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EDITORIAL NOTICE.

The news issues of the Street Railway Journal are devoted primarily to the publication of street railway news and current happenings related to street railway interests. All information regarding changes of officers, new equipments, extensions, financial changes and new enterprises will be greatly appreciated for use in its columns.

All matter intended for publication must be received at our office not later than Wednesday morning of each week in order to secure insertion in the current issue.

Address all communications to

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Canadian Capital in the West Indies

Sir William Van Horn and James Hutchinson, of Montreal, and B. F. Pearson, of Halifax, are the principal members of a syndicate which is actively building and operating electric railways and lighting plants in the West Indies, among the latest ventures being a 10-mile railway at Demerara, and a 12-mile railway in Trinidad. The former will use Westinghouse 12A motors, single motor equipment, and in the power house will be Robb engines and one direct-connected 200-kw and one belted 100-kw Westinghouse generators.

Chicago Consolidated Traction Suit

Application has been made to the Circuit Court at Chicago by Sutro Brothers & Company, of New York, for an injunction to prevent the Chicago Union Traction Company from controlling the company. Sutro Brothers hold 700 shares of the stock of the Chicago Consolidated Traction. The claim made by Sutro Brothers & Company is that the mortgage for \$6,750,000 was made by the Chicago Consolidated Traction Company with its own stock as collateral, as part of a plan to evade the law forbidding the purchase by one corporation of another corporation.

Street Car Riding as a Cure for Insomnia

After careful investigation a prominent Louisville physician announces that the most expeditious cure for insomnia is trolley car riding. He advocates a ride of about two hours before bed time, and says that a sound night's sleep will be enjoyed if his instructions are followed. "Two hours before bedtime," says he, "put on your most comfortable clothes, your easiest shoes and your least choky collar. Then walk to the nearest car line, take a front seat in the first open car that comes along, and sit there till time to go to bed, riding from one end of the line to the other, with the cool night wind blowing in your face. An hour's street car riding scarcely ever fails to bring on a feeling of drowsiness, and it has actually been able to bring sleep to the most nerve-wrecked of insomniacs by this simple device."

State Tax Board Must Review Assessments on Metropolitan Street Railway System

On July 6 Justice Herrick granted writs of certiorari directing the State Board of Tax Commissioners to review their assessments under the franchise tax law of sixteen railroad companies doing business in New York City. Following are the companies represented: Metropolitan Street Railway, Eighth Avenue, Sixth Avenue, Ninth Avenue, Second Avenue, Fulton Street Railroad, Twenty-Eighth & Twenty-Ninth Street Crosstown Railroad, Broadway & Seventh Avenue Railroad, Bleecker Street & Fulton Ferry Railroad, Thirty-Fourth Street Crosstown Railway, Central Crosstown Railroad, Christopher & Tenth Street Railroad, Twenty-Third Street Railroad, Central Park North & East Railroad, Forty-Second Street & Grand Street Ferry Railroad, and New York & Harlem Railroad Company, City Line.

Camden Company Rewards Faithful Employees

The employees of the Camden & Suburban Railway Company were given a surprise at the monthly "discussion night" of the Employees' Association in their rooms, July 9. After a discussion on "Car Brakes" a series of engrossed resolutions were presented to the directors. Later Superintendent Harrington, of the company, distributed envelopes to certain persons as their names were called. They found that those who had been in the employ for five years were given an order for a suit of uniform clothes and were entitled to wear one stripe on the arm. For service from ten to fifteen years, the order called for two suits of clothes and two stripes. For those more than fifteen years, orders for a summer and winter uniform and an overcoat were given. Simeon Matlack, the oldest employee, will be entitled to wear five stripes. He has been connected with the company for more than twenty-seven years.

Liability of Elevated Roads for Damages to Abutting Property

The finding of the lower court at Chicago in favor of a West Lake Street property holder in a suit brought against the Lake Street Elevated Railroad in which he alleged damages on three grounds, namely, interference with light and air, and noise, and with ingress to and egress from the property, has been overruled by the Appellate Court, and judgment entered for the defendant. The

higher court holds that the structure does not interfere with ingress and egress by the streets, and says that specific proof must be shown as to the damage resulting from interference with light and air and from noise. In reference to smoke and noise the court quotes from a decision in another State as follows: "These in the form in which they appeared to exist from the proofs were incidents of city life and not substantial injuries." From another decision the court quotes: "The owner of land abutting on a street holds title subject to the inconveniences and injurious consequences, including those occasioned by noise and vibrations resulting from a user which is consistent with the legitimate and proper use to which a public thoroughfare was dedicated."

Court Upholds Assessors' Street Railway Valuations at Detroit

The Wayne Circuit Court has decided that franchises are assessable, and that the street railway companies must pay taxes on the increased assessment made by the board of assessors. The court holds: That all franchises are taxable as personal property; that the city has no authority to bargain in taxation, but must assess the property of all corporations alike; that if any property is to be exempted from taxation, all must be; that no property must be required to bear more than its just share of the burden of taxation.

