20 ft., ⅛-in. rope. |
| | One rope falls, 400 ft. 1-in. rope. |
| | One rope falls, 400 ft. ¾-in. rope. |
| | One 3000-lb. falls. |
| Saw | One handsaw. |
| Sand | One bushel of sand. |
| Screwdrivers | One each, 6-in., 12-in., 18-in. |
| Shovels | Four shovels. |
| Tape | One roll tape. |
| Tripods | One tripod. |
| Trolley Pole | One pole complete with cord. |
| Truck | One two-wheel truck for broken teams. |
| Twine | 100 ft. heavy twine. |
| Waste | 5 lh. cotton waste. |
| Wire | 20 ft. No. 6 wire. |
| Wrench | One ⅝-in. hexagon T-wrench. |
| | One ¾-in. hexagon T-wrench. |
| | One ⅞-in. hexagon T-wrench. |
| | One 1-in. hexagon T-wrench. |
| | One ⅝-in. square T-wrench. |
| | One ¾-in. square T-wrench. |
| | One ⅞-in. square T-wrench. |
| | One 1-in. square T-wrench. |
| | Two 1-in. and ⅞-in. fork wrenches. |
| | Two ¾-in. and ⅝-in. fork wrenches. |
| | Two ⅝-in. and ½-in. fork wrenches. |
| | One 10-in. monkey-wrench. |
| | One 14-in. monkey-wrench. |
| | One 24-in. monkey-wrench. |
| | One 10-in. Stilson wrench. |
| | One 14-in. Stilson wrench. |
| | One 24-in. Stilson wrench. |
| | Two for broken journal boxes. |
| Washers | Twelve each, iron, 1-in., ⅞-in., ¾-in., ⅝-in., |
| Yokes | ½-in. |

Note: The carhouse foreman is charged with the duty of knowing that such tools and equipment are maintained at all times on wrecking cars, and he will he held strictly accountable.

requires the employment of thirty-nine men, drawing wages of approximately $45,000 per year.

All surface cars of the company are equipped with lifting jacks, and motormen are instructed as to the proper use of these in connection with the several types of rolling stock. While these were ordered by the Public Service Commission for the purpose of quick relief in personal injury cases, they are not infrequently of value to street inspectors in case of a disabled vehicle.

At some fifty-nine different points on the system light emergency equipment for use of street inspectors is kept.

### ADMINISTRATION OF THE EMERGENCY SERVICE

The proper location and use of this light material tucked away in inconspicuous locations can result in saving thousands of dollars annually to the street railway company. Drag-ropes, replacing irons and push-bars, to remove stalled teams can often remove the source of expense if intelligently used, while the nearest emergency car is being manned and moved to the site of the accident. The efficiency here rests upon the street inspector, and the live man is in this matter, as well as several others, on the firing line of the company's organization.

The attached form, which is in triplicate in three colors of paper, is used to record the facts in connection with emergency calls by carhouse men. The foreman retains one copy and forwards the other two to the division office, from which one is forwarded to the superintendent of surface lines.

BOSTON ELEVATED RAILWAY COMPANY

REPORT ON EMERGENCY CALL BY CAR HOUSE MEN

Date ____ 191 Car house ____ Car or Vehicle Number ____

Time call received ____ a.m. p.m. Wreck cleared ____ a.m. p.m.

Arrived at wreck ____ a.m. p.m. Arrived back at Car house ____ a.m. p.m.

Men Responding

Location of Wreck

Make report of conditions found and if there is unusual delay give cause of same.

**Boston Elevated Railway—Form Used for Reporting the Existence of Obstructions**

During the year 1913 there were recorded 1030 calls by carhouse men and 1145 emergency calls responded to by the line emergency service, which made also 10,113 calls because of line trouble from all sorts of causes from a loose ear to a bad trolley break.

It was found that of the calls made by the carhouse force 5 per cent occurred from midnight to 6 a. m., 14 per cent from 6 to 9 a. m., 49 per cent from 9 a. m. to 4 p. m., 17 per cent from 4 to 7 p. m. and 15 per cent from 7 p. m. to midnight.

In 19 per cent of the calls the line had been cleared before the crew arrived; 17 per cent of the calls were for disabled cars, while 49 per cent were for disabled vehicles and 15 per cent were for miscellaneous occurrences.

If the emergency forces are intelligently directed, they make quick work after they are once upon the ground. Of the total time consumed on emergency calls, it was found that only 24 per cent was consumed in actually clearing up the cause of the delay. Of course, this percentage was reduced because 19 per cent of the causes of the calls were cleared up before arrival of the forces.

As the development of a system progresses and more accurate and detailed data become available the system can be plotted into zones or squares and the number of calls noted in these sections. It will then be possible to determine the exact points where emergency crews should be stationed to secure the greatest efficiency with the most effective means of covering distance by motor vehicles. Conditions, however, are constantly changing, and the location of the zones or squares should be continued in order to relocate these headquarters if necessary.

## ELEVATED TRACKS FOR THE PACIFIC ELECTRIC RAILWAY COMPANY

The Pacific Electric Railway Company has long had under consideration elevated track connections with the Sixth Street depot in Los Angeles and has secured private right-of-way for bringing such tracks into the building from the rear. The matter of granting a franchise for the construction, which would involve a number of overhead street crossings, has been under consideration by city officials for some time, but the first definite action was taken on May 14 when there was submitted to the Board of Public Utilities the final draft of the notice of sale for a forty-year franchise, covering that part of the proposed elevated system between the Sixth Street depot and San Pedro Street.

The notice of sale is drawn up so that one year is allowed to commence work on the structure and three years in which to complete it. Provision is made whereby the city is allowed an option on purchasing the line after a forty-year period, the price to be fixed by a board of arbitrators, and "if the grantee or the city be dissatisfied with the award of the arbitrators, the party so dissatisfied may have the price determined by a court of competent jurisdiction in the same manner prescribed by the statutes at the time in force for ascertaining the value and damages to property sought to be taken by eminent domain." In the event the city fails to exercise its option to purchase, it is provided that the franchise *ipso facto* shall be renewed for a period of ten years from the end of the forty-year term.

During that ten-year extension the city reserves the right to purchase the system upon two years written notice. The grantee is to pay the city a license fee upon each car operated and not less than 2 per cent of the gross annual receipts.

## RAILROADS AND STEEL RAIL PRODUCTION

The total production of all kinds of steel rails in 1913 amounted to 3,502,780 tons, an increase of 174,865 tons over 1912, or 5.2 per cent. The maximum yearly amount of production was in 1906, 3,977,887 tons. In the following table is shown annual production and approximate consumption of steel rails in the United States from 1890 to 1913 inclusive. Annual consumption is approximately ascertained by adding quantity imported to total production, and deducting quantity exported:

| Gross tons | Prod. | App. cons. | Gross tons | Prod. | App. cons. |
|---|---|---|---|---|---|
| 1890 | 1,871,425 | 1,868,564 | 1902 | 2,941,421 | 2,943,789 |
| 1891 | 1,298,936 | 1,296,190 | 1903 | 2,991,810 | 3,057,195 |
| 1892 | 1,541,407 | 1,544,209 | 1904 | 2,283,840 | 1,906,237 |
| 1893 | 1,130,368 | 1,119,470 | 1905 | 3,375,611 | 3,098,184 |
| 1894 | 1,017,098 | 1,008,516 | 1906 | 3,977,872 | 3,654,794 |
| 1895 | 1,300,325 | 1,291,983 | 1907 | 3,632,729 | 3,298,500 |
| 1896 | 1,117,663 | 1,056,675 | 1908 | 1,920,944 | 1,726,224 |
| 1897 | 1,645,020 | 1,500,086 | 1909 | 3,023,845 | 2,725,847 |
| 1898 | 1,977,922 | 1,679,538 | 1910 | 3,635,801 | 3,290,712 |
| 1899 | 2,271,108 | 1,997,120 | 1911 | 2,822,556 | 2,405,330 |
| 1900 | 2,384,987 | 2,035,512 | 1912 | 3,327,915 | 2,885,222 |
| 1901 | 2,872,909 | 2,557,588 | 1913 | 3,502,780 | 3,052,635 |

# Convention of the Southwestern Electric & Gas Association

Abstracts of Part of the Papers Delivered at the Tenth Convention are Given—A Safety First Symposium Was an Important Feature of the Meeting.

The tenth annual convention of the Southwestern Electric & Gas Association was held at the Hotel Galveston, Galveston, Tex., on May 20 to 23, 1914. The following abstracts cover some of the papers.

## SYMPOSIUM ON THE SAFETY FIRST MOVEMENT

### SAFETY FIRST FROM THE OPERATING STANDPOINT

The street railway operating standpoint was covered by R. T. Sullivan, general superintendentt Austin Electric Company. Mr. Sullivan stated that the central idea of the safety first movement is closely akin to that which created the movement for the conservation of natural resources. Other closely related ideas are those which created the "rotary" clubs of business men who have for their motto "He profits most who serves best," which prompted the movement for international peace and which have created the other big activities of present-day society. If we examine the genealogy of those ideas, we discover practical Christianity to be the trunk of the family tree and that the idea back of the Golden Rule is another distinguished cousin.

### FUNDAMENTAL PRINCIPLES

Mr. Sullivan stated that the central idea of the safety first movement is that society, as a whole, suffers if an individual member is maimed or if the property of an individual is destroyed. The instinct of self-preservation teaches one to refrain from acts dangerous to oneself, and the recognition of the central idea of the safety first movement obligates one to refrain from those which may injure or damage others. The same principle compels one to restrain others from committing harmful acts. The instinct of self-preservation kept men reasonably free from harm before the days of steam and electricity. With steam and electricity, however, came new inventions. These brought with them new "sins," and it is these sins of the new inventions which have rendered the safety first movement necessary.

Taking the matter up from a historical standpoint Mr. Sullivan showed that shortly after street-car operation began traction men recognized the need for attention to safety. In the oldest street railway book of rules which he had seen is the command "when in doubt, take the safe course." The desire for greater safety has influenced almost every change in equipment and method of operation. The history of street railway development is the history of the efforts of railway men to make operation more safe, and the marvelous record of the Interborough Rapid Transit Company, which carried 2,198,000,000 passengers without a fatality, is the result of these efforts.

### ORGANIZATION OF THE SAFETY FIRST MOVEMENT

Before the crystallization of the safety first idea into a safety first movement and safety committees, these efforts were detached. The safety committee systematized them, and one of the benefits to the operating man of the safety first movement results from the cumulative effects of combined efforts through the activity of these committees. Although the operating man was doing all that he could toward the elimination of sources of danger, he realized that there was still much to be done before operation could be free from injuries and damages. He knew that he must have greater co-operation from the people of the community in which he operated. In the safety committee he finds the means for obtaining this co-operation, and the greatest value of the safety first movement will result from the development of this co-operation.

Mr. Sullivan stated that every now and then one of his men does something wrong wilfully in the operation of a car. He stated that his plan in such cases is to make the offenders feel just as unimportant as possible. This procedure he found more effective than a positive punishment. Mr. Sullivan believes that the policy of safety first committees in promoting public safety should be developed from this principle of forcing offenders to feel their unimportance. The safety first movement has just started and the work before the safety committees is vast. When it is accomplished everyone who commits an act against public safety will feel his insignificance.

### SAFETY FIRST FROM THE PUBLIC'S STANDPOINT

The side of the public was stated very frankly by H. T. Warner, managing editor of the Houston *Post*. He said that the public is the prime consideration in the safety first movement, but the public does not always consider its own safety, in fact a very considerable minority pays no attention to the matter.

### THE HEEDLESS PART OF THE PUBLIC

The members of this minority know that the safe rule is not to take a chance—but they do it just the same and laughingly dismiss the idea of the danger in which they had placed themselves. Most individuals do observe the safety first principle as a general thing. They do it unconsciously; it is instinctive with them. The thoughtless, reckless minority who have no thought or consideration for themselves or for others, cause the large proportion of the accidents. They are responsible for the hundreds slain yearly, for the great army of cripples who are a burden to themselves, their kindred and the public.

The bulk of this minority is made up of fools; some with specialties in their foolishness, others simply "all around fools." There are some men and women who are perfectly sane upon everything except this one point. The ass who playfully snaps the "unloaded" gun at another or at himself, may be in everything else an adherent of the safety first principle. He would not climb a ladder until he saw that it was firmly placed, or permit his attention to be diverted while he was at the wheel of an auto.

### RESULTS OF SAFETY EDUCATIONAL WORK

Mr. Warner stated that with the progress of the safety first educational campaign there is bound to be an impression upon even this part of the public. In Houston this is apparent in many ways. There are

fewer accidents on the streets, in railway yards, in the house. Sometimes a week elapses without a single accident being reported in the newspapers of the city. That is one sign of progress which he has noted.

In the development of this work the public service corporations have begun a public service that will, after it is more fully understood, serve to remove some of that prejudice against them which has been fomented and encouraged by certain enemies of society. Certain individuals and interests have represented to the public that this work is undertaken by the public service corporations as another form of oppression. These individuals are generally in the class which makes its living through damage suits—a class which cannot live long if there be no dead and injured. Their hearts have long since been shrunken by the thought of their income. They make a specialty of securing monetary compensation for the crippled, the widow and the orphan, and then take half or more of what they recover as a reward for their humanitarianism. They gloat when they glance down the list of those dead and crippled in an accident. An accident means business for them, hence they have reason for misrepresenting the motives back of the safety first movement.

### OPPOSITION FROM MERCENARY NEWSPAPERS

Mr. Warner emphasized the offense of the venal press. There are newspapers which wantonly and persistently so abuse and misrepresent all public service corporations that they will not permit their readers to believe that there can be anything good in any movement backed by or indorsed by a public service corporation. They tell their readers that the railroad, traction, electric and gas companies are inspired only by a desire to further nefarious purposes. Reading between the lines, it would even appear that these papers, by their course, advise parents who read their sheets to send their children into danger merely to spite those who are spreading the slogan of "Safety First."

### OPPOSITION FROM SELFISH INDIVIDUALS

Another prejudiced class comprises the men and women who think that their liberty is being infringed. This includes the "jaywalker," the man or the woman who wants to cut corners and to cross streets in the middle of the block. They assume that the pedestrian has every right and the drivers and occupants of vehicles none; that the pedestrian is a privileged person merely because he or she is on foot. According to Mr. Warner the city officials in Houston are broad-minded and progressive, and the "jaywalker" is haled into court just as quickly as would be an autoist who ran his machine along the sidewalk or cut a corner and thus endangered the lives of pedestrians.

### SAFETY FIRST WORK NEEDS ADVERTISING

The public takes little thought of the many things done to protect it from injury, because it knows practically nothing about them. Many people are surprised to learn of the widespread organization having as its slogan "Safety First"; to learn that the Red Cross Society maintains a specially equipped car and a lecturer to urge railroad men to conserve the interests of the public regarding safety.

The safety first movement needs advertising, but within the past few months a few newspapers have become interested and this interest is spreading among progressive editors.

### SAFETY FIRST AS VIEWED BY THE CLAIM DEPARTMENT

The safety movement from the claim department standpoint was presented by H. W. Withers, claim agent of the Houston Electric Company. He described the organization of a safety committee by the Galveston-Houston Electric Railway Company and the Houston Electric Company, made up of representatives of all departments of the two companies; claim, auditing, engineering, maintenance of way, interurban, carhouse, power plant, real estate, insurance and transportation.

### ORGANIZATION OF THE SAFETY COMMITTEE

The idea that men in the ranks should report defects and causes of action is not a new one. The organization of the present committee is to provide a channel through which this matter can be handled in a more systematic way, allowing all employees to present suggestions and recommendations for greater safety and improvements in conditions and methods in a proper and orderly manner. The management has always not only invited suggestions but has solicited them, and by the operation of this committee it secures more effectively than before the benefit of ideas and observations of the men who actually do the work on the road. The officials of the company and the men have been brought closer together.

This committee was organized promptly and formulated rules of action, mapped out a line of campaign and elected sub-committees on safety features, office building construction, maintenance of way, power stations, carhouses, interurban railway and transportation. As soon as a safety report is turned in to the chairman of a sub-committee, he immediately sends it to the chairman of the central committee, who in turn sends a copy to the member of the central committee whose department it affects. The central committee meets once a week and all safety reports received since the last meeting are read and reported on. When this committee was first organized it was decided that all sub-committeemen should be elected for terms of three months but, on finding the interest greater than expected, the terms were fixed at one month instead of three.

### HANDLING REPORTS

The central safety committee will be a general clearing house for the prevention of accidents and for the correction of all unsafe conditions out of which accidents might arise. Its work is prosecuted in a systematic way, all reports of unsafe conditions and methods being made to the chairman. These are investigated and reports made. Should a report be of unusual importance, it is laid before the management and such measures as each situation seems to warrant are adopted. The department directly concerned in each instance is advised, and asked to cure each fault as it arises and do what it can to prevent a recurrence. For the purpose of record a report is made to the chairman of the central safety committee, showing what steps have been taken by the department to which such matters have been referred. During the fifteen months of its existence this committee has received and acted upon over 1200 safety reports. The receipt of each report sent in by a committee is acknowledged by letter by the chairman.

### EXPRESS WAGONS AND THE SAFETY FIRST MOVEMENT

When the safety movement was started, the electric company was having many accidents with vehicles, especially express wagons. The owners of the vehicles were visited and asked for their aid and influence in the safety movement. In every instance their hearty co-operation was secured. As a result the number of accidents involving these companies has been reduced 50 per cent. Several of the larger express companies of Houston posted bulletins in their offices and barns, warning drivers of vehicles and other employees of

the results which would follow more accidents with street cars. Since that time one of these companies, perhaps the largest in the city, has not had a single accident. This was very encouraging, in view of the fact that the company operates night and day from 100 to 150 vehicles of all kinds and that in the past not a week went by in which there was not a claim of some kind to adjust with it.

### RELATION OF COMPANY EMPLOYEES TO THE MOVEMENT

Mr. Withers stated that the safety movement is being presented to employees from the following standpoints: First, from the human standpoint, appealing to the very best qualities in a man, if for no other reason than to minimize suffering and to eliminate every possibility of a man, woman or child being killed or maimed or otherwise brought to grief through failure to discover a hazard and to overcome it. Second, from the standpoint of selfishness in the primal instinct, self-protection. Third, from the standpoint of loyalty to the company which employs them. In all honesty and fair dealing they should not fail to guard and protect the lives and property entrusted to their care.

While endeavoring to stimulate public interest, the committee is doing everything possible to keep up the interest among the employees. Prizes were offered for the first and second best safety reports received each month, and safety first buttons were distributed. Besides this two very successful banquets were held during the past year. At the last there were three hundred employees present, and they had an opportunity to listen to many interesting talks on safety.

Should a report come in regarding the carelessness of a trainman in the operation of his car, the central safety committee takes the matter up at once, and if the trainman is found guilty and if he proves to be a student or young in the service, he is sent back to the school of instruction, where he is more thoroughly taught the importance of safety and consideration for the general public. Should the case be that of an old employee, he is sent to the superintendent, where the results of his carelessness are fully discussed with him. The result of these efforts has been of wonderful assistance in the operation of the claim department.

### STREET VEHICULAR TRAFFIC AND SAFETY WORK

The city of Houston has a good ordinance regulating traffic, but it was disregarded so that it frequently became necessary for a motorman to step off his car to turn some horse's head or to lead a horse from the track. The chief of police has now issued special instructions to all traffic officers to see that this ordinance is complied with, to the benefit not only of the claim department of the Houston Electric Company but of the general public as well.

The automobile, another important menace to safety, has not escaped attention and is handled thus: Each sub-committeeman has instructions to secure the number of an automobile that is seen to run past a standing street car at a high rate of speed while passengers are being discharged, or is otherwise carelessly driven. This number is then turned in to the chairman of the central safety committee, who sends out a form letter citing the date, time and place of the exhibition of carelessness. The sending out of these letters has accomplished a great deal of good and has resulted in the receipt of a great number of favorable replies, thanking the company for calling attention to this hazardous practice and assuring hearty co-operation in this movement. The reports regarding carelessness in driving vehicles are filed, and the claim department often finds valuable information in this file because, when a claim is made by an automobile owner for damages, the claim department looks up the records and in many instances finds reports that have been sent in on account of this particular owner's carelessness.

### SAFETY AND THE CHILDREN

Another dangerous condition in street railway operation is due to the practice of allowing little children to play in streets. To offset the negligence of parents, all safety committeemen and other employees were instructed to get the name and address of each child seen playing around the cars or on the streets so that a member of the committee could call and express to the parents the great danger of this practice. The committee has, during the past year, distributed among the school children of the city over 20,000 blotters with various safety first slogans printed on them, and during the month of January secured the services of a moving-picture film and had it run for a week in a moving picture theater. The title of this film was "The Dangers of the Street." Over 20,000 tickets were given to children and their parents.

### THE ELECTRIC LIGHT AND POWER SIDE OF THE SAFETY FIRST MOVEMENT

The relation of line and power house construction to the safety first movement was described by F. N. Lawton, manager Wichita Falls Electric Company. He stated that in the prevention of accident on the power side of the business the natural intelligence of the workman is an important factor. Upon this intelligence and the faculty to grasp the causes of accident depends largely co-operation with the company in applying rules. Several causes enter into an appreciation of the risk of accident; the man's natural intelligence, age, experience, and desire and inclination to be obedient to the rules of the company. The duty of every company is to announce to its employees its policy and rules for safety.

### FURNISHING MEN WITH SAFETY FIRST INFORMATION

Mr. Lawton's company posts general notices of instruction and warning and in addition has tried to eliminate as far as possible all dangerous conditions and sources of accident at power houses and other points. Protective guards have been placed around the moving parts of machinery, such as flywheels, belts, pulleys, gears, etc. Where objection is made to guards of this kind on the ground that considerable time is lost in removing them in the event of trouble with the machinery, they may be set in sockets imbedded in the floor. He enumerated a number of sources of danger and suggested means by which they may be eliminated. Boiler gage glasses sometimes burst and they should, therefore, be powerfully illuminated so that they may be always in full view. Gage cocks should be equipped with chains so that firemen may operate them from the floor. Steam valves should be located in accessible places to avoid the risk which would otherwise be taken in reaching them. These valves should either be operated from the floor or from platforms supplied with guard rails. Stairways leading to basements, condenser pits, hot wells, etc., should have railings and should be well illuminated. In fact, the proper lighting of the whole power house is of prime importance from a safety standpoint. Some auxiliary system of lighting should be provided to insure safety in case the regular system is out of commission.

### PROTECTING THE LINEMEN

Mr. Lawton stated that in his department linemen furnish most of the serious accidents. Danger to linemen may occur by careless operation of switches in the power plant when men are working upon the line. Safety first switchguards will reduce this danger. Many linemen are young and they are frequently of a

reckless disposition. There seems to be a feeling of pride among them as to their ability to place themselves in dangerous positions and to handle live wires in a dangerous manner, especially when anyone is looking on. There is also a deep-seated disinclination on their part to use rubber gloves. In making a selection of men for line work, therefore, only those who are sober, intelligent, competent, and who show a willingness to exercise care and to obey the rules of the company should be selected.

The company should always instruct the linemen fully in regard to the distribution system. Mr. Lawton's practice is to have large maps placed upon the wall showing all circuits plainly marked in colored ink. These maps indicate various junction poles, oil switches, lightning arresters, transformers, etc. The linemen are required to study these maps.

In his paper Mr. Lawton gave considerable attention to the subject of making pole lines safe. His own lines are constructed with a view to making them so. Among the elements of safety he mentioned the use of wires of liberal size, proper spacing of the wires on the poles, the separation of high and low tension wires, the location of ground wires on poles, the securing of good grounds for such wires, the mechanical protection of the ground wires, and the general design of the pole layout so that there is no undue necessity for a lineman to come into dangerous proximity to high-tension wires. Mention has been made of the difficulty of compelling linemen to use rubber gloves. The gloves are stiff, clumsy and awkward to use, they wear out quickly and are difficult to maintain in safe condition. Mr. Lawton has arranged a bag to be hung on the lineman's belt for the purpose of carrying the gloves without hampering him in his work. Many fatal accidents have occurred which would have been prevented if the men had used their rubber gloves, but not having them at hand they took chances.

In conclusion Mr. Lawton urged everyone to give the safety first movement enthusiastic co-operation, with a view to developing in all concerned a true sense of responsibility.

## POLICIES TO BE USED IN DEALING WITH THE PUBLIC

"The Public Policy of Public Utility Corporations" was the title of a paper by F. R. Slater, general superintendent Texas Power & Light Company. He called attention to the fact that the relations between public utilities and the public are as delicate, as essential and as complex as is the nervous system of the human being. The public utilities must accept the fact that they bear the same relation to the public as all other legitimate enterprises, they exist for the purpose of rendering service for which they receive payment varying with the number of persons to whom their service is acceptable. Like all other business concerns, it is frequently necessary for them to render service which, on the face of it, represents a distinct and heavy loss. They do this in the belief that the service thus rendered will meet with an appreciation which will eventually develop into profitable business.

### ATTITUDE OF EMPLOYEES TOWARD THE PUBLIC

The ordinary public service patron has very little, if any, concern about franchise rights, public ownership and the other larger problems affecting the industry. The treatment he receives from the corporations' employees is personal. The executive officers of the companies he seldom, if ever, sees. The visible part of the corporation is the employees with whom he comes in frequent contact; if these are courteous, if they show consideration, if they are inclined to recognize his rights, it is the company that receives from him most of the credit. Mr. Thomas Duncan, chairman of the Public Service Commission of Indiana, says: "Of all the complaints that come to the commission few of them are against the conduct of the managers of the companies. The chief complaints arise from the insolence of employees." Petty incivilities and slight neglects are not permitted among employees of mercantile enterprises because a great deal depends upon first impressions. Public utility corporations should demand the same policy of their employees. Civility is one of the essentials of business, private or public.

### ATTITUDE OF THE EMPLOYEE TOWARD HIS COMPANY

Too much emphasis cannot be placed upon the necessity of the proper attitude of the employee with reference to the work in which he is engaged and to the people with whom he comes in contact. His attitude toward his fellow employee, based on the example furnished him by his superiors, will in a large measure determine his attitude towards the company's patrons. Loyalty to the organization he is associated with is one of the first requisites for success. "United we stand" should be the slogan of corporate effort. This means mutual effort between officer and employee. Each employee, be he officer or private, needs the co-operative support of not only his superior officers but his ranking equals, and especially does he need the respect and support of his subordinates.

To attain high efficiency, one must possess that most valuable attribute—dependability. To be dependable—to be singled out as one who does things—is a tremendous asset. A man may be faithful or industrious or even capable, and still not be dependable. For the faithful man may be incompetent; he who is capable may possess erratic tendencies which minimize his efforts, and the industrious man may be a blunderer. But the dependable man is he who can at all times be depended upon to do that which is set for him to do as it should be done. He has learned by experience how not to do things, and with this has come naturally the knowledge of how things should be done. Like every other quality, dependability can be acquired. Like everything else that is desirable, its acquisition requires effort.

Responsibility for the character of relationship existing between the employee and the official rests primarily with the official. He is the leader, and his attitude to a large extent determines the dominant spirit in the rank and file. If the utility manager expects to get from his employees that co-operation which he desires, he must extend to them the same consideration for their rights, the same fairness, the same humanitarian consideration that he expects shall be shown his patrons. More adverse public criticism can be created by disgruntled employees than in most any other way. This is especially true in cases of personal injury. A humanitarian treatment in these cases will do much to make friends for the company.

### EDUCATING THE PUBLIC

The development of public utilities has been so rapid that the public and laymen generally know little about it. It then behooves the utilities to exert every effort to educate the public to a proper understanding of the business. It is impracticable to educate the public as a mass, but if enough individuals be educated the whole public will finally become so. This can only be accomplished, however, through broad, carefully planned campaigns, carried forward through the technical press, monthly periodicals, daily press and personal effort with patrons. It cannot be accomplished in a day, or

probably in a year, but it must be accomplished before any material improvement in the attitude of the public can be hoped for.

People everywhere and always, by natural instinct, are seekers after truth. No more just or fair tribunal can be secured than the mass of the people, provided they can make their decision with a full knowledge of the facts. The want of knowledge breeds suspicion.

### MAKING THE NEWSPAPER AN ALLY

In the relation of the corporation to the newspaper is a power which can be made an asset if the problem is given intelligent attention. The reporter is the one who has the ability and the opportunity to put thoughts into the minds of thousands of men and women every day, the people from whom we derive our revenue; the people who select those who make the laws which govern us; the people who sit in judgment upon our acts and behavior. This is a power whose importance can hardly be overestimated. The reporter who consciously or unconsciously wields this power must be of good character, with a keen and analytical mind, and further must possess the ability to make friends. This reporter, in his every-day work, is continually coming into contact with the manager and the company representatives, and he is actively interested in all live questions and occurrences. It is a serious error, therefore, if he is not given respectful attention to the end that a bond of confidence may be established. Thus the story which he is preparing will give facts.

In course of events accidents affecting the public, either through bodily injury or inconvenience, will occur. The attitude of the company officers toward the press at this time is of the greatest importance. If the situation is handled from the viewpoint that the occurrence is purely a company affair, every mouthpiece of the corporation may be closed to the newspaper. If, on the other hand, the situation is handled from the viewpoint of one who realizes that the public is entitled to at least a word of explanation, the reporter will be given such information in such a way that the account of the accident will be written in a spirit of fairness. He will not so shape what he says that everyone who reads it will instantly jump at a conclusion that the company wishes to avoid; he will not set in motion in thousands of minds a destructive current of thought. The first impression is an all-powerful factor in all of the subsequent thinking that is done with reference to that event, and the company which does not improve the means to have these first impression at least fair, is missing a large opportunity.

There is an inherent belief in everybody that where there is fear there is wrong, and thus the repeated statement that a company is keeping something under cover poisons the public mind against it. Public opinion to-day may not be newspaper opinion, but it is the creature of newspaper opinion. Public knowledge is disseminated through the press, and it is on the facts as they appear in the news columns that public opinion is based. We may deny and decry the power of the press, but as long as people read newspapers they will be influenced by them.

### HANDLING COMPLAINTS

While the newspaper publicity, both in advertising and in the news columns, will go a long way toward the ultimate end of making the public the company's friend, there is a great deal to be done along other lines. To establish public opinion in favor of the company it must demonstrate that it wishes to remove all possible causes of complaint. Honest effort and sincerity of purpose will make friends every time, and this is true either as to corporations or the individual. Complaints give a picture of the company from the outside, and disclose weaknesses and imperfections which might otherwise remain undiscovered or neglected. Likewise, many valuable suggestions for improvement in service often come from the public. When a patron calls in person to make a complaint, much diplomacy is required. He has usually called at some personal inconvenience, and not infrequently has recited to himself so many times his grievance, real or fancied, that he is on the point of exploding when he gets to the company's office. If a complaining patron can be pacified, and at the same time be shown that an endeavor is being made to remedy the situation he has brought to attention, he is likely to prove a live friend of the company ever after. Much adverse public sentiment with which corporations have to contend could be dissipated if systematic attention were paid to the troubles which individual patrons have on their minds.

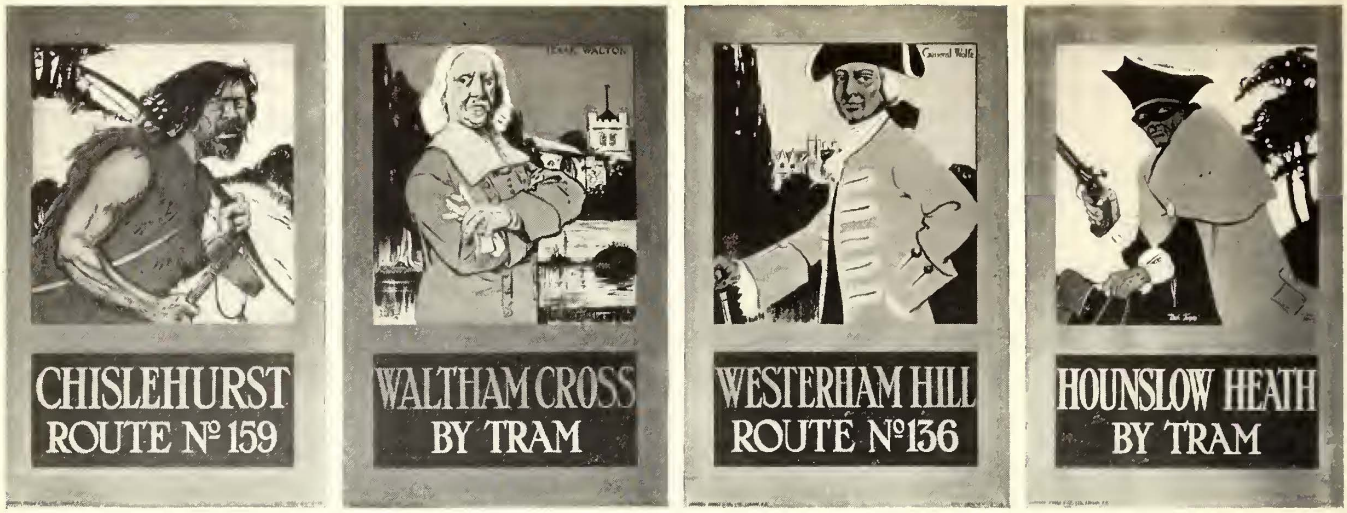
### CO-OPERATION WITH THE PUBLIC

No move affecting service or rules relating to the public should be made without giving due notice and explanation to those affected. The manager who would maintain good relations with the public must realize that it is a thinking public. He must realize that in a matter so closely affecting it as does the conduct of public utilities, that it has both the right and the desire to know why. While the rules which govern the conduct of the public utility business are those which govern any mercantile business, at least as far as the public is concerned, there are respects in which they differ. A mercantile establishment can, after it receives its certificate of incorporation, start in serving its patrons without further grants from the city in which it is operating. Before a public utility corporation can give service to its patrons, it must procure a franchise giving it the right to use the public streets and highways. In the past such matters were sometimes taken up with politicians, and not infrequently alliances were made with the political bosses without much regard to the wishes of the public at large. The public utility operator who nowadays relies upon political bosses to help him in franchise matters or in controversies with the public, leans on a frail reed. Alliance between political powers and service corporations goes contrary to the general view. This alliance alienates friends of the corporation and weakens the real good it does and the genuine merit of its cause.

There is no reason why any company should hesitate to tell the public exactly what it needs and wants and what it will give in return, discussing the whole matter in a frank, open, business-like way.

The one part of the utility business which is responsible for the greatest amount of friction between the companies and the public is the price to be paid for the service. This question has been the subject of numerous articles in our technical magazines and the subject of discussion at almost every convention. No attempt will be made to discuss this question here. The prices for utility service should generally be left to the natural workings of business economics. The same factors which determine the prices in any mercantile commodity are those which determine the prices in utilities if due regard is had of the peculiarities of the business.

These are some of the points upon which the utility manager must educate the public. Nor is all of the burden upon the shoulders of the public service company. What is true with reference to fairness, courtesy, tolerance and forbearance upon the part of the company toward the public applies just as strongly as regards the public's attitude toward the company. The company is an important and integral part of the business community, and is entitled to the same courtesy, fairness and impartiality that is shown every other business interest.




London Posters—Series Illustrating Earlier Epochs

## SPRING POSTERS IN LONDON

Several articles have been published in past issues of the ELECTRIC RAILWAY JOURNAL containing reproductions of a small portion of the many striking posters originated by the London Electric Railway to advertise its underground, surface car and bus transit facilities.

So many styles of these posters have been made that it would seem impossible to add to their variety and attractiveness. However, the spring crop for 1914 shows that there is no end to the combined cleverness and ability of the London artist and the company's traffic department.

One of the new and original conceptions is to devote an entire design to some one famous person and the locality where he was born or with which he was in some way intimately connected. Those reproduced are General Wolfe, who lost his life at the battle of Quebec in the French and Indian War; Izaak Walton, author of "Ye Compleat Angler" and the patron saint of all amateur fishermen, and Dick Turpin, the famous highwayman, who made Hounslow Heath his particular hunting ground. The "Great Unknown" of the other picture is apparently the really oldest inhabitant of Chislehurst, in fact a man of the stone age. The Englishman, of course, has many more historical associations about places than is possible in a newer country like the United States. For all that, American electric railways rarely take full advantage of the opportunities that do exist for the exploitation of historic localities.

A charming design that any lady would call "cute" is the one entitled "Spring Has Come." The children are appropriately clothed for the occasion, and the boy with his "Pipes o' Pan" is evidently preparing to rival the musical efforts of the frog near by.

The two remaining posters were issued to signalize the opening of the new Charing Cross interchange station which was built for passengers of the District, Bakerloo and Hampstead lines. One of these is pictorial, showing in the most helpful way the various connections by walkway, escalators and bridges, and also a view of the buildings overhead. The other poster presents some significant figures of the cost of the station, its purposes, the amounts of different kinds of material required to build it and of the number of passengers served by the improvement.


London Posters—Announcing the Coming of Spring and the Opening of a New Station

# American Association Against Public Ownership in City of Washington

Representatives of the Association Appear Before District Committee of the House of Representatives to Protest Against Bill Providing for Public Ownership of Electric Railways in the District of Columbia

A series of hearings requested by the American Electric Railway Association on the Crosser bill providing for acquisition by the District of Columbia of the electric railways in the District began before the District committee of the House of Representatives in Washington on Thursday, May 21. The hearings resulted from a request made by Gen. George H. Harries, past-president of the association, at the hearing on the same subject which occurred before the committee on May 13. At that hearing, as reported in last week's issue, arguments were made by Clarence P. King, president of the Washington Railway & Electric Company, and Thomas N. McCarter, president of the Public Service Corporation of New Jersey.

Directly after requesting the committee on May 21 for time in which to arrange for witnesses to appear on behalf of the association, General Harries came to New York and consulted with C. Loomis Allen, first vice-president of the association. Conferences were also held with other leaders of the industry and a program was arranged. The matter was also taken up with representatives of the National Electric Light Association and of the public policy committee of that association, as it was felt that the matter was one which concerned the electrical industry as well as the electric railways. The fullest measure of co-operation was extended by representatives of the National Electric Light Association. Although the time allowed was so short that some of the electric railway representatives who would have appeared were unable to arrange to go to Washington this week, a comprehensive representation was outlined. In the preliminary and telegraphic communications on the subject, members of the committee on federal relations of the American Electric Railway Association were consulted in regard to the matter, and it was agreed that every effort should be made to present the standpoint of the electric railway industry concerning the pending bill as fully as possible.

General Harries was in New York during the week, and Secretary Burritt of the association also devoted himself to the matter. The general result of the conferences was that it was felt that arguments should be presented by the association before the committee on the ground that the bill proposed a change in national policy of far-reaching importance.

When the hearing was called to order before the committee on Thursday morning, General Harries introduced the subject briefly by stating that the American Electric Railway Association desired to be heard. As the committee was able to devote only one session to the bill on Thursday, one witness testified, and the testimony of others was deferred until the following day, when another hearing was arranged.

## TESTIMONY OF MR. KERR

W. D. Kerr, director of the Bureau of Public Service Economics of New York, the only witness to give testimony on May 21, explained at length the scope of activities of this bureau. The bureau was supported, he said, largely by its own activities. It issued books and pamphlets, and advised public utility companies in matters affecting their public relations. It was devoted to the general welfare of the industry, and was equipped to provide representation at hearings. Mr. Kerr had been asked to assist the association, and was ready to do so because it had been organized in order to subject public relations of the companies to closer analysis.

To a considerable extent, Mr. Kerr said, public relations of the companies had been neglected. The bulk of the energy of the officials of the companies had been devoted to the upbuilding of the physical side of the business. They had not subjected their public relations to the close analysis and study which these relations required. Dissatisfaction of the public with the relations of the companies and their communities had some foundation in fact. It behooved the companies to study and analyze all of their affairs which had any bearing on the large question of public relations, and to do their utmost to rectify anything in these conditions which was not satisfactory. The bureau wanted to assist in finding what the causes of dissatisfaction were and to help to ameliorate conditions that needed change.

Mr. Kerr said that the bill providing for ownership by the District of the electric railways that served it was important from three standpoints, as follows:

First, from that of the city of Washington and the District, the residents of which were most vitally affected.

Second, from that of the residents in the territory in Virginia and Maryland, immediately adjoining the District, who would be directly affected if the bill became a law.

Third, from that of the country at large. The bill was not on a plane with a similar measure that might receive consideration in any other city. It was important because whatever legislation was enacted in the District of Columbia was likely to be regarded as expressive of national policy. It was not the national policy of the country to municipalize its utilities.

### MUNICIPAL OWNERSHIP NOT THE COUNTRY'S POLICY

Continuing, Mr. Kerr said that the principle of municipal ownership had not been adopted in regard to electric railways by any municipality in the country. It was manifest that a community could not exist without transportation and that the value of this facility in any city was far beyond representation in dollars and cents. The social value of the electric railway was very large. Much of the agitation concerning electric railways was founded to a large extent on the social value of transportation, on efforts to bring transportation more closely within the reach of the public through reduced rates. It was plain that if the community desired to support the electric railway utility, and to operate it without regard to expense, it could give more service and better rates than if the system was entirely self-supporting. In order to make up the deficit from operations of the electric railway it would take funds from other sources. However, such projects had not been based entirely on the social aspect in this country, but were on a commercial basis. The bill as drafted provided that the District of Columbia should acquire the property and operate it on a commercial basis.

Mr. Kerr said that he was really interested in the bill principally from the standpoint of the country at large. The District of Columbia and the government were united in the management of the territory in which the Capitol stood, and other municipalities might

try to follow their example with disastrous results. It was worth while to examine the basis of municipalization of street railways in foreign countries. Mr. Kerr then reviewed the experience with tramways in the United Kingdom. This experience, he said, was cited frequently as favoring the adoption of the policy of municipal ownership in this country. However, the policy of municipal ownership in England arose from a combination of circumstances which could not be found and would not be found in this country.

In support of his argument, Mr. Kerr quoted the book of Robert P. Porter on the "Dangers of Municipal Ownership." He spoke of the difficulty of procuring enabling legislation until 1870, when the tramways act was passed. Electric tramway development in England has been retarded by legislation there, but there had been reached in electric railways in this country a very high state of perfection. The industrial and legislative conditions in England which led to the passage of the tramways act had not been experienced in this country. The progress of electric energy as a motive power in the municipalities which acquired ownership in England had been very slow. The interests of the municipalities did not lead them to develop beyond their borders. They did not build up outlying territory or provide service that enabled the people to live in this territory. Communication between the systems of different municipalities was difficult to arrange. Private capital had to take the initiative.

### COMMUNITIES EXPAND

Mr. Kerr asked what community in this country was willing to consider itself merely a self-contained body. What community was not anxious to bring in its neighbors, to carry on a policy of expansion? Systems had not expanded with municipal ownership in England as they had with private ownership in this country. There was no parallel between the special circumstances that led to municipalization in England and the conditions of development in this country.

Cities of the United Kingdom, Mr. Kerr said, were confined in area and were built compactly. Cities in this country covered a great area and contained large stretches of undeveloped land with suburban districts which permitted people to have the benefits of country life with business in the city. The policy here was to extend the cities over a wide area on account of the social results obtained through decentralization of the population. The problem of companies operating electric railways in cities of this country was to expand at a rate sufficiently rapid to meet the requirements of a growing population.

Mr. Kerr quoted from the report made by James Dalrymple, manager of the Glasgow Corporation Tramways, after his return to Glasgow from the trip which he made to this country in 1913. He said that conditions in foreign cities were vastly different from those in the cities of this country. He said that the question should be judged here on a commercial basis, rather than on a social basis. The English system had not given satisfactory results, and in many cases resort was had to the public treasury in order to overcome the deficit arising from the operation of the property.

### MUNICIPAL VS. PRIVATE OWNERSHIP ABROAD

In comparing private ownership of street railway systems in the United States with municipal ownership in Great Britain Mr. Kerr cited figures to demonstrate that British cities have less than one-fourth of the electric railway facilities, per capita, afforded by the privately owned systems in the United States. He declared that the governmental ownership of electric railway systems in the English cities had paralyzed their growth and hampered their progress in a way that would not be tolerated by American communities.

He also pointed out the similar experience of cities in Germany and elsewhere on the continent. He quoted an analysis of conditions surrounding forty-one electrical municipal plants in Germany in comparison with fifteen privately owned enterprises to show that while the installation costs of the latter per unit of output were higher because of more extensive transmission systems, their output per unit of investment, their average price, and their unit expenses were lower. Wages and salaries, according to this analysis, were higher for private than for public plants.

He declared that municipal operation of street railways in Germany had been abandoned to a great extent because of losses incurred in operation. He cited Yves Guyot, former minister of public works in the French cabinet, as authority for the statement that out of thirty-six German municipal tramways, only nine were operating without loss and eleven recorded heavy deficits. He declared that in Germany to-day there was a marked evolution toward private management, the city retaining the ownership of the enterprise, but contracting with private corporations for its operation.

The seriousness of the commercial aspect of public ownership of electric railway systems in this country, declared Mr. Kerr, could not be too strongly emphasized. Commercial success, he pointed out, meant conducting electric railways in such manner as to meet all current operating expenses, as well as the charges for depreciation, obsolescence of plant and equipment, interest charges on money borrowed and dividends on stock sufficient to maintain the credit of the company on a plane high enough to finance needed extensions. Enormous sums, he pointed out, have been invested in service in the District of Columbia, and future requirements will be as great as those in the past. Municipally owned companies in Great Britain, he declared, have never been compelled to meet requirements for such great extension of service as have marked the progress of American systems. Mr. Kerr's main argument was made to demonstrate that the system of public regulation of private enterprise was preferable to municipal ownership.

### STATUS OF REGULATION HERE

The United States, declared Mr. Kerr, had developed in the last twenty-five years, but particularly in the last decade, a system of such public regulation unlike any other in the world. This system, he argued, was adapted to conditions that existed here. The distinguishing feature of this system, he pointed out, was the power which it conferred on administrative boards subject only to constitutional limits concerning confiscation, to fix absolute standard of service for private companies and absolute rates to be charged by them.

Such commissions, he told the committee, have already been established in the District of Columbia and in Arizona, California, Colorado, Connecticut, Georgia, Idaho, Illinois, Indiana, Kansas, Maine, Maryland, Massachusetts, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Vermont, Virginia, Washington, West Virginia and Wisconsin. In other States, he told the committee, commissions had been provided to regulate public utilities other than street railways, so that the principle of public regulation of privately owned public service utilities has been adopted in Legislatures in all but three States. Because of this general acceptance of this system, he declared, the burden of proof should rest upon those who tried to demonstrate that munici-

pal ownership was the better method of handling this problem than control through public service commissions.

"Regulation is not management," insisted Mr. Kerr. "It is less than management, because it is free from responsibility for result. Regulations prescribe the conditions that are to be met, management finds the way to meet these conditions."

Mr. Kerr presented figures showing the operation of foreign telephone systems, to show that the government-owned service there is not equal to the privately owned enterprises in the United States. He quoted one European authority as excusing the weakness of federally operated service because in the government's system inefficiency alone is not sufficient to warrant the discharge of an employee. Some serious offense was necessary to separate an employee from the payroll.

Mr. Kerr also pointed out the conditions of American highways as an example of what government ownership and control meant in matters of transportation. He declared that it needed no demonstration to convince anyone that the country roads of the United States cannot compare to what they would be if they were handled by private enterprises. He pointed out that it cost 0.7 cent per ton mile for railroad freight, while it cost 25 cents per ton mile for similar transportation on a country road. The difference, he declared, was significant of the difference between government and private enterprise.

Mr. Kerr took up at length the decisions which have been rendered by public utilities commissions throughout the country to show how completely they are meeting public demands for better service conditions.

The most extensive investigation of an electric railway made by a public service commission, Mr. Kerr declares to have been that made by the Wisconsin Railroad Commission in Milwaukee. Since 1908 the Milwaukee system, he said, had been under the continual supervision of that commission. He filed with the committee orders of the commissions of Arizona, California, Idaho, Missouri, New Jersey, New York, Maryland, Ohio and New Hampshire to show the great variety of subjects dealt with.

"These cases," he declared, "are illustrative merely of the kinds of matters which are being determined by public service commissions. Their range covers practically the entire field of service—rates, franchises and capitalization. The Public Utilities Commission of the District of Columbia has substantially all the powers of these commissions, or, if it does not, it may have them so far as they are applicable to the situation in the District."

### ATTITUDE OF COMPANIES TOWARD REGULATION

In reply to a question by Representative Igoe of Missouri Mr. Kerr declared that from his contact with the managers of public utilities he found a general acceptance, not only of the desirability of government regulation but of its necessity. Mr. Igoe asked him if this was not because they merely preferred it to the public ownership idea. Mr. Kerr declared he thought they took a broader view and that they felt that their private companies could give the public better service than publicly owned enterprises.

He pointed out also the rapid strides that are being made in electrical matters which only private enterprise could meet and which public ownership would find it difficult to follow. He emphasized the fact that the electrical art is only thirty years old.

Representative Igoe then wanted to know if these managers of private enterprises would not prefer to be independent, instead of being compelled to bow to the decrees of commissions. Mr. Kerr declared that that would be only human, but insisted that these managers admitted the necessity of public control, because any group of individuals, immersed in any business, would not give the same results if left free which they would give if supervised.

Mr. Igoe also wanted to know whether these managers were ready to accept control of stock and bond issues by the same commissions. Mr. Kerr declared he had found the same difference of opinion among them on this subject that he had found in the public generally. He pointed out that while such control of security issues might have its advantage in its initial protection to investors, it might also result in keeping a commission from later reducing rates to impair the value of securities approved by the commission.

"There is nothing in the entire field," declared Mr. Kerr, "from the standpoint of the public which cannot be obtained through public regulation. If the United States government is not equal to the task of securing for the people of the District adequate service at reasonable rates, by means of public regulation, the United States government will not succeed in the successful operation of these facilities."

In discussing the relation of public ownership and labor Mr. Kerr quoted an address of H. T. Newcomb of Washington, D. C., in which the latter declared that when the government engages in industry on a large scale the condition of its employees naturally and inevitably degenerates to that of slavery, that governments do not advance wages with the increased cost of living, that democracy is an arbitrary employer, that public employees are not allowed to seek betterment for their conditions, and that public ownership involves compulsory labor.

Mr. Kerr also argued that the movement for municipal ownership has not gained a strong foothold in the country and that it has been checked to a great extent by the era of public regulation. He presented the report of a special committee of the Board of Trade of Camden, N. J., opposing the establishment of a municipal electric lighting plant. This report was based upon the success of the Board of Public Utility Commissioners of that State in dealing with successive rates and inequalities of service. He also presented a similarly unfavorable report of a special commission that investigated the same kind of a project in Syracuse, N. Y.

### AN EXAMPLE IN CANADA

Mr. Kerr devoted considerable attention to the extensive public ownership hydroelectric project in Canada. He presented figures to show that bond issues totalling $5,650,000 had been issued on an original estimate that the work would cost $2,750,000. But on the bond issues themselves there were discounts of $951,765, approximately 20 per cent of their net proceeds. Besides this it was found necessary to spend $1,000,000 more for a steam reserve plant and an additional $1,000,000 of bonds must be issued to provide working capital for the project. This means a total outlay of $7,500,000 on an enterprise originally scheduled to cost $2,750,000. Out of all of this, he declared, less than 30 per cent of the population receives any benefit whatever in the way of reduced lighting rates, and the reductions are far less than the burden of taxes thrown upon the province.

Mr. Kerr also pointed out that one great peril of municipal embarkation in enterprises of such magnitude lay in the fact that with the debt limits imposed upon American municipalities, it frequently crippled their activities in other ways.

Mr. Kerr then referred to the weakness of governmentally owned utilities in meeting public demands.

"We seem to accept from the government, without complaint, poor service that we never would tolerate in a private enterprise," said Mr. Kerr. "Public ownership of a monopoly is pernicious in that it is subject to no regulation. From the very nature of things it is a law unto itself. This freedom from regulation is not so serious a matter when the public undertakes a service for the social advantages that accrue to the public at large; but where the balance-sheet test is applied, experience with unregulated monopoly does not promise well. Public ownership lacks the initiative and the aggressiveness that comes with self-interest. Public administrative officers for the most part hold office for periods of from two to five years. The term of office of District Commissioners is three years. The legislative bodies which ordinarily determine the policies are constantly changing their personnel, and the policies are subject to just as rapid changes. In the conduct of a service which has reached its maturity in an art whose stability is established, this may not be so serious a matter, but we are constantly confronted in this country with the failure of government agencies to keep pace with the development of educational standards in schools, with the growth of communities, in the supply of water service, with new traffic demands in the case of streets and highways, and variously in other departments of the public service."

If the electric railway companies in the District of Columbia, declared Mr. Kerr in concluding his testimony, were not furnishing adequate service at reasonable rates, the United States government has the power to compel the improvement of the service and the reduction of rates. The same, he declared, was true of New York, Philadelphia and other cities. He said the power was vested in the government to provide the regulation necessary to compel the best service for the public. But he insisted that this difficulty would never be solved by going over to public ownership. If the country was not able to regulate, it was not fitted to own. This, he insisted, was a matter of vital interest not only to the District of Columbia but to the country at large.

### PROTEST FROM MAINE

Representative Asher C. Hinds of Maine presented a statement to the committee, declaring that he appeared before it to voice the protest of William M. Bradley, a representative citizen of Portland, against the entire project outlined in the Crosser bill. Mr. Hinds, however, said that he was not ready to appear against the bill as the representative of the people of the first district of Maine, that he did not know their views and that until the committee has reported the final draft of the bill he would not be ready to announce his judgment concerning the measure.

### FURTHER HEARINGS

At Friday's hearing General Harries was the only speaker. Further testimony will be heard next Tuesday.

## TESTIMONY OF MR. CRAWFORD

N. McD. Crawford, president of the Reading Transit & Light Company, Reading, Pa., who testified before the committee on May 14, has sent a written statement to the committee and has asked that it become a part of the record. It is in amplification of his views expressed in oral testimony. Mr. Crawford first described his railway experience and his connection with the investigation of British municipal tramways, conducted in 1906 by the National Civic Federation. In this investigation Mr. Crawford was associated in his study of the British tramways with J. H. Woodward, chief engineer for Sir William Preece and Company, of London, England. Continuing the statement said in part:

"At a recent meeting of the Municipal Tramways' Association of England, W. W. Beaumont, technical adviser to the Commissioner of Police, of London, stated that about 26 per cent of the tramways of Great Britain, from the report published by the *Tramway and Railway World*, are either making no profit or are calling upon the rates to make up the deficiencies. F. Smith, of the Liverpool Corporation Tramways Committee, stated that there is great likelihood that the tramcars would be handed over to commercial people, to be run as a commercial proposition.

### GLASGOW TRAMWAYS' CONTRIBUTION TO TAXES

"In a recent address by Arthur Williams, of New York, it was stated: 'The mileage of the service, is approximately half of such cities as Boston and Brooklyn, where the population may be compared with Glasgow. The investment of the public money in the tramways is $17,500,000. The average fare paid on the "zone" system is between 3 and 4 American cents. Those living in the suburbs, however, pay in the extreme, twice the American fare for the corresponding amount of service. The wages of the working classes average approximately half our American wages. The contribution of the tram system of Glasgow in the form of taxes averages about 35 cents annually per capita, while in Boston and in Brooklyn the average tax contribution is much in excess of $1 per capita, or more than three times Glasgow's tramway contribution to the cost of conducting the affairs of the city.'

### FAILURES OF MUNICIPAL OWNERSHIP IN AMERICA

"Your committee has before it a pamphlet showing 200 failures of municipal ownership and operation in America.

"Your attention is drawn to the failure of the municipal gas plant in Philadelphia, where, under municipal ownership, the prices were high, the service was poor, extensions were most inadequate to meet the needs of the public, and in the last year of operation the deficit approximated $400,000. Under the private operation of this property for the last few years, all of the conditions mentioned above have been reversed. The public has benefited by a series of reductions in price, and instead of an annual deficit, an annual income for the relief of taxes in general has been enjoyed, which for the year 1912 amounted to $1,369,966.

### CHICAGO REPORT

"Mr. Dalrymple, general manager of Glasgow Municipal Tramways, although committed to municipal trading, when engaged as an expert by Mayor Dunne and after thorough investigation, advised that in his opinion municipal ownership and operation was not advisable in Chicago.

### MUNICIPAL OWNERSHIP LEADS TO BUREAUCRACY

"A recent book written by Yves Guyot demonstrates that every government or municipal enterprise is exposed to political out-bidding of one politician by another and that government employees become electoral factors, so much the more important in proportion to the increase of government and municipal activities. They become the actual masters of those to whom in theory they are subservient.

"In Great Britain the suppression of the vote of municipal employees has been demanded a number of times. In the 'Municipal Trading Report of 1900,' Sir Thomas Hughes, twice Mayor of Liverpool, states: 'The day on which a man becomes the employee of a municipal corporation he ought to have no further voice in the choice of his superiors.'

"The New York *World* states editorially: "Nominally the civil service employees of New York are public servants. In reality they are public masters. The original civil service laws were enacted to protect faithful public servants from political bosses and safeguard the public business from the demoralization of party warfare. We have protected all these employees from the boss, but we have yet to devise means to protect the public from its employees. No corporation would dare take the aggressive stand against public regulation that these civil service employees take. New York has a written charter, but it is only a matter of form. The real charter of New York is to be found in the decrees of 60,000 and more civil service employees, all organized against their employers, the people of New York. They are the despots of our democracy.'

"If the ownership and operation of the street railways in the city of Washington were vested in the District of Columbia, this ownership would of necessity largely increase the number of employees under the control of the district.

### BUREAUCRACY RETARDS EFFORT AND ENTERPRISE

"It is certainly a sound economic principle that no government, either national, state or municipal, should embark in a business that can be as well conducted by private enterprise. The fact that many of the undertakings which should belong to the field of private enterprise are controlled by municipal corporations in Great Britain indicates the tendency exhibited by the adherents of municipal ownership to enter into and dominate the field logically belonging to private enterprise. If this tendency, which springs logically from bureaucracy, continues to run wild and is not controlled by saner legislation, the field of private enterprise will be so restricted that the citizen will be left without opportunity for investment and without ambition or aspiration beyond that of seeking employment under the government.

"If the ownership and operation of a municipal street railway or a municipal electric lighting plant is justified, why not a municipal bakery or a municipal department store?

### MUNICIPAL PLANTS DO NOT ASSUME ENTIRE BURDEN OF INVESTMENT

"This statement is sustained by the figures contained in a report made by the London County Council, disclosing the absence from the tramway accounts of capital expenditure made solely on account of the tramways, which was ascertained to be not less than $20,224,220, of which only $1,886,300 was debited to the tramway undertaking. The difference was improperly charged to other municipal undertakings controlled by the council.

### MUNICIPALITIES SHOULD NOT ENTER INTO SPECULATIVE ENTERPRISES

"It is unquestionably bad economics that a municipality should enter into any undertaking where the profits to be made depend upon speculative conditions, and there is no justification for so doing, either in law or by precedent. Delos F. Wilcox has testified before the committee that if the city is going to control its development at all it has to develop transit along the line of building extensions for the public purposes rather than for a private purpose—'the purpose of making profit out of it.'

"If a municipality should not own and operate a street railway property for profit, it will be difficult to determine the point at which profits commence, i. e., at which the rates of fare should be reduced or the service increased; and anyone familiar to the smallest degree with bookkeeping will realize the difficulty of establishing a fixed amount which will provide for legitimate operating expenses, fixed charges, depreciation, obsolescence and inadequacy, and after which the resulting surplus should be used either in bettering the service or decreasing the cost of transportation.

### PRIVATE OWNERSHIP MORE WATCHFUL IN EXPENDITURES THAN MUNICIPAL OWNERSHIP

"While it is certainly true that a municipality could and would secure trained managers, outside of politics if possible, to operate its street railways, it is also evident that there would not be the same watchfulness and efficiency exhibited to avoid useless expenditures as there would be under private ownership, where the expenditures are all carefully watched by the owners, each jealously and efficiently guarding his own investment; because under municipal ownership, by reason of paternalism, any deficit in earnings required to meet operating expenses would be made up from general taxation.

### PRESENT SERVICE IN WASHINGTON

"From personal observation it is my opinion that the construction and operation of the street railway in Washington would not be improved under municipal ownership. I find the track and roadway construction is in fine operating condition. The cars are clean and attractive and are operated with even greater frequency than called for by the traffic presented. The employees are courteous and efficient in their departments.

"I find that the estimated population and the number of cars available for operation in the cities shown below are as follows:

| | Population | Cars available |
|---|---|---|
| Washington | 360,000 | 1,000 |
| Glasgow | 1,000,000 | 623 |
| Liverpool | 750,000 | 494 |
| Manchester | 750,000 | 532 |
| Dublin | 448,000 | 294 |

"The flat rate system of fares in use in Washington is as liberal in its provisions as in any other city in the United States and is far more liberal than the fares under the 'zone' system, which is in force throughout Great Britain and which tends to restrict the development of the city.

### CONCLUSIONS

"In conclusion, it is my opinion that your committee would not be justified in favorably reporting the bill under consideration, for the following reasons:

"Municipal ownership and control is and has been un-American from its inception. It was conceived to meet conditions existing in Great Britain and foreign countries, and even there it has been a failure when compared with private control of like enterprises.

"Municipal ownership and control in its home, Great Britain, is already endeavoring, octopus-like, to embrace and smother all fields of development which should be open to the private individual and investor.

"Municipal ownership and control should not embark upon speculative undertakings, such as street railways, electric lighting, etc., because there is no reason why employees of the people should be allowed to speculate with the funds provided by their employers.

"Municipal ownership and control leads to bureaucracy, and the logical outcome of bureaucracy is the control of the master by the servant and the people by the politician.

"Municipal ownership and control leads to paternalism, and paternalism results in delusive accounting and extravagant expenditure of money derived from the people by taxation.

"Municipal ownership and control is obsolete and indicates retrogression. Governmental regulation is modern and indicates progressiveness."

## MEETING OF AMERICAN RAILWAY ASSOCIATION

The spring session of the American Railway Association was held at the Biltmore Hotel, New York City, on Wednesday, May 20. There were present 170 delegates, representing 240 member companies, out of a total of 403 members, operating 272,949 miles of track.

After the reports of several committees had been presented resolutions were ordered to a vote by letter ballot of the association to the effect that the present standard inside dimensions of box cars, viz., 36 ft. in length, 8 ft. 6 in. in width and 8 ft. in height, should be adhered to, except in the construction of special equipment, such as automobile cars, and that special equipment should not exceed the inside dimensions of 40 ft. 6 in. in length, 8 ft. 6 in. in width and 9 ft. in height, with maximum outside dimensions of 9 ft. 2 in. in width at 13 ft. above the top of the rail.

### AUTOMATIC TRAIN STOPS

The joint committee on automatic train stops then presented a list of requisites for installations for automatic train control, but reported that replies to a recent circular indicated that not one of the devices which had been tested on a number of roads met these requirements. No automatic train control apparatus, so far as known, could be universally applied without adding elements of danger in train operation, and the expediency of its installation at any particular point had to be determined by all the surrounding conditions.

The requisites of installation for a train control system, as formulated, were designed for application only where the conditions of traffic were such as to justify the use of an automatic block signal or interlocking system which was, itself, so nearly perfect as to indicate that efforts be directed toward the enforcement of obedience to signals rather than toward the installation of additional devices.

### SPECIFICATIONS FOR SUCCESSFUL AUTOMATIC STOP SYSTEM

The requisites of installation which were drawn for application in connection with a properly installed block signal or interlocking system included, among other items, clauses to the effect that the apparatus must be so constructed that it would control the train in the event of a failure of fixed signals to give proper indications; to be operative when the engine was running forward or backward; to be effective on that engine only from which the brakes were controlled when two or more engines or a pusher were being used; and to be operative on trains moving only with the current of traffic. In addition, adjuncts to automatic train control consisting of cab signals, detonating signal apparatus, speed indicators and recording devices were specified as being permissible.

### DEVELOPMENT WORK ON AUTOMATIC STOPS

A further research and study of the subject convinced the committee that great care must be exercised in working out a system of automatic train control, in order to avoid the introduction of new elements of danger in operation which might offset those they were intended to overcome, and that "the successful stoppage or reduction in the speed of a train composed of many freight cars or of heavy passenger equipment required the exercise of skill and judgment on the part of the engineman in handling the air brakes. If this is improperly done, serious damage to the train and possibly to the track and to trains on parallel tracks may follow. The sudden application of the brakes by an automatic device without the exercise of intelligence in its performance is, therefore, necessarily hazardous." The committee reported also that an inquiry showed that on twelve railroads experiments were in progress with fourteen different devices.

### SAFE TRANSPORTATION OF EXPLOSIVES

Among others, the committee on the safe transportation of explosives and other dangerous articles reported that it had attended a hearing at Washington before the Interstate Commerce Commission, to consider proposed amendments to the existing regulations on the subject, and that at the conclusion of the hearing the commission took the proposed amendments under consideration. It was anticipated that within a few weeks an order would be issued promulgating the revised regulations and specifications. The committee also called attention to a statement showing that in the transportation and storage of explosives on railway property during the year 1913, no life was lost and only four slight personal injuries occurred. The total property loss amounted only to $22,048. In 1907 incomplete records showed a loss of fifty-two lives, eighty injuries and a money loss of about $500,000.

### ELECTRICAL WORKING

The committee on electrical working then reported, in regard to third-rail working conductor clearances, that it would be desirable to await the action of the various engineering associations interested before making a definite recommendation to the association. With regard to clearances for overhead working conductors, the committee appointed a sub-committee to confer upon the subject with similar committees of the engineering associations. With regard to overhead crossings for power and other wires, the committee reported that the Association of Railway Superintendents of Telegraph had requested that the American Railway Association adopt its "Specifications for crossings of wire or cables, telephone, telegraph, signal and other circuits of similar character over steam railroad rights-of-way, tracks, or lines of wire of the same classes." The committee on electrical working believed that it should take up the subject with the railway engineering associations before definitely recommending any specifications of this kind and had, therefore, appointed a sub-committee to take up this subject with similar committees from the other associations. The sub-committee would also include in the scope of the proposed specifications the general subject of electric light and power line crossings, in order that the final report of the committee would cover the general specifications for all classes of wire and cable crossings over or under railway rights-of-way. The sub-committee consists of J. H. Davis, electrical engineer Baltimore & Ohio Railroad, and E. B. Katté, chief engineer electric traction New York Central & Hudson River Railroad.

At the conclusion of the meeting H. U. Mudge was elected president of the American Railway Association for the ensuing two years. It was decided to hold the next regular session in Chicago on Nov. 18, 1914.

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The National Association of Corporation Schools has issued bulletins No. 1 and No. 2, giving officers and members of the society and containing articles of interest on the subject of training of employees. Some of the articles included are the following: "Engineering Schools of Electrical Manufacturing Companies," by Dr. Charles P. Steinmetz, General Electric Company; "Methods of Selecting Men in Business," by F. C. Henderschott, New York Edison Company; "Reasons for the Shortage of Skilled Mechanics," by A. F. Bardwell, Yale & Towne Manufacturing Company; "Report of Sub-committee on Manufactures and Transportation," by Mark B. Hughes, Cadillac Motor Car Company.

## MAYORS' NIGHT AT THE MASSACHUSETTS STREET RAILWAY ASSOCIATION

Forty mayors of cities in the Bay State were the guests of the Massachusetts Street Railway Association at a regular meeting and dinner of that organization held in Boston, on May 20. The occasion was one of the most enjoyable and successful affairs that has ever taken place in New England street railway circles.

H. H. Crapo, president Union Street Railway Company, New Bedford, Mass., president of the association, expressed the pleasure of the association in entertaining the chief representatives of 2,500,000 people, and pointed out the important service rendered by the electric railway industry in modern life. Managers are seeking to give the public the best possible service within the limitations of the companies' finances; street railways are not antagonistic to the public authorities, and the desire to co-operate is general. President Crapo pointed out that the Massachusetts laws effectually prevent any street railway from becoming a so-called "money-making" enterprise. More than a reasonably modest return cannot be obtained under the statutes governing the disposition of any surplus. Money has been made in some cases in exploiting and reorganizing properties, but in the ordinary course of business only a moderate return is gained. Nearly 60 per cent of the Massachusetts companies earn no dividends at present. The speaker's opinion was that a city system can be operated to give complete satisfactory service to the public and a modest return to the investor, but under present conditions the suburban and country lines are in a hard situation. He urged the mayors, with the quasi-public officers who are the street railway executives, to study the conditions upon the local systems, and pointed out the evils of pushing the companies too hard, a policy which leads toward bankruptcy or toward impoverished and unsatisfactory service. Citing the Boston Elevated Railway, President Crapo outlined its financial status, emphasizing the point that its permanent investment had increased 400 per cent in the last ten years, compared with an increase of but 55 per cent in gross revenue. The investments have been largely of the non-income-producing type. Only less aggravated conditions exist in other cities. He urged the mayors not to be controlled by civic improvement societies, privileged parties or labor unions, but to make impartial studies of local traction conditions and problems shoulder to shoulder with company managements.

Mayor James M. Curley, Boston, made a powerful speech on behalf of greater justice to the men and women who have invested their money in street railway securities. He said in part: "We have come here to-night for light on the question of a greater degree of justice to street railway security holders. Heavy burdens rest on the shoulders of the street railway men because the general public is unaware of their causes, if not of their existence. Not ten persons in a hundred realize the changed conditions resulting from the use of motors instead of horses, the character of construction necessary to-day compared with formerly, or the limitations of the street railway treasury. The general public needs more light before it will be safe to propose a general increase in rates. The city has its own remedy for increased costs in street and other construction in a higher tax rate, but the street railway is not so fortunate. The latter never will have the opportunity to increase its rates until the public realizes that the companies must have the money to which they are entitled." The mayor further pointed out that in a single snowstorm last winter $60,000 was saved the city of Boston and $30,000 the Boston Elevated Railway by co-operation in removing the snow from the streets instead of shoveling it back and forth, as in older days, from tracks to roadway. Much money has also been saved by conferences of company and city officials in connection with street openings for construction purposes. Others who spoke of the improved relations existing between the companies and the municipalities were Mayors J. A. Dennison of Springfield, O. B. Munroe of Melrose, and T. W. Good of Cambridge. Mayor John F. Hurley of Salem spoke wittily of former and present service conditions, and Mayor W. H. Feiker of Northampton pointed out the benefits of consolidation of operating companies in small cities, also urging that something be done to develop the trolley facilities of western Massachusetts in the absence of a constructive program of the New York, New Haven & Hartford Railroad.