The assessment made this year by the board of assessors is as follows:

Detroit Citizens' Railway Company.....	\$5,521,100
Ft. Wayne & Belle Isle.....	1,051,200
Detroit Electric Railway Company.....	1,569,800
Grand River Avenue Line.....	2,104,900
Total	\$10,247,000

The assessment last year was:

Detroit Citizens' Railway Company, including the Grand River Line	\$1,500,000
Ft. Wayne & Belle Isle.....	300,000
Detroit Electric Railway Company.....	800,000
Total	\$2,600,000

The street railway companies stated that they will carry the case to the higher courts. If the decision is sustained the companies will have to pay the city taxes as follows:

Detroit Electric Railway	\$23,832
Grand River Line	31,956
Detroit Citizens' Company, on suburban line out Jefferson Avenue	759
On North Woodward Avenue.....	2,277
On Mack Avenue	227
On Gratoit Avenue	91
Rapid Railway	3,340
Detroit, Ypsilanti & Ann Arbor.....	5,389
Detroit & Northwestern Railway.....	309
Total	\$68,180

Big Deal in Philadelphia

A special dispatch from Philadelphia announces that the Investment Company of Philadelphia has secured control of the Railways Company General. As a part of the arrangement, the company receives about \$300,000 new cash capital, \$200,000 of which will be applied to liquidate the entire floating debt, and \$100,000 to retire underlying bonds. It is announced that there will be no additional issue of stock or bonds. The authorized stock of the company is now \$10,000,000, of which \$1,500,000 is outstanding. L. N. Downs has resigned as president of the Railways Company General, and is succeeded by Evans R. Dick, president of the Investment Company. John B. McAfee will remain as vice-president and general manager of the company. The new directors of the company are: Evans R. Dick, J. Ogden Hoffman, R. H. Rushton, representing the Investment Company, and J. Cooke, of C. D. Barney & Co. J. W. Supplee, late president of the Corn Exchange Bank, had accepted a position as director, but his sudden death leaves the place vacant. The retiring directors are: Edwin S. Cramp, Dr. W. H. Chestnut, Major L. N. Downs, Richard Ellis and Edwin F. Glenn. The old members who remain in the board are: George S. Graham, W. W. Gibbs, S. B. Vrooman and Robert J. McKinstry.

The Railways Company General was incorporated in August, 1899, under New Jersey laws. It owns and controls the following properties: Montoursville Passenger Railway; Milton, Lewisburg

& Watson Electric Railway; Philadelphia & Bristol Passenger Railway; Michigan Traction Company; Elmira & Seneca Lake Railway Company; Newtown Electric Street Railway and American Engineering Company.

San Francisco Transfer Ordinance Held Valid by the Supreme Court

The Supreme Court of California has rendered a decision declaring the San Francisco transfer ordinance valid. The ordinance is designed to correct and prevent abuses of the transfer system by requiring a street car passenger to use his transfer within the time limit, and prohibiting him selling or giving it away. This verdict is a decided victory for the companies, and will put a stop to fraudulent practices of ticket sharps, etc.

The ordinance was attacked on the ground that it violated the guaranty of personal liberty contained in the constitutions of United States and the State of California; that it was an unconstitutional interference with a right of private property; that it was arbitrary, oppressive, and unreasonable; and that it was an illegal attempt to enforce the obligations or assumed obligations of private civil contracts by penal legislation.

After a review of these contentions the court held that the ordinance was valid. In regard to the argument that the ordinance was an attempt by penal legislation to enforce a private civil contract, or, in other words, that it was an attempt to compel the passenger who has received his transfer to use it within the limits of his contract, and not to violate that contract by giving it to a person who might make improper use of it, the court said: "Could it be perceived that this was the only purpose, or even the main purpose, of the ordinance in question, we should be inclined to hold that the objection was fatal, but we cannot perceive that its main object or design was to accomplish this result. Rather, we think it clear that its primary object is to protect and advance the convenience and welfare of the traveling public; for if, to the legislative mind, an abuse of the transfer system has grown up, the inevitable result of such unrestricted abuse must be one of two things—either that transfers would be discontinued entirely, to the material injury of the community, or the transfer system would be hedged and safeguarded by onerous conditions and requirements for the protection of the company, which would work great inconvenience to the passengers. It was certainly right for the supervisors, if they saw or anticipated the existence of such an evil, to destroy or avert it by proper legislation tending to correct the abuse, and it is no objection to the validity of an ordinance designed for this purpose that it may incidentally tend to prevent frauds and compel men honestly to abide by their contracts."

The St. Louis Strike on Again

The great street car strike at St. Louis was declared off on July 2, and was declared on again July 10, the executive committee of the local union declaring that the St. Louis Transit Company had violated the contract which was signed by both parties on July 2. This agreement follows:

1. The provisions of the agreement of March 10, 1900, as to rates of pay and hours of service will be continued in force by the company.
2. Every employee of the company to be free to join or not to join any organization, and no discrimination to be made for or against him because of the manner in which he exercises his freedom.
3. Any attempt on the part of any employee to induce another employee by intimidation or threats to join or not to join any union shall be cause for immediate discharge of the person guilty of such attempt.
4. Any attempt to influence any employees by an official of the company to join or not to join any union shall be cause for discharge of such official.
5. The company will meet any employee or committee of employees, whether representing themselves, other employees, or an association of employees, regarding any matter of mutual interest.
6. For the purpose of filling vacancies which may now exist or hereafter arise, the committee of former employees, of which T. B. Edwards is chairman, shall prepare a list of the men who were in the company's service on May 7 last, and as the company now or hereafter needs additional men it will select them exclusively from this list until it is exhausted, not interfering, however, with men now in the service. No person shall be eligible to this list who has been guilty of any acts of lawlessness or violence.

ST. LOUIS TRANSIT COMPANY,
by Edward S. Whittaker, President.

T. B. EDWARDS, Chairman of Committee.

The strike is hereby declared off.

T. B. EDWARDS, Chairman of Committee.

July 2, 1900.

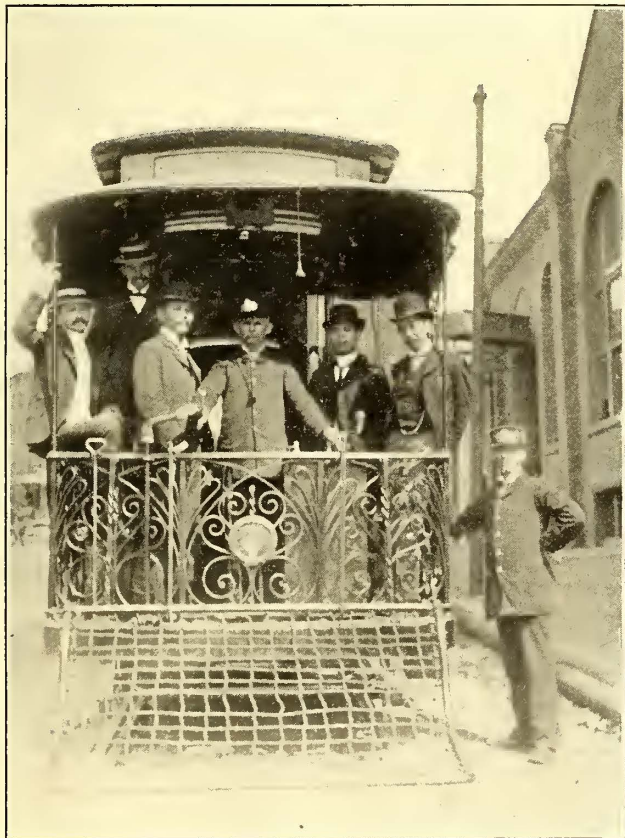
Certain members of the union claim that the company broke clause 6 of the agreement by hiring non-union men since the strike was declared off, July 2. The company enters a general denial of the charges, and says that help contracted for from outside sources before July 2 and who did not arrive till a later date were appointed, but other than this no help has been engaged. The company is in duty bound, the management explains, to give these men positions. It is earnestly hoped that the citizens of St. Louis will not have to tolerate a similar condition of affairs to that which existed during the last strike, and that the present difference be settled speedily. The city authorities should take hold of the situation at once, and prevent a repetition of the acts of the last strike.

The recent struggle between the St. Louis Transit Company and its employees has been worse than famine and pestilence to St. Louis, and it will take many days for the city to blot out the disgrace to its name. The monetary loss to the city is inestimable.

Sixteen lives were lost in the last strike, over one hundred persons wounded by bullets and thrice that number injured by missiles or explosions. In addition to the fatalities and casualties reported, the north and south ends of the city developed a species of brutality never before witnessed in a civilized community, women being stripped of their clothing in the public streets and then beaten for having ridden on Transit cars. As a result of the boycott declared by the strikers, several of the small merchants have been forced into bankruptcy, and nearly every line of business more or less seriously affected.

Japanese Railroad Officials and the Brooklyn Rapid Transit System

In the STREET RAILWAY JOURNAL for June 16 an account was given of a trip over the lines of the Brooklyn Rapid Transit Company, made by Y. Sasaki, general manager of the Nankai Railway,



VIEW OF SPECIAL CAR CARRYING JAPANESE RAILROAD OFFICIALS

and K. Nishino, traffic manager of the Sanyo Railway, of Japan. The engraving above shows the end of the parlor car Columbia, made from a photograph taken in front of the entrance to the Kent Avenue power station of the road. Looking at the picture, Mr. Sasaki will be seen on the extreme right, while Mr. Nishino stands immediately behind. The two other Japanese are New York friends of Messrs. Sasaki and Nishino. The person on the

extreme left is John M. High, general sales agent of the Pantasote Company.

The parlor car, with the persons named, and other invited guests, left from the Manhattan end of the bridge at 2 o'clock, and went immediately to the Kent Avenue power station, via the Brooklyn Borough Hall and Myrtle and Washington Avenues, passing the Navy Yard. After a thorough inspection of that plant, the car returned to the Borough Hall, and was met by J. C. Breckenridge, general manager of the B. R. T., who escorted the party through to Fifty-Second Street power house and shops, where everything was fully explained by Eugene Chamberlain, superintendent of equipment. From there the entire party, including also Superintendent Robbins, went to Brighton Beach, where supper was served at the Brighton Beach Hotel.

Messrs. Sasaki and Nishino left Japan November last, and after visiting all the important cities in Europe, came here to study our methods of transportation. Mr. Sasaki left for home the end of June, and Mr. Nishino is now in the West on his way to San Francisco, from which place he will sail week after next. Both gentlemen expressed themselves as much pleased with our decidedly advanced methods of conducting traffic, and spoke also of the great amount of American machinery they had seen in all the countries they visited.