P. F. Sullivan, president Bay State Street Railway, Boston, was the last speaker. He expressed his pleasure at the realization of the first "Get-Together" meeting of the association and said that the remarks of the various speakers are an augury of better times. He outlined the limitations of the street railway fare unit, touched upon the tendency for traffic to outgrow facilities offered, and said that 90 per cent of the men he had known in the street railway industry in Massachusetts had lost money. Rule-of-thumb methods are out-of-date and the work of street railway operation may fairly be called a profession to-day in view of its complexities. It calls for the very best executive engineering and financial ability to produce even a moderate return on the actual capitalization. To-day, the street railway is sensitive even to such apparently remote conditions as the cotton and corn crops. A knowledge of psychology, particularly of crowds, is becoming essential, and Mr. Sullivan predicted that most of his auditors would live to see departments of psychology established in street railway organizations. A finer type of men has been developed in the industry of late years and the electric railway official who fails to carry out a promise to-day is soon ostracized.

Mr. Sullivan sketched the effect of the increased cost of living upon street railways, stating that he could not recall a single construction item which has not risen in cost from 10 to 60 per cent in the last fifteen years. The purchasing power of the nickel is only from 67 to 80 per cent of what it was fifteen years ago, according to authorities. Taxes on the Bay State system are 7 per cent of the gross income now compared with 2.5 per cent twenty-five years ago, and the increase represents $400,000 a year, or 2 per cent on the capital stock. A 3 per cent depreciation charge added to the cost of repairs would total more than the last year's dividends. He spoke in high terms of the work of the Massachusetts Public Service Commission and its predecessor, the Railroad Commission, characterizing the present board as exceptionally well balanced to consider the great problems laid before it and urging more confidence in its personnel on the part of the public. He appealed to the younger men of the industry to keep its banner high and in fidelity to duty, honor and responsiveness to the public to win popular support and a devoted following within the ranks.

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The *Boston News Bureau* recently issued a report showing gross earnings of fifteen traction lines selected in all parts of the country, for February of this year and in 1913; and for the two months from Jan. 1 to Feb. 28, 1914 and 1913. The total gross earnings of the fifteen lines for February of this year amounted to $5,263,795, an increase of $790,372 over February, 1913. For the first two months of this year the same systems earned in gross $11,117,787, which was $501,758 more than in corresponding period a year ago.

## DEPRECIATION HEARINGS CLOSED AT BOSTON

The Public Service Commission of Massachusetts gave a final hearing on May 18 upon the proposed order of the board relative to the keeping of accounts by railroads and street railways so as to show the methods of providing for depreciation in use by such companies. A large number of counsel were present and the discussion centered chiefly upon the desirability of framing the order in language sufficiently broad to include rate cases and other pertinent matters in addition to the issue of securities. As originally discussed, the proposed order required the companies to show as a part of their case, when applying for permission to issue new stock or bonds, the method by which depreciation has been provided for. Counsel for the Bay State Street Railway Company, the Boston Elevated Railway Company, the Massachusetts Street Railway Association and other electric railway interests were in general agreement that the board has ample power under the Public Service Commission act of 1913 to investigate depreciation accounting and to order the operating companies to set forth any desired information upon the subject, and it was the consensus of opinion that the importance of depreciation in relation to rate cases warranted the formulating of a more comprehensive order than one dealing merely with security issues.

In the course of the hearing Frederic E. Snow, counsel for the Boston Elevated Railway, brought out the point that he had never known any public service commission or corporation to authorize any increased capitalization to take care of depreciation. The Boston company has been criticized more before public bodies and members of the legislatures for the fact that it has had a depreciation fund than for anything else, as the popular impression is that a depreciation fund represents unreasonable profits. Bentley W. Warren, for the Massachusetts Street Railway Association, concurred, stating that a depreciation account is always criticised in rate cases and similar proceedings before the public.

Mr. Warren had advised a client in the past to eliminate its depreciation fund and take care of maintenance by charging it to operation, for the reason that the company was being criticised and that frequent applications were being made for reduced rates because of the large depreciation account then carried. Mr. Snow said that the Interstate Commerce Commission is about to provide that after July 1 a depreciation account on rolling stock shall be kept by all interstate street railways.

Chairman McLeod brought out the point that if the board were to make its orders relative to the approval of stock issues conditional upon a satisfactory showing in regard to the method by which depreciation is handled the board would be confronted with the alternative of making some finding which might be taken as an affirmation by the commission that depreciation had been reasonably handled or else to refuse to allow the issue of the securities. In the chairman's judgment, it would appear in nearly every case that according to any scientific method of determining depreciation and resources for depreciation, an adequate provision had not been made. Mr. McLeod considered this objectionable and liable to hamper the companies in raising new money. As a result of the discussion it was tentatively agreed that the board should issue an order providing that railroads and street railways shall hereafter be prepared to show at any time and in connection with any proceedings, the method by which and the extent to which such corporations provide for the depreciation of their property.

## MR. ARNOLD'S REPLY ON ACCOUNTING PROCEDURE

The Electric Railway Journal of May 16, 1914, contained a reference to a report made by Barrow, Wade, Guthrie & Company, public accountants, to City Comptroller Traeger of Chicago in regard to the methods of keeping the books of the Chicago City Railway under the provisions of the 1907 franchise ordinance. Since that time B. J. Arnold, chairman of the Board of Supervising Engineers, Chicago Traction, has issued a detailed statement taking up each one of the points that was criticised by the accounting firm.

Mr. Arnold's statement calls attention to the fact that he requested the accountants to inform him if they encountered anything that they thought contrary to the ordinances and that the accountants replied to the effect that there was nothing in their report of interest to the board. Nevertheless, the last report of April 28, which the board was unable to obtain until May 11, was so written as to be of vital interest to the board in that it criticised the judgment, and the deductions drawn from it affected the integrity, of its members.

The points criticised in the accountants' report are taken up seriatim and the justice of the accounting procedure followed by the Board of Supervising Engineers is fully shown. The accountants say that the various items questioned by them have operated to place an indirect charge of 31.9 per cent to capital improvement and additions, but according to Mr. Arnold such charges constitute only about 10 per cent, for the accountants incorrectly included in their calculations the items which they did not question. In general, the accountants disregarded the provisions of the 1907 and subsequent ordinances and particularly the unification ordinances affected since Jan. 1, 1914, and criticised what had been done under them from the standpoint of purely general accounting, and even then their conclusions are stated to be questionable.

In regard to the depreciation and renewal reserves, Mr. Arnold observes that the methods adopted by the Board of Supervising Engineers were approved through the recent unification ordinances. The question of the adequacy of the charges to the renewal and depreciation fund is now under consideration by the Board of Supervising Engineers and has had careful study and investigation for many months past. Mr. Arnold calls attention to the fact that the matter of an adequate reserve for damages has been discussed frequently during the past year and the company actually set aside a large percentage to the damage reserve that the board deemed necessary. The question of accounting for the income tax, according to Mr. Arnold, is a point well taken by the accountants but this, too, has been under consideration by the board and no decision has been yet reached. The right of the company to class fines among operating expenses is based upon Section 3 of the unification ordinance and the opinion of the corporation counsel in regard thereto.

It should be clearly understood, Mr. Arnold states, that the Board of Supervising Engineers has been and is absolutely non-political, but that during its past seven years of work it has been annoyed from time to time by those who would make it a political board if they could. This last attack has not been for the purpose of protecting the city's interest but for other reasons better known to the politicians. The decisions questioned by the accountants have been beneficial to the city rather than detrimental. The accountants' report unjustly and unfairly impugns the good faith of the board in the performance of its duties, but it is quite content to rest upon the facts when fairly presented and invites the fullest inquiry.

# COMMUNICATIONS

## THE COST OF USELESS WEIGHT IN STEEL CARS

L. B. STILLWELL, CONSULTING ENGINEERS
NEW YORK, May 21, 1914

To the Editors:

In your issue of Feb. 7, 1914, you published an editorial entitled "Somnolence in Car Design." The point of the editorial, which was well taken, was that the art of steel car design had passed the pioneer stage and was rapidly developing to a point where standard methods of construction could soon be established. Obviously, such methods must be based on the scientific use of steel in the car-body structure, the form and distribution of the members and their connections being such as to provide for the full development of their strength in order, first, that the protection to passengers in cases of collision or of derailment at high speed may be as complete as possible; second, that the operating cost for power may be minimized by the elimination of unnecessary weight and, third, that the cost of maintenance be kept down by insuring that the strength of structure may be adequate to resist the stresses of service.

The description of a steel car for high-speed interurban service, published in your issue of May 16, offers no explanation of the apparent disregard of the feature of weight. It is not my intention to criticise this car, as full structural details and weights are not at hand, but from a comparison of the published weights of the car, with the known weights of several types of all steel cars in even heavier service, it appears that approximately 17,000 lb. of unnecessary weight is incorporated in the body and trucks.

Aside from the economic loss involved in the operation of a car of unnecessary weight, which even at an assumed rate of 1 cent per pound per year on 17,000 lb. for twenty cars will amount to $3,400 per year, the cost of the excess material must, of course, be included in the first cost of the car. At an assumed price of 10 cents per pound this useless expenditure would amount to about $34,000 for the twenty cars.

While this loss is primarily the affair of the road and not a serious one (the number of cars involved being small) it would seem that in these times of difficulty in meeting operating expenses, and also difficulty of the financing of railway projects, the broad subject of consistent design of steel cars and equipment, including trucks, motive power and brake equipment, is one that warrants further and fuller consideration by those whose business interests are affected by the success of enterprises in the field of electric traction. A great deal has already been accomplished in the reduction of weights by the manufacturers of motors, control, air brake and other motive power equipment in co-operation with the operating and engineering departments of electric railroad properties, but it is apparent from an examination of current technical literature that the subject of steel car design warrants still more careful analysis for the purpose of establishing methods of construction which will minimize weight of structure while developing the utmost strength of all its members.

In this connection an investigation of the behavior of all such steel cars as are now in use will be most fruitful in demonstrating the strong and weak points of various designs in various services.

The operation of the cars described in your issue of May 16 and referred to above, will of course be watched with more than usual interest on account of the motive power equipment being arranged for 2400-volt direct current, and the excess weight of car body must be considered in any analysis of the operating results which may be made in the future. F. M. BRINCKERHOFF.

## WHAT CONSTITUTES A REASONABLE RETURN?

SPENCER TRASK & COMPANY
NEW YORK, May 9, 1914.

To the Editors:

The question of what constitutes a proper and fair rate of return on electric railways is so broad that it is practically incapable of a generalized answer. The conditions that confront various public utilities are so different that commissions and appraisers must consider the individual aspects of each particular case. The most that can be said is that the public should recognize that the rates paid must be sufficiently high to afford an operating revenue that will cover the operating expenses, set up a liberal contribution for the assuring of the continuance of service and pay a fair return on the reasonable value of the property at the time it is being used by the public. In valuing a utility property the actual money expended should be considered, with deductions on a proper basis for depreciation. The bond issues outstanding should not be in excess of 80 per cent of this reproductive cost.

In arriving at this cost, intangible assets, such as franchises, going value, overhead charges, developmental expenses, etc., should be taken into account as well as the tangible assets. Bond and stock discounts, franchise expenses and all expenses actually paid should be capitalized. In cities where franchise taxes are paid, the franchises should be capitalized on this basis, for the public should realize that it is eminently unjust to a public utility to assign a value to its franchise for the purpose of assessment and deny to it the right of including it at a similar figure in the basis for rate making. Then, too, when a railway has been conservatively financed and dividends have been passed for a number of years, the money being put back into the road out of earnings, the actual declaration of dividends should not be the determinative factor as to the going value, for early unpaid dividends should be allowed.

In so far as it is possible to set definite rates of return for electric railways, it may be said that they should lie between the limits of 6 and 8 per cent, depending on the age and condition of the property. I believe that the Railroad Commission of Wisconsin has exercised excellent judgment on the question of a fair rate of return, and that its awards are illustrative of a proper course to be pursued by regulatory commissions and courts. A return of 8 per cent seems in its broadest aspects high, but in cases of more than the average or extraordinary investors' risks this limit might well be approached and equalled. These limits for the rate of return are based on a consideration of all the elements of the capitalization of a utility, for no distinction can be made between stocks, bonds and notes. JAMES T. WOODWARD.

BOSTON, MASS., May 19, 1914.

To the Editors:

I have read with interest the abstract of the testimony of Mr. Hockenbeamer, before the California courts, on "Cost of Money to California Public Utilities," which appeared in your issue of May 16. This is a matter to which I have given some attention in connection with my studies in utility economics. It would certainly be very interesting if someone should make a careful analysis of the costs of money under different conditions, starting with a basis of absolute security and building up with different factors representing elements of risk to both investment and return, the effect of discounts payable at maturity, rights, speculative features, and other influences so commonly interwoven in the prevailing security rates. Various writers have speculated on this subject and have given figures which were probably based on some actual experiences. Accurate figures

would, however, require a careful study of a large number of market prices on securities of different classes, at different times and in different localities, similar to the tabulation which Mr. Hockenbeamer has given for bonds of California utilities. When the average rate of return required by investors on securities of different classes is determined, the proportion of these classes entering into public utility capitalization must be fixed before the necessary average rate of return to be used in rate cases can be obtained.

In looking over Mr. Hockenbeamer's testimony, I was impressed with the conservatism of his estimates. His tabulation of the bond issues, authorized by the California Commission, shows figures for yearly yield to investors, if held to maturity, which illustrate this conservatism. His total yield is made up of two factors: interest figured on the basis of the actual investment, and an annuity, which, at the rate of interest of the bonds, would be equivalent to the total discount during the life of the bonds. I think it is more common simply to distribute the discount in equal amounts over the various years which the bonds have to run. Taking a particular case from Mr. Hockenbeamer's table, that of a 6 per cent thirty-year bond sold at 94, Mr. Hockenbeamer's method gives a yearly yield of 6.46 per cent, whereas the method I have suggested gives an average yield of 6.58 per cent. The only logical reason for assuming an annuity basis of distributing the discount which occurs to me is in the case of a trustee of an estate, for instance, who might wish each year to distribute to the then beneficiaries of the trust, the amount due, which would require him to arrange with a trust company for the annuity in question, for which the trust company would require a deposit of some of the securities as collateral. I do not think such conditions surround a sufficient proportion of investments to justify the utilities in figuring the discount factor in the cost of their money on that basis.

To return to the original subject of my letter, I think that it would be of interest to the readers of the Journal, and to the advantage of the utility interests, if such data as Mr. Hockenbeamer has collected could be presented with some regularity. It would serve to educate utility managers, would reach some of their critics and might also influence some of the commissions which are just assuming the responsibilities of rate cases.

L. R. Nash.

## NEAR-SIDE STOP IN PHILADELPHIA

Philadelphia Rapid Transit Company
Philadelphia, Pa., May 18, 1914.

To the Editors:

Prior to July, 1912, the rule relative to "stopping for passengers" in Philadelphia read as follows: "Cars must stop only on the near-side of all main streets to receive and discharge passengers. They must also stop on the far-side of streets on which there are double tracks."

This rule was very literally enforced, and it was the practice for all cars to come to a full stop at the near side of all principal streets even when there were no passengers to board or alight, and the second or far-side stop was usually also made as a matter of course. This strict observance of the rule resulted in a very slow average speed of the cars.

The second or far-side stop was abolished in July, 1912, but the obligatory stop at the near side of all main streets was continued.

A more reasonable rule was promulgated by ordinance of councils, approved June 27, 1913. This provides that the motorman of every street railway car shall bring his car to a full stop on the near side of all main streets within the thickly built-up area of the city (practically 1 mile square) and also at the near side of Broad Street and Diamond Street throughout their entire length, these being the principal thoroughfares without car tracks. At all other main street intersections outside the specified district, the motorman must make a "safety" stop, i. e., "the car shall be reduced to a speed of not exceeding 5 m.p.h. at the near-side building line."

The elimination of the far-side stop and the universal acceptance of the near-side stop in Philadelphia have been made possible by the adoption of the "near-side" cars, which were largely introduced during the years 1912 and 1913. As is generally known, the entrance and exit in this type of car are both by way of the front platform, enabling passengers to enter and leave directly at the crosswalk on the near side of the street.

For the year ended June 30, 1913, the total number of accidents occurring showed a decrease of 8.7 per cent as compared with the previous year, although the number of passengers carried increased more than 6 per cent.

It may be interesting to note the results from an accident standpoint under the ordinance requirements established in June, 1913, providing for the obligatory full stop only on the near side in the restricted district, and the "safety" stop (speed reduced to 5 m.p.h.) at the near-side building line in other sections of the city. For the ten months to April 30, 1914, as compared with the corresponding period of the preceeding year, there was a decrease of 5 per cent in the number of collisions with vehicles and a decrease of 7 per cent in the collision of cars.

The elimination of the far-side stop has served very greatly to increase the average speed of the cars, with, as shown by the foregoing record, a material reduction in the number of accidents. It is estimated that the saving in time by the removal of the far-side stop has been responsible for at least 1 cent per hour of the increase in wages now enjoyed by the motormen and conductors. The discontinuance of the far-side stop has particularly accelerated traffic movement at congested crossings because, for one reason, cars and vehicles lining up behind a loading car do not block the intersecting street.

In the narrow one-direction streets of Philadelphia, only eight trolley cars and not more than eighteen or twenty automobiles can be contained within an entire block. When this number is congregated, the roadway is packed tight practically as far back as the next street. If cars were permitted to make the second stop after crossing the intersection the traffic movement would be at least 100 per cent slower than under the present regulations.

As to the relative merits of the near-side vs. far-side stop in any given locality, it is possible to theorize to almost any extent.

It is evident that the design of car is probably the chief factor in the situation, because a car having entrance or exit at the rear platform will, under the near-side stop rule, require that passengers walk in the street at least a car length from the nearest crosswalk. Other controlling elements are density of population, habits and customs of the people, condition of pavement and location of tracks, width of streets, established direction and speed of car and vehicle traffic, and relative location of principal office buildings, department stores, theaters, depots, etc., with reference to street intersections.

The policies and methods followed in introducing a

change from the far-side to the near-side stop will also influence the failure or success of the experiment, extended notice to the public through the newspapers and by signs in the cars being essential to success in making the change.

Any departure from the established practice is bound to cause, at least for a time, some confusion in the minds of the public, and especially of strangers, until the new order is generally known and understood. Prospective passengers will continue to wait at the far crosswalk, and will think they have a grievance when cars pass them by. If the car platforms are not inclosed, irate passengers will occasionally attempt to board the moving car at the far side, resulting in an additional hazard. This, in any event, is a non-liability hazard and does not occur if both platforms are inclosed. The intensity and duration of this confusion and protest can be greatly modified if a campaign of notification is started well in advance of the date set for instituting the change, and the degree of publicity given in advance will have a direct bearing on the success or failure of the innovation.

Where stops are made on the near side of street intersections as a safety precaution, there seems to be no good argument for making the second stop beyond the crossing. If there are a large number of locations where the near-side stop must be made, it seems logical to extend the practice over the entire railway system.

It is quite clear that the elimination of the second or far-side stop accomplishes a very considerable saving in running time, with the attendant saving in power consumption and maintenance due to the reduction in the number of stops. It is likewise evident that the tendency of the near-side stop is towards a reduction in the number of collisions because cars ordinarily approach the street intersections under control. The assumption that drivers of vehicles will take unusual chances because they assume the car will make the near-side stop is not supported by the experience in this city. C. B. FAIRCHILD, JR., Statistician.

## SOLID AND MANGANESE STEEL SPECIAL TRACK WORK EXPERIENCE

THE TOLEDO & WESTERN RAILROAD COMPANY
SYLVANIA, OHIO, May 11, 1914.

To the Editors:

Your recent articles on renewable center and solid manganese special work have been very interesting to me.

A certain manufacturer has been attempting this year to get us to use solid manganese special work. In my experience on steam roads I was very much opposed to solid manganese work when the crossings were at a large angle. We had good results with pieces that were built on a slight angle, such as a No. 20 frog or crossing, not to exceed 35 deg., but I have never been in favor of solid manganese on angles of greater degree.

In my opinion there is too much risk with the high speed employed on the steam roads. When engaging in electric railway work I was pleased to see that the city of Toledo had practically no solid manganese work, for the chances of flaws with a casting such as a tongue switch or a mate or a frog, say 9 in. in height, are very great, because one part of the casting may be 1 in. thick, another part 2 in. thick and another part ¾ in., varying, of course, in length for these different thicknesses.

In my opinion manganese steel is one of those metals of which we know very little so far, and the possibilities for air bubbles in the casting are such that I do not care to take too many chances with them.

There is no doubt that the pound on a right-angle crossing of one line with another is extreme, and as soon as one of the running points begin to chip you might just as well say your crossing is gone, for it takes but little time after that to spoil the whole piece. Therefore, why spend the money for a solid piece, when a small insert can be bought for from $10 to $20 and installed at a cost of not to exceed $5 for labor? The fact is that if a roadmaster watches the hard-center piece closely, he can detect flaws long before they show up, can make a requisition for new hard centers and can then have them on hand so that as soon as the flaw is such as to require renewal he can do it at a moment's notice. The wear on the running rails is such that if care is taken in measuring for the hard-center casting, it can be made a trifle less thick so as to overcome the wear on the running rails, thus insuring a fair fit after the new piece is installed.

On the other hand, a long angle piece which shows nothing more than gage wear can very well be made of solid manganese, although on this point, if the track is well maintained with a guard rail on the opposite side from the manganese piece, I am not sure but that I would still stick to the manganese insert.

We have a type of insert in use on our lines which is very easy to replace, and we have replaced quite a few. I do not care to go on record as saying that renewal of inserts is the best practice at points of heavy traffic, for we had one case last year where the rest of the installation went to pieces soon after we had renewed the inserts.

As I have stated, my experience with solid manganese on city lines is not very great, but with the class of material which we are getting to-day in our manganese inserts, it will be some time before I am converted to the use of solid manganese for a city the size of Toledo. Neither do I believe that solid manganese work is absolutely necessary nor always economical with slow traffic, as on a street railway system.

A. SWARTZ, Vice-President.

## FOREST PRODUCTS EXPOSITION

The Forest Products Exposition is being held in the Grand Central Palace, New York, May 21-30, inclusive. Of interest to electric railway men is the exhibit of the Northern White Cedar Association, in which ties of northern white cedar are shown, which have been in continuous service on the Chicago & Northwestern Railway for twenty-nine years and telephone poles which have been used for fifty years. The exhibit of the American Wood Preservers' Association shows a model of a plant for the purpose of creosoting wood, together with a number of examples of veteran creosote-treated ties which were removed from various railroads after unusual service records.

Interesting tables are also displayed at the exposition showing the proportion of different kinds of wood utilized for car construction. Yellow pine ranks first with 54 per cent; Douglas fir is 7 per cent; white pine, 6 per cent; yellow poplar, 3 per cent; ash, 1 per cent; hemlock, 1 per cent; all other kinds, 4 per cent.

The Forest Products Exposition is under the management of George S. Wood.

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The Zürich Municipal Railway, which began to install aluminum car panels during the year 1910, now has seventy cars thus equipped. The results with these panels have been so satisfactory that thirty-four cars now in hand will be equipped in like manner.

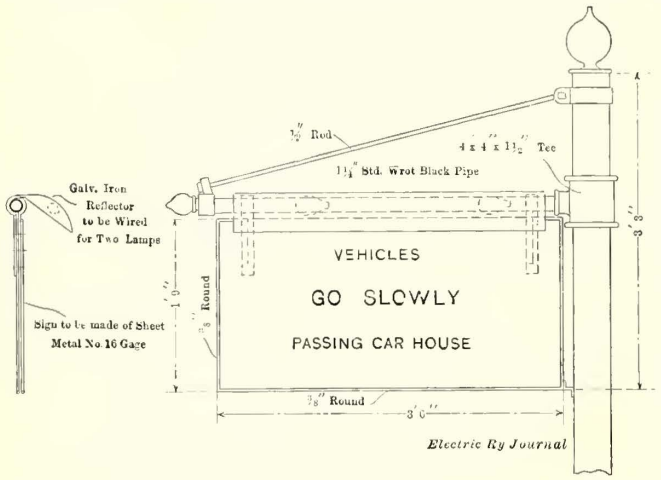
# Equipment and Its Maintenance

Short Descriptions of Labor, Mechanical and Electrical Practices in Every Department of Electric Railroading

*(Contributions from the Men in the Field Are Solicited and Will Be Paid for at Special Rates)*

## CARHOUSE WARNING SIGNS AT WASHINGTON

In accordance with an order issued by the Public Utilities Commission, Washington, the Capital Traction Company has recently installed at the entrances to certain of its carhouses a safety sign of the style reproduced in the accompanying drawing. As the lettering shows, the sign is a warning that vehicles go slowly in passing the carhouses. This sign is 3 ft. 6 in. long and




**Speed Warning Sign for Vehicles, Installed in Front of Washington Carhouses**

1 ft. 9 in. high, the words "Go Slowly" being in letters 6 in. high. As the letters are painted white on a dull-black background, the warning is visible at a considerable distance. At night two lamps illuminate the sign. These lamps are carried under a galvanized iron reflector as shown. The sign was designed by the commission.

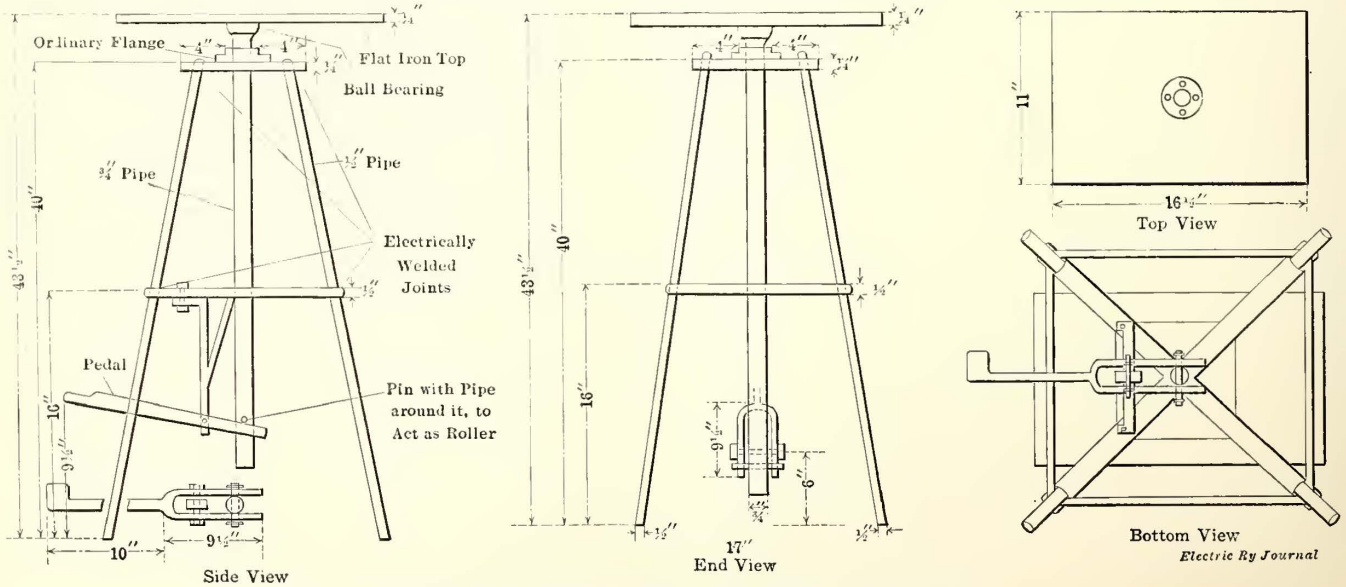
## STAND FOR HANGING RHEOSTATS TO CARS WITH ONE MAN

BY R. H. PARSONS

The work of hanging rheostats to cars is usually a two-man job. In the first place, the boxes are heavy; in the second place, it is inconvenient for one man to place the rheostat and to hold it there while handling the nuts on the bolts which hold the frames. If the changing of rheostats is done where a pit is available or where the cars are jacked up on the floor, a stand similar to the one illustrated will eliminate the need of a helper. This stand is made of ½-in. pipe for supports, with a flat-iron top or platform which will turn, and which is raised, lowered and guided by a ¾-in. pipe extending down to a pedal.

In the instance of the stand described, the pipe connections to the other parts of the frame are electrically welded, but otherwise the stand could be framed together by threading and using lock nuts or by riveting. The latter is what we did in installing the small ball-bearing used between the iron platform and the pipe guide. A ball-bearing, by the way, is not absolutely necessary, for a flange is nearly as good. In this case the ball-bearing was simply a bit of surplus stock which we adapted to a special purpose.

The fulcrum of the pedal is fastened to the stand and is forked about the pipe which raises the platform. A pin through the movable pipe, fitted with a small piece of pipe which acts as a roller, raises the platform when the operator bears down on the pedal. The removable pipe is guided through the braces in the frame by means of ordinary floor flanges which are drilled to fit the pipe. If the stand is to be used in the same pit all the time or under cars of about the same height, a 3-in. to 4-in. increase in platform height is all that is nec-




**Construction Details of Platform for Raising Rheostats**

essary. To use the stand, first set it under the rheostat to be removed. As the nuts are being taken off the weight of the grid is held up by bearing down on the pedal; when the nuts are off, the rheostat box can be lowered slowly until it clears the bolts. The same method is followed when hanging a rheostat. The stand is placed under the location where the box is to be hung. Then the box is put on the iron platform, and is raised, turned and guided into position. The pressure of the foot on the pedal will keep the box steady while the nuts are being screwed up enough to hold the grid.

The dimensions of this stand vary, of course, to suit the height of the pit or horses used for carrying the cars jacked up. The stand is light, readily handled by one man and makes light for one man a job that was formerly heavy for two.

## ONE YEAR'S OPERATING COSTS OF AN ELECTRIC EMERGENCY WAGON

BY A LINE ENGINEER

The horse-drawn emergency wagon is rapidly becoming a thing of the past, and it is probable that in a few years it will be almost entirely superseded by the automobile. But it would seem that altogether too large a proportion of the automobiles purchased by railways are of the gasoline type, electric machines being used chiefly by only a few companies in the larger cities. The general practice is to use a gasoline machine even when the railway sells electricity and where the use of an electric automobile would advertise the company.

The principal points urged against the use of an electric vehicle are that it is slow as compared with a gasoline machine and that its radius of action is limited. It is unfortunately true that the manufacturers of electric trucks have not considered it worth while to bring out an automobile constructed substantially enough to carry a tower and the tools and supplies needed in emergency work and yet to be fast enough to make more than 10 to 12 m.p.h. on a level road. This is really the only important objection to the electric truck as the radius of action has been greatly extended in the last few years. The number of miles that can be covered in a day has been further increased by the heavy charging rate that is now allowed by the makers. Low speed really is not so great a disadvantage, especially in city work where heavy street traffic and the liability of accidents limit other self-propelled vehicles to speeds much below their minimum.

So far as reliability and ease of operation by unskilled employees are concerned, everything is in favor of the electric machine. There is no need for trained chauffeurs because any man who can operate a trolley car can operate an electric automobile. Repairs are either simple mechanical operations or, if of an electrical nature, they are easily understood by any crew of electrical workers. The cost of operation is also lower with the electric automobile. For this reason, especially, and because figures giving the cost of such operation are scarce, the writer calls attention to the following records of a truck used in emergency service by one of the large city companies in the Eastern States.

The total mileage during the year amounts to 5607, and the energy consumption to 5865 kw-hr., making the average for the year 1.046 kw-hr. per car mile. As the weight of the truck fully loaded is 4⅝ tons this works out to an average consumption of power equal to 0.2265 kw-hr. per ton mile. In the column headed "Cost of Labor and Material" is included all expense for maintenance and repairs. In the entire year this amounted to $90.50, making the cost per mile, excluding the cost of power, 1.614 cents.

In comparing the energy used with this automobile and some of the others it must be remembered that the service was confined to a city in which most of the streets were well paved and in which there are very few steep grades. The average daily run was only about 15 to 16 miles, but on many days the truck traveled twice that distance. Longer runs could have been accomplished easily without fully discharging the batteries. The worst showing, as regards both energy per mile and cost of repairs and supplies, was in March last. This

OPERATING COSTS OF ELECTRIC LINE WAGON

| Month | Year | Mileage | Kw. hr. | Kw. hr. per Mile | Cost of Labor and Material |
|---|---|---|---|---|---|
| May | 1913 | 637 | 550 | 0.863 | $6.30 |
| June | 1913 | 535 | 552 | 1.032 | 1.60 |
| July | 1913 | 433 | 438 | 1.011 | 0.00 |
| August | 1913 | 510 | 546 | 1.069 | 2.97 |
| September | 1913 | 392 | 385 | 0.982 | 0.60 |
| October | 1913 | 425 | 420 | 0.988 | 1.55 |
| November | 1913 | 438 | 442 | 1.008 | 15.49 |
| December | 1913 | 421 | 464 | 1.101 | 18.07 |
| January | 1914 | 450 | 521 | 1.159 | 8.84 |
| February | 1914 | 521 | 558 | 1.070 | 6.97 |
| March | 1914 | 435 | 556 | 1.278 | 26.96 |
| April | 1914 | 410 | 443 | 1.080 | 1.15 |

was due to the heavy snowstorms which were then encountered. These storms not only called for much more energy but also required such hard work from the motors that many of the commutator leads were unsoldered and had to be repaired.

In conclusion it might be said that the company owning the truck was so much pleased with its performance that another one has been ordered for emergency service. Still another electric truck has been ordered by another department to take the place of a worn-out gasoline automobile.

## DISPATCHER'S TELEPHONE JACK BOXES MOUNTED ON B., A. & P. LOCOMOTIVES

The Butte, Anaconda & Pacific Railroad, an electrified steam road recently described in the ELECTRIC RAILWAY JOURNAL, has installed a Western Electric telephone dispatching system to cover 76 miles of its track. While the trains for the most part are used to haul copper ore from the mines at Butte to the smelter at Anaconda several passenger trains are operated each day over the line, all traffic being handled by electric locomotives. The dispatcher is located at Anaconda and is in communication with thirteen stations on the system. Thirteen of the seventeen locomotives in service are equipped with telephones, and have jack boxes so placed on the oustide of the engine cab that connections can be easily made to the overhead wires by line poles. This road has an unusually fine system of overhead construction in its electrical plant, using a No. 10 B. & S.-gage, copper circuit for the telephones, although the line is only 40 miles in length.

The annual report of the Société Nationale des Chemins de fer Vicinaux of Belgium, just issued, shows that the company is increasing its electrical lines. It now has 490 electric motor cars and 751 steam locomotives and has under construction 100 motor cars and only thirteen steam locomotives. The Société Nationale is owned partly by the Belgium Government and partly by private capital and operates a network of interurban railways in Belgium. It has about 2500 miles of track, mostly narrow gage. The gross earnings in 1913 were about $5,600,000.