Opening of the Central London Underground Railway

[From Our Regular Correspondent.]

A most important event took place June 27, when His Royal Highness the Prince of Wales made a formal inspection of the Central London Railway, which, as readers of the STREET RAILWAY JOURNAL are doubtless aware, is a new underground railway in London, and declared the railway open. The occasion was naturally one of great importance, not only to street railway or tramway men, but also to the railway world in general, and some 500 representative men from all over Great Britain assembled to witness the interesting ceremony. The Prince of Wales arrived at the Bank station of the railway about 3:30 in the afternoon, and was received by Sir Henry Oakley, the chairman of the Central London Railway Company and his co-directors. The station at the Bank is all but completed, and in passing through the station it was noticed that the American system for the collection of fares, as adopted on the elevated railways in New York, was to be utilized in this new London railway, and familiar looking boxes, with the chopping machine handle, were in strong evidence, to which all New Yorkers are well accustomed. Previous to the arrival of the Prince a large number of the guests had preceded him on two other special trains, which made quick journeys from the Bank to Shepherd's Bush, a distance of about $6\frac{1}{2}$ miles, where the central station is situated.

The royal train accomplished the journey in about eighteen minutes, and it is safe to say that even His Royal Highness never traveled in greater comfort than on this occasion. The roadbed and rolling stock of this new enterprise are beyond reproach, and the cars travel as smoothly as it is possible to imagine. At the power house a special platform had been erected, and after the Prince alighted no time was lost in walking into the power house for a short and informal inspection, which the Prince seemed to manifestly enjoy, and to be intensely interested in. Shortly afterward refreshments were served under the direction of the manager of the Carlton Hotel in a large marquee, which had been admirably and most tastefully decorated for the occasion. A large, round table was provided for the Prince of Wales, at which were also seated Sir Henry Oakley, the Duke of Fife, Sir Michael Hicks-Beach, Lord Rothschild, the Marquis of Londonderry, Lord Claud Hamilton, Mr. Henry Chaplin and Lord Stalbridge. The rest of the space was occupied by a number of small tables beautifully decorated with flowers, at which a most recherche luncheon was served, and at some of these tables might be noticed the following gentlemen: Lord Colville, of Culross; the Lord Mayor, Sir Courtenay Boyle, Sir Benjamin Baker, W. L. Jackson, M. P.; Lord Farquhar, Captain Holford (in attendance on the Prince of Wales), Sir Richard Farrant, the Hon. Algernon Mills, the Earl of Cork, Lord Rathmore, Sir Ernest Paget, Sir W. H. Preece, Mr. Perks, M. P.; Sir J. W. Maclure, M. P.; C. F. Gooday, H. C. Stephens, M. P.; Henry Tennant, Francis Hopwood, the Hon. Charles Rothschild, Sir Ernest Cassel, Sir George Lewis, Sir Francis Knowles, Sir John Monckton, Sir Arthur Arnold, John Aird, M. P.; W. Forbes, Lieutenant Co. Yorke, W. H. Turner, Alfred Powell and Sir F. Dixon Hartland, M. P.

There was no formal speechmaking, but the Prince of Wales in a few graceful words, proposed the toast of the Central London Railway, as follows: "I have much pleasure in declaring the Central London Railway open to-day (cheers), and am glad that I

have been asked to take part in the ceremony. I wish to drink success to the undertaking, and to congratulate Sir Benjamin Baker, the eminent engineer, who has constructed this railway. I have little doubt but that it will be a great boon to this city. I am sure you will all join with me in drinking success to the company. (Cheers)." After enjoying the hospitality of the Central London Railway, and evidently greatly enjoying his surroundings, His Royal Highness took train to Lancaster Gate station of the railway, and shortly afterward the company dispersed.

The whole affair in every sense of the word was most successful, and too much praise cannot be given for the manner in which all the arrangements were carried out, and the extremely adequate provision made for the reception of the company's guests. As to the working of the system nothing could be left to be desired. The engines and generators worked with the precision of a well-established plant, and as has already been said, the cars traveled with all the smoothness that could be desired on the most perfect steam railroad in the world. The Central London Railway Company is certainly to be congratulated upon the completion of a most magnificent piece of mechanical and electrical engineering, and the British Thomson-Houston Company, contractors for the electrical work, and H. F. Parshall, the electrical engineer, are also to be congratulated upon the success attending their part of the work.

The ceremony was one of the most pleasant, most agreeable and most interesting which I have ever attended, and I think will be long remembered by those who had the good fortune to be present.

A. C. S.

Operating Work as a Feature of Electrical Laboratory Training*

BY WM. S. ALDRICH

In the representative institutions the engineering courses are now so organized that the junior student enters the engineering laboratory fresh from work in the physical laboratory. Advanced work along similar lines is carried on in many cases after the student has entered upon his professional studies. The earlier training is chiefly by way of illustration and demonstration, familiarizing the student with the phenomena, principles and laws of physics. The later training acquaints the student with some of the exact methods of modern experimental work. In consequence of such work, the engineering student should early assume toward all phenomena and problems in the realm of physics that attitude so characteristic of the scientific mind. Granting its thoroughness there is less necessity for attempting similar training in the engineering laboratory. More time is, therefore, available for developing the latter along engineering lines.