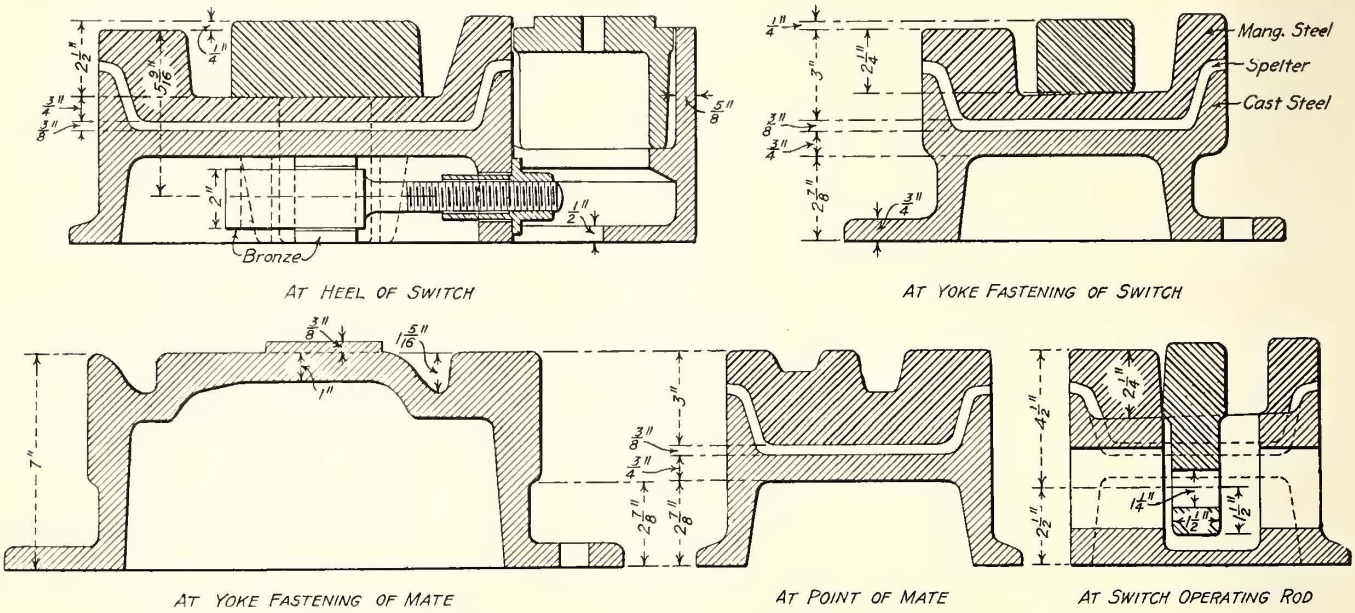
The Pennsylvania Lines West have recently had built for use in the Cleveland ore docks three locomotives of unusual design. The locomotives run on a gage 42 in., inside the main tracks, and are attached to the cars they handle by side arms.

## MANGANESE INSERT TURNOUTS FOR NEW YORK RAILWAYS

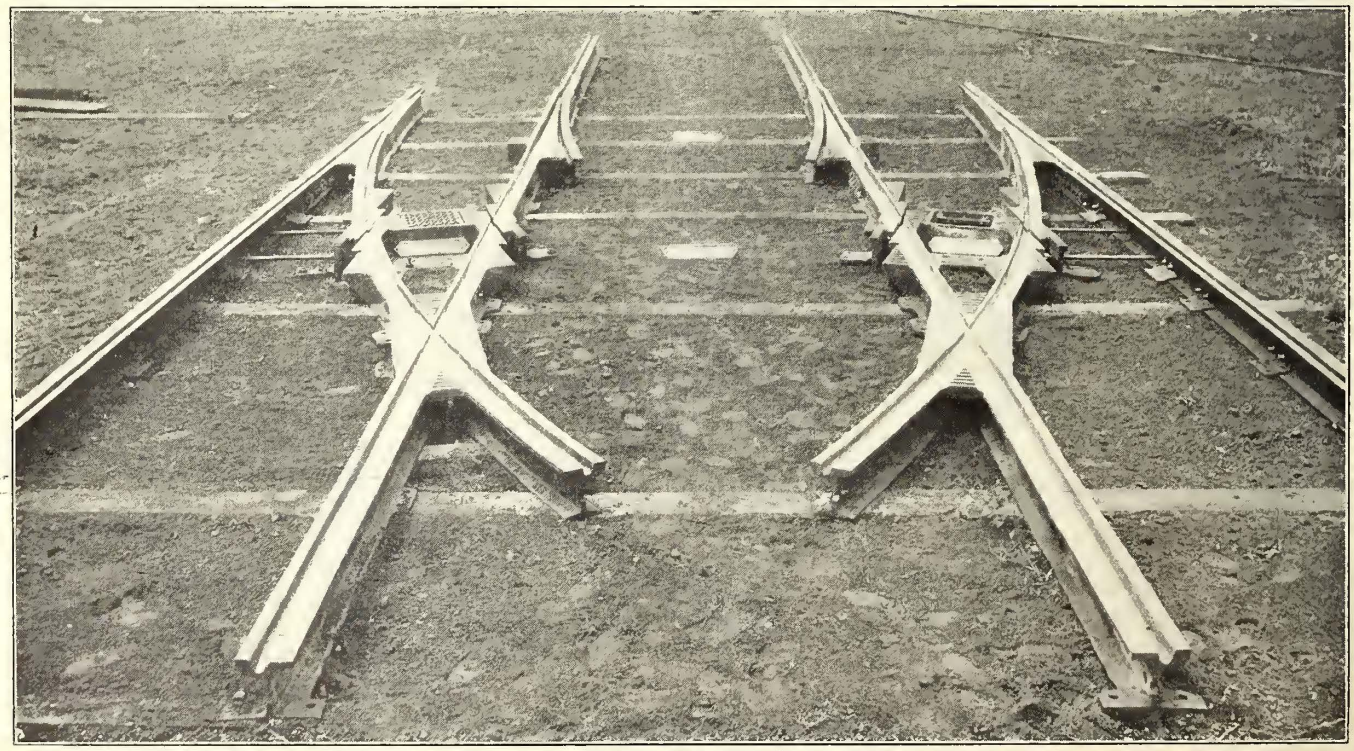
The New York Railways is about to receive from the Columbia Machine Works & Malleable Iron Company, Brooklyn, N. Y., for use at the Brooklyn end of the Williamsburg bridge, the right-hand and left-hand turnouts of 100-ft. radius, which are shown in the accompanying half-tone. This piece is of the manganese insert type standard for the conduit conductor track construction of the New York Railways. It is of particular interest as the first piece of special work ever built by the Columbia company. The manufacturer installed a special grinder and planer outfit for the proper machining of the job, and has since undertaken a number of other special work installations. In fact, the manufacture of special work will hereafter be a regular feature with this company.

The piece illustrated has the following dimensions for both turnouts: Length of inner rails, including rolled steel approach, 52 ft.; length of outer rails, 39 ft. 6 in.; total length of switch, 16 ft., and of the manganese insert therefor, 10 ft. 6 in. The switch tongue itself is 10 ft. long and, like its insert, is made of manganese throughout. The gage on curved track was specified as 4 ft. 8¾ in., with a minimum admissible variation of ⅛ in. The weight of the complete job is approximately 8 tons.

The manganese steel inserts which were specified for this work conform to the following chemical analysis: Manganese, 10 to 13.50 per cent; carbon, 1 per cent; silicon, 0.36 per cent to 0.38 per cent; phosphorus, 0.045




**Cross-Sections of Manganese Insert Work for the New York Railways**



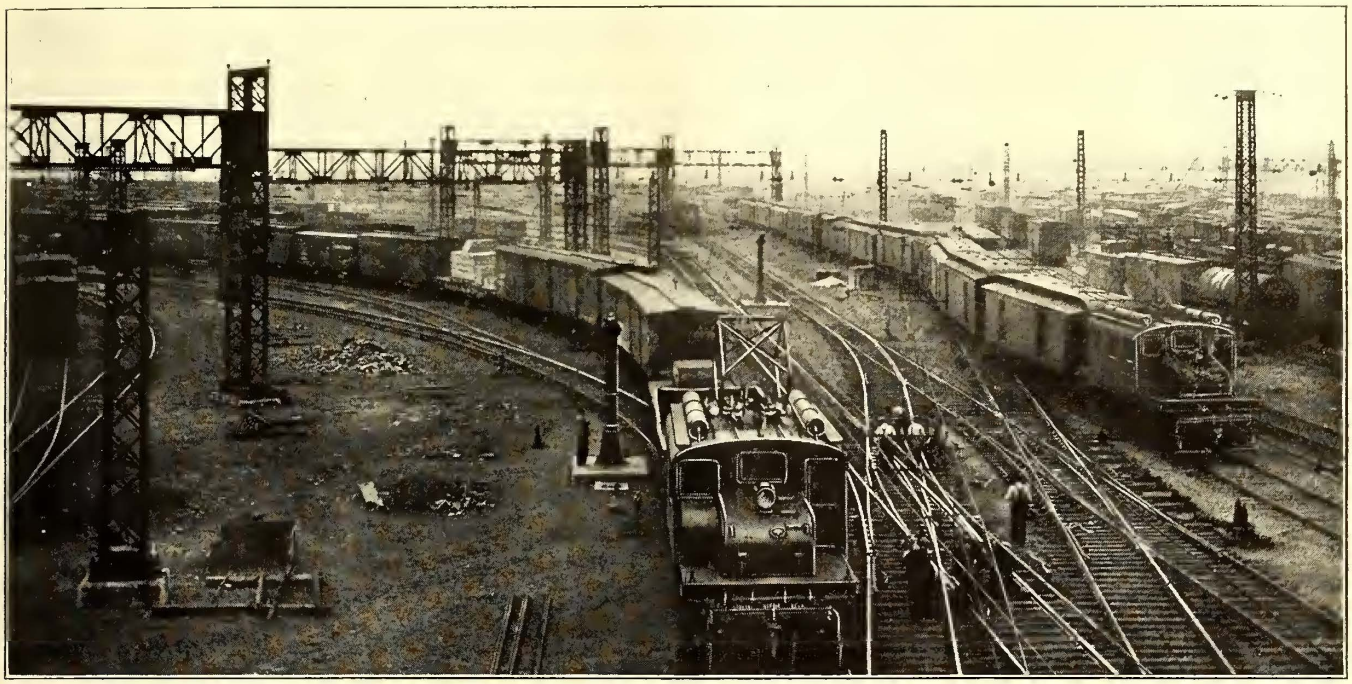
**Right-Hand and Left-Hand Manganese Insert Turnout for the New York Railways**

per cent, and sulphur, 0.02 to 0.03 per cent. The remainder of this special work conforms to the New York Railways' specification for rolled steel rails, as follows: Carbon, 0.50 to 0.60 per cent; silicon, 0.20 to 0.28 per cent; phosphorus, 0.03 per cent or less, and manganese, 0.70 per cent to 0.85 per cent.

## RECORDS OF NEW HAVEN SINGLE-PHASE ELECTRIC SWITCHING LOCOMOTIVE

Although the complete electrification between New York and New Haven has not yet been placed in service, the switching of all freight cars between Stamford and Harlem River has been done successfully with Westinghouse single-phase locomotives for approximately eighteen months. The economies and reliability which the New York, New Haven & Hartford Railroad obtained by the use of the electric switcher locomotives are said to have exceeded all expectations.

The three main switching yards on the New Haven system are as follows: Harlem River yard, length 23.3 miles; Oak Point yard, length, 37.16 miles, and Westchester yard, length, 22.29 miles. The Van Nest yards are used for storage only.



**Single-Phase Switching Locomotives at Harlem Yards of New York, New Haven & Hartford Railroad**

In March, 1911, the first switching engine was placed in operation at Stamford, Conn. In August, 1912, the first switcher started to work in the Westchester yards; in September, 1912, the first was started in the Oak Point yards in float service, and in August, 1913, the first began its operation in the Harlem River yards proper. The service performed by the locomotives in the Oak Point yard is of special interest. This yard is the terminal where all the cars on flats destined to the New England States are unloaded. Each float is properly docked and secured. There are two large controlling bridges at this terminal, one with accommodations for five floats and the other for three. These bridges contain all of the counterweights used to compensate for the weight of the individual gang or approach bridges besides all control apparatus for the operation of these float docks. The entire gang bridge to each float is hinged on to the mainland. The bridge consists of two parts connected by a hinged joint. Each of these two parts of the approach bridge leading to a float is raised and lowered electrically by means of two controllers. In addition to these controllers, there are two controllers which manipulate two motors connected to a friction drum which by means of a rope holds the floats in their slips securely to the gang or approach bridge. Three large steel bars keep the tracks on the float properly aligned with tracks on the approaches while cars are being loaded or unloaded.

Six movements are required to unload a float and dispatch a train to the yard; six movements are also necessary to load a float. When either loading or unloading floats two flat cars are always coupled between the electric switcher locomotive and the cars being hauled on or off the float. In this way the locomotive always remains on land, the two flat cars acting as an arm for reaching the train. Each float has three tracks, the two outside tracks with a capacity for eight cars and the center one for six cars. In this float service it is important to load and unload cars so that the floats do not capsize. This is prevented as follows: The eight cars on track No. 1 are hauled off until two cars remain, enough to have about 100 tons on this track, and this train is left standing until later. Then all the eight cars on track No. 3 are hauled off. Next the six cars on track No. 2 are hauled off by way of a switch on to track No. 3 and then off. Finally the remaining cars of the eight-car train on track No. 1 are hauled off. The minimum time required to load and unload a float (twelve movements) is thirty-five minutes.

To date not a single feature has developed in which the electric locomotive is not superior to the steam locomotive in switching service. The ease with which electric locomotives are controlled, the elimination of stand-by losses and those that are necessary where coal and water are used, elimination of liability for freezing up in cold weather, are all features which are to be credited to the electric locomotive.

Six electric locomotives do the work of approximately twice the number of steam locomotives formerly used. Eight electric locomotives are sufficient for practically all of the switching work between Stamford and Harlem River station. These are kept in service twenty-four hours a day, each making on

an average approximately 140 miles in twenty-four hours with three eight-hour crew shifts. The electric locomotives handling the work between Westchester yard and Harlem River for a given month made 38,000 locomotive miles and consumed approximately 896,000 kw-hr. at the locomotive. During this same period the six locomotives handled approximately 65,000 cars which had an approximate total weight of 1,000,000 tons. Practically all of these cars were transferred from floats, and since the control of the electric locomotive is more sensitive than the control of the steam locomotive this is a feature that appeals strongly to the operators. All of this enormous tonnage is handled within the corporate limits of New York City, where the elimination of smoke is greatly appreciated.

Sixteen switching locomotives are included in this installation. Each locomotive has four Westinghouse No. 410, 125-hp, twenty-five-cycle motors and unit switch control. These locomotives each weigh 80 tons and are able to exert a maximum tractive effort of 40,000 lb. with a clean dry rail. The following items as to hauling capacity may be of interest.

The figures given for straight level track show the load which may be handled in infrequent switching service. The switching locomotives are guaranteed to exert a maximum tractive effort of 36,000 lb. for about three minutes at speeds up to 6 m.p.h. and a continuous tractive effort of 14,800 lb. at a speed of 11½ m.p.h. In practice it has been found that an electric switching locomotive can do the work of two steam locomotives because it can be run day and night. It is not expected that the maximum voltage on the motors will be reached in ordinary switching service, but it is available when climbing grades or on longer runs in the yard. The average operating potential is estimated to be 190 volts. The hour rating corresponding to this voltage and current of 900 amp is about 125 hp per motor.

Rated Hauling Capacity*

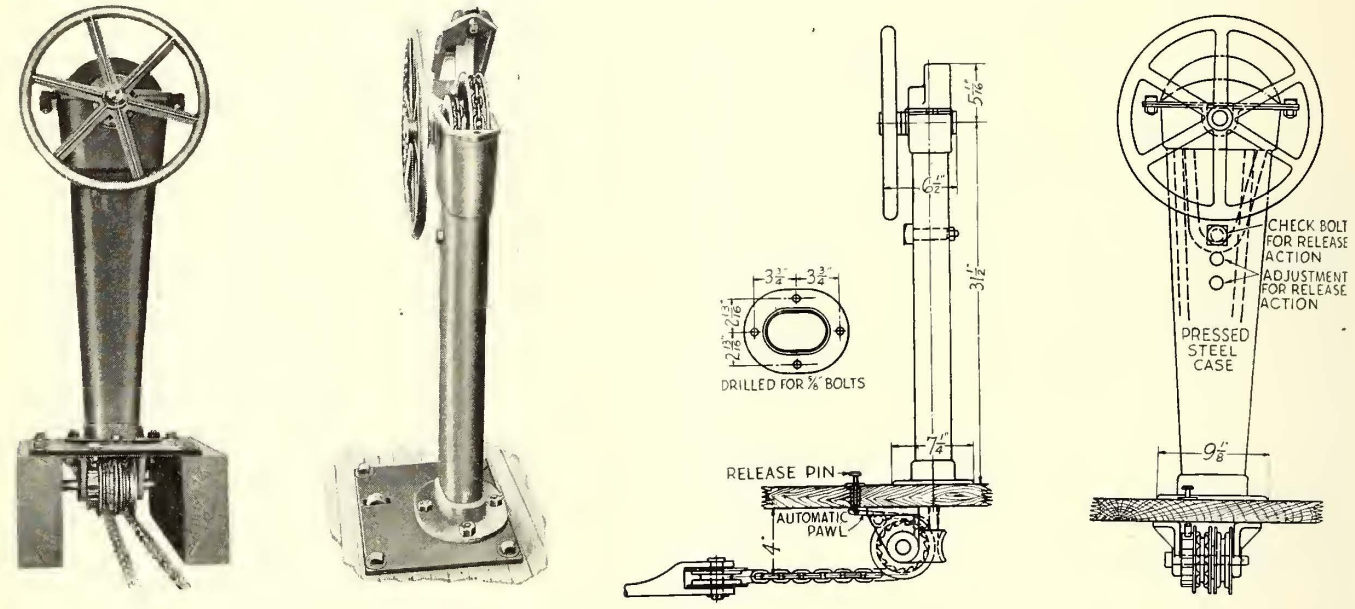
| Track Profile | Number of Cars Each Weighing 45 Tons with Load | Maximum Speed, m.p.h. |
|---|---|---|
| Straight level track | 67 | 8.5 |
| ½ per cent grade | 28 | 8.1 |
| 1 per cent grade | 17 | 8.1 |
| 2 per cent grade | 9 | 8.1 |

*On the average road, the load that can be handled is determined by the maximum grade.

## DIFFERENTIAL STAFFLESS BRAKE FOR LOW-PLATFORM AND OTHER CARS

The tendency toward more compact and lighter platform equipment is demonstrated anew by the differential staffless brake which has just been brought out by the Lord Manufacturing Company, Brooklyn, N. Y. In addition, this brake exerts powerful leverage with little effort so that it is available equally for the regular braking of heavy cars and for the contingency braking of air-brake cars.

Besides its extreme compactness above and below the platform, as indicated by the dimensions on the accompanying drawings, this brake has the advantage of a direct drive on the shaft of the brake wheel for the application of power to the differentials. The principle involved is that which has been successfully utilized for years in connection with hoisting machinery. It will readily be seen by reference to the accompanying table of brake powers that any degree of hand-brake pressure can be attained by the use of the differential action.




General Views and Drawings of Differential Type Staffless Brake

In the Lord brake very little loss can be attributed to friction, as only one shaft and bearing are necessary. The power is increased through the differentials which are cast *en bloc* and keyed to the shaft of the hand wheel. The bearings are of solid bronze, with oil holes for lubrication. The brake chain is ¼-in. BB electric-welded endless chain. The castings are all of malleable iron, and the pedestal is of pressed steel. Thus the entire brake equipment is very light, but rigid and strong. The application of power direct to the hand-wheel shaft overcomes the necessity of beveled gearing to change from a horizontal to a vertical alignment, as is the case when a vertical brake staff is used in connection with a vertical brake wheel and the ordinary gear and pinion installed under the platform.

The brake is fitted with an automatic pawl which engages with the ratchet wheel when the brake is applied without any action on the part of the operator except the winding of the brake wheel, so that the efficiency of the operator is greatly improved. To release the brake it is only necessary to step on the floor-pin provided to release the automatic pawl. The re-

lease action has a positive check to prevent excessive slack in the brake chain, thus eliminating unnecessary effort on the part of the operator and insuring a positive application of the brakeshoes at the first turn of the hand wheel. Three adjustments for brake chain slack are provided in order to conform to the particular requirements of each car and to permit readjustment if desired as brakeshoe wear occurs.

Where the differential brake is used the brake chain can be made to pull in exact alignment, which is impossible when a worm drum is used. If the foundation brake rigging is hung close to the car floor and all possible clearance is needed beneath the platform, the sheave wheels can be set into the crown piece, bringing the brake chain less than 4 in. from the bottom of the floor. If the foundation brake rigging is hung very low, shims can be placed above the sheave wheel hangers to lower the brake chain and conform with the exact alignment required. However, unless otherwise specified, the actual alignment of the brake chain will be 5½ in. below the crown-piece.

Referring to the accompanying drawings, the brakes are usually furnished with dimension "C" 31½ in. and dimension "A" 46 in. Dimension "B" can be adjusted by the railway company or the car builder to conform with requirements. Hand wheels are furnished in either malleable iron or bronze, and for three different diameters, namely, 17 in., 19 in. and 24 in. The 17-in. wheel is of special hollow construction. The 19-in. and 24-in. wheels are solid. The wheels are generally furnished in malleable iron and with "non-ratchet" action, although polished bronze wheels and ratchet action can be obtained. The weight of the brake is 70 lb., of the chain 13 lb., and of the hand wheel 10 lb., a total of only 93 lb. Car builder's standard brake wheels of practically any diameter can be applied to the hand-wheel shaft if desired.

TABLE OF BRAKE PRESSURES

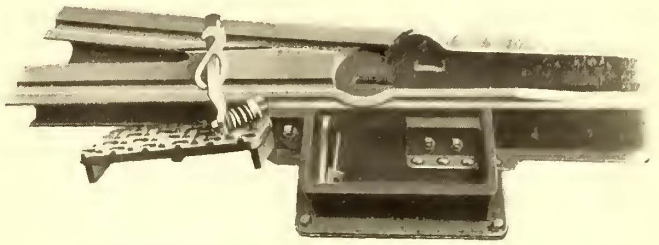
| Differentials Links per Wheel Small | Large | Brake Rod Travel | Pull in Pounds on Brake Rod 17-in. wheel | 19-in. wheel |
|---|---|---|---|---|
| 8 | 15 | 6⅛ in. per turn | 654 | 731 |
| 8 | 14 | 5¼ in. per turn | 761 | 851 |
| 8 | 13 | 4⅜ in. per turn | 916 | 1023 |
| 8 | 12 | 3½ in. per turn | 1148 | 1083 |
| 8 | 11 | 2⅝ in. per turn | 1523 | 1702 |
| 8 | 11 | with special 24 in. wheel—2150 lb. | | |

This brake was designed by Lawrence W. Horne and Warren N. Crane, both of whom have been actively associated in the engineering department of the Interborough Rapid Transit Company and the New York Railways during the past eight years. Mr. Horne has recently been engaged by the Lord Manufacturing Company as car engineer and Mr. Crane will act as consulting engineer.

Compilations just completed show that the Pennsylvania Railroad Company had on April 1, exactly 89,602 shareholders who held an average of 111.44 shares. This is an increase of 12,756 as compared with April 1, 1913, and is the largest number of shareholders the Pennsylvania has ever had. There are 30,240 stockholders of the railroad in the State of Pennsylvania, New York has 15,298, New England 16,612, foreign countries 11,784, while 15,668 are scattered.

## THE HOOK-HEEL SWITCH

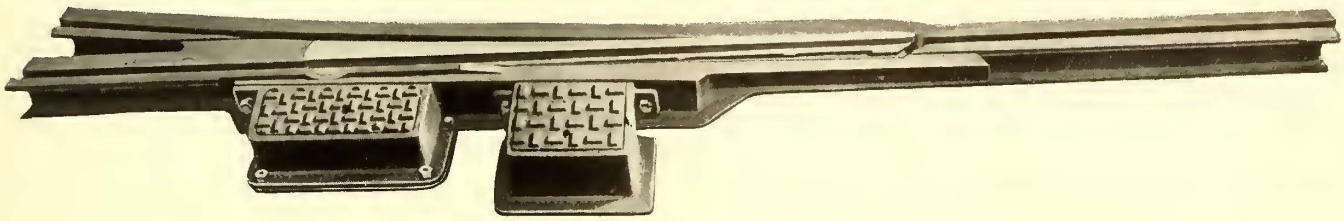
Among the switches of the Pennsylvania Steel Company is the hook-heel switch which has been on the market about one year. Switches of this type are already in use on such important electric railways as the Brooklyn Rapid Transit System, the Pittsburgh Railways, Public Service Railway, Detroit United Railway, Tri-City Railway and the Pacific Electric Company. This switch is of the pinless type. It derives its name from the hook shape of that part of the tongue fastening device that is in immediate engagement with the tongue. Its new features are simply in the pivot and pivot fastenings.



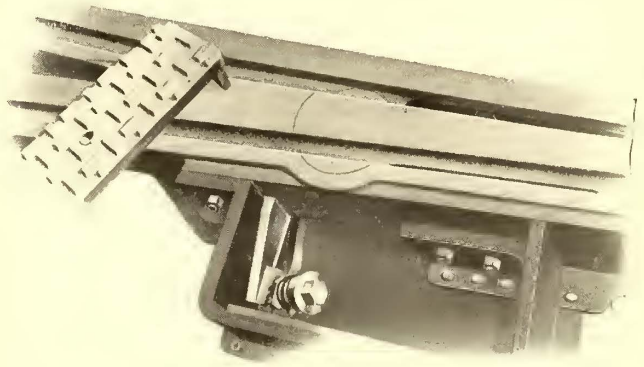
Fastenings of Hook-Heel Switch Tongue

The distinctive feature of the hook-heel type is the spring in the holding-down device of the pivot fastening which acts so as to take up wear in the various parts automatically; thus requiring less attention in maintenance than any positive type of fastening. The large bottom bearing area, as well as the vertical side bearing at the heel of the tongue, is shown in the accompanying views. The tongue has full bearing throughout its length. The only part of the tongue that does not rest absolutely on the center is where a recess is cut in the base of the tongue to permit the engagement of the hook fastening. The radial bearings, formed by the circular shape of the heel of the tongue in contact with the center, with vertical bearing surfaces of both center and tongue ground to fit, greatly assist in preventing any forward movement of the tongue under trailing cars.

The hook is exceedingly simple and effective. The

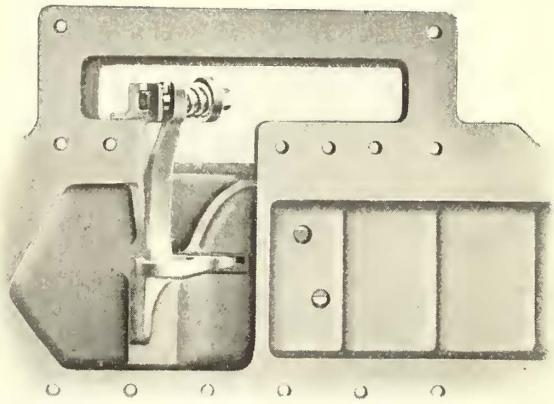


Hook-Heel Iron-Bound Girder-Rail Hard-Center Switch Complete



Top View Showing Fastening for Hook-Heel Switch Tongue

hook enters the recess in the bottom of the tongue and engages the top and front edge of the lip formed by the recess. The large eye in the hook is engaged by a lever which fulcrums on the underside of the switch floor at one end and is flattened at the other end to receive a spring bolt and to form a seat for the holding spring. When the hook has been put in place through the slot in the floor of the switch center and is resting in the recess in the bottom of the tongue, it hangs in a vertical plane parallel to the length of the switch at



**Bottom View of Hook-Heel Switch Tongue Fastening**

an angle of about 45 deg. The lever is put through the eye of the hook and easily finds its fulcrum by sliding along a guiding groove formed in the underside of the switch floor, the other end swinging into position, where it is held by a spring bolt. The hook exerts a downward and rearward pressure that holds the tongue firmly to its bearings and insures a close fit. The tongue fastenings are readily accessible and can be assembled and tightened in less than one minute.

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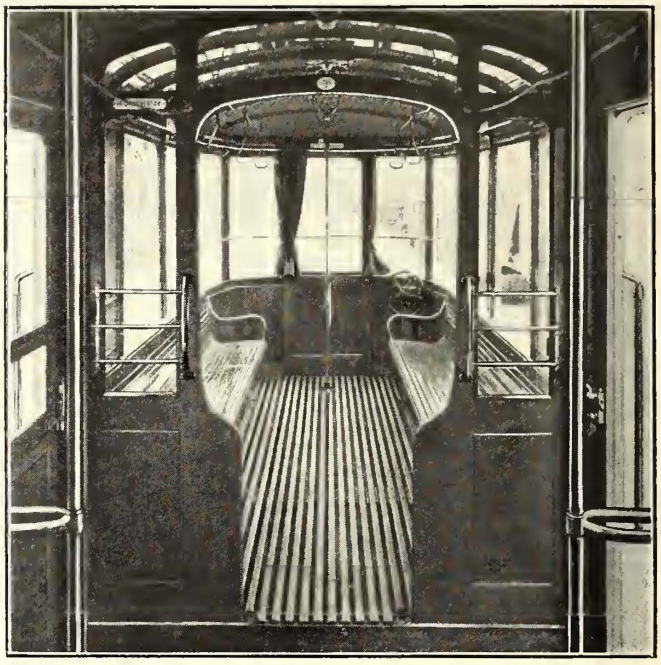
The Toronto Suburban Street Railway has awarded a contract to the Canadian General Electric Company for substation apparatus and car equipments, for the new line from Toronto to Berlin. This will be the first interurban line in Canada to operate at 1500 volts d.c. The catenary type of overhead construction will be used, and there will be three substations; 1500-volt rotary converters, each of 500-kw capacity, will be used, power being transmitted to the substations at 25,000 volts. The cars will operate on a 600-volt line at approximately half normal speed; and changing from 1500-volt to 600-volt trolley, or vice versa, will involve no loss of time in adjustment of control apparatus. The line with 1500-volt operation will be about 62 miles long.

## CENTER-ENTRANCE STEPLESS CARS FOR THE NUREMBERG-FÜRTHER RAILWAY

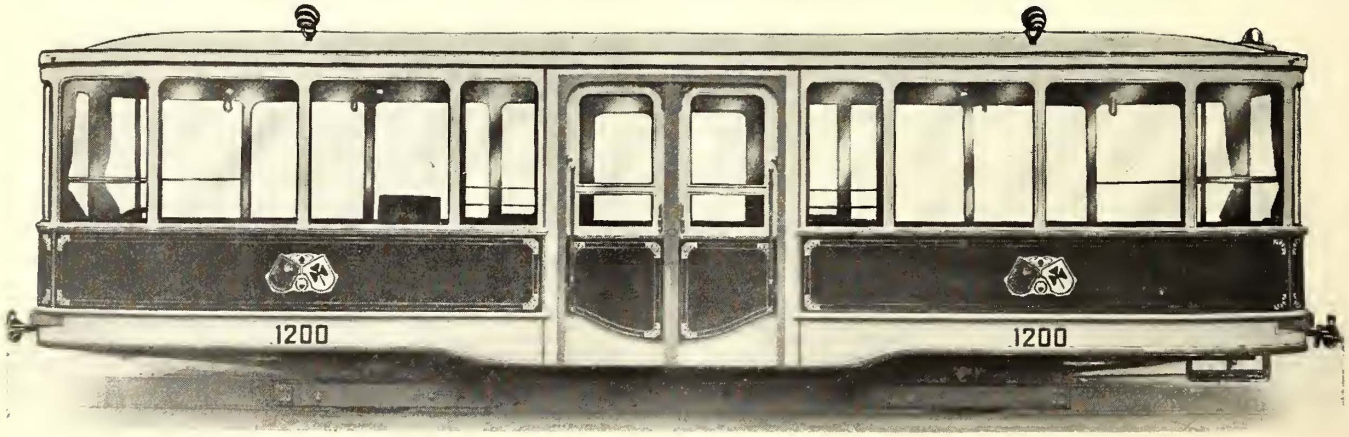
That the introduction of low-level cars in the United States is attracting the attention of European electric railway managers is demonstrated by the accompanying illustrations which show a center-entrance, stepless trailer car built by the Maschinen Fabrik Augsburg-Nürnberg for the Nuremberg-Fürther railway.

The well of this car is furnished with a dividing rail



**Interior View of Stepless Trailer**

for incoming and outgoing passengers, while the main compartments are equipped on each side with a six-passenger longitudinal bench which does not extend to the ends in order to leave room for seven standing passengers. The normal capacity is twenty-four seated and twenty-eight standing passengers, but the car can carry a maximum of sixty passengers. The over-all length of this trailer is 32 ft., the length of the well 5.9 ft. and the distance between the pavement and the car platform 14 in. The weight of the car is approximately 16,500 lb. The front axle is so joined to the draft rigging that it may be operated radially, thus making it possible to secure the very favorable wheelbase of 13.8 ft. Acknowledgments are due to *Elektrische Kraftbetriebe und Bahnen* for the information and photographs of this car.




**Stepless Trailer for Nuremberg-Fürther Railway**

# ELECTRIC RAILWAY LEGAL DECISIONS

## CHARTERS, ORDINANCES, FRANCHISES

**Illinois.**—Voting Trust—Assumption of Corporate Name.

Where the majority stockholders of a street railroad company organized a voting trust to control its operation in accordance with the directions of a committee appointed by participation certificate holders who were the beneficial owners of the stock, such agreement was not rendered invalid because the majority stockholders were also owners of other corporations engaged in a similar business. Such ownership is not violative of any law and imposes no liability or disability on the owners in their control of the corporation in question so long as they conducted its affairs honestly.

That the trustees of a voting trust of the shares of a street railroad company assumed the name Chicago City & Connecting Railway Collateral Trust, which was not incorporated, was not a violation of Criminal Code, Sec. 220 (Hurd's Rev. St. 1911, Chap. 38), as an illegal assumption of a corporate name, since the name did not necessarily imply a corporation. (Venner v. Chicago City Ry. Co. et al., 101 N. E. Rep., 950.)

**Indiana.**—Right-of-way Not Assessable for Municipal Improvements—Eminent Domain.

The statute authorizing a city to impose special assessments on land benefited to pay expenses of constructing a sewer would not authorize the city to assess for that purpose the tracks and right-of-way of an interurban street railway located within the benefited district.

The construction of a street railway in a city street is not an additional servitude for which compensation must be made. (Indiana Union Traction Co. et al. v. Gough et al., 102 N. E. Rep., 453.)

**Kansas.**—Extension of Railway to Serve Certain Lands.

Landowners who by purchase of stock procured the extension of a street railway and an agreement that it should be operated over their lands for five years, in consideration of their platting and placing such lands on the market, cannot, after failing so to do for four years, maintain injunction to prevent the removal of such extension, the company being solvent and the trial court having determined that the damages, if any, could be recovered in an action at law. (Sentney et al, (State ex rel. Foote) v. Hutchinson Interurban Ry. Co., 135 Pacific Rep., 678.)

**Kentucky.**—Franchise Tax—Double Tax.

Sec. 4077, Ky. St., requires a railroad to pay an annual franchise tax to the State and also a local tax to any city in which its franchise may be exercised, and Secs. 4078-4080 provide that the corporation shall report to the State Auditor its indebtedness and the interest paid thereon and the amount of its stock and the dividends paid thereon from which the State Board shall capitalize its total earning power, including all its property, tangible and intangible, and deduct the assessed value of its tangible property to ascertain the value of its franchise. A city assessed a street railroad's tangible property at $366,900, on which tax was paid, and afterward the State Board, in fixing the franchise tax therein, deducted the value of its tangible property therein as fixed by the county assessor, which was $36,840 less than the city's assessment thereon. The company tendered a franchise tax to the city, based on the deduction of the city's assessment of its tangible property from the capitalization. Held, that the amount tendered was all that the city could demand, since to have required the road to pay the tax assessed by the State Board would have been double taxation to the extent of $36,840, and illegal. (City of Newport v. South Covington & C. St. Ry Co., 161 S. W. Rep., 222.)

**Maryland.**—Duty to Repair Paving, Not to Repave.

Where the charter ordinance of a street railway company required it to keep the part of the streets covered by the tracks and for 2 ft. on either side in repair at its own expense, the obligation of the street railway company is merely to repair, and the municipality cannot compel it to repave its portion of the street with a new and different material. (United Rys. & Electric Co. of Baltimore v. Mayor and City Council of Baltimore, 88 Atlantic Rep., 618.)

**Massachusetts.**—Ejection of Passenger Proper.

Where a drunken person on an electric railway car, who refused to pay his fare, was put off by the conductor on a public highway near a regular stopping place of the car, and it did not appear that, short of his ultimate destination, there was any place where his removal would have involved less danger, the expulsion was not with such a gross and wanton disregard of his rights and of the injurious consequences which reasonably might be expected to result to him as rendered the company liable, though the expulsion was on a bitterly cold night. (Podespik v. Worcester Consol. St. Ry. Co., 103 N. E. Rep., 638.)

**Massachusetts.**—Rentals Based on Cost.

St. 1902, Chap. 534, provided for the use of the Washington Street Tunnel in Boston by an elevated railroad company at a specified rental. Sec. 7 declared that the value of the property taken for the construction of the tunnel but no longer needed should be deducted from the cost in ascertaining the rental. Sec. 10 provided that the annual rent should be 4¼ per cent of the net cost of the tunnel and defined "net cost" to include all expenditures incurred in acquisition and construction, including damages, expenses, salary of the commission and interest at the rate of 3½ per cent on the debt incurred in construction prior to the beginning of the use. Sec. 16 declared that all rents received from property taken for construction should be applied (1) to meet sinking fund requirements; (2) to meet interest on bonds, and (3) the surplus to the general revenues of the city. Held, that where the city took certain estates for the completion of the tunnel and approaches parts of which thereafter became unnecessary for tunnel purposes and were leased by the city to others the net cost of the tunnel for the purpose of ascertaining the rent should be ascertained as of the time when the use of the tunnel began, and that the deduction for surplus property taken should be made as of that time, since in no other way could the city receive interest on the cost of the tunnel during construction and the rents received from such surplus land be contributed to its sinking fund and other specified uses. (City of Boston v. Boston Elevated Ry. Co., 102 N. E. Rep., 80.)

**New Jersey.**—Repair of Streets.

An ordinance granting to a street railway company the right to lay its tracks in the streets of a municipality contained two sections. One required the railway company to pave between its tracks on all streets, and the other dealt with the repairs required to be made by the company, under which the company was bound to repair not only between the tracks, but 18 in. outside. This section contained a clause which required the company to pave certain streets from curb to curb. Held, that the obligation thus cast upon the company did not require it to keep in repair the streets from curb to curb, but only to pave from curb to curb, and it did not relieve the company from keeping in repair, even on the streets it was bound to pave from curb to curb, so much of the street as lay between the tracks and 18 in. on each side thereof. (Town of Westfield v. Public Service Ry. Co., 87 Atlantic Rep., 82.)

**New York.**—Taxation of Viaduct—Burden of Showing Excess.

The viaduct of a street car company was properly treated as tangible property in assessing its special franchise; but the pavement between the rails of its tracks and for 2 ft. outside thereof was improperly considered as tangible property. It is incumbent on a traction company seeking to have an assessment of its franchise reduced to show affirmatively that the assessment imposed by the state board of tax commissioners was excessive and that it is entitled to have the assessment reduced. (People ex rel. Buffalo & L. E. Traction Co. v. State Board of Tax Com'rs, 142 N. Y. Supp. 116.)

**New York.**—Reasonableness of Transfer Regulations.

A street car passenger who accepted a transfer and who boarded a car at a point other than the transfer point could be ejected for his failure to pay fare, though the conductor at first accepted the transfer but subsequently demanded fare, the conductor having no power to waive the reasonable regulations specifying the transfer points. (Rubinger v. New York Rys. Co., 144 N. Y. Supp., 766.)

**North Carolina.**—Right-of-Way—Additional Burden—Value of Property Taken.

An electric railroad company acquiring a right-of-way could not convey to a traction company the right to impose additional burdens thereon, but the traction company could only acquire the right to impose such additional burdens and to use additional land for its purpose by condemning the same and paying damages to the owners.

In a proceeding to condemn land for a railroad right-of-way, the proper measure of damages is the difference between the market value of the land before and after the appropriation, and hence evidence of specific sales of other property not similarly located or developed was inadmissible, though it was intended to develop the property in question. (Wadsworth Land Co. v. Piedmont Traction Co. et al., 78 S. E. Rep., 299.)

## LIABILITY FOR NEGLIGENCE

**California.**—Injuries to Passenger Alighting at a Non-Stopping Point—Conductor in Front of Car.

A street car passenger who had not notified the conductor of her desire to alight at the next street crossing had no right to assume and act upon the assumption that the car would stop at such crossing merely because its speed for some reason had been diminished, especially where such crossing was one where cars were required to stop only on signal.

A street car conductor was not negligent in going to the forward end of the car for the purpose of collecting a fare from a passenger who had just boarded the car and gone upon the forward platform, as it was his duty to do so, though he was thereby prevented from observing that a passenger was preparing to alight. (Dougherty et ux. v. Union Traction Co. (Civ. 1173), 136 Pacific Rep., 722.)

**Indiana.**—Duty of Interurban Motorman to Watch for Private Crossings.

A motorman of an interurban car must use care commensurate with the danger to prevent injuries at places where persons are likely to be, and if he has actual knowledge of the existence of a private farm crossing constructed by the company, he must keep a lookout for persons in passing over it. (Hartlage v. Louisville & N. Ry. & Lighting Co., 102 N. E. Rep., 738.)

**Maine.**—New Trial—Excessive Damages—Conditions.

Where a verdict is excessive, a motion for new trial will be overruled in the event that plaintiff remits the excess, but otherwise it will be sustained. (Blair v. Lewiston, A. & W. St. Ry., 89 Atlantic Rep., 140.)

**Maine.**—Verdict for Excessive Damages Not Disturbed.

The court will not disturb a verdict on the ground of excessive damages unless it very clearly appears to be excessive upon any view of the facts which the jury was authorized to adopt. (Boyd v. Bangor Ry. & Electric Co., 89 Atlantic Rep., 140.)

**Maryland.**—Definitions of Liability for Accidents at Crossings.

Where recovery for injuries to a traveler struck by an electric car at a crossing was sought on the sole theory that the collision could have been avoided by the motorman exercising due care, and the court charged that if the motorman could have avoided the accident by the use of ordinary care after he saw, or by ordinary care might have seen, the danger, the verdict must be for him, and the court refused to charge that if the motorman brought his car to a stop in the usual manner and at the usual place for taking on passengers, and if, after he saw, or by ordinary diligence could have seen, the traveler's peril he could not by such care as a reasonably prudent man would have used under like circumstances have avoided the collision, there could be no recovery, was reversible error. (Capital Traction Co. v. Contner, 87 Atlantic Rep., 905.)

**Maryland.**—Action for Injuries—Release by Person Injured.

Code Pub. Civ. Laws, Art. 67, Sec. 1, provides that whenever death shall be caused by wrongful act, neglect or default such as would have entitled the party injured to maintain an action and recover damages if death had not ensued, the person who would have been liable if death had not ensued shall be liable to an action for damages, notwithstanding the death of the person injured. Held, that where a person injured during his lifetime released the defendant from all and every claim that he might or could have for or on account of his injuries such release was a bar to a subsequent action for his death resulting therefrom. (State to Use of Melitch, v. United Rys. & Electric Co. of Baltimore, 88 Atlantic Rep., 230.)

**Massachusetts.**—Horse Killed from Stepping on Track—*Res Ipsa Loquitur.*

When a horse stepped on a rail of a street car track on a wet day a spark flashed from the rail and the horse suddenly stopped, fell and died. There was evidence that the rails and electric appliances were in perfect condition on the following morning but that it was possible for the horse to be killed by reason of a short-circuit between the rail and a wire at some point on the track further from the power house than the place of the accident, and that there was more danger on a wet than on a dry day. Moreover, an experienced veterinary surgeon, who made an autopsy, stated that the appearance of the horse's organs indicated that it was killed by electricity. Held, that the circumstances raise an inference of negligence by defendant under the *res ipsa loquitur* doctrine. (St. Louis v. Bay State St. Ry. Co., 103 N. E. Rep., 639.)

**Massachusetts.**—Alighting from Slowly Moving Car—Contributory Negligence.

A passenger attempting to alight from a slowly moving car is not as a matter of law guilty of negligence, and whether an ordinarily prudent person would have done so under similar circumstances is for the jury.

A street railway company, which does not invite a passenger to alight while the car is moving and is not negligent in bringing the car to a stop, is under no duty to warn or to restrain a passenger alighting until the car shall stop, and it is not liable for injury to a passenger alighting before the car stops. (Mabry v. Boston Elevated Ry. Co., 102 N. E. Rep., 309.)

**Missouri.**—Alighting at a Non-Stop Point.

A passenger who has signaled the car to stop is justified in assuming that he might alight when the car did stop, notwithstanding it was in the middle of a block.

Where those in charge of a street car know that a passenger is in the act of alighting therefrom it is their duty to exercise such a degree of care as would be exercised by a careful and skilful man under the same circumstances to hold the car stationary. (Gardner v. Metropolitan St. Ry. Co., 152 S. W. Rep., 98, 99.)

**Missouri.**—Negligence of Driver Not Imputable to Others—"Vigilant Watch"—"First Appearance of Danger."

Where plaintiff in an action against a street railway for personal injuries from a collision was not driving or directing the wagon on which she was riding with her husband, and he was not her agent in so doing, his negligence in driving, if any, was not imputable to her, where she did not concur in or expressly sanction it or, knowing the danger, fail to protect herself.

The doctrine of "vigilant watch," as applying to the operation of a street railway, requires that a motorman on the "first appearance of danger" to a vehicle on the track shall stop the car in the shortest time and space possible, and where he has an unobstructed view of the vehicle either on the track or so near as to be in danger, and he sees, or by due care might see, the danger in time to control or stop his car before collision, the time and place where his duty to do so arose is somewhere between the place of vision and the collision. (Johnson v. Springfield Traction Co., 161 S. W. Rep., 1194.)

**North Carolina.**—Injury to Passenger from Projecting Screw—Unavoidable Accident.

As the street car on which plaintiff was a passenger approached a certain point plaintiff asked the conductor to slow up so that he could get off, and attempted to get off while the car was going 3 or 4 m.p.h., when he caught a very thin finger ring in a screw at the bottom of the grab handle, 36 in. from the bottom of the step, and his little finger was jerked off by the forward motion of the car. The screw head projected about 1/16 in. from the surface. Held, that the injury was an unavoidable accident for which the street car company was not responsible. (Pendergrast v. Durham Traction Co., 79 S. E. Rep., 984.)

# News of Electric Railways

### Supreme Court Loan Decision in Philadelphia

Affirming its previous decree that the $8,600,000 and the $12,900,000 municipal loans were invalid, the Supreme Court of Pennsylvania, on May 12, in handing down its opinion thereon, incidentally upheld the constitutionality of the acts of Assembly making the personal property assessments co-equal with the realty assessments as the basis of the city's borrowing capacity of 7 per cent of the grand total of such assessments. As compared with the present unused borrowing capacity of about $15,000,000 on the realty assessments, the addition of the personal property assessments as basis of borrowing capacity would increase the city's combined unused borrowing capacity to upward of $57,000,000. In reviewing the decision the Philadelphia Public *Ledger* said:

"Although Director A. Merritt Taylor, of the Department of City Transit, made no statement on the subject, it was said at his office that the opinion held there was that the Mayor and the administration leaders would proceed as speedily as possible to float a loan for a large sum with the personal property assessments as a basis for improved rapid transit projects. It was suggested that the loan would probably be for a minimum of $25,000,000, and possibly as much as $40,000,000, which would be close to the estimated addition to the city's borrowing capacity resulting from the decision sustaining the constitutionality of the act of the Legislature authorizing the personal property basis for permanent bond issues."

### Toledo Franchise Committee to Report Before Monday

The special franchise committee of the Council of Toledo, Ohio, must report to that body by May 25. So far no intimations have been made as to what the report will contain, further than a statement of the points agreed upon with Mr. Doherty and a discussion of the question of fare, which resulted in the termination of the negotiations. Vice-Mayor Hassenzahl was quoted as saying that several of the concessions made by the committee during the negotiations were based on the understanding that the company would in the end yield to a low rate of fare, and that if such a rate was not given the committee would not stand by the concessions.

Intense interest has developed in the publicity campaign conducted by Henry L. Doherty, as the representative of the Toledo Railways & Light Company, Toledo, Ohio. While many people have followed the campaign closely from the beginning there has been such an increase in interest since the recent abandonment of the franchise negotiations that the publicity work of the company has become a subject of discussion on all sides. The publicity forum is being conducted in the Toledo *Blade*, Toledo *Times* and other publications.

Mr. Doherty is having the early statements put into the form of folders and distributed from the folder boxes in the cars. At first 10,000 were printed every other day, but it was found that a large number was needed and at present 30,000 are being distributed daily. On May 20 criticism No. 6 had been reached. Only one criticism is printed on each folder. They are being issued to the public just as they were published in the newspapers originally. In addition to the *Blade* and the *Times* the company is using twelve weekly publications in the city and is displaying posters on all the billboards. At the head of Superior Street has been placed an electric sign, "Read our publicity forum on the franchise question in the *Blade* and the *Times*." The Toledo *News-Bee*, which has been hostile to the company's proposition from the start, is not being used, as it was thought that its columns could add nothing to the strength of the forum.

Mr. Doherty has addressed many organizations and assemblages recently by invitation. This development of the publicity campaign has surprised even the officials of the company.

Numerous requests have been received for copies of the publicity forum conducted by Mr. Doherty. These requests have come from attorneys, public utility men and others from almost every state in the Union and include six or seven letters from Texas. Mr. Doherty believes that to receive the greatest amount of benefit from publicity, it should be continuous and the people should be kept well informed at all times of just what is necessary for the operation of a property to furnish good service and what price must be received to support the service which is demanded.

It is said that the city will have 10,000 copies of the last franchise drawn by City Solicitor Thurstin printed and distributed in an endeavor to counteract the effect of the company's publicity. The city inserted a 2-in. advertisement in the Toledo papers recently asking for bids for a franchise on the local streets.

The business men feel that the publicity which the city is receiving in connection with the unreasonable stand taken regarding the rate of fare will have a very unfavorable influence.

Mr. Doherty spoke at the noonday lunch of the Michigan Alumni on May 20. He said that excessively stringent regulation of corporations was equivalent to war against prosperity. A sentiment was developing in Toledo for a reasonable fare and good service. This was the correct view to take of the situation. Poor street railway service dwarfs the prospects of a city.

### Kansas City Franchise Negotiations Resumed

Franchise negotiations between the Metropolitan Street Railway, Kansas City, Mo., and representatives of the city were resumed on May 11. O. H. Dean, representing the Commercial Club, the Live Stock Exchange and the Real Estate Exchange, presented the objections to the ordinance drawn by Major Jost. He objected chiefly to the forfeiture clause of the grant, asserting that it provided a penalty only for the management and not for the mortgagees, who are really the owners. He advocated a clause that would inflict a penalty on the mortgagees in case of default. Mr. Dean also objected to the clauses whereby the city will receive 8 per cent of the gross revenue of the company, advocating 2 per cent, to be used exclusively for improvement of parks and sanitary facilities. Six tickets for a quarter also promised to become an issue.

D. M. Pinkerton, who originally was named as one of the city's directors in control of the company, has been appointed to the school board.

An ordinance providing for the construction of double track on Twenty-fourth Street from Main Street to Grand Avenue by the Metropolitan Street Railway, was passed by the lower board of the Kansas City Council on May 11. It was referred in the upper house because of a charter provision which prevents both branches of the Council from passing a grant in one night. The city reserves the right to revoke the grant should it be used separately from the general system, as would be possible in case of the dismemberment of the Metropolitan Street Railway.

Rapid progress was made by the conferees in Kansas City regarding a franchise for the Metropolitan Street Railway during the week ending May 16. The capital valuation of the company's property was placed at $30,000,000, and the physical valuation at $25,962,000. The company will be permitted to receive 6 per cent annually on the capital valuation, until this is reduced to the amount of the physical valuation, after which the city will receive two-thirds of the net income to one-third for the company. The franchise committee agreed to the section giving the company a grant on the streets of the city until 1944. Eleven directors are provided for, six of whom will be selected by the company and five by the city. The circuit court of appeals will name the succeeding city directors, as the terms expire. The three block clause that allowed competing companies three blocks of track on each line or extension was repealed in favor of one allowing such companies six consecutive blocks on any one line. The following schedule was arranged for the week beginning May 18: Monday, extensions; Tuesday, fares; Wednesday, viaduct contention of the Terminal Railway Company; Thursday, organized labor demands, and interurbans. Slightly more than 15 miles of extensions are proposed.

### Mr. Mellen Ignored in Westchester Transaction

Charles S. Mellen, formerly president of the New York, New Haven & Hartford Railroad, resumed his testimony before the Interstate Commerce Commission at Washington on May 19. Much of the testimony that day was confined to the negotiations which resulted in the New York, New Haven & Hartford Railroad taking over the New York, Westchester & Boston Railway, a high-speed electric line out of New York. Mr. Mellen had never given serious thought to the suggestions that the New Haven acquire the Westchester line until Oakleigh Thorne presented the matter to him. Mr. Thorne had acquired both the New York, Westchester & Boston and the New York & Portchester Railways, and urged Mr. Mellen to take the matter of their purchase up with the directors of the New Haven road. Mr. Mellen presented the matter to the late J. P. Morgan, who suggested that a committee be appointed to conduct the negotiations. This committee consisted of Mr. Morgan, William Rockefeller and G. MacCulloch Miller, with Mr. Mellen a member ex officio. Mr. Mellen was never taken into the confidence of the committee.

After negotiating fourteen months the committee reported to the board of directors that it had expended $11,000,000 in acquiring the two lines, but gave no details of how the money had been spent or when or to whom it had been paid or any detailed account of how much had been paid for each of the items of the various acquisitions comprising the property. Mr. Mellen told Mr. Morgan that he thought a comprehensive account should be rendered. This was during the panic of 1907. Mr. Morgan refused Mr. Mellen's request harshly and abruptly. The directors accepted the incomplete report, but two of them, Mr. Skinner and Mr. Hemingway, both of Connecticut, questioned the transaction. Mr. Mellen was forced to tell them that he was not acquainted with the details, and suggested that he would appoint either of them a committee to wait on Mr. Morgan. They were all willing that he should go to Mr. Morgan and "bark his shins," but were afraid to go to him themselves.

Notations and memoranda which Mr. Mellen had written on the papers at the time complained that he was not told anything; that the New Haven's money was being spent, and that he did not know where it was going or for what purpose. The total cost of the Westchester properties to the New Haven to this time has been about $35,000,000. In a memorandum written on one of the papers drawn in the course of negotiations Mr. Mellen expressed his fear that reputations would be damaged and that he would be the "goat" before the transaction was at an end. He said that when trouble prevailed in large enterprises somebody had to bear the burden. Others could go to Carlsbad or to some other cure, but somebody had to stay and fight it out. Afterward when Mr. Mellen read the memorandum expressing his fears about the transaction it looked to him as if he were a prophet. The changes which the New Haven wanted in the Westchester franchise related to an extension of time in which the road was to be completed, a change of route and a consolidation with the New York & Portchester. These were all brought about. At the time the negotiations for the purchase were carried on Mace Moulton was the president of the Westchester Company. The arrangements for the changes in the franchise were made through him. Mr. Moulton is now dead.

The hearing on May 20 was devoted very largely to an inquiry into the purchases of electric railway properties in Connecticut and Rhode Island by the New Haven. The Consolidated Railway was originally the Thompson Tramway of Connecticut. It afterward became the Worcester & Eastern Railroad, later the Consolidated Railway and was then merged with the present New York, New Haven & Hartford Railroad. The stock of the Consolidated Railway, which was secured by the New Haven Railroad through purchase, became treasury stock of the latter subject to the disposition of the board of directors, and was in turn exchanged share for share for Boston & Maine Railroad stock to the extent of 109,948 shares. The Consolidated Railway charter was amended by the Connecticut Legislature to enable this amalgamation to be carried out.

Approximately $5,000,000 of Fair Haven & Westville stock was taken up with $10,000,000 of the 3½ per cent New Haven Railroad debentures running for fifty years, not convertible into stock of the New Haven Railroad. After the Fair Haven & Westville Street Railway was purchased the New Haven merged the Stamford, the Meriden and the Fairhaven & Westerville lines into the Worcester & Eastern and changed its name to the Consolidated Railroad. Mr. Mellen thought that the New Haven had paid for the Stamford Railway in cash. In 1905 the New Haven purchased 7718 shares of the stock of the Hartford Street Railway at $285 a share. There was sharp competition for the stock of this company. Mr. Mellen thought that among the competitors of the New Haven in this deal were interests identified with the United Gas Improvement Company, Philadelphia. Subsequently the New Haven took over the electric railways in New London, Montville and Norwich. Control of these properties was thought to be desirable because only a short line had to be built to afford through connections via the Worcester & Connecticut Eastern between New London, Conn., and Worcester, Mass. After the purchase of these properties the New Haven built the link between Central Village and Norwich and electrified the line. The stock of the Norwich Street Railway was acquired at $110 a share; that of the New London Street Railway at $105 a share and that of the Montville Street Railway at $160 a share. In addition to this the company paid $40 a share to a Mr. Kelley for his work in acquiring the stock of the Montville and the Norwich Street Railways. Mr. Mellen thought this a paying deal as the properties at New London and Norwich were leased by him just before he retired from the New Haven to the Shore Line Electric Railway for 999 years at a fixed rental of 5 per cent of the capital stock.

The control of the Connecticut Railway & Lighting Company operating in Bridgeport and Waterbury was negotiated through Thomas Dolan and Randall Morgan, Philadelphia, who are identified with the United Gas Improvement Company. These properties are leased to the Consolidated Railway for 999 years on a graded rental which runs up ultimately to a guarantee of $1,400,000 a year. This lease is guaranteed by the New York, New Haven & Hartford. Mr. Mellen thought the lease had proved profitable. He was not acquainted with the details of the transaction by which the Worcester & Webster Street Railway and the Webster and Dudley Street Railway had been acquired by the New Haven. He had no knowledge that these properties had cost the New Haven more than $1,000,000 and had been turned over to the New England Investments & Security Company for $337,458.

Senator Aldrich of Rhode Island was largely responsible for the New Haven taking over the electric railways in Rhode Island. The properties there were acquired by the New Haven at more than $200 a share. There is a multiplicity of companies in Rhode Island, including the Providence Securities Company, the United Traction & Electric Company and the Rhode Island Company, which last leased the separate companies. Mr. Mellen said that he would be surprised if the loss to the New Haven on account of the purchase of the electric railways in Rhode Island had not amounted to more than $2,000,000 in four years and five months.

### Subway Construction Awards in New York.

The members of the Public Service Commission for the First District of New York conferred on May 18 with representatives of the Interborough Rapid Transit Company and of the Holbrook, Cabot & Rollins Corporation, to consider a protest made by the former against the possible award to the latter of the contract for the construction of Section No. 6-A of Routes Nos. 4 and 38, the Seventh Avenue subway in Manhattan. This section covers the connection which will be made between the new subway in Seventh Avenue and the existing subway at Times Square. As the operating lessee of the existing subway, the Interborough Company objects to the award of this work to the Holbrook, Cabot & Rollins Corporation notwithstanding that it is the lowest bidder, on the ground that "the contractor has not the slightest conception of the difficulties involved or of the work to be done to assure the safe and continuous operation of trains during the construction work." This is the second time the commission has opened bids for this work. On the first bidding, in March last, the Oscar Daniels Com-

pany was the low bidder at $304,316. At that time the Interborough Company protested against the award of the contract to the Daniels Company for reasons similar to those now given. After due consideration the commission rejected all bids and readvertised. The bids were opened the second time on May 13, when the Holbrook, Cabot & Rollins Corporation was found to be the low bidder at $421,566, the Oscar Daniels Company not appearing in the second competition. In the first bidding the Rapid Transit Subway Construction Company, which is owned by the Interborough Company, was the third bidder at $498,038. In the second competition that company was the second bidder at $468,038.

Bids for the construction of the proposed crosstown subway in Canal Street were opened by the Public Service Commission for the First District during the week ended May 16. This is known as Section No. 2 of Route No. 20. The plans call for a two-track subway from the Manhattan end of the Manhattan Bridge through Canal Street to a junction with the Broadway subway. This line will pass under the existing subway and the Centre Street Loop subway, and will have a deep station running from Centre Street almost to Broadway. It will be operated by the New York Municipal Railway Corporation and used to bring the trains coming over the Manhattan Bridge into the Broadway subway. On account of the character of the ground the commission asked for bids on two different kinds of plans—one according to the usual method of excavating and building the subway structure in the cut, and the other by providing cast-iron tunnels for a portion of the route. The lowest bidder for the usual method of construction was the Underpinning & Foundation Company, at $1,822,994, while the Degnon Contracting Company was the lowest bidder for the method including cast-iron tunnels, at $2,438,258.

Bids for the construction of Section No. 1 A of Routes Nos. 4 and 38, the Seventh Avenue subway in Manhattan, will be opened by the Public Service Commission for the First District on June 9. This section covers the connection between the new Seventh Avenue subway and the existing subway at the Battery. It will involve work similar to that to be done at the Times Square junction, although on account of the difference in location and the fact that an open park covers the subway at the Battery the difficulty will not be as great. The work involves the building of a new station opposite the present station at South Ferry near the Battery.

## Fraud in West Shore Railway Promotion

After a year of investigation the Ontario Railway Board has returned a finding to the effect that false and fraudulent representations secured for John W. Moyes the contract or agreement with the municipalities of Goderich, Kincardine, Ashfield and Huron for the construction of the West Shore Railway, and that false and fraudulent progress certificates gave Moyes the proceeds of the sale of bonds guaranteed by the municipalities. The board summarizes its findings as follows:

That John W. Moyes by the false and fraudulent representation that $12,500 had been paid into the Dominion Bank at Toronto on account of capital stock procured the permanent organization of the Ontario West Shore Railway.

That no permanent capital was contributed to the undertaking beyond the proceeds of the sale of bonds guaranteed by the municipalities, although $15,000 of the unguaranteed bonds were apparently taken by the Provincial Steel Company in part payment of rails.

That Moyes, in breach of the Ontario Railway Act, procured a colorable agreement for the construction of the railway, to be entered into between the company and the Huron Construction Company, which was really Moyes.

That by procuring false and fraudulent progress certificates the promoter withdrew from the Toronto General Trust Company the proceeds of the sale of the bonds guaranteed by the municipalities with a value, with interest, of $402,837.

That owing to the fact that books of account were not kept and that vouchers were missing, the board could not report exactly how much of the amount so fraudulently withdrawn by Moyes was properly expended, but that the records show $228,272.06 to have been properly expended in construction and material.

The board concludes that the $165,000 of unguaranteed bonds supposed to be in the possession of Moyes are valueless. The board bases this on the fact that the Huron Construction Company, to which the bonds were supposed to have been paid, never really existed, that what company there was existed in John W. Moyes. In dealing with the disposal of the moneys, the board finds that there is still $174,565 to be accounted for.

## Proposed Block Signal Installations in Indiana

Indiana interurban lines are preparing to install approximately 115 additional miles of block signals during 1914. Contracts for these installations have not yet been let, but the plans of the various companies are about completed. The Union Traction Company of Indiana will install automatic block signals on its Tipton Division between Broad Ripple and "Strawboard" siding, a distance of 15.08 miles, and on the Anderson Division between "Summit" siding and the south side of Jonesboro, a distance of 8.77 miles, or a total installation of 23.85 miles.

The Terre Haute, Indianapolis & Eastern Traction Company will install a total of 25.35 miles, as follows: on the Terre Haute Division, from Terre Haute city limits to Brazil, a distance of 11.25 miles; on the Brazil Division, from Plainfield to Bridgeport, a distance of 4.6 miles, and on the Crawfordsville Division, from Dye's siding to Brownsburg, a distance of 9.5 miles.

The Fort Wayne & Northern Indiana Traction Company will install approximately 25 miles. The greater part of this installation will be put in between LaGro and Peru, about 22 miles, closing up the unprotected section between Huntington and Logansport; and about 3 miles will be installed at Delphi.

The Chicago, South Bend & Northern Indiana Railway will install about 9 miles of the semaphore type of signal during the present year, but the locations have not yet been announced.

The Indianapolis, Columbus & Southern Traction Company proposes to install approximately 24 miles of absolute block signal system between Taylor and Seymour.

The Indiana Railway & Light Company, operating the line from Kokomo to Marion, will install about 8 miles during this year.

No plans have yet been made for the extension of the Simmen system to the Greensburg Division of the Indianapolis & Cincinnati Traction Company, but it is understood that this matter will be taken up later in the year between the company and the Public Service Commission.

## Prospects of Agreement on Seattle Purchase by City

Mayor Hiram C. Gill, of Seattle, Wash., who as Mayor in 1910 approved the ordinance revoking the franchise of the Seattle, Renton & Southern Railway, before the finance committee of the City Council recently endorsed the plan proposed for the purchase of the property of the company by the city, qualifying this endorsement only by limiting the purchase price to a reasonable figure. This endorsement followed a review of the offer made by the receivers through Harold Preston immediately to transfer the property within the city to the municipality, to be paid for at the rate of 25 per cent per year of the gross earnings for a period of twenty-five years. Mr. Preston explained to the committee that this value had been worked out with a view of just paying the indebtedness. When it was shown that, with an annual 4 per cent increase in the earnings of the system, this plan would mean the payment by the city in twenty-three years of $1,200,000 for the property, Mayor Gill suggested that a maximum value be placed on the property, beyond which point the city should not be required to pay. Mr. Preston is said to have expressed the belief that the Superior Court and the creditors, all of whom have agreed to the plan for purchase as proposed, could reach some agreement satisfactory to the Council and to those who have invested in the property. The whole matter was laid over by the committee for two weeks pending the return to Seattle of Scott Calhoun, the other receiver of the property, who has been in the East.

### Rapid Transit Construction Progress in Brooklyn

The physical connection between the Myrtle Avenue and the Broadway elevated lines of the Brooklyn Rapid Transit System will probably be ready for operation about July 1. Only a small amount of reinforcement in the existing girders and the installation of track and signals remains to be done at this point. With the completion of this physical connection, the second of the important rapid transit improvements in Brooklyn under the new contracts with the city will have been accomplished. The first work which was finished was the opening of the Centre Street loop. This was equipped for operation by the New York Municipal Railway immediately after the dual contracts were signed in March, 1913. The Myrtle Avenue and Broadway connection will eliminate the change of cars at Myrtle Avenue for those who are going down on the Broadway line across the Williamsburgh Bridge and through the Centre Street loop. The approach toward completion of the Lutheran Cemetery extension, which connects with the Myrtle Avenue elevated road at the upper end of the route, indicates that the existing congestion at the Ridgewood point of transfer will disappear as soon as the Lutheran line is ready for operation.

On the Lutheran Cemetery line 1400 lineal ft. of steel elevated structure was erected during April, making a total of 3000 lineal ft., erected to April 30. All of the concrete is practically finished. Eighty-one per cent of the steel has been delivered and 70 per cent has been finished. On the first section of the Lutheran line the entire work involved in the reconstruction is within 23 per cent of completion. On the second section, extending from Fresh Pond Road to the terminus of the line, about 33 per cent of the required concrete has been laid and 46 per cent of the column excavation had been finished up to April 30. The work of rearranging the yard and erecting a trainmen's and dispatcher's building at Fresh Pond Road is under way Bids for stations to be built on the Lutheran line will be invited in the near future.

On the Sea Beach line 50 per cent of the excavation has been finished between Fourth Avenue and New Utrecht Avenue, 18 per cent of the excavation between New Utrecht Avenue and Twenty-second Avenue and 39 per cent of the excavation between Twenty-second Avenue and Eighty-sixth Street. This represents a total of 346,000 cu. yd. of material excavated. About 2000 lineal ft. of retaining walls had been constructed between Fourth Avenue and New Utrecht Avenue and 12,000 yd. of concrete had been placed on different sections along the line. More than 10 per cent of the total steel required for the Sea Beach line has been fabricated and delivered for use of connecting and reinforcing. Plans and specifications have been prepared for four highway bridges between Fifth Avenue and Eleventh Avenue and for the concrete railroad bridge over tracks of the Long Island Railroad between Seventh and Eighth Avenues. This work will be contracted for in the near future. The average daily number of men employed in the Sea Beach work in April was 900. The work done up to May 1 represents about 25 per cent of the total on the Sea Beach contract. On the Liberty Avenue extension 22 per cent of the excavation had been completed May 1 and 15 per cent of the concrete had been laid. The column bases have been excavated from the city line to Huntington Street, and the contractor is preparing to erect the steel. Practically all the rails for the Fourth Avenue subway have been delivered and other track material is being delivered.

### Banquet to Newton W. Bolen

More than 500 trainmen and other employees of the Essex Division of Public Service Railway, Newark, N. J., joined in tendering a testimonial banquet to Newton W. Bolen, general superintendent, on the evening of May 20. The banquet took place in one of the largest public halls in Newark, and was attended by a number of the executive officers, including George J. Roberts, first vice-president, and by the supervisory force and platform men. The celebration was designed to mark the completion of ten years' service of Mr. Bolen with the public service property, and also as an expression of appreciation on the part of the men of the improved working conditions and higher rates of pay that have been brought about by the company. Mr. Bolen was presented with a silver loving cup, the presentation speech being made by William Wepner, one of the platform men.

### Merger of Systems at Boston Urged

Patrick F. Sullivan, president of the Bay State Street Railway, Boston, Mass., addressed the joint legislative committee on street railways and metropolitan affairs on April 13 in relation to the suggested consolidation of the street railways serving metropolitan Boston. Mr. Sullivan said in part:

"The report of the joint board before you is the best presentation of the rapid transit problem in metropolitan Boston that I have ever seen. As shown in the report you could well consider this subject of taking care of a suburban district outside of what is called the Elevated 5-cent zone. But apart from this matter of 5-cent fare discussion is this great board question—that any consideration of this problem should be one which would consider this commuter business.

"It would not be impracticable to co-ordinate that service with the Boston Elevated service. It would relieve the North and South stations to such an extent as to continue their usefulness for more than twenty-five years longer than at the present commuter service. It would remove the smoke nuisance largely. It would take those unusual crowds of people off the streets leading to and from those two stations to an unusual extent. A solution is possible and practicable by an enabling act which will permit each of the companies referred to in the joint report to come in under it and surrender their respective charters.