The work of physical and of engineering laboratories naturally overlap each other. No hard and fast line can be drawn between them. It becomes daily more impossible to define clearly their respective limits with each advance in physical science and growing industrial applications of the same. In the engineering laboratory are investigated the properties of water, steam, gas and electricity with special reference to their industrial applications; the chemical, physical, mechanical, electrical and magnetic properties of materials, as the case may require; the functional relations of mechanisms, machinery and prime movers, and their performance in detail or in the aggregate.

The bearing of these considerations upon electrical laboratory training is obvious. Preceding experimental work with new electrical appliances or processes there should be carefully arranged work along the following lines: study, inspection, illustration and demonstration, operation. By thorough study of actual and typical appliances the necessary preliminary electrical and mechanical data are secured. By inspection the student is assured of the electrical, magnetic and mechanical condition of the apparatus essential for successful operation of the same. By way of illustration and demonstration he is familiarized with the phenomena and principles underlying the functional working of apparatus and the handling of instruments and circuits. By operation the student acquires that familiarity, facility, confidence and resourcefulness so essential for the satisfactory handling of electrical circuits and appliances.

Training in handling electrical machinery is quite as essential as training in electrical measurements. The one should be done and the other not left undone. If with all of his familiarity with galvanometer work the young electrical engineer is left to the mercy of the wireman or the operating engineer, his laboratory training has been incomplete. A knowledge of the behaviors of electrical machinery and confidence in handling electrical circuits

* Abstract of a paper read before the Society for the Promotion of Engineering Education, New York meeting, July 2-4, 1900.

is becoming more necessary with each widening use of electricity. The utilization of alternating currents and the operation of alternating current machinery constitute to-day a most interesting and important field, one with which the electrical student cannot become too familiar. It is the result of experience that students who have been given a course of electrical laboratory training involving study, inspection, illustration and operation have a better understanding of testing work than if they had been put at once into the latter without attention to the former.

Calculation of Distributing Systems of Electric Traction Under British Conditions IV.

BY H. M. SAYERS

(Continued from page 602.)

APPENDIX No. IV.

CALCULATION FOR TRACK FEEDER, EAST OF T

Rail resistance, .0289 *w* per mile.
 Drop allowed, 5 volts.
 Amperes \times miles constant for 5 volts = 173.
 Current per car, 15 amps. Cars passing in pairs.
 From T Eastward.

Cars	Amp. miles	Product	Sum
T to F, 5 cars, .9 miles.	First pair30 \times .3 = 9 Second pair30 \times .6 = 18 One at F15 \times .9 = 13.5 Two on line D F30 \times .9 = 27	67.5	
F to G, 4 cars, 1.25 miles.	First pair30 \times 1.21 = 36.3 Second pair30 \times 1.83 = 54.9 Two on line N G30 \times 2.15 = 64.5	158.7	223.2

As the sum is brought over the constant by the current flowing in at G from branch N G, G should be a point of change of direction. The product of amperes \times miles on branch N G is $15 \times 1.1 = 16.5$. This added to the 158.7 at G = 175.2, a little over the limit. Hence the whole of the 30 amps. from branch N G should flow east, and the integral of ampere miles from G to feeding point should be $173 - 16.5 = 156.5$, to keep N at 5 volts.

Then from G Eastward. Section G O, four cars.

1.5 miles long. Current flowing east 30 amps. from branch N G.

Cars	Amp. miles	Product	Sum
At G		16.5	..
G to first pair	30 \times .375 = 11.25	27.75	
First pair to second pair	60 \times .75 = 45.00	72.75	
Second pair to O	90 \times .375 = 33.75	106.50	

H being terminus, and only two cars between H and O, it is obvious that feeding point should be west of O, so sum westwards from H. H to O 17 m.

Cars	Amp. miles	Product	Sum
First pair to O	30 \times .85 = 25.5		
O to second pair G O	30 \times .375 = 11.25	36.75	
Second to first pair G O	60 \times .75 = 45.00	81.00	

Feeding point will thus be between the first and second pair of cars east of G. It should be exactly .825 miles east of G. The product from this point will be 54.75 to the terminus H and to N, corresponding to 1.58 volts drop. Hence the feeding point may be 3.42 volts above earth.

The track feeder will have to carry back 120 amps., and be 2975 miles long. Section should be .39 sq. in., and the drop in it will be $15.06 \times 2.975 = 45$ volts. But as its end may be 3.42 volts above earth, the booster will have to give only 41.58 volts, and have an output of $41.58 \times 120 =$ say, 5000 watts.

TRACK FEEDER NO. 2

From T Westward

It is obvious to inspection that some current should return *via* D and some *via* J. The dividing points should be those at equal distances from T by each route.

On the branch D J this point is practically at the center of its length, hence half the total current is taken as flowing each way.

On the circuit T D C I J T, it is very close to the junction, I. Hence the current returning by J will be half that on the branch D J, and the whole of that on branches from J to I, K and L respectively, making altogether $8.5 \times 15 = 127.5$ amps., which gives at once the section of the track feeder from T to J. It also follows that the potentials of points D and J should be kept equal. Find feeding points, etc., as before.