"Under present general laws the Bay State, Blue Hill, Middlesex & Boston and Boston & Worcester companies can be consolidated, and if the West End Street Railway were not leased to the Boston Elevated, that company could also be consolidated. But the Boston Elevated is organized under a special act, and cannot, therefore, be consolidated without special legislation. The narrow gage road has also been referred to in the report. A proper solution of the problem would not be complete without including that company. By electrifying its lines, making it a standard gage road, and operating its trains through the East Boston tunnel to Scollay Square, the Revere Beach problem would be solved. The electrification of that road cannot long be postponed.

"The question of merger has never been discussed by the directors or the executive committee of the Bay State Street Railway. If you should prepare an enabling act that would be fair, reasonable and workable, I am prepared to recommend it for favorable action, with reasonable hope of acceptance. I would suggest a few features for such an act: You could prepare an enabling act with a very few directors, with power to increase the number; a nominal small amount of capital stock, with power to increase the amount for purpose of taking over these companies; and as each company came in, that it surrender its charter.

"A street railway should be given broad powers, subject to supervision of some controlling board. It should not be tied up hand and foot in the matter of issuing securities. At present street railways are limited to the same amount of bonds as capital stock and premiums. There should be elasticity as to amount of preferred stock and ordinary stock, also sinking fund securities which could be issued for improvements, and very many improvements will be needed to carry through such a comprehensive plan as outlined in that report. This proposed company should have authority to use the cars of connecting steam railroads. Such a company as is proposed will require assistance to enable it financially to perform this great public service. It should not be unduly loaded with taxes, and at the present time street railways are unduly loaded. In other words, if you are to consider this problem with a view of solving it yourselves and in this Legislature, you should pass such an act, leaving service, rates and every proper function of that corporation subject to the control of proper commissions. If you do this, I believe you will obtain the best co-ordinated metropolitan transportation system to be found anywhere."

**Kansas Railway Dynamited.**—An explosion tore a rail from the track of the Union Traction Company near Coffeyville, Kan., on May 14. An interurban car was stopped and no further loss was sustained. The explosion is believed to have been caused by former employees, who are on strike.

**Detroit Commission Requests Selling Price of City Lines.**—On May 13 the Detroit Street Railway Commission asked the Detroit United Railway to submit a selling price to the city by June 1 for the lines of the company within the city. The company has since notified the commission that it will submit a formal reply to this request as soon as possible.

**Bus Service in Cleveland.**—The Cleveland (Ohio) Railway will probably be authorized by the Council to install a bus service between the terminals of the West Twenty-fifth Street and the Lorain Avenue lines and West Park Cemetery. The buses to be used in Collinwood will be delivered within a short time. It is said that this mode of transportation will be used only until track extensions are made.

**Mason City Franchise Granted.**—A victory has been scored for the United Light & Railways Company in Mason City, Ia., through a vote of 3 to 1 in favor of the Mason City & Clear Lake Railroad by which it has been granted three franchises. The company waged a war of publicity and submitted the question in controversy to the people to decide, and the election indicated that the opinion of the community was that the best interests of the public would be served by granting the franchises to the company.

**Trolley Day in Champaign.**—The officers of the Urbana & Champaign Railway, Light & Gas Company, a part of the Illinois Traction System, selected May 21 as the annual trolley days. On that day all of the receipts were turned over to the Julia F. Burnham Hospital, Champaign. Young ladies from Champaign and Urbana acted as conductors during the morning. In the evening fraternity men from the University of Illinois, located between Champaign and Urbana, acted as conductors, although the regular conductors of the company were on duty and in charge of the cars. The women in charge of the hosital usually combine "tag-day" in connection with trolley day.

**Cleveland Electrical Exposition.**—The Cleveland Electrical Exposition, which is being held in the Coliseum, Cleveland, May 20-30, was started last Wednesday by Thomas A. Edison, who in his laboratory at Orange, N. J., pressed a button which turned on the lights and set the machinery of the exposition in motion. Charles F. Brush gave a short address at the opening ceremonies. The Coliseum and streets in the vicinity had elaborate electrical decorations. More than 105 exhibitors were present and displayed the latest developments in electrical manufacture, appliances for household and office use, as well as lamps, globes, bowls and fixtures. A lecture hall has been provided for experiments, lectures and moving pictures.

**Co-operative Electric Railway Testing at Worcester, Mass.**—Twenty-two students in electrical engineering at Harvard University will visit the Worcester (Mass.) Polytechnic Institute from May 26 to 29 under the direction of Prof. Harry E. Clifford, to conduct an investigation with the electric railway test car of the Institute. The program includes a two-hour lecture on car operation and testing by Prof. Albert S. Richey of the division of electric railway engineering, and a series of test runs with the car on the Leicester line of the Worcester Consolidated Street Railway. On the test runs graphic records will be made of the current, voltage, speed, motor heating and power input, heating, lighting and air compressor energy requirements.

**Post-office Square Terminal Discountenanced at Boston.**—The Boston Transit Commission has filed a report with the Legislature recommending the abandonment of the idea to make Post-office Square the easterly terminus of the Boylston Street subway. The board points out that while double terminal system might be desirable by which some cars could complete their trips at Park Street and others at Post-office Square, the cost of building a separate tunnel to the latter point from Boylston Street is not justified by the probable traffic. With the extension of the Cambridge subway eastward from Park Street transfer arrangements can be effected between cars arriving at this point and trains running to the South Station-Post-office Square district, and a comprehensive service is likely to be established which will render unnecessary the proposed diversion of the Boylston Street subway.

**Extensions in Seattle.**—The deadlock in the City Council of Seattle, Wash., that for five years has prevented the construction of a single street railway extension in Seattle was broken recently by the adoption by the City Council by a vote of seven to one of a resolution fixing it as the policy of the Council that franchises for extensions in residence districts and not of trunk lines or on canyon routes be granted on terms identical with the blanket franchise under which all of the lines of the Puget Sound Traction Light & Power Company are operated. This action on the part of the Council disposes of the objectionable section of the charter under the term of which the company refused to make extensions on the ground that the provisions were unreasonable. Extensions will be made at once of the Ballard Beach, Sixth Avenue, Wallingford, Beacon Hill, Cowen Park line, and Alki Beach line, a total distance of about 8 miles.

**A. I. E. E. Business Meeting.**—At the annual business meeting of the American Institute of Electrical Engineers, held on May 12, announcement was made of the results of the election of officers. Including the newly elected members, the officers of the Institute for the year beginning Aug. 1, 1914, will be as follows: President, Prof. Paul M. Lincoln; vice-presidents, H. H. Barnes, F. S. Hunting, J. A. Lighthipe, Farley Osgood, C. F. Scribner and N. W. Storer; managers, Comfort A. Adams, Frederick Bedell, B. A. Behrend, J. H. Finney, Bancroft Gherardi, William B. Jackson, Peter Junkersfeld, H. A. Lardner, A. S. McAllister, William McClellan, Lewis T. Robinson and H. Franklin Stevens; treasurer, George A. Hamilton; secretary, F. L. Hutchinson. According to the report of the board of directors, the membership on April 30, 1914, consisted of five honorary members, 439 fellows, 1027 members and 6405 associates; total, 7876, a net increase of 222 since April 30, 1913.

**Demands for Extensions in Louisville.**—Popular demand from residents of two large sections of Louisville for the extension of the lines of the Louisville (Ky.) Railway has progressed in one case until a franchise-creating ordinance is before the General Council and in the other to a point where a mass meeting of the citizens has been called for the evening of May 26. The more insistent of the demands is from the residents of the West End, between Broadway and Market Street and south of Twenty-eighth Street. The western boundary of this district is composed of Shawnee Park, a public recreation ground, and Fontaine Ferry Park, a private amusement resort, on the line of Forty-seventh Street. Five hundred heads of families signed the petition for the extension, which would mean that the West Chestnut Street line, now halting at Twenty-seventh Street, would be extended north on Twenty-eighth Street to Madison and west on Madison to the park, a distance of 2 miles. In this part of the city Broadway and Market Street lie half again as far apart as in the downtown section. In the eastern part of the city the people want the Oak Street line, recently extended, diverted at Transit Avenue and Bardstown Road so as to run through Transit Avenue and the Workhouse Road to Crescent Hill, opening up a large area in which the service has been regarded as inadequate.

## PROGRAMS OF ASSOCIATION MEETINGS

### Pacific Claim Agents Association

The Pacific Claim Agents Association will hold its annual convention for 1914 at Spokane, Wash., on July 9, 10 and 11. A program of subjects of interest to the claim departments of all transportation companies is being arranged.

### New York Electric Railway Association

The thirty-second annual meeting of the New York Electric Railway Association will be held at Hotel Champlain, Bluff Point, N. Y., on Tuesday and Wednesday, June 30 and July 1. The program of the meeting is now being prepared for distribution.

# Financial and Corporate

## Stock and Money Markets

May 20, 1914.

In the trading on the New York Stock Exchange to-day price changes of some consequence occurred in a few issues, but the market as a whole was inactive. New Haven after selling down to 67 in the forenoon rallied to 67¾. Rates in the money market to-day were: Call, 2 per cent; sixty days, 2½ @ 3 per cent; four months, 3 per cent; six months, 3¾ per cent.

In the Philadelphia market to-day trading was irregular. In the early trading Rapid Transit sold at 18 and Philadelphia Electric at 26⅛. Late in the day Philadelphia Rapid Transit sold off to 17½ and Union Traction to 45.

The Chicago market was weak to-day. Bonds held steady. Sales were recorded of Kansas City Railway & Light preferred at 39, City Railway 5's at 100, Union Elevated 5's at 83 and South Side Elevated 4½'s at 94.

The Boston market to-day was again very dull. Prices as a rule were fairly steady.

In Baltimore to-day United Railways issues were the feature, the common reaching a new high mark. Sales of stock totaled 2,872 shares and sales of bonds $94,900 par value.

Quotations of traction and manufacturing securities as compared with last week follows:

| | May 13 | May 20 |
|---|---|---|
| American Brake Shoe & Foundry (com.) | 86 | 87 |
| American Brake Shoe & Foundry (pref.) | 133 | 134 |
| American Cities Company (com.) | 29 | *29 |
| American Cities Company (pref.) | 61⅞ | 64 |
| American Light & Traction Company (com.) | 340 | 340 |
| American Light & Traction Company (pref.) | 107 | 107 |
| American Railways Company | 37⅜ | 37 |
| Aurora, Elgin & Chicago Railroad (com.) | 32½ | 32½ |
| Aurora, Elgin & Chicago Railroad (pref.) | 76 | 77 |
| Boston Elevated Railway | 79 | 80½ |
| Boston Suburban Electric Companies (com.) | 7 | 7 |
| Boston Suburban Electric Companies (pref.) | a55 | a55 |
| Boston & Worcester Electric Companies (com.) | *6¼ | *6¼ |
| Boston & Worcester Electric Companies (pref.) | 36 | 36 |
| Brooklyn Rapid Transit Company | 91⅝ | 93 |
| Capital Traction Company, Washington | 100 | 98⅝ |
| Chicago City Railway | 135 | 135 |
| Chicago Elevated Railways (com.) | 20 | 20 |
| Chicago Elevated Railways (pref.) | 65 | 65 |
| Chicago Railways, ptcptg, ctf. 1 | 98 | a98 |
| Chicago Railways, ptcptg., ctf. 2 | 33 | 34 |
| Chicago Railways, ptcptg., ctf. 3 | 5 | 5 |
| Chicago Railways, ptcptg., ctf. 4 | 2 | 2 |
| Cincinnati Street Railway | 102½ | *102½ |
| Cleveland Railway | 104 | 104¼ |
| Cleveland, Southwestern & Columbus Ry., (com.) | *4 | *4 |
| Cleveland, Southwestern & Columbus Ry. (pref.) | *30 | *30 |
| Columbus Railway & Light Company | 13 | *13 |
| Columbus Railway (com.) | 53 | *53 |
| Columbus Railway (pref.) | 79½ | *79½ |
| Denver & Northwestern Railway | *63 | *63 |
| Detroit United Railway | a80 | a80 |
| General Electric Company | 145½ | 148 |
| Georgia Railway & Electric Company (com.) | 119⅞ | 119 |
| Georgia Railway & Electric Company (pref.) | 86½ | 86½ |
| Interborough-Metropolitan Company (com.) | 14⅝ | 14½ |
| Interborough-Metropolitan Company (pref.) | 62¼ | 62¼ |
| International Traction Company (com.) | *40 | *40 |
| International Traction Company (pref.) | *85 | *85 |
| Kansas City Railway & Light Company (com.) | 18 | 18 |
| Kansas City Railway & Light Company (pref.) | 37 | 37 |
| Lake Shore Electric Railway (com.) | 6 | 6 |
| Lake Shore Electric Railway (1st pref.) | 92 | 92 |
| Lake Shore Electric Railway (2d pref.) | 22 | 22 |
| Manhattan Railway | 131¼ | 130½ |
| Massachusetts Electric Companies (com.) | 10 | 11 |
| Massachusetts Electric Companies (pref.) | 59 | 60½ |
| Milwaukee Electric Ry. & Light Co. (pref.) | 95 | 95 |
| Norfolk Railway & Light Company | 25½ | 25½ |
| North American Company | 76½ | 76⅛ |
| Northern Ohio Traction & Light Co. (com.) | 70 | 70 |
| Northern Ohio Traction & Light Co. (pref.) | 101 | 101 |
| Philadelphia Company, Pittsburgh (com.) | 39⅞ | 40 |
| Philadelphia Company, Pittsburgh (pref.) | 38½ | 38½ |
| Philadelphia Rapid Transit Company | 17 | *17 |
| Portland Railway, Light & Power Company | 50 | 50 |
| Public Service Corporation | 112 | 112 |
| Third Avenue Railway, New York | 41 | 42½ |
| Toledo Traction, Light & Power Co. (com.) | 20 | 20 |
| Toledo Traction, Light & Power Co. (pref.) | 70 | 70 |
| Twin City Rapid Transit Co., Minn. (com.) | 104½ | 107 |
| Union Traction Company of Indiana (com.) | 11½ | *11½ |
| Union Traction Company of Indiana (1st pref.) | *75 | *75 |
| Union Traction Company of Indiana (2d pref.) | *14 | *14 |
| United Rys. & Electric Company (Baltimore) | 26⅝ | 28 |
| United Rys. Inv. Company (com.) | 15 | 15 |
| United Rys. Inv. Company (pref.) | 42 | 42½ |
| Virginia Railway & Power Company (com.) | a53 | 49 |
| Virginia Railway & Power Company (pref.) | 94 | 98¼ |
| Washington Ry. & Electric Company (com.) | 86½ | 87¼ |
| Washington Ry. & Electric Company (pref.) | 84⅛ | 84 |
| West End Street Railway, Boston (com.) | 67 | 67¼ |
| West End Street Railway, Boston (pref.) | 85 | 87 |
| Westinghouse Elec. & Mfg. Company | 74 | 76 |
| Westinghouse Elec. & Mfg. Co. (1st pref.) | 120 | 122 |

* Last sale. a Asked.

## ANNUAL REPORTS

### Geary Street Municipal Railway

The financial report of the Geary Street Municipal Railway of San Francisco, Cal., for the period between Dec. 28, 1912, and Dec. 31, 1913, contains the following balance sheet as of Dec. 31, 1913, prepared in compliance with charter provisions for the purpose of comparison with privately owned utilities:

| Assets | | Liabilities | |
|---|---|---|---|
| Cost of road and equipment | $1,657,251 | Funded debt — bonds sold | $1,969,000 |
| General expenditures | 181,890 | Contribution from premium on bonds | 2,342 |
| Municipal bonds owned | 93,300 | Contribution from taxes | 238,692 |
| Cash in city treasury | 547,627 | Current liabilities | 161,313 |
| Other current assets | 43,229 | Obligatory charter reserves | 116,646 |
| | | Depreciation $80,055 | |
| | | Taxes 35,454 | |
| | | Insurance 1,137 | |
| | | Surplus | 45,304 |
| | $2,533,297 | | $2,533,297 |

It will be noticed that the above statement conforms in general to standard railway practice except that the railway, unlike a private corporation, has no capital stock. There are, however, contributions to capital from premiums on bonds and from taxes, direct and indirect, used to meet interest on funded debt, cost of elections and legal and clerical service. The charter also requires that depreciation, insurance and taxes shall be accounted for although the municipal railway has no taxes to pay. Therefore, the deduction from income on account of taxes appears on the balance sheet as a credit to one of the obligatory charter reserves. The city's equity in the property may be said to comprise the contribution from premium on bonds, the contribution from taxes, obligatory charter reserves and surplus, a total of $402,984 as of Dec. 21, 1913.

As noted in the Electric Railway Journal of Oct. 11, 1913, page 688, the total cost of construction of the road, according to the official statement to the Board of Public Works, for the first six months of operation ended June 30, 1913, was $1,680,255. In the report for the year the cost of road and equipment account has been slightly readjusted to $1,657,251, and various general expenditures amounting to $181,890 have been capitalized. These expenditures include certain organization and development items as shown by the following list:

| | | |
|---|---|---|
| Interest on funded debt during construction: | | |
| Total interest on Geary Street bonds sold to June 30, 1913 | | $187,785 |
| Total interest on Market Street bonds sold to June 30, 1913 | | 1,552 |
| | | $189,337 |
| Deduct accrued interest received from bond buyers | | 20,134 |
| Total net interest accrued to June 30, 1913 | | $169,203 |
| Less amount deducted from income | | 29,584 |
| Net amount of interest capitalized | | $139,619 |
| Cost of elections: | | |
| Bond election held Dec. 30, 1909 | | $15,222 |
| Market Street agreement referendum, April 22, 1913 | | 14,406 |
| Total cost of elections | | $29,628 |
| Legal services: | | |
| City attorney to Dec. 31, 1912, at $3,000 per year | | $7,500 |
| City attorney's trip to Washington and special appropriation | | 2,500 |
| Dillon & Hubbard opinion | | 1,200 |
| H. A. Mason, salary, August, 1910 | | 250 |
| Total legal services | | $11,450 |
| Miscellaneous: | | |
| Engraving bonds | | $620 |
| Bond books | | 115 |
| Bond circulars and advertising sales | | 107 |
| Installation of accounting procedure | | 350 |
| Total miscellaneous | | $1,193 |
| Total | | $181,890 |

The three following schedules are amplifications of the accounts on the balance sheet under the headings of funded debt and contribution from taxes, and of the account appearing in the income statement for interest on funded debt.

Funded Debt Dec. 31, 1913

| | | |
|---|---|---|
| 4½ per cent bond issue of July 1, 1910: | | |
| Geary Street Railway—West from Kearny Street: | | |
| Authorized, issued and outstanding | | $1,900,000 |
| Geary Street Railway—Kearny Street to Ferries: | | |
| Authorized | $120,000 | |
| Not issued | 51,000 | |
| Authorized, issued and outstanding | | 69,000 |
| | | $1,969,000 |

Serial bonds maturities 1915 to 1934, redemption $101,000 each year.

Contribution from Taxes, Dec. 31, 1913

| | |
|---|---|
| Taxes collected to meet interest on funded debt: | |
| Fiscal year 1910-1911 | $45,710 |
| 1911-1912 | 34,465 |
| 1912-1913 | 90,285 |
| 1913-1914 | 27,302 |
| | $197,764 |
| Cost of bond election Dec. 30, 1909, and of referendum election April 22, 1913 | 29,628 |
| Legal expense—services of city attorney | 10,500 |
| Clerical service—Board of Public Works and Supervisors | 800 |
| | $238,692 |

Interest on Funded Debt, Dec. 31, 1913

| | |
|---|---|
| Interest on amount invested in that part of the road actually in operation for the period from Dec. 28, 1912, to June 30, 1913, computed semi-monthly upon the amounts expended as per records of the bookkeeper, Board of Public Works | $29,584 |
| Interest on $69,000 Market Street Railway bonds for six months ending Dec. 31, 1913, at 4½ per cent | 1,552 |
| Interest on $1,900,000 Geary Street Railway bonds for six months ending Dec. 31, 1913, at 4½ per cent | 42,750 |
| | $73,886 |

The complete income statement of the Geary Street line for the period from Dec. 28, 1912, to Dec. 31, 1913, follows:

| | | |
|---|---|---|
| Operating revenues: | | |
| Passenger revenues | | $444,393 |
| Rent of buildings | | 354 |
| Total | | $444,747 |
| Operating expenses: | | |
| Way and structures | $5,659 | |
| Equipment | 10,561 | |
| Traffic | 82 | |
| Conducting transportation | 182,097 | |
| General and miscellaneous | 8,390 | |
| General and miscellaneous (comparison charges required by charter) | 4,587 | |
| Depreciation—18 per cent of gross revenue | 80,055 | |
| Total | | $291,431 |
| Net operating revenue | | $153,316 |
| Income from municipal bonds owned | | 1,329 |
| Gross income, less operating expenses | | $154,645 |
| Deductions from income: | | |
| Taxes (comparison required by charter): | | |
| Municipal franchise 3 per cent on passenger revenue | | $13,332 |
| Municipal car license | | 548 |
| State franchise 4¾ per cent on gross revenues | | 21,125 |
| Federal income 1 per cent on net income | | 449 |
| Total taxes | | $35,454 |
| Interest on funded debt | | 73,887 |
| Total deductions | | $109,341 |
| Net profit for year | | $45,304 |

The operating ratio for the period was 65.5 per cent. The operating expenses included a reserve for depreciation and renewals computed at 14 per cent of the gross operating revenues and for injuries and damages at 4 per cent on the same amount. On a basis of the operating expenses, including depreciation, the expenses for maintenance of way and structures constituted 1.9 per cent; maintenance of equipment, 3.6 per cent; conducting transportation, 62.5 per cent, and general and miscellaneous, 4.5 per cent. On a basis of operating expenses, excluding depreciation, the expenses for maintenance of way and structures were 2.7 per cent; maintenance of equipment, 5 per cent; conducting transportation, 86.2 per cent and general and miscellaneous, 6.1 per cent.

The total passenger revenue per car mile was $0.34189 and per car hour $3.446. The total operating expenses per car mile were $0.15896 and per car hour $1.6024, taxes and depreciation not being included. The operating expenses, depreciation and taxes per car mile were $0.25128 and per car hour $2.533, giving a net income from operation of $0.0906 per car mile and $0.9133 per car hour. The total single track mileage is 16.18 and the number of cars owned 43. The total passengers carried numbered 9,723,177, including 8,882,996 full fare revenue passengers, 49,935 half fare revenue passengers, 49,543 revenue transfer passengers, 631,363 non-revenue transfer passengers and 110,240 non-revenue passengers.

## Westinghouse Electric & Manufacturing Company

The consolidated statement of income, profit and loss of the Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa., and subsidiary companies in the United States for the year ended March 31, 1914, follows:

| | |
|---|---|
| Gross earnings: | |
| Sales billed | $43,733,645 |
| Cost of sales: | |
| Factory cost, including all expenditures for patterns, dies, new small tools and other betterments and extensions; also depreciations of property and plant, inventory adjustments and all selling, administration, general and development expenses | 39,016,423 |
| Net manufacturing profit | $4,717,222 |
| Other income: | |
| Interest and discount | $454,999 |
| Dividends and interest on sundry stocks and bonds owned | 718,282 |
| Miscellaneous—royalties, etc. | 107,575 |
| Total other income | $1,280,856 |
| Gross income from all sources | $5,998,078 |
| Deductions from income: | |
| Interest on bonds and debentures | $1,042,192 |
| Interest on collateral notes | 591,259 |
| Interest on long term notes and mortgages | 72,554 |
| Proportion of expenses incidental to bond and note issues | 133,750 |
| Miscellaneous | 99,514 |
| Total deductions | $1,939,269 |
| Net income available for dividends and other purposes | $4,058,808 |
| Profit and loss credits: | |
| Profit and loss—surplus, March 31, 1913 | $7,348,522 |
| Profit on bonds purchased | 3,010 |
| Profit on sales of sundry investments (net) | 591,964 |
| Total credits | $7,943,496 |
| Gross surplus | $12,002,304 |
| Profit and loss charges: | |
| Dividends on preferred capital stock | $279,909 |
| Dividends on common capital stock | 1,405,989 |
| Depreciations and adjustments (net) | 2,286,589 |
| Miscellaneous | 370,687 |
| Total charges | $4,343,174 |
| Surplus, March 31, 1914, per balance sheet | $7,659,130 |

The gross earnings-sales billed amounted to $43,733,645 in 1914, a record figure for the past five years, comparing with $39,977,565 in 1913, an increase of 9.4 per cent. The cost of sales, including all selling, administrative and general expenses, increased from $35,406,293 in 1913 to $39,016,423 in 1914, an increase of 10.2 per cent; net manufacturing profits from $4,571,272 in 1913 to $4,717,222 in 1914, or 3.2 per cent; other income from $996,564 in 1913 to $1,280,856 in 1914, or 28.5 per cent, and gross income from all sources from $5,567,836 in 1913 to $5,998,078 in 1914, or 7.7 per cent. The ratio of manufacturing profit to sales billed decreased during the year on account of severe competition and depreciation charges this year included in the cost of sales. During the previous accounting period the depreciation charges were deducted from income.

Owing to a large decrease in inventory adjustments, scrap charges and bad account deductions, the net income applicable to interest and other charges showed an increase of from $4,776,448 in 1913 to $5,764,814 in 1914, or 20.7 per cent; interest charges from $1,612,416 in 1913 to $1,706,005 in 1914, or 5.8 per cent, and the net income available for dividends and other purposes from $3,164,032 in 1913 to $4,058,808 in 1914, or 28.2 per cent. The amount available for dividends amounted to 10.75 per cent on the common stock, compared with 8.2 per cent for the previous period. The value of unfilled orders on March 31, 1913, was $12,061,473; on March 31, 1914, the corresponding amount was $7,951,385. The average number of employees during the year was 18,635 as compared with an average of 20,542 for the previous year.

The surplus as of March 31, 1913, was $7,348,522. This was increased by the net income for the year and various items detailed in the statement of profit and loss to a gross surplus of $12,002,304. By charges for dividends on the preferred stock at the rate of 7 per cent, amounting to $279,909, and on the common stock at the rate of 4 per cent, amounting to $1,405,989, and by miscellaneous charges aggregating $370,687, the total surplus was reduced to $9,945,720. This surplus was so much larger than in either 1913 or 1912 that it was possible to charge off depreciation

and adjustments of investments or other assets amounting to $2,286,589, leaving a surplus as of March 31, 1914, of $7,659,130. Not only are all the foregoing figures indicative of the success of the Westinghouse Company during the past fiscal year, but they also reflect the enlarged earnings and increased prosperity of the public service corporations served by the Westinghouse products.

One of the interesting facts in connection with the balance sheet of the company is the fact that the property and plant account decreased $412 649 on account of the fact that the credits for depreciation of buildings and equipment exceeded the charges for additions to plant. The report states that it is a matter of considerable satisfaction to the company that it was able to show a large increase in the sales billed during the year and at the same time this actual net decrease in the property and plant account.

There was a net decrease in the total investments in foreign companies, chiefly accounted for by the depreciation of $1,000,000 in the book value of the debentures of the Russian Company. During the year remittances aggregating over $900,000 were received in reduction of the amount due for advances made by the American Company. Advices from the liquidator indicate that there will be realized an amount sufficiently large to pay the greater part of the present book value of the company's investment in the debentures of the Russian Company. The liquidation proceedings are progressing most satisfactorily, and it is expected that they will be completed during the current fiscal year. The reports of the British Company reflect a continued improvement, a dividend of 5 per cent on its preference shares (the first since 1904) being declared out of the results of operation for 1913. The net income of the French Company for the past fiscal year exceeded that of any previous year in its history. The Italian Company received additional orders for locomotives from the government and now has orders in hand sufficient fully to occupy its facilities during the current year.

The total of the investments in traction and power companies was reduced during the year almost $2.000,000. This was partly due to depreciations, but chiefly to the sale of the securities of the Niagara, Lockport & Ontario Power Company, resulting in a net profit over the book value as of March 21, 1913. Since the close of the fiscal year covered by the present report the directors of the company have approved the sale of the investments in bonds and a majority of the capital stock of the Scranton & Wilkes-Barre Traction Corporation, the successor to the Lackawanna & Wyoming Valley Transit Company, the reorganization of which has been previously referred to in the Electric Railway Journal. The cash to be realized from the sale of these securities is approximately the book values as of March 31, 1914, and will be used for the retirement of the two-year 6 per cent collateral notes of the company.

The total liabilities of the company showed a decrease of over $5,000.000 as compared with the previous year. Its funded debt decreased over $500,000, owing to the payment of the outstanding balance of debenture certificates due July 1, 1913, and the sinking fund payment. The five-year notes aggregating $429,500, issued to creditors under the plan for the discharge of the receivers in 1908, matured Jaan. 1, 1914, and were paid. The collateral notes aggregating $3,500,000 placed during the previous year were paid in full during the current year. An additional collateral loan of $1,250,000 was placed during the year and will be paid at maturity on June 29, 1914. The issue of three-year 6 per cent collateral notes due Aug. 1, 1913, was renewed to the extent of $3,250,000 for two years. The payment of these notes aggregating $4,500,000 will be made from the proceeds of the sale of securities and will not deplete the working cash capital of the company. Furthermore, their payment will return to the treasury a large amount of surplus securities pledged thereunder and will leave outstanding but one issue of collateral notes—namely, the ten-year 5 per cent notes due Oct. 1, 1917, amounting to $2,720,000.

### Values of New Haven Collateral

The Boston *News Bureau* says that of the various New York, New Haven & Hartford Railroad securities pledged in that company's latest financing, Central New England Railway stocks and two public utility stocks, purchased at bargain prices with the properties in a bad state of development, were advanced in value over the figure at which New Haven carries them. New York City 4s and 4¼s, as well as short term subsidiary notes endorsed by the New Haven, maintained for collateral purposes what they cost the New Haven. American Telephone stock also went in at its cost price. The value of steam railroad stocks, purchased by the New Haven above the market to serve special purposes, was marked down heavily for collateral purposes. Bonds of New York, Westchester & Boston Railway, although guaranteed by the New Haven, were likewise reduced, as was stock representing the electric railway properties in Rhode Island and Connecticut. Railroad bonds put up by New Haven as security for the notes were also generally marked down. The difference between the price paid by the New York, New Haven & Hartford Railroad for the paper of the electric railways and the value of that paper now as collateral as contained in the table prepared by the *News Bureau* is as follows:

| | Value as collateral | What N. H. paid | Dec., per cent |
|---|---|---|---|
| Rhode Island Company | 37 | 251 | 80 |
| Connecticut Company | 50 | 100 | 50 |
| Vermont Company 5s | 50 | 100 | 50 |
| Providence Securities 4s | 55 | 84½ | 35 |
| New England Investment & Securities 4s | 65 | 99½ | 35 |
| New York, Westchester & Boston 4½s | 72 | 100 | 28 |
| Providence & Danielson 5s / Seaview Railroad 5s | 66 2-3 | 85 | 21½ |
| Connecticut Railway & Lighting 4½s | 93 | 109.3 | 15 |
| New York & Stamford Railway 4s | 75 | 88½ | 15 |

**Ardmore (Okla.) Traction Company.**—The Ardmore Traction Company has been taken out of the hands of C. L. Byrne as receiver and is now owned by the Ardmore Electric Railway. The officers of the new company are: George S. Cravens, president; John F. Easley, secretary; James C. Mort, treasurer.

**Bay State Street Railway, Boston, Mass.**—The $285,000 of Boston & Northern Street Railway and $760,000 of Old Colony Street Railway 4 per cent bonds which William A. Read & Company purchased on competitive bidding are being offered by the bankers at 89 and interest to yield 4.60 per cent. These are first mortgage refunding bonds. The mortgage securing the Boston & Northern Street Railway bonds will be closed, except for refunding purposes, upon the issuance of only $2,265,000 of additional bonds, and under the Old Colony Street Railway mortgage only $1,389,000 bonds may be issued for other than refunding of prior liens.

**Buffalo, Lockport & Rochester Railway, Rochester, N. Y.**—At the annual meeting of the stockholders of the Buffalo, Lockport & Rochester Railway E. I. Edgecomb, Syracuse, was elected a director to succeed W. K. Pierce.

**Central New York Southern Railroad Corporation, Ithaca, N. Y.**—Commissioner Decker of the Public Service Commission for the Second District of New York held a hearing on May 18 upon the application of the Central New York Railroad Corporation for the approval of its first and collateral trust mortgage and the issuance of bonds and stock, amounting to more than $2,000,000; the application of the Ithaca Traction Corporation for the approval of an issue of $488,000 of its first refunding mortgage bonds and $400,000 of capital stock; and the application of Central New York Southern Railroad Corporation as to construction, exercise of franchises and transfer of franchises. These applicants are inter-related and the purposes were set forth in a lengthy explanation by Charles E. Hotchkiss, Syracuse, attorney for the applicants. Herbert A. Clark, third vice-president of the Central New York Southern Railroad Corporation, went into the details of constructing the proposed line, the terminals of which are Ithaca and Auburn. The commission reserved decision.

**Cities Service Company, New York, N. Y.**—In regard to the report that the bankrupt firm of Cramp, Mitchell & Company was heavily interested in securities of the Cities Service Company, Henry L. Doherty & Company state that the Philadelphia bankers did not hold a share of stock in any of the Doherty enterprises, and that Howard E. Mitchell, of the failed firm, had tendered his resignation as a director of the Cities Service Company some time ago.

**Cleveland (Ohio) Railway.**—The Cleveland Railway has been authorized by the Council to purchase its own stock for investment purposes. Peter Witt, street railway commissioner, explained that it was proposed to invest the unused portion of the interest fund in this manner. The company has arranged to dispose of a portion of its private right-of-way between Lexington and Superior Avenues, and a resolution has been introduced in the Council authorizing the sale of land for $12,750.

**Dallas (Tex.) Electric Company.**—Stone & Webster, Boston, Mass., are offering for sale at 96¾ and interest to yield 6.20 per cent $1,500,000 of three-year 5 per cent gold coupon notes of the Dallas Electric Company, dated June 1, 1914, and due June 1, 1917. These notes are in the denominations of $500 and $1,000, interchangeable, and may be registered as to principal. They are callable as a whole at 100 and accrued interest upon thirty days' notice. The interest is payable June 1 and Dec. 1 at the office of the American Trust Company, Boston, Mass., trustee. The proceeds from the sale of the notes will provide funds to retire the company's floating debt incurred for extensions to the carhouses and shops, to purchase additional rolling stock equipment to build an extension to the company's power station. The property at Dallas has been under the management of the Stone & Webster organization since 1902.

**Dedham & Franklin Street Railway, Westwood, Mass.**—Harry M. Verrill, Portland, Maine, and Reginald H. Johnson, Cambridge, Mass., who purchased the property of the Dedham & Franklin Street Railway, have filed a petition with the Public Service Commission of Massachusetts setting forth that the petitioners, with fifteen associates, propose, if the sale is confirmed by the court, to organize a company to be named the Dedham & Medway Street Railway, to hold, own and operate the property purchased. The petitioners ask the commission to determine the fair replacement cost of the railway and to approve an issue of capital stock to that amount. The court has since confirmed the sale.