T to D, seven cars, 2.35 miles. Branch C M, four cars = 60 amps. at .35 miles from T.

Assume one car at D, the other six in pairs at .59, 1.18 and 1.77 miles respectively from T.

* Paper read before London Institution of Electrical Engineers, May 3, 1900.

CURRENT EASTWARD TOWARD T

Cars	Amp. miles	Product	Sum
T to C.....	.60 × .35 =	21.00	
T to first pair.....	.30 × .59 =	17.70	38.7
T to second pair.....	.30 × 1.18 =	35.40	74.1
T to third pair.....	.30 × 1.77 =	53.10	127.2
T to D.....	.15 × 2.35 =	35.25	162.45 = 4.7 V
T to O, part current from branch D J } giving 5 volts at D.	44 × 2.35 =	103.5	173

CURRENT WESTWARD FROM D

D to C, 1.65 miles, six cars, passing at .41, .82, 1.23 miles from D, 33 amps. from branch D J also :

Cars	Amp. miles	Product	Sum
D to first pair.....	.33 × .41 =	13.53	
First to second pair.....	.63 × .41 =	25.83	
Second to third pair.....	.93 × .41 =	38.13	
Third to c.....	1.23 × .41 =	50.43	127.92 at c

Count back from A to find equal point.

A to B, 2 miles, three cars, assume one at A, two in middle.

CURRENT EASTWARD FROM A

Cars	Amp. miles	Product	Sum
A to first pair.....	.15 × 1 =	15	
First pair to B.....	.45 × 1 =	45	60

B to C, 1.1 miles, two cars, assume in middle, current of one car from branch B J. Continue summing from A.

Cars	Amp. miles	Product	Sum
B to middle.....	.60 × .55 =	33	
Middle to c.....	.90 × .55 =	49.5	142.5 at c

This indicates feeding point a little west of c, but as 60 amps. more enter from branches north and south of c, and c is the meeting place of four tracks, it is clearly the proper place for the feeder to tap the rails. If this point be kept at earth potential, A, the point furthest from T will be at 4.1 volts above earth.

The feeder will be 4 miles long, have to carry 273 amps. back, have a section of .89 sq. in., will drop 4 × 15.06 = 60.24 volts, and booster must give 273 × 60.24 = 16,445, say 17,000 watts.

TRACK FEEDER NO. 3

Inspection of the diagram suffices to show that J must be the feeding point for this. The greatest drop thence will be on branch J K, 2.2 miles long with two cars. Assume one at K and one half way, then ampere miles K J will be 41.25 or 1.2 volts. J must then not be more than 3.8 volts above earth. This is lower than D, so that more than the half current on line J D will return by the feeder via J. *Per contra* part of the current from branch I J will go via I C. The assumed distribution could be obtained by splitting the feeder at J, and connecting the branches at proper points on the three lines J L, J K, J I.

No practical advantage would result, as in working the load on each feeder is regulated to keep the pilot wire indications within proper limits, by control of the booster e. m. f., and it is quite certain that the actual load and its distribution will vary widely and rapidly in any given case from any assumed distribution, consequently in a network requiring a number of track feeders it is sufficient to ensure that they shall be provided of needful section and number to enable the P. D. on the rails to be kept within limit, and refined investigation of the current distribution is likely to be labor lost.

Hence No. 3 feeder may be safely taken as tapping rails at J. It will be 2.15 miles long, carry 127.5 amps., have a section of .415 sq. in., drop 32.4 volts, and require a booster to give 32.4 × 127.5 = 4130, say 4200 watts.

DISCUSSION

The following digest of the discussion on Mr. Sayers' paper is taken from the London *Electrical Review*:

The discussion was opened by Prof. Andrew Jamieson, who regarded the paper as one which contained a great deal of sound matter requiring special study. He referred to his visit to Cape Town in connection with the tramways there, and stated he found no less than thirty volts between the end of the lines and the power house. The result was electrolytic troubles and disturbance on the submarine cables. He advocated the use of boosters. Owing to the extraordinary character of the slate formation, forming a basin in which Cape Town lay, the rails returned only about 70 per cent of the current, and 30 per cent went out to sea.

Mr. Taylor spoke of the paper as being a thoroughly practical one, discussing in detail the advantages from a distributing standpoint of the single and double station and the polyphase system. He had applied some of the calculations to light railways. Advocates of high-tension transmission might try to reduce the costs of that method, but even supposing that those items most readily dealt with were halved, it would reduce .352d. to .292d. only. Mr. Sayers had taken a case rather in favor of the polyphase trans-

mission, as he assumed 28½ miles of track, fifty-seven cars, and a heavy car mileage per annum. Attendance at the sub-stations reckoned at 3s. per week each seemed distinctly low and rather in favor of polyphase. The high losses were due to transformers. Mr. Taylor then showed how the cost was effected by frequency of service, and discussed whether the question of distance of transmission did or did not depend upon the distribution of traffic. He dealt with the arrangement of boosting described in the paper, which only appeared to allow for boosting on the portion of the length of trolley line supplied, and not also on the feeder line to the section fed by it.

Eustace Thomas took up the question of most economical distribution, and gave, as his opinion, that generally the systems put down had regard to first cost rather than economy. It perhaps seemed absurd to talk of another way of putting Kelvin's law, but it was apparently more accurate than the ordinary mode of expression. Take out the cost of 1 mile of cable; if any given size be taken, it is a question whether it would not be better to have a larger size. Let the resistances of the cables be R₁ and R₂, then the power wasted in each would be R₁ K₁ and R₂ K₁, while the interest, etc., charges would be P₁ K₂ and P₂ K₂, and to get the best result,

$$(R_1 - R_2) K_1 = (P_2 - P_1) K_2$$

or

$$\frac{R_1 - R_2}{P_2 - P_1} = \frac{K_2}{K_1}$$

where $\frac{K_2}{K_1}$ depends only on the system adopted, and not on the size of the cables. For a given case he had worked out, the figures were:

$$\frac{K_2}{K_1} = \frac{C^2 \times \text{hours per day and cost of extra unit from station.}}{\text{Percentage rate of interest, maintenance and depreciation.}}$$

and the result gave 616, showing that about $\frac{1}{3}$ was the most economical size.

Mr. Jenkin pointed out that the paper did not compare the one and two station, and the polyphase systems of supplying tramways; interesting as it was, the matter could not be generalized. He thought feeders should be run to separate sections of line, and two cars might connect the feeders at different parts of the line.

E. K. Scott thought the polyphase system would have shown better if taken at 5000 volts instead of 2500 volts. No attention at the sub-station would be required if the polyphase system were assumed to be used directly on the cars.

Mr. Swinburne had always some fear in discussing such a paper, but he regarded the risk of a departure from accuracy to get simplicity as very real. Under actual circumstances, insulation comes in; this does not vary as the cost of copper, and Kelvin's law in its simple form does not apply. Another element was the eating of pipes that were "not ours," the private individual could not do so, but he supposed tramways could cat pipes as much as they liked provided they followed the Board of Trade regulations. Seriously, the corrosion of pipes, he was afraid, would be most serious. He thought the three-wire system had not been sufficiently considered, but the present Board of Trade rules will not fit three-wire systems. He supposed the reason why this method had been overlooked was that some American had said they did not do such things in America. He wished to state that the booster system is perfectly applicable to the three-wire system, and the bigger the system is the easier it would be to manage. Finally, the way out of the difficulty would be to put a booster on pipes.

E. T. Carter asked if the three-wire system was not in use on the City & South London Railway, and Mr. McMahon said it was, and the balancing was effected by battery and sub-station balancers.

R. C. Quin differed from Mr. Sayers as to a drawing-in system for cables. He had used both, and concluded that if you draw in you will have to draw out, whereas if laid solid, or buried, not only is cheapness gained, but no necessity will arise for removal. He, as a municipal and tramway engineer, preferred granite setts between tramlines, because the traffic was always heaviest on the crown of the road, and the granite setts tended to keep down the excessive wear. He regarded reliability as worth something more than a few pounds, and with all transformer systems there was something to break down.

Major-General Webber compared tramway and telegraph pole fixing and cable systems, and severely criticised the way in which trolley poles were erected in many cases, a neglect of the stresses and strains being shown. He advised tramway engineers to study the question of strains on poles, and learn what they could from the experience of telegraph engineers.

Mr. Sayers, in reply, felt happy that there had not been much contradiction or destructive criticism. He admitted his estimate

of attendance on sub-stations (3s. weekly) was low. The greatest density of traffic affected the size of feeders, and not the distance of distribution. He considered the method he gave for calculation more general than that of Eustace Thomas, as one got the general expression for the most economical density. He did not profess to compare systems. Each section of trolley wire would, of course, be fed at many points. He thought E. K. Scott quite right as to use of motors on cars, and that Mr. Swinburne's remarks were worthy of attention; the difficulty was to find anyone who would put down money to equip such a system. The trouble lay in shorts and turn-outs. It would require a paper to reply to Mr. Quin, but the life of a cast iron pipe was forty years, and he did think that that provision is worth greater attention.

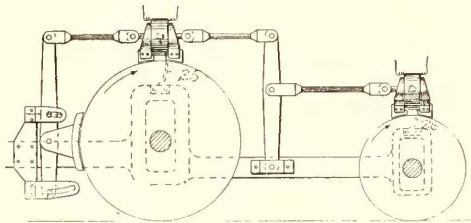
Street Railway Patents

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

UNITED STATES PATENTS ISSUED JUNE 26, 1900

652,248. Fish-Plate; W. H. Connell, Wilmington, Del. App. filed March 18, 1898. The plate is provided with three inwardly turned flanges, one of which presses against the under side of the tread, another against the top of the base flange, and the third extends under the base flange.

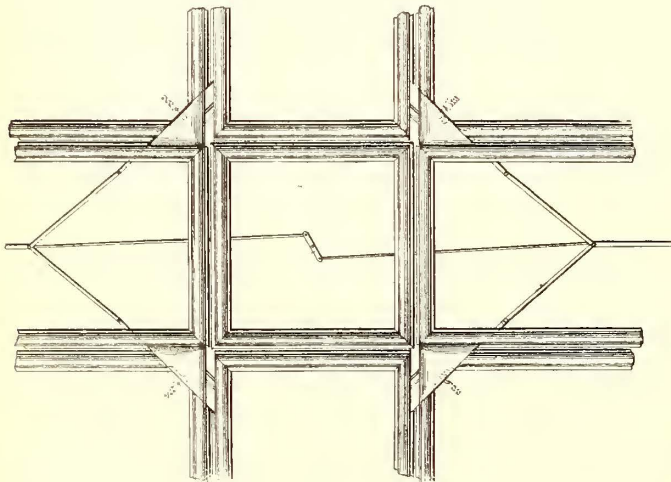
652,265. Railway Tie; R. E. Heller, Abingdon, Ill. App. filed Nov. 28, 1899. The tie is constructed with springs and elastic walls so as to yield under the weight of the train, and make the riding smoother.