**Delta Electric Light & Traction Company, Greenville, Miss.**—The Delta Electric Light & Traction Company is said to have concluded the negotiations which have been pending for some time for the purchase by it of the Greenville Electric Light & Street Railway, controlling the Riverside Transmission Company, the Lake Village Light & Power Company, Lake Village, Ark., and the Chicox Light & Power Company. The following are the officers of the new company: Frank Robertshaw, president of the Citizens Bank, Greenville, Miss., president; L. K. Saulsbury, Memphis, vice-president; Ralph Claggett, Greenville, Miss., secretary, treasurer and general manager. The Greenville Electric Light & Street Railway Company includes an electric light plant which supplies the entire city of Greenville and 10 miles of street railway and equipment. The Riverside Transmission Company operates a supply cable from Greenville to Arkansas and Mississippi points and supplies cotton gins, mills, etc. The Chicot Light & Power Company furnishes electric light and power for Chicot County and the Lake Village Light & Power Company supplies the city, which is located in Chicot County.

**Des Moines Railway & Light Company, Des Moines, Ia.**—The Des Moines Railway & Light Company, which is the holding company for the electric light plants in Des Moines, Oskaloosa, Colfax, Valley Junction, New Sharon, Montezuma and Prairie City, in Iowa, controlled by the McKinley interests, has filed with the Secretary of State a certificate changing the name of the company to the Des Moines & Central Iowa Electric Company and increasing the capital stock of the company from $500,000 to $1,000,000.

**Glendale & Eagle Rock Railway, Glendale, Cal.**—The Railroad Commission of California has authorized the Glendale & Eagle Rock Railway to issue $50,000 of 6 per cent first mortgage bonds to be sold so as to net the applicant 90 per cent of the par value.

**Halifax (N. S.) Electric Tramway, Ltd.**—The bill to enable the Nova Scotia Power Company to acquire the Halifax Electric Tramway, Ltd., was passed by a committee of the whole Legislature on May 14.

**Jersey Central Traction Company, Keyport, N. J.**—The Jersey Central Traction Company has authorized a new general and refunding mortgage for $5,000,000 in favor of the Girard Trust Company, Philadelphia, Pa. The new mortgage will replace a general and refunding mortgage for $1,500,000 in favor of the Fidelity Trust Company, Newark, N. J., under which $1,147,000 of bonds is outstanding and $353,000 reserved to retire a similar amount of first mortgage 5 per cent gold bonds now issued, for which the Colonial Trust Company, Philadelphia, Pa., is trustee. It is reported that part of the new issue will be sold at this time to provide funds for improvements and extensions to the property of the Middlesex & Monmouth Electric Light, Heat & Power Company.

**Menominee & Marinette Light & Traction Company, Menominee, Mich.**—The Menominee & Marinette Light & Traction Company has certified to the Secretary of State an increase in its capital stock from $1,000,000 to $1,250,000.

**Michigan Railway, Jackson, Mich.**—The Michigan Railway, created to take over the operation of the Michigan & Chicago Railroad, now under construction between Kalamazoo and Grand Rapids, Mich., organized on May 12, 1914, as follows: J. F. Collins, general manager of the Michigan United Traction Company, manager; O. W. Dobbins, secretary of the Michigan United Traction Company, secretary, and J. B. Glendeming, treasurer of the Michigan United Traction Company, treasurer of the new company. The vice-presidents of the new organization include G. W. Mechem, Battle Creek; B. C. Cobb, New York; W. A. Foote, Jackson; and Frank Silliman, Jr., Philadelphia.

**Northern Electric Railway, Chico, Cal.**—The Sacramento & Woodland Railroad and the Northern Electric Railway have joined in an application filed with the Railroad Commission asking for an order authorizing an agreement by which the Sacramento & Woodland Railroad will be operated by the Northern Electric Railway.

**United Railways Investment Company, San Francisco, Cal.**—Henry Almstedt, of Almstedt Brothers, Louisville bankers; C. H. Bean, of C. H. Bean & Company, Philadelphia; Henry J. Bowdoin, Baltimore capitalist; James D. Callery, president of the Pittsburgh Railway; Frank R. Ford, of Ford, Bacon & Davis; Sidney March, of Ladenburg, Thalman & Company; F. S. Smithers, of F. S. Smithers & Company; Edwards Whitaker, of Whitaker & Company, St. Louis, Mo., and President Mason B. Starring have been named to comprise the committee, authorized at the annual meeting of the United Railways Investment Company, which will map out a plan for readjusting the finances of the company.

**Washington (D. C.) Utilities Company.**—The Fidelity Trust Company, Baltimore, has purchased from the Washington Utilities Company $1,500,000 of one-year 5 per cent collateral trust notes dated May 1, 1914, which are being offered on a 6.25 per cent basis. The notes are secured by the deposit of 27,500 shares of common stock of the Washington Railway & Electric Company. The Washington Utilities Company agrees in the note indenture to limit the payment of dividends on its stock during the life of the notes to 2 per cent a year. The earnings of the issuing company applicable to note interest are about three times the amount required to meet the interest on the notes.

**Wilkes-Barre & Hazleton Railroad, Hazleton, Pa.**—Interest on the $1,900,000 collateral trust 5 per cent bonds of Wilkes-Barre & Hazleton Railroad, due on May 15, was not paid by the Guaranty Trust Company. The bonds are part of an authorized issue of $2,500,000 and are due May 15, 1951. In lieu of paying the interest, the company is asking the bondholders to surrender their May 15 certificates and all other certificates up to and including the Nov. 15, 1916, coupon. In return the company will issue non-interest bearing certificates for the different coupons when they become due. The company has issued a circular to the bondholders asking them to accede to the plan. The company owns the entire $1,500,000 stock and $1,500,000 first mortgage 5 per cent bonds of the Wilkes-Barre & Hazleton Railway and these securities are deposited as part collateral for the bonds on which the interest has just been defaulted. In addition the railroad company owns a large majority of the $1,000,000

capital stock of the Lehigh Traction Company. The operating companies, the Lehigh Traction Company and the Wilkes-Barre & Hazleton Railway, together operate about 52 miles of electric railway in and around the cities of Wilkes-Barre, Hazleton, Yorktown and the contiguous territory.

### Dividends Declared

American Railways, Philadelphia, Pa., quarterly, 75 cents, common.

Citizens' Traction Company, Pittsburgh, Pa., $1.50.

Manhattan Bridge Three-Cent Line, Brooklyn, N. Y., 1½ per cent.

Norfolk Railway & Light Company, Norfolk, Va., 3 per cent.

Pensacola (Fla.) Electric Company, 3 per cent, preferred.

Washington Railway & Electric Company, Washington, D. C., quarterly, 1¼ per cent, preferred; quarterly, 1¾ per cent, common.

### ELECTRIC RAILWAY MONTHLY EARNINGS

AMERICAN RAILWAYS, PHILADELPHIA, PA.

| Period | | Gross Earnings | Operating Expenses | Net Earnings | Fixed Charges | Net Surplus |
|---|---|---|---|---|---|---|
| 1m., Apr., | '14 | $433,073 | ..... | ..... | ..... | ..... |
| 1 " " | '13 | 374,986 | ..... | ..... | ..... | ..... |
| 10 " " | '14 | 4,580,747 | ..... | ..... | ..... | ..... |
| 10 " " | '13 | 4,240,713 | ..... | ..... | ..... | ..... |

ATLANTIC SHORE RAILWAY, SANFORD, MAINE

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Apr., | '14 | $25,154 | $21,818 | $3,337 | $651 | $2,686 |
| 1 " " | '13 | 23,639 | 22,155 | 1,484 | 615 | 869 |

BERKSHIRE STREET RAILWAY, PITTSFIELD, MASS.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $67,531 | *$3,972 | $16,441 | $15,931 | †$32,372 |
| 1 " " | '13 | 74,882 | *73,406 | 1,476 | 12,983 | †11,507 |
| 9 " " | '14 | 753,384 | *682,339 | 71,045 | 138,262 | †67,217 |
| 9 " " | '13 | 728,758 | *662,159 | 66,599 | 113,528 | †46,929 |

CONNECTICUT COMPANY, NEW HAVEN, CONN.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $619,684 | *$431,518 | $188,165 | $88,370 | $99,795 |
| 1 " " | '13 | 622,586 | *442,576 | 180,009 | 86,494 | 93,515 |
| 9 " " | '14 | 6,203,728 | *4,464,075 | 1,739,653 | 802,263 | 937,390 |
| 9 " " | '13 | 5,850,244 | *4,028,884 | 1,821,360 | 778,869 | 1,042,491 |

CUMBERLAND COUNTY POWER & LIGHT COMPANY, PORTLAND, MAINE

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $182,628 | *$119,754 | $62,874 | $63,543 | $669 |
| 1 " " | '13 | 171,116 | *103,150 | 67,966 | 56,808 | 11,158 |
| 12 " " | '14 | 2,388,970 | *1,367,661 | 1,021,309 | 734,602 | 286,707 |
| 12 " " | '13 | 2,178,838 | *1,214,865 | 963,973 | 661,608 | 302,365 |

GRAND RAPIDS (MICH.) RAILWAY

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $103,555 | *$66,575 | $36,980 | $13,629 | $23,351 |
| 1 " " | '13 | 106,423 | *62,229 | 44,194 | 15,063 | 29,131 |
| 12 " " | '14 | 1,299,756 | *819,257 | 480,499 | 162,918 | 317,581 |
| 12 " " | '13 | 1,255,172 | *718,972 | 536,200 | 175,728 | 360,472 |

LEWISTON, AUGUSTA & WATERVILLE STREET RAILWAY, LEWISTON, ME.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $48,720 | *$39,858 | $8,862 | $15,503 | †$6,641 |
| 1 " " | '13 | 48,595 | *32,882 | 15,713 | 14,596 | 1,117 |
| 12 " " | '14 | 674,232 | *446,630 | 227,602 | 182,207 | 45,395 |
| 12 " " | '13 | 637,244 | *390,124 | 247,120 | 173,296 | 73,824 |

NEW YORK & STAMFORD RAILWAY, PORT CHESTER, N. Y.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $22,730 | *$22,722 | $98 | $7,800 | †$7,792 |
| 1 " " | '13 | 25,035 | *23,616 | 1,418 | 7,480 | †6,062 |
| 9 " " | '14 | 275,521 | *224,679 | 50,842 | 69,494 | †18,652 |
| 9 " " | '13 | 275,234 | *248,496 | 26,738 | 64,308 | †37,570 |

NEW YORK, WESTCHESTER & BOSTON RAILWAY, NEW YORK, N. Y.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $33,394 | *$47,627 | $14,234 | $12,246 | †$26,478 |
| 1 " " | '13 | 28,567 | *44,959 | 16,392 | 13,992 | †30,384 |
| 9 " " | '14 | 317,256 | *438,679 | 121,423 | 88,236 | †209,659 |
| 9 " " | '13 | 229,830 | *416,917 | 187,088 | 115,925 | †303,013 |

PHILADELPHIA (PA.) RAPID TRANSIT COMPANY

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Apr., | '14 | $2,042,320 | $1,206,899 | $835,421 | $808,317 | $27,104 |
| 1 " " | '13 | 1,998,246 | 1,193,400 | 804,846 | 762,445 | 42,401 |
| 10 " " | '14 | 20,016,913 | 11,829,473 | 8,187,441 | 8,012,337 | 175,104 |
| 10 " " | '13 | 19,711,038 | 11,832,115 | 7,878,924 | 7,624,964 | 253,960 |

RHODE ISLAND COMPANY, PROVIDENCE, R. I.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $393,127 | *$302,571 | $90,556 | $111,264 | †$20,708 |
| 1 " " | '13 | 409,957 | *288,214 | 121,742 | 102,056 | 19,686 |
| 9 " " | '14 | 4,078,712 | *2,996,339 | 1,082,373 | 969,435 | 112,938 |
| 9 " " | '13 | 4,037,648 | *2,632,845 | 1,404,803 | 918,502 | 486,301 |

WESTCHESTER ELECTRIC RAILROAD, MOUNT VERNON, N. Y.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1m., Mar., | '14 | $16,259 | *$23,422 | $7,164 | $1,164 | †$8,328 |
| 1 " " | '13 | 18,071 | *20,364 | 2,294 | 987 | †3,281 |
| 9 " " | '14 | 185,863 | *193,549 | 7,686 | 9,907 | †17,593 |
| 9 " " | '13 | 178,570 | *188,506 | 9,936 | 7,715 | †17,651 |

*Includes taxes.
†Deficit.

# Traffic and Transportation

### Decision in Puget Sound Electric Railway Rate Case

In an order handed down on May 12 the State Public Service Commission of Washington vacated the order of the old Railroad Commission, made in April, 1910, and will allow the Puget Sound Electric Railway to file a new schedule of passenger rates to take the place of the present rates, as provided in the 1910 order. As a result, it is expected that the company will file the same rates, or nearly so, as were in effect at the time that the former commission entered the order reducing the rates in effect up to 1910. The finding of the commission shows that during the period since the order of the old commission a gradual reduction in the net earnings of the Puget Sound Electric Railway has been experienced until during the first six months of 1913, when an actual deficit was recorded in the operation of the railroad and the power and light property.

The commission sets forth that the cost of reproduction of the property of the company on June 30, 1913, would have been $4,139,490; that the actual cash investment at that date was $3,527,817; that in the year 1909, the last year that the company operated under the old rates prior to the reduction order by the railroad commission, the net earnings of the railroad property of the company were $239,000; that each year since that date a decrease has been recorded until the first six months of 1913 the net earnings amounted to only $3,886; that in the year 1909 the rate of net income on the average annual investment on the entire railroad and the light and power property, not considering depreciation of property, was 7.87 per cent; that during each succeeding year this rate of net return decreased until the first six months of 1913 showed only 0.42 per cent, and that if the customary 2 per cent be allowed for depreciation each year, the earnings during the three and a half years' operation under the orders of 1910 would have decreased from 5.87 per cent in 1909 to an actual deficit of 1.58 per cent in the first half of the year 1913.

In the findings of fact the commission cites at length and in detail the estimates made by the Railroad Commission as to the business that would be done by the company, and shows that in practically every instance these estimates have proved excessive. In this regard the findings read:

"The overwhelming evidence in this case proves conclusively that the theories upon which the Railroad Commission based its orders have not come to pass. The foundation of those orders being now shown not to exist, it follows that those orders can no longer stand. The vacation of those orders will have the effect of restoring to the company the power to establish rates for itself. It will still remain the duty of the company to establish none but just, fair, reasonable and sufficient rates, taking into consideration the value of the service as well as the cost of the service. At the hearing the company indicated its intention, if relieved from the present orders, of re-establishing the same rates put in force by the tariff of Oct. 17, 1909.

"Such a tariff will principally affect the Seattle interurban zone. The Tacoma zone will be given some decreased rates. The two zones will be placed on an equality. In neither zone will the rates per passenger-mile found reasonable for the Tacoma zone be exceeded. The through rates will remain as they are, and rates between intermediate points will be changed but little and principally by slight reductions. In permitting the schedule to go into effect, the commission does not wish to be understood as finally approving it. If any unlawful feature develops, the jurisdiction of the commission remains to correct any abuses. As to the proposed tariff: All we say is that *prima facie*, at least, it appears generally to be approximately fair, in view of the evidence in the record. We have serious doubt about the provision limiting the fifty-ticket commutation books to thirty days after date of sale. If the company in filing its tariff shall unreasonably limit as to time tickets issued to take care of suburban traffic, the commission will inquire further into that feature of the case."

A statement made by the company to the public in regard to its application to the commission for a change in the rates was published practically in full in the Electric Railway Journal of May 9, 1914, page 1059.

### Indianapolis Arbitration Board Decided Upon

An arbitration board to serve during the life of the recent award of the Public Service Commission of Indiana in the adjustment of grievances of the employees of the Indianapolis Traction & Terminal Company arising out of the strike of November, 1913, has finally been decided upon to the satisfaction of both the company and its employees. When the Public Service Commission handed down its award in the controversy over wages and working conditions, provision was made for an arbitration board to settle all matters which might arise in the future during the lifetime of the award. The power of appointing this board was delegated to the chief judge of the State Supreme Court, the chief judge of the Appellate Court, and the judge of the United States District Court. These jurists, when notified of the action of the commission, declined to appoint such an arbitration board as provided. Relations between the employees and the company became strained again, the men insisting on a three man arbitration board to be selected by the parties, and the company contending that the Public Service Commission should continue to act as arbitrators after the failure of their original plan.

Governor Ralston was appealed to and he suggested that the men name any three members of the Public Service Commission to act as a board of arbitration. The men, being directed by international officers of the Amalgamated Association, refused to accede to this plan, and at a mass meeting voted to strike on call of the union officials. Mayor Bell, of Indianapolis, promptly notified J. J. Thorpe of the Amalgamated Association that if any further trouble was caused by him in Indianapolis he would be held personally responsible and arrested. The union leaders then appealed to the Department of Labor at Washington, and Secretary Wilson sent A. L. Faulkner of the board of conciliation to Indianapolis to confer with Governor Ralston. Mr. Faulkner coincided with the Governor in the matter of naming Public Service Commissioners as arbiters, and after a conference Chairman Duncan and Commissioners John F. McClure and Charles A. Edwards were suggested to the company and the employees as a board of arbitration. The company stated its willingness to accept these men as a board of arbitration to take up such matters of dispute as might arise in the future, and after mass meetings of the employees were held they finally agreed to accept these three members of the commission as constituting an arbitration board under the award of Feb. 12.

### Railway Efficiency Department in Tacoma

O. C. Mathis, formerly claim agent of the Tacoma Railway & Power Company, Tacoma, Wash., has been appointed superintendent of efficiency, a new office created recently. The bureau will work toward presenting to the trainmen the problems which the company faces and helping them to eliminate accidents.

A safety committee has been appointed composed of about twenty employees, including twelve trainmen and representatives from the machine shops, the power, line and track departments. At meetings which are to be held once each month suggestions for eliminating dangerous practices will be taken up and acted upon. Suggestions from the employees will be secured at first hand. Cards to be used by the men in reporting anything which in their judgment will prevent accidents, lengthen the life of the equipment, lessen power consumption or better the service have been posted in numerous places on the company's property. That the full co-operation of every employee may be obtained, the officials have guaranteed to the trainmen that no information on the cards will be used as a basis for discipline. In this way the men are assured that in reporting any seemingly dangerous practices they are not endangering the position held by any fellow employee. Although the plan has been in effect only a short time, 118 practical suggestions have been turned in by the men. Two meetings of employees are to be held each month. Addresses will be made on different subjects and the suggestions for improvements received by the company will be laid before the men. Among the topics which have been discussed at the semi-monthly meeting held so far have been "Courtesy," "Loyalty," "Honesty" and "Economy." Personal appearance will be discussed at an early meeting.

In connection with this work a safety first organization, including a safety committee and headed by the superintendent of efficiency, has been organized among the employees of the Puget Sound Electric Railway, the Tacoma Railway & Power Company and the Pacific Traction Company. The safety first signs have been displayed in the Tacoma Railway & Power Company's cars for some time. A safety first club is being organized among the trainmen. Emblems bearing the Stone & Webster triskelion and the club name are being prepared. Every man with a clean accident record for a period of three months will be presented with an emblem of the club by the company.

### Readjustment of Schedules Demanded in Cleveland

On May 19 the street railway men of Cleveland, through George R. Davies, president of the local union, and W. D. Mahon, president of the Amalgamated Association of Street & Electric Railway Employees, presented their demands for a readjustment of schedules to John J. Stanley, president of the Cleveland Railway, and Peter Witt, street railway commissioner. The complaint has to do principally with the question of time men being compelled to wait at the carhouses in order to get a run. Mr. Stanley told the representatives of the men that the company operated the cars under a schedule devised by Mr. Witt to keep within the franchise allowance. Mr. Witt told the men he would recommend that the company be allowed to spend an amount of money sufficient to grant the demands of the men. A committee composed of a representative of the Amalgamated Association, a member of the local branch and a representative of the company was scheduled to meet on May 21 to consider the preparation of new schedules for all lines.

**New Schedule Between Philadelphia and Allentown.**—The new express schedule of the Lehigh Valley Transit Company between Philadelphia and Allentown, which reduces the running time by twenty minutes below the former schedule, to one hour and fifty-eight minutes, is now in effect.

**Demand for Commutation Tickets on Missouri Line.**—John Kennish, of the Missouri Public Service Commission, has been instructed to take evidence in Kansas City on May 27 in an application of residents of Clay County to require the Kansas City, Clay County & St. Joseph Railway to issue commutation tickets.

**Working Agreement in Connecticut.**—The working agreement between the officers of the Connecticut Company, New Haven, Conn., and the representatives of the men on its various divisions expires on June 1. It is expected that negotiations will soon be begun looking toward a renewal of the agreement for two years.

**Accident Fakers Sentenced.**—Julius Cohen and Frank Cohen, brothers, whose apprehension as accident fakers by the Public Service Corporation of New Jersey, Newark, N. J., was noted in the ELECTRIC RAILWAY JOURNAL of Feb. 7, 1914, page 334, have been sentenced to serve three months and from one-and-a-half to three years, respectively.

**Wage Arbitration Board in Pittsburgh.**—An arbitration board of three has been agreed upon to draw up a new contract under which the motormen and conductors of the Pittsburgh (Pa.) Railways will work. The old agreement expired on April 30. The men are asking a maximum of 35 cents an hour, with other concessions in the matter of pay for holidays and overtime.

**Knocking Down Fares.**—A few weeks ago one of the Chicago Surface Lines' standard registers disappeared from a carhouse. In the search for the lost register it was found that one of the conductors was carrying it around with him on his car in a suitcase. Between certain points on his run he would remove the regular register and replace it with the one he had stolen and ring up the fares on it.

**New Rates for Electric Parlor Car Accommodations.**—The following rates per ticket, in addition to the regular passenger fares, have been adopted by the Otsego & Herkimer Railroad, Cooperstown, N. Y., for chair, couch or seat accommodations in parlor cars running between local stations: for distances less than 40 miles, 25 cents; for distances of 40 miles or over, 50 cents. These are new rates effective on May 30, 1914, and expire on Oct. 1, 1914.

**Traffic Rules in Columbus.**—Orders concerning traffic have been issued to motormen on the Columbus Railway, Light & Power Company's lines. Traffic officers will give one blast of a whistle to denote that cars running east and west may proceed in their respective directions and that cars running north and south are to remain at a standstill. Two blasts from a whistle will permit motormen operating cars north or south to proceed. Three blasts from an officer's whistle will mean that all cars are to remain at a standstill, as an indication that a vehicle which has the right of way is coming.

**Accidents in Ohio.**—On May 13 a special car on the Cleveland, Painesville & Eastern Railway filled with members of the Pythian Sisters, left the track at the Shore Line junction, just west of Willoughby, Ohio, and after striking a pole turned over on its side. Thirty-five women and four men were injured but none seriously. On May 15 a collision occurred between a limited car on the Cleveland, Southwestern & Columbus Railway and a work train on the Lorain, Ashland & Southern Railroad at a grade crossing near Ashland. Forty laborers on the train were injured. The railroad work train consisted of a coach and two flat cars.

**Increase in Wages in Grand Rapids.**—The Grand Rapids (Mich.) Railway announced an increase of pay for its old conductors and motormen, effective on May 15. Last year the company made a general increase for all the motormen and conductors, making the scale 23 cents an hour for the first six months; 24 cents for the second six months; 25 cents for the two-year men and 26 cents for those who were in their third year with the company, or longer. At that time it was unofficially stated that if business warranted additional grades would be made for the older employees. The new schedule provides for a scale of 26½ cents for the fourth year in the service and 27 cents for the fifth year and thereafter.

**Toronto's Transportation Problem.**—Toronto's transportation problem was discussed at a meeting of the Ontario Railway & Municipal Board on May 14. Commissioner of Works R. C. Harris and others represented the city, R. J. Fleming and experts looked after the company's interests. The application of the city made many months ago to the board, asking for 350 additional cars on the company's service, was the principal subject discussed. The city's experts differed in their last report with the experts employed by the company. The railway board could not reach any decision on the data presented by the two sides, as it was so conflicting. So the board also engaged experts. It is expected that the board will hand down its finding by June 1.

**Record Traffic in Louisville.**—The Louisville (Ky.) Railway on Derby Day, the opening of the spring horse racing season hauled some 24,000 people from the city to Churchill Downs and back again, without a single mishap. This is approximately 2000 people more, or 4000 fares more, than the company ever hauled heretofore on a single similar occasion. The crush outbound was distributed between noon and 2 o'clock. To handle the crowd the company pressed 190 cars, including thirty-eight trailers, into service on the Fourth Street line, meaning that practically all of the available rolling stock was in use in the city that day. The Downs lie 4½ miles from the city proper, so the company could count on only a few cars and crews making the round trip more than once.

**Question of Free Transportation in Massachusetts.**—William A. Bancroft, president of the Boston (Mass.) Elevated Railway, in a letter to the Public Service Commission of Massachusetts under date of May 2, declares that the road does not intend to furnish any free rides this summer. This refers, it is understood, to the free service which the company has been giving in years past to charitable organizations, fresh air funds, Sunday schools and churches in the way of tickets for trips to the park systems, picnic grounds and trolley excursions. The commission some time ago requested a list of the organizations to which the company desired to furnish free or reduced rate service for charitable purposes. Similar requests were sent to all the other street railways and steam roads in the State preparatory for some ruling by the commission as to what constitute charitable purposes.

# Personal Mention

**Mr. Alvin Dunlap** has resigned as superintendent of the railway lines of the Reading Transit & Light Company, Reading, Pa., to engage in other business.

**Mr. William Loos** has been appointed superintendent of the railway lines of the Reading Transit & Light Company, Reading, Pa., to succeed Mr. Alvin Dunlap, resigned.

**Mr. C. C. Gallaher** has been appointed acting general manager of the Parkersburg, Marietta & Interurban Railway, Parkersburg, W. Va., to succeed Mr. H. H. Archer, resigned.

**Mr. C. B. King**, manager of the London (Ont.) Street Railway, was elected president of the Canadian Electric Railway Association at the meeting at Ottawa, Ont., on May 13 and 14.

**Mr. C. M. Clark**, of E. W. Clark & Company, Philadelphia, Pa., has been elected president of the Nashville Railway & Light Company, Nashville, Tenn., a subsidiary of Tennessee Railway, Light & Power Company.

**Mr. O. C. Mathis**, formerly claim agent for the Tacoma lines of the Stone & Webster Syndicate, has been appointed superintendent of efficiency, a new office, to which reference is made elsewhere in this issue.

**Mr. F. W. Hoover**, vice-president of the Chattanooga Railway & Light Company, a subsidiary of the Tennessee Railway, Light & Power Company, has been made vice-president and general manager of the Nashville Railway & Light Company.

**Mr. John Davis** has been advanced to the position of paymaster with the Illinois Traction System, Champaign, Ill. Mr. Davis was formerly clerk and stenographer with the company. Before becoming connected with the Illinois Traction System he was with the Illinois Central Railroad.

**Mr. W. B. Potter**, who has been chief clerk in the transportation department of the Illinois Traction System, Champaign, Ill., has been appointed passenger traffic agent at Springfield to succeed the late A. L. Jefferis. Mr. Potter entered the employ of the company four years ago as a timekeeper.

**Mr. Tracy Lynn**, who has been timekeeper and paymaster of the Illinois Traction System, Champaign, Ill., has been appointed chief clerk in the transportation department to succeed Mr. W. B. Potter, whose advancement to the position of passenger traffic manager at Springfield is noted elsewhere in this column.

**Mr. John E. Wilkie**, vice-president of the Chicago Railways, has in addition been appointed assistant to President L. A. Busby, of the Chicago Surface Lines. Mr. Wilkie will take up the work formerly under the supervision of Mr. Williston Fish, who resigned as vice-president of the Chicago Surface Lines, effective June 1, 1914.

**Mr. S. B. Irelan** has been appointed manager of the Bartlesville (Okla.) Interurban Railway, which operates the electric railway between Bartlesville and Dewey and also supplies electric lighting service in Bartlesville. Mr. Irelan was formerly stationed at Fremont, Neb., with H. L. Doherty & Company, who are also the owners of the Bartlesville property.

**Dean Mortimer E. Cooley**, of the engineering department of the University of Michigan, has signified to the Street Railway Commission of Detroit his inability to serve as chief counsel to the commission in connection with the appraisal of the property of the Detroit United Railway within the city. He gives as his reason the pressure of his work at the university.

**Mr. W. T. Woodroofe**, formerly superintendent of the Edmonton (Alberta) Radial Railway, is engaged in making a report upon electrolysis conditions in the city of Vancouver, B. C. This report will be presented to the city electrician. Mr. Woodroofe contributed an article on "Electrolysis Mitigation in Edmonton" to the Electric Railway Journal of April 25, 1914.

**Mr. J. G. Hayden** has been elected secretary of the Detroit Street Railway Commission. Mr. Hayden was born in Cassopolis twenty-nine years ago. He was educated in the schools of that city and attended the University of Michigan

for two years. After serving in the post office at Cassopolis Mr. Hayden engaged in newspaper work in Escanaba. He has been connected with the Detroit *News* for the last seven years.

**Mr. George Kidd**, whose appointment as general manager of the British Columbia Electric Railway, Ltd., Vancouver, B. C., was referred to briefly in the ELECTRIC RAILWAY JOURNAL of May 16, succeeds Mr. R. H. Sperling, who has been promoted to the position of assistant to the chairman of the board and has also been elected a director of the company. The field of operation of the British Columbia Electric Railway covers the southwestern portion of British Columbia and the southern portion of Vancouver Island. The system embraces a total of 303.5 miles, of which 148.7 miles is city track and 154.8 miles interurban track. The company also furnishes power for lighting and commercial purposes. Mr. Kidd has long been identified with the company, having been connected with its offices both in London and British Columbia. He was appointed secretary of the company in connection with its London work and in January, 1908, was transferred to British Columbia. He has since been located at the head office of the company in Vancouver, filling the position of comptroller.

George Kidd

**Mr. George C. Graham** has been appointed general foreman in charge of inspection of the rolling stock on the city lines of the Detroit (Mich.) United Railway. Mr. Graham resigned as master mechanic of the United Traction Company, Albany, N. Y., in January, 1910, to become superintendent of car equipment and shops of the Los Angeles-Pacific Company, Los Angeles, Cal. He has lately been engaged in work outside the railway field.

**Mr. A. F. Elkins**, auditor of the Columbus, Delaware & Marion Railway, Columbus, Ohio, has been appointed an accountant in the division of valuation of the Interstate Commerce Commission, with headquarters at Chicago. He tendered his resignation from the railway to Mr. Eli M. West, receiver of the company, to be effective May 21. Mr. Elkins has been auditor of the company for the last ten years, during nearly five of which he has been associated with Mr. West. Mr. Elkins has always been active in the affairs of the Central Electric Accounting Conference, and was elected president of the conference in 1911 in recognition of the service which he performed in his former office of secretary and treasurer of that body.

**Mr. E. C. Gaumnitz** has resigned as purchasing agent of the Puget Sound Traction, Light & Power Company, Seattle, Wash. Mr. Gaumnitz was born in St. Cloud, Minn., on Feb. 24, 1882. He went to Seattle with his parents in 1890, and was educated in the public schools. Mr. Gaumnitz entered the employ of the Western Union Telegraph Company about 1896 and remained in its employ until 1899, when he accepted a position in the office of the general superintendent of the Seattle Electric Company. After remaining in that department for a short period he was transferred to the purchasing department to assist in the purchase of supplies and take charge of the stationery stock under Mr. L. H. Bean. He was next made chief clerk to the purchasing agent, which position he held until 1904, when he was appointed acting purchasing agent. In 1905 he was appointed purchasing agent.

**Mr. Montague Ferry** has been appointed Commissioner of Public Service for the city of Chicago. The work placed in Mr. Ferry's charge results from the combination of several bureaus in the City Hall which are now dealing with public-service corporations and complaints relating to public service. An important part of the work will be the compiling of statistics which may later be valuable in the preparation of rate-regulation ordinances. Mr. Ferry has been connected with the department of gas and electricity of the city of Chicago. He is thirty-three years of age and an engineer by profession. He obtained his collegiate training in Yale University and the Massachusetts Institute of Technology. He has been connected with a number of telephone companies and at one time was in the office of McMeen & Miller, engineers, Chicago. He is an associate of the American Institute of Electrical Engineers and a member of several societies and clubs.

**Mr. Robert Colgate Wood** was nominated on May 19 by Governor Glynn as a member of the Public Service Commission for the First District of New York to succeed Mr. John E. Eustis, whose term expired on Feb. 1. The Senate confirmed the nomination. Mr. Wood is forty-four years old. He was graduated from Harvard University and has lived at Riverdale in the Borough of the Bronx practically all his life. After leaving Harvard Mr. Wood engaged in the banking and brokerage business with Mr. J. Craig Havemeyer. He was one of the organizers and a director of the New York City Interborough Railway, a crosstown surface line in the Bronx which served as a feeder to the subway and elevated lines. The company is now included as part of the system of the Third Avenue Railway. As stated in the ELECTRIC RAILWAY JOURNAL of May 16, Mr. George M. S. Schulz, the first nominee of Governor Glynn for the position, declined the appointment.

**Mr. J. K. Punderford**, whose appointment as vice-president of the Connecticut Company, New Haven, Conn., in addition to general manager, was noted briefly in the ELECTRIC RAILWAY JOURNAL of May 16, has been identified with electric railway work for twenty-two years. He was graduated from Sheffield Scientific School in 1892. Upon graduation he entered the employ of the Winchester Avenue Railroad in New Haven, Conn., and assisted in equipping the power station and later operating the plant. He left the service of the Winchester Avenue Railroad and entered the expert course of the General Electric Company, Schenectady. He next entered the employ of the New Haven Street Railway in the track department and later was engaged in equipping the cars. In 1894 he resigned from the New Haven Street Railway to enter the track department of the Fair Haven & Westville Railroad, New Haven, and in 1901 took over the supervision of the shop and line work. In the spring of 1903 he was appointed general manager of the Fair Haven & Westville Railroad, which took over all the other street railways operating in New Haven. When the electric railways in New Haven were purchased by the New York, New Haven & Hartford Railroad in 1904 Mr. Punderford continued in the same capacity, his office being made to cover all the electric railway properties acquired by the New Haven road in Connecticut and New York State.

J. K. Punderford

**Mr. F. M. Hamilton**, who has been freight traffic agent of the Seattle division of the Puget Sound Traction, Light & Power Company, has been appointed purchasing agent of the company to succeed Mr. E. C. Gaumnitz, resigned. Mr. Hamilton was born at Grafton, W. Va., on Oct. 15, 1875, received a graded and high school education and continued his studies under a private tutor. He studied medicine for two years, but abandoned the idea of becoming a physician to enter the service of the Baltimore & Ohio Railroad. From 1900 to 1905 he was with the Jones & Laughlin Steel Company, Pittsburgh, Pa., which owns and operates the Monongahela Connecting Railroad, successively filling the positions of yardmaster, assistant trainmaster, special agent and chief clerk to the general superintendent. Mr. Hamilton resigned from the Jones & Laughlin Steel Company to become manager of the American Car Tracing & Shipping Company, a private traffic organization. He removed to

Seattle in 1907 and worked jointly for the Northern Pacific Railroad and the Pacific Northwest Demurrage Association, resigning to accept the appointment of traffic manager for the Alaska-Yukon-Pacific Exposition. At the close of the exposition Mr. Hamilton became assistant sales agent for the Roslyn Fuel Company, covering the States of Idaho, Oregon and Washington. Mr. Hamilton was appointed freight traffic agent of the Seattle division of the Puget Sound Traction, Light & Power Company on Sept. 1, 1911. Sound Traction, Light & Power Company in September, 1911.

**Mr. George W. Knox**, president-elect of the Gas, Electric & Street Railway Association of Oklahoma, is vice-president and general manager of the Oklahoma Railway, which operates the street and interurban electric railways of Oklahoma City and vicinity. He is also president of the Knox-Heskett Engineering Company, Chicago, and is largely interested in the Chisholm (Minn.) Electric Lighting Company, of which he is a director. Mr. Knox's experience in the electric railway and lighting field dates from the pioneer days of the late '80s. He was graduated from the Northern Illinois College in 1885. He first engaged in steam railroad work, but in 1887 he was employed by the old Thomson-Houston Company to install the street railway system at Omaha, Neb. Two years later he joined the staff of the Sprague Electric Company, Chicago, but in 1891 his services were engaged by the Edison General Electric Company, and for the latter he carried out the complete electrification of the horse-car lines in Milwaukee. In 1892 he converted the battery driven street railway system in Dubuque, Ia., to the overhead trolley. Returning to Chicago he next superintended the electrification of the 160 miles of track of the Chicago City Railway, and then continued as electrical and construction engineer of the company until 1899. In 1901 he organized the Knox Engineering Company, Chicago, the name of which has been since changed to the Knox-Heskett Engineering Company. Among the executive positions which Mr. Knox has held in the electric railway and lighting fields are those of president of the Choctaw Railway & Light Company, McAlester, Okla., and general manager of the Freeport Railway & Light Company, Freeport, Ill. Mr. Knox in 1901 made the original study and report on the Oklahoma electric railway situation which resulted in the construction of the present modern system. He first acted as consulting engineer during the construction period, but in July, 1911, transferred his headquarters to Oklahoma City, becoming vice-president and general manager of the system. Mr. Knox is a member of the American Institute of Electrical Engineers and of the American Electric Railway Association. During 1913 he served on the committee on power generation of the latter association, and is this year a member of the committee on taxation of that association.

G. W. Knox

### OBITUARY

**Alva A. Jefferis**, who has been passenger traffic manager for the Illinois Traction System in Springfield since May, 1912, died recently of Bright's disease at St. John's Hospital in Springfield. Mr. Jefferis began his railroad work with the old St. Louis & Chicago Railroad at Thomasville, Ill., in 1887. In 1889 he became agent of the same road at Litchfield, and two years later accepted a position as secretary of the Litchfield Brick & Tile Company. Later he took up railroad work again at Waverly and Jacksonville, Ill. For more than twenty years he served the Chicago, Peoria & St. Louis Railway, beginning as agent at Jacksonville. Later he was made chief clerk in the passenger department of the company in St. Louis, but left in 1912 to join the Illinois Traction System.

# Construction News

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

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

### RECENT INCORPORATIONS

**San Francisco & Northern Railway, San Francisco, Cal.**—Application for a charter has been made by this company, presumably to succeed the Petaluma & Santa Rosa Railway, and to build a 42-mile electric railway from Point San Quentin, Marin County, to Santa Rosa, giving Richmond and the rest of the east shore connection by ferry and rail with the north of bay region. Capital stock, $2,500,000. Incorporators: Allen L. Kittle, Ross; Archibald Borland, Oakland; Frank A. Brush, Santa Rosa; William L. P. Jackson, San Francisco, and John C. Kittle, Ross. [E. R. J., March 21, '14.]

***Tennessee Traction & Light Company, Nashville, Tenn.**—Incorporated in Tennessee to build an electric railway. Capital stock, $10,000. Incorporators: R. G. Sparrow, S. E. Godwin, W. H. Parrish, Jr., C. H. Smith and J. N. Vaughan.

### FRANCHISES

**Montgomery, Ala.**—The Alabama Traction Company has asked the Council for a thirty-year franchise in Montgomery.

**Fresno, Cal.**—J. B. Rogers, promoter of the Fresno Interurban Railway, has received a franchise from the Board of Supervisors for a ½-mile line along Fresno Avenue from the city limits in Fresno to a point on Mahoney Avenue in Fresno. After extending ½ mile out Fresno Avenue the line will turn and run on private right-of-way to the Esmeralda vineyard. Later it is the intention of the promoter to continue the railway on private right-of-way to Clovis.

**Lafayette, Ind.**—The Lafayette & Northwestern Traction Company has asked the County Commissioners for a franchise through White, Newton, Jasper and Benton Counties. This is part of a plan to build an electric line from Lafayette to Kankakee via Wolcott, Remington and Rensselaer. G. J. Thomson is interested. [E. R. J., May 9, '14.]

**Clarksdale, Miss.**—The citizens of Clarksdale have asked the Council for a twenty-five-year franchise to build an electric railway in Clarksdale. This is part of a plan to build an electric line to connect Lyon, Clarksdale and Friars Point, Miss. No names are yet given of those interested in the project. [E. R. J., May 2, '14.]

**Orange, N. J.**—The Public Service Railway has received the approval of the Mayor for a franchise for an extension of the Central Avenue line in Orange.

**Middletown, Ohio.**—The Dayton, Middletown & Cincinnati Railroad has received a twenty-five-year franchise from the Council in Middletown. J. G. Miller, Westchester, Ohio, president. [E. R. J., April 25, '14.]

**Astoria, Ore.**—The Pacific Power & Light Company has asked the Council for a franchise to extend its line 1 mile in Astoria to the top of Smith Point.

**New Hope, Pa.**—The Bucks County Electric Railway has received a franchise from the Council for an extension on North Main Street in New Hope.

**Spokane, Wash.**—The Spokane & Inland Empire Railroad Company has received a franchise from the Council over certain streets in Spokane.

**Dallas, Tex.**—John T. Jones and associates have received a franchise from the Council for an electric railway on Fitzhugh Avenue from Columbia Avenue to Grand Avenue in Dallas. [E. R. J., May 2, '14.]

**Fulton, W. Va.**—The West Virginia Traction Company has received a franchise from the Council of Fulton, W. Va., to make the necessary improvements to its line on Bow Street in Fulton.

### TRACK AND ROADWAY

**British Columbia Electric Railway, Vancouver, B. C.**—Material is being assembled for the extension of this company's line from Burnside Road to Harriet Road in Victoria, B. C. It is planned to begin work soon.

**Northern Electric Railway, Chico, Cal.**—Plans are being prepared by this company to resume work on its line in Vallejo. A large quantity of ties and rails is to be sent to Vallejo, and track laying will be begun.

**Fresno (Cal.) Interurban Railway.**—J. B. Rogers, president of this company, recently asked the County Commissioners on behalf of the company for permission to issue $48,000 of common stock and $120,000 of ten-year 6 per cent bonds. He stated that Mahoney Brothers, the contractors, had agreed to accept the proposed stock issue at 80 and the bonds at 90, and build the line, which will be 9 miles long, with one terminal at the Belmont and Fresno Avenues in Fresno, and the other at the Southern Pacific Railway yards at Clovis.

**Pacific Electric Railway, Los Angeles, Cal.**—This company has purchased nearly the entire right-of-way between Lordsburg and North Pomona for the cutoff on the San Bernardino line, and the work of clearing it is in progress. This cutoff is to leave the Pomona division at the LaVerne Heights packing house, passing through the Yorba and Lord acreage tracts and paralleling the Santa Fé Railroad tracks eastward. By thus avoiding the detour to Pomona a saving of twenty minutes in running time between San Bernardino and Los Angeles will be effected.

**Marin County Electric Railway, Mill Valley, Cal.**—Surveys have been completed by this company for 1¼ miles of its line from Cascade Reservations to the Northwestern Pacific Railroad depot. Grading will be begun within the next sixty days. Headquarters: 320 Market Street, San Francisco, W. Wesley Hicks, 320 Market Street, San Francisco, chief engineer. [E. R. J., May 2, '14.]

**Oakland, Antioch & Eastern Railway, Oakland, Cal.**—Plans are being considered by this company to straighten its line in Ygnacio Valley between Walnut Creek and Concord.

**Mexico & San Diego Railway, San Diego, Cal.**—Surveys have been completed on the 3-mile section of this railway from Imperial Beach to International City, and 2.53 miles of track laid. This 17-mile line will connect National City, Chula, Vista, South San Diego, Imperial Beach and International City. E. S. Babcock, San Diego president. [E. R. J., May 3, '13.]

**San Francisco-San Mateo Right-of-Way Company, San Mateo, Cal.**—This company, which was organized by the San Mateo County Development Association to build an electric railway from San Francisco to Palo Alto, has elected the following officers: H. C. Tuchsen, Redwood City, president; D. G. Doubleday, Millbrae, vice-president; E. M. Moores, Burlingame, treasurer, and F. Eksward, secretary. [E. R. J., May 16, '14.]

**Waterbury & Milldale Tramway Company, Waterbury, Conn.**—The Public Utilities Commission has approved the method of construction for an extension from Byram Road, over the Meriden-Southington turnpike to the top of Southington Mountain, thence across the turnpike by a bridge and into the towns of Cheshire and Wolcott.

***Wilmington, Del.**—A company is being formed in Wilmington to be operated in connection with the Wilmington & Philadelphia Traction Company, to build electric lines in various sections of Wilmington. No names are yet given of those interested in the project.

**Savannah (Ga.) Electric Railway.**—This company is asked to consider plans to build an extension to White Bluff, Rose Dhu and adjacent points.

**Illinois Traction System, Peoria, Ill.**—This company is asked to consider plans for a branch line from Georgetown out to the new mine.

**Kankakee & Urbana Traction Company, Urbana, Ill.**—This company is now setting 5 miles of poles between Rantoul, Ill., and Ludlow, Ill., and is soon to begin with the overhead work. It is thought that this line will be constructed from Rantoul to Paxton this year, a distance of 10½ miles.

**Evansville & New Harmony Traction Company, Evansville, Ind.**—Surveys will be begun at once by this company on its line from Evansville to New Harmony, a distance of 30 miles. It is said it is the intention of the promoters to extend the line from New Harmony to Mt. Carmel, a short distance, in order to connect with the traction line that is now being built from Mt. Carmel to Olney. It will be necessary to build a bridge across the Wabash River at Mt. Carmel, Ill. W. F. Laubscher, Evansville, is interested. [E. R. J., May 2, '14.]

**Public Utilities Company, Evansville, Ind.**—During the next few weeks this company plans to relay its line on Second Avenue in Evansville with 100-lb. rails.

**Indianapolis & Delphi Traction Company, Indianapolis, Ind.**—Arrangements are being made by this company to secure financial backing in order to begin the construction of this line to connect Delphi, Flora, Burlington and Sheridan in the near future. Henry L. Smith, general manager. [E. R. J., Dec. 6, '13.]

**Terre Haute, Indianapolis & Eastern Traction Company, Indianapolis, Ind.**—Plans are being made by this company to extend its line on South Eighth Street from H Street to Beallview Park, and on Nineteenth Street from North E Street into Morton Park in Richmond.

**Keokuk (Ia.) Electric Railway.**—Materials have been ordered and arrangements are being made to begin work at once on the extension of the McKinley Avenue line in Keokuk to the baseball park, a distance of 1 mile.

***Jeffersontown, Ky.**—Right-of-way for a projected new electric line from Jeffersontown, where connection could be had with the Louisville & Interurban Railway line, to Taylorsville, the county seat of Spencer county, has been pledged by practically all of the property owners who would be concerned, according to I. F. Jewel, Taylorsville, who is engaged on the project. The line would extend for something like 25 miles and it is asserted that an Eastern company has agreed to build it.

**Maysville Street Railroad & Transfer Company, Maysville, Ky.**—The new West End loop of this company in Maysville has been completed and will soon be placed in operation.

**Bangor Railway & Electric Company, Bangor, Maine.**—Improvements that will mean the expenditure of nearly $200,000 will be made this year by this company and controlled companies. The directors have voted to expend $191,063, and the items have been apportioned among the Bangor Railway & Electric Company, Bar Harbor & Union River Power Company, Bangor Power Company, and Orono Water Company, for the installation of the latest equipment and improvements in other particulars.

**Brandon (Man.) Municipal Railway.**—The Council in Brandon has decided to connect two of the existing routes in Brandon and make them into a loop line, the distance is only 2000 ft. The other work it proposes to do is to put down heavier rails for a distance of twelve blocks where it is planned to pave the street.

**Massachusetts Northeastern Street Railway, Haverhill, Mass.**—This company has bought from the Granite State Land Company of Hampton, for $75,000, the nearly mile-long bridge which spans the mouth of Hampton River.

**Detroit (Mich.) United Railway.**—Work has been begun at Junction Avenue and Fort Street by this company on the construction of the 16-mile workingmen's belt line in Detroit.

**Michigan United Traction Company, Jackson, Mich.**—This company is asked to consider plans to extend its Washington Avenue line in Battle Creek to Washington Heights.

**Muskegon-Casnovia Land & Development Company, Muskegon, Mich.**—A conference of the stockholders of this company will soon be held to organize a company to construct a 67-mile electric railway from Muskegon to Stanton, Saginaw, Egelston, Moorland and Casnovia. The course of the route has been mapped out and all the right-of-way secured. Norman B. Lawson, Muskegon, is interested. [E. R. J., Feb. 28, '14.]

**Park Point Traction Company, Duluth, Minn.**—During the next two weeks this company will award contracts to rebuild 3000 ft. of main track in Duluth.

**Electric Short Line Railroad, Minneapolis, Minn.**—This company has accepted the subscriptions voted by the township of Lake Crystal and will build its line through Lake Crystal in the near future. It is also considering plans to build a line through Butternut and Lincoln.

St. Louis & Jennings Railway, St. Louis, Mo.—A branch line along Helen Avenue from near Jennings to Pine Lawn, a distance of 2½ miles, is being built by this company. Another branch from Jennings to a connection with the Broadway line at Baden is being projected.

Springfield (Mo.) Traction Company.—Plans are being considered by this company for an extension of its Center Street line to the new State Pythian home in Springfield.

*Billings, Mont.—A. J. Showalter, Billings, and associates are making plans to build a 55-mile electric railway in Carbon and Stillwater Counties via the towns of Lindsay, Luther and Absarokee.

New York State Railways, Rochester, N. Y.—During the summer this company plans to build about 3½ miles of new track on the Solvay line, using 91-lb. rails with creosoted pine ties, sandstone block pavement with specially cut granite block next to rail, and concrete foundation under pavement 6 in. thick.

Cape Breton Electric Company, Sydney, N. S.—Plans are being made by this company for a line to Florence.

Dayton, Middletown & Cincinnati Railroad, Middletown, Ohio.—Surveys have been completed by this company for the section of its line from Middletown to Cincinnati, 32 miles, and surveys are now under way from Dayton to Middletown, 20 miles. It is expected to begin grading early in the summer. Estimates on all work and material being worked out by J. G. Miller, the company's engineer. E. H. McKnight, 328 Main Street, Middletown, chief engineer. [E. R. J., April 25, '14.]

Tulsa (Okla.) Railway.—Plans are being made for a new loop in Tulsa that will extend around Central Park, Belleview School and near Oaklawn Cemetery.

*Berlin, Ont.—Surveys are being made for the proposed Hydro-Electric Radial Railway from Berlin to Woodstock via New Dundee and Tavistock. After completing that route surveys will be made on the Berlin, Wellesley, Elmira proposed routes.

*Brampton, Ont.—A meeting of the Board of Trade was held on May 11 when the matter of a Hydro-Electric Radial Railway from Brampton to Toronto was discussed. A committee of Messrs. Wegenast, Beck and Dawson was appointed to ask the Hydro-Electric Power Commission of Ontario regarding this proposed line. It is the intention of the Board of Trade to endeavor to induce the people of Brampton and of the other municipalities through which the railway will pass, to construct a line from Brampton to connect with the proposed line from Guelph to Toronto.

Kingston, Portsmouth & Cataraqui Electric Railway, Kingston, Ont.—Plans are being made by this company to double track its line on Princess Street in Kingston at once.

Oshawa (Ont.) Railway.—This company is now building a 1000 ft. siding in Oshawa.

Sudbury-Copper Cliff Suburban Electric Railway, Sudbury, Ont.—Surveys have been made for the proposed routes of an electric railway at Sudbury to be constructed between Sudbury and Copper Cliff. For about 1 mile through the town limits, where a concrete base is to be laid, the track will be of permanent construction, with girder rails set in cement. The remainder of the line will be of ordinary T rail and tie construction. L. L. Forest, Sudbury, is interested. [E. R. J., May 2, '14.]

Pacific Power & Light Company, Astoria, Ore.—Work will be begun at once by this company on the extension of its lines in Astoria around Smith's Point to Hammond mill.

Nashville, Chattanooga & St. Louis Railway, Nashville, Tenn.—It is stated that this company plans to extend its line from Lebanon by way of Watertown, Alexandria, Liberty and Smithville to Sparta and operate cars between these towns and between Lebanon and Nashville. This announcement followed the presentation to the Lebanon Board of Commissioners of an ordinance granting the railroad a right-of-way over South Cumberland Street, one block from the public square in Lebanon.

Southern Traction Company, Dallas, Tex.—Plans are being considered by this company for an extension south from Waco to Austin. If this extension is made, a different route will be selected from that which is to be occupied by the Southwestern Traction Company.

Dallas-Denton Interurban Railway, Dallas, Tex.—This railway, projected and surveyed by a company composed of business men of both Fort Worth and Denton, has been sold conditionally to the Stone & Webster syndicate, and the papers will be signed soon. This is part of a plan to build an electric railway to connect Dallas, Denton, Carrollton, Lewisville, Grapevine and Irving. [E. R. J., July 12, '13.]

Galveston, Harrisburg & San Antonio Bay Railway, Houston, Tex.—Work has been begun by this company for a 12-mile extension which will connect with the main line at Strang and extend through Morgan's Point, Laporte, Seabrook and along the Bay Shore so as to furnish quick communication with Houston. The company will operate gasoline motor cars over this line.

McKinley, Bonham & Paris Interurban Railway, McKinley, Tex.—Financial arrangements have been made by this company to begin surveys and securing right-of-way for its 74-mile electric railway between McKinley, Bonham and Paris. Officers: L. A. Scott, president; R. L. Waddell, vice-president; J. W. Russell, Bonham, treasurer and Mark McMinnis, Bonham, secretary. [E. R. J., May 16, '14.]

San Antonio, San Jose & Medina Interurban Railway, San Antonio, Tex.—This company will build a 100-ft. span bridge across the Medina River in connection with its 15-mile line between San Antonio, San Jose and Kirk. A. D. Powers, San Antonio, president. [E. R. J., May 9, '14.]

Southwestern Traction Company, Temple, Tex.—This company is making extensive repairs to its line on Seventh Street and Avenue G. New ties and ballast are being placed and the tracks straightened. All of the lines within the city limits will be placed in first-class order as soon as the material and location of paved streets in Temple has been decided by the citizens' committee.

Uvalde & Northern Railroad, Uvalde, Tex.—Preliminary arrangements are being made to build this 55-mile railway from Uvalde to Barksdale, via Nuesces Canyon. A branch line will be built to the Kaolin mines near Leakey, in Real County. L. J. Wardlaw, Sonora, Tex., is interested. [E. R. J., April 4, '14.]

Logan (Utah) Rapid Transit Company.—Plans are being made to begin grading immediately for a line from Brigham to Colliston, from Colliston to Smithfield, from Smithfield to Lewiston, Utah, and on to Preston, Idaho. Work will begin at Colliston and Smithfield simultaneously.

*Virginia-Blue Ridge Railway, Lynchburg, Va.—Plans are being considered to build a 25-mile electric railway along the Tye River and Piny River via Lowesville, with the terminus at Massie's Mills in Nelson County. Application for a charter will soon be made.

Washington Electric Railway, Chehalis, Wash.—Surveys are being made by this company for a 10-mile extension from its present terminus on Newaukum Prairie into eastern Lewis County. Two possible routes are under consideration, one being to continue the present survey over Jackson Hill to Ethel, thence easterly to Salkum; the other being to turn east on Newaukum Prairie and go up the Newaukum River by way of the proposed mill of the Onalaska Lumber Company, to a point northerly from Salkum, 2 or 3 miles. A decision will be made during the month.

Ohio Valley Electric Railway, Huntington, W. Va.—This company plans some new track construction this season. Contracts for sand and gravel have been let.

Morgantown & Dunkard Valley Railroad, Morgantown, W. Va.—Work has been begun on the extension from Cassville to Blacksville, a distance of 13 miles.

Janesville & Madison Traction Company, Madison, Wis.—Right-of-way has been secured by this company on its line from Madison to Stoughton. This line will extend from Madison to Janesville, and to Edgerton, Stoughton, McFarland, Hoboken Beach and around the eastern part of Lake Monona to Last Chance in Fair Oaks, where it will connect with the lines of the Southern Wisconsin Railway. It is said that arrangements are being made to run its cars into Madison over the lines of the Southern Wisconsin Railway. G. Pickardt, 409 Washington Building, Madison, president. [E. R. J., April 18, '14.]

### SHOPS AND BUILDINGS

**Louisville (Ky.) Railway.**—This company is in the process of moving into its new shops at Twenty-ninth Street and Broadway, vacating the old shops at Eighteenth and Walnut Streets. The paint and carpenter departments of the shops have already been moved to the new quarters and the men are at work. The company is now engaged in the transfer by degrees of the machinery from the old repair shop to the new, which will require about two weeks longer. The new shops are complete in every way and all the machinery is electrically operated.

**Brandon (Man.) Municipal Railway.**—This company began the construction of a new carhouse last fall, but only the frame was completed before the winter set in, so that the cars could be housed. The fitting up of the machine shop, offices, etc., is now about completed. The total cost will be about $35,000.

**Springfield (Mo.) Railway.**—This company has awarded the contract to the W. W. Lindsay Company, Philadelphia, to build new carhouses at Clifton Street and East Street in Springfield.

**Binghamton (N. Y.) Railway.**—Plans for the construction of a new carhouse on State Street, north of the company's present carhouse and extending to Eldredge Street in Binghamton, is being planned. The structure will be of brick and fireproof construction, several hundred feet long and will practically double the present facilities. Several pits are t obe constructed in the present carhouse in State Street in order that this may be made the principal repair shop for the entire system.

**Bucks County Electric Railway, Trenton, N. J.**—Plans are being made by this company to build a new freight station on North Main Street in New Hope, Pa.

### POWER HOUSES AND SUBSTATIONS

**Shore Line Electric Railway, Norwich, Conn.**—This company will install new substation apparatus at New London, Conn., and has ordered two 500-kw rotary converters, two 165-kva transformers and a switchboard from the General Electric Company.

**Chicago (Ill.) Surface Lines.**—This company proposes to install considerable additional equipment in its substations comprising three 4000-kw rotary converters, three 4200-kva air-blast transformers with three 20,000 cu. ft. blower sets, three 600-kva reactances and switchboard panels. All of this equipment has been contracted for with the General Electric Company.

**Danville Gas, Electric Light & Street Railway Company, Danville, Ill.**—It is believed that this company is preparing to construct a dam across the Vermilion River at Danville. For a number of weeks engineers have been working along the stream and in the bottom lands along the stream ascertaining how much land would be inundated and how much land, if any, would have to be purchased. Options have been secured, it is said, upon all land which will be affected should the stream be dammed.

**Bangor Railway & Electric Company, Bangor, Maine.**—Among the improvements planned by this company during the summer will be new water wheels and generators at the Veazie power house. The cost is estimated to be about $28,500.

**Winnipeg, Selkirk & Lake Winnipeg Railway, Winnipeg, Man.**—Contracts will soon be awarded by this company to build a new power house at Stony Mountain. The structure will be of stone or concrete construction.

**Metropolitan Street Railway, Kansas City, Mo.**—This company will place in operation in its power station a new 10,000-kw Curtis turbo-generator and has awarded the contract to the General Electric Company to build and install the unit.

**New Midland Power & Traction Company, Cambridge, Ohio.**—This company will add to its substation equipment a 300-kw, two-unit, three-bearing synchronous motor-generator set. The machine has been ordered from the General Electric Company.

**Oshawa (Ont.) Railway.**—This company has installed a 300-kw motor generator set in its power house in Oshawa. The apparatus was purchased from the Westinghouse Electric & Manufacturing Company.

# Manufactures and Supplies

### ROLLING STOCK

**Havana Central Railroad, Havana, Cuba,** is in the market for six motor coaches and six third-class coaches.

**Yazoo & Mississippi Valley Railroad** is having six gasoline-electric motor cars built by the General Electric Company.

**Trenton, Bristol & Philadelphia Street Railway, Philadelphia, Pa.,** has ordered five double-truck 20,000-lb. car bodies from The J. G. Brill Company.

**Bristol (Tenn.) Traction Company** is reported as expecting to buy new cars for operating the Holston Valley Railroad, which it is converting to electric motive power.

**Central Illinois Traction Company, Mattoon, Ill.,** has purchased two single-end double-truck, steel underframe, 48-ft. closed cars from the McGuire-Cummings Manufacturing Company, to be equipped with four 65-hp motors.

**Niagara, St. Catherine's & Toronto Railway, St. Catharines, Ont.,** has ordered six pay-as-you-enter cars for its Wesley Park Division, delivery of which will be made about June 1. This order is in addition to the order for six interurban cars, which was noted in the ELECTRIC RAILWAY JOURNAL of Feb. 7, 1914.

**Springfield (Ill.) Consolidated Railway** is expecting to purchase twelve double-truck open Brill city cars, which will be placed in summer use on the company's lines not later than June 15. The cars will have a seating capacity of 84 persons and will be equipped with National air brakes and two GE-57 50-hp motors, capable of negotiating a 15 per cent grade and 40 per cent overload. This additional equipment will be required in order to handle increased patronage expected because of the State fair and other conventions to be held in Springfield.

**Philadelphia & Garrettford Street Railway, Upper Darby, Pa.,** noted in the ELECTRIC RAILWAY JOURNAL of Feb. 21 as having ordered five closed double-truck interurban cars from the Jewett Car Company, has specified the following details for this equipment:

| | |
|---|---|
| Seating capacity.....48 | Bumpers .....Hedley |
| Bolster, centers, length, 23 ft. 4 in. | Control, type ..GE type MK |
| Length of body..33 ft. 6 in. | Couplers .....Tomlinson |
| Length over vestibule, 44 ft. 6 in. | Curtain fixtures, Cur. Sup. Co. |
| Width over sills...8 ft. 7 in. | Curtain material...Pantasote |
| Width over all....8 ft. 10 in. | Hand brakes..Jewett vertical |
| Height, rail to sills..37⅛ in. | Heaters .....Consol. |
| Height, sill to trolley base, 9 ft. 2 in. | Motors, GE No. 203, inside hung |
| Body .....wood | Sanders.....De France air |
| Interior trim.....mahogany | Sash fixtures .....Edwards |
| Headlining .....Agasote | Seats .....Hale & Kil. |
| Roof .....monitor | Trucks .....Baldwin K |
| Underframe .....steel | Ventilators .....Jewett |
| Air brakes .....West. | Special devices, Edwards trap doors |
| Axles .....Baldwin | |

**Trenton & Mercer County Traction Corporation, Trenton, N. J.,** noted in the ELECTRIC RAILWAY JOURNAL of Feb. 28 as having ordered ten closed passenger cars from The J. G. Brill Company, has specified the following details for these cars:

| | |
|---|---|
| Seating capacity.....48 | Fenders or wheelguards, Philadelphia type |
| Length of body...31 ft. 4 in. | Gears and pinions.solid gears |
| Width over sills..7 ft. 8½ in. | Gongs..Brill dedenda, 12-in. |
| Width over all.....8 ft. | Hand brakes.....Ackley |
| Height, rail to trolley board .....11 ft. 9 in. | Heaters .....Consol. |
| Body .....wood | Headlights.El. Serv. Sup. Co. |
| Interior trim.....bronze | Motors, 2 G.E.-210, outside hung |
| Headlining .....Agasote | Registers, Sterling-Meaker No. 15 |
| Roof .....monitor | Sanders .....DeWitt |
| Underframe .....metal | Sash fixtures.....Brill |
| Air brakes.....West. | Seats...Hey. Bros. & Wake. |
| Axles .....heat treated | Seating material.....cane |
| Bumpers .....Brill | |
| Cables .....G.E. | |

| | |
|---|---|
| Couplers | Hovey |
| Curtain fixtures | Natl. L.W. |
| Curtain material | Pantasote |
| Destination signs | Hunter |
| Retrievers | Earl |
| Trolley base | U. S. |
| Trucks, type | Brill 39E |
| Wheels | cast iron |

## TRADE NOTES

**Meirowsky Brothers**, Jersey, N. J., have removed their offices to 106-108 Broadway, Jersey City.

C. P. Williams, recently of the National Lock Washer Company, has become connected with The Efficiency Company, Railway Exchange, Chicago, Ill.

**Pennsylvania Steel Company**, Philadelphia, Pa., at a meeting of its directors on May 15 re-elected E. C. Felton as president. W. H. Donner was appointed chairman of the board.

**Flint & Chester, Inc.**, New York, N. Y., have been appointed selling agents for the National Graphite Lubricator Company, Scranton, Pa., for the East, including the railroads which are in the territory north and east of Buffalo and Baltimore.

Robert W. Hunt, of Robert W. Hunt & Company, Chicago, Ill., at the meeting of the council of the International Association for Testing Materials lately held in Turin, Italy, was selected one of the vice-presidents of the association.

**Clark Electric & Manufacturing Company**, New York, N. Y., has appointed L. I. Clark assistant engineer. Mr. Clark has wide experience in the testing out of transformers, circuit-breakers, insulators and other high-tension material. He will represent the company on outside work, both in New York and elsewhere.

**Swedish General Electric Company** is the new name adopted by Kilmer, Pullen & Burnham, Ltd., 1009 Kent Building, Toronto, Can. It was believed that it conveyed a better idea as to the business the company is conducting, that is, that of suplying Swedish generators, motors and other electrical apparatus, for which there is an increasing demand. Frank Pullen is president.

**Esterline Company**, Indianapolis, Ind., has appointed the firm of Walker & Smith, Baltimore, Md., as factory representatives for the sale of "Golden Glow" headlights for the states of Maryland, Virginia, North Carolina, South Carolina, Georgia and Alabama. This firm will have charge of the sale of these headlights for street railways, steam railroads, steamships and for industrial purposes.

**General Electric Company**, Schenectady, N. Y., has received orders for the following equipment: Northern Texas Traction Company, four GE-73, 75-hp, two-motor car equipments; Northern Ohio Traction & Light Company, five GE-204, 75-hp, four-motor car equipments; Columbus Railway, Power & Light Company, twenty-two air-brake equipments with CP-27 compressors; Tacoma Railway & Power Company, five GE-233, 80-hp, two-motor equipments and five CP-27 air compressors; Virginia Railway & Power Company, thirteen air-brake equipments with CP-27 compressors; Twin City Rapid Transit Company, twenty GE-200, 40-hp, four-motor equipments and twenty straight air-brake equipments with CP-25 compressors.

**Gun-crete Company**, Chicago, Ill., has opened its new offices in the McCormick Building. This firm specializes in cement-gun work for engineering, industrial and mining structures. The cement-gun process is of value for street railway construction and reconstruction work, and for waterproofing and fireproofing purposes. This material is also used for the encasing of steel bridges as rust and fire protection. It also reduces noise and vibration in such structures and is therefore serviceable in city districts. Carl Weber, the president of the company, who is a well-known concrete engineer, is the inventor of the reinforced concrete chimney, numerous installations of which have been built in this and foreign countires, and has designed and built a large number of other important engineering structures.

**American Rolling Mill Company**, Middletown, Ohio, has closed contracts with Richard Johnston & Nephew and the Shelton Iron, Steel & Coal Company, Manchester, England, two iron manufacturers of international standing, for the right to make American ingot iron. Heretofore refinements in processes looking toward the production of products of higher quality have always traveled from England to America. The contracts were closed after a searching investigation by the British firms and after a demonstration in their mills that ingot iron could be made in their furnaces. In fact, heats were put through even to the final products. It is understood that the rights will be availed of largely for rolling rail for third-rail electrification purposes, for which it has an advantage over mild steel on account of its higher conductivity, the advantage being about 25 per cent.

## ADVERTISING LITERATURE

**Brown Hoisting Machinery Company**, Cleveland, Ohio, has issued a catalog describing its tramrail systems, trolleys and electric hoists for transporting various kinds of materials from and to cars, boats, storage yards and buildings, and the different floors of buildings. Interesting illustrations are shown of installations in various plants.

**Babcock & Wilcox Company**, New York, N. Y., has issued a bound 80-page book which treats the subject of superheated steam and superheaters in an interesting and comprehensive manner. Introducing the subject with a short definition of superheated steam the book reviews the history of superheated steam since its early introduction in the beginning of the eighteenth century. This is followed by a mathematical discussion, accompanied by tables, of the properties of superheated steam. The end of the book is devoted to a detailed description of superheaters manufactured by this company, as applied to Babcock & Wilcox, Stirling and Rust boilers. The book is profusely illustrated with large halftones showing installations in actual service, among which are shown installations of the Pennsylvania Railroad, Commonwealth Edison Company, United Electric Light & Power Company, Bay State Street Railway, New York Edison Company, Georgia Railway & Power Company, Capitol Traction Company, Boston Elevated Railway and Twin City Rapid Transit Company.

**J. G. White Management Corporation**, New York, N. Y., has issued a booklet, reprinting the opinion of a recent decision of the Public Service Commission of the State of Pennsylvania, described in the Electric Railway Journal of April 25, 1914, page 942, and which denied the application of the Schuylkill Light, Heat & Power Company for permission to carry on an electric lighting business in Ashland, Pa., which territory is already served by the Eastern Pennsylvania Light, Heat & Power Company, a subsidiary company of the Eastern Pennsylvania Railways Company and operated under the J. G. White management. The booklet calls attention to the following important points in the decision: (1) The adoption of the principle that if communities permit competing plants to be installed, it follows from experience that such plants are eventually merged, and then such communities and their citizens are in duty bound to pay such rates as will give a sufficient and proper return on the duplicated investments; (2) that companies giving adequate service at reasonable rates should be protected against competition and that the remedy for inadequate service and excessive rates should be by regulation rather than by competition.

**Ohio Brass Company**, Mansfield, Ohio, has issued Catalog No. 14, a 606-page book, which contains a complete line of perfected appliances used in the construction, maintenance and operation of electric railways, mine haulage systems and transmission lines. The materials described and listed fall under the general classification of overhead materials, rail bonds, car equipment specialties and high-tension porcelain insulators. Each subject in the book is treated in an interesting way by being supplemented with numerous carefully taken photographs of the actual instalment of the equipment on various well-known electric railways together with accompanying general remarks on the character of each installation. These descriptions include the Chicago, Lake Shore & South Bend Railway, Galveston-Houston Electric Railway, Great Northern Railway (Cascade Tunnel electrification), Maryland Electric Railway, New York, New Haven & Hartford Railroad, Northern Ohio Traction Company, Waterloo, Cedar Falls & Northern Railway. An index to materials at the end of the book serves as a ready reference to this complete compilation. This catalog supersedes and cancels all other catalogues of this company with the exception of Valve Catalog No. 50.