PATENT NO. 652,266

652,266. Electromagnetic Brake; E. M. Herr, Pittsburgh, Pa. App. filed Nov. 18, 1899. A magnetically applied brake shoe and a mechanically applied shoe are so connected together that when the former is operated, it will also cause the movement of the latter against the wheel.

652,282. Rail-Joint; J. O. Mayhall, Roxie, Miss. App. filed Oct. 21, 1899. The fish-plate interlocks with the rail end in such a way as to prevent longitudinal separation of the rail.



PATENT NO. 653,006

652,415. Repairing Railroad Ties; C. F. Young, Grand Rapids, Mich. App. filed April 4, 1900. A mortise or dado is cut in the tie immediately beneath the rail to receive a removable wooden seat for the rail.

652,487. Rail Joint; J. N. Powers, Shreveport, La. App. filed Feb. 21, 1900. A metal plate extends under the rails and across the joint, and the fish-plates which embrace the rail are bolted to this plate.

652,620. Vestibuled Car; W. M. King, Sr., and H. Jones, Alexandria, Va. App. filed March 28, 1900. The side door of the vestibule is so connected with that portion of the floor above the steps

that the latter will be opened and closed when the door is opened and closed.

652,627. Car Seat; W. M. Norcross, Philadelphia, Pa. App. filed April 13, 1900. This invention, which consists of the details of construction relates to that class of seats in which the back section can be swung from side to side, and in which the seat section is tilted or inclined by the act of shifting the back section.

652,613. Overlapping Railway Rail-Joint; F. B. Hart, Manchester, Eng. App. filed April 16, 1900. In rail-joints of the overlapped character the rail ends have bent overlapping webs, provided with extensions beyond the bends, which lie parallel to the ordinary webs of the rail, and are provided with a sufficient number of suitably formed bolt holes for the secure attachment of the rails to one another.

UNITED STATES PATENTS ISSUED JULY 3, 1900

652,767. Tramrailway Track for Public Highways; T. H. Gibbon, Philadelphia, Pa. App. filed Oct. 14, 1899. The tread of the rail is made broad to furnish a track for various kinds of vehicles, including wagons, automobiles and bicycles. The invention relates particularly to the manner of securing the broad tread to the web of the rail.

652,863. Wheel Guard; R. F. Pruesser, Washington, D. C. App. filed Dec. 6, 1899. This is a fender and wheel guard combined, since it is adapted to be thrown down against the roadbed by the motorman to take up an obstruction.

653,006. Railway Crossing; J. S. Jenckes, Jr., Terre Haute, Ind. App. filed April 20, 1900. Blocks are arranged at the crossings of the rails to slide in such a way as to make either of the crossing rails continuous, at will.

653,056. Car-Brake Device; J. S. Baker, Beverley, Mass. App. filed Nov. 7, 1898. This brake is operated by a hand wheel set on a horizontal axis; a clutch is arranged between the wheel and staff, which automatically releases and locks the staff to receive and hold any pressure upon the brake rigging.

653,108. Railway Switch Setting Mechanism; G. W. Mockabee, Washington, D. C. App. filed April 20, 1900. Details.

653,154. Car Fender; J. Sullivan, Boston, Mass. App. filed March 29, 1900. A car buffer and fender; a bar arranged longitudinally under the front end of the car body, and held by a spring, so that its forward end is in contact with the buffer, said bar having a projection on its upper side and a disc on the upright rod, said disc having a tooth or projection in contact with the former projection for operating the fender.

PERSONAL MENTION

MR. EDWIN REED, civil engineer of the Scranton Traction Company, of Scranton, Pa., was married to Miss Esther Smith June 27.

MR. F. L. BEARDSLEY has been appointed superintendent of the Derby Street Railway Company, of Derby, Conn. Mr. Beardsley was formerly assistant treasurer of the company.

MR. W. N. VOORHES has resigned as superintendent of the Smith Street car shops of the Coney Island & Brooklyn Railroad, of Brooklyn. Mr. Voorhes has been in charge of the shops for the past ten years.

MR. FRANK A. DRAPER has recently been appointed superintendent of the Detroit & Northwestern Railway, of Detroit, Mich. Mr. Draper was formerly connected with the Detroit, Rochester, Romeo & Lake Orion Railway, and with the Shore Line.

MR. GEORGE F. GREENWOOD, formerly general manager of the Pittsburgh Consolidated Traction Company, and now general manager of the Havana Tramway system, is about to abandon bachelorhood, his engagement to a daughter of Mr. W. M. Doull, treasurer of the Cuban Electric Company, being announced. The date of the marriage is set for July 12, and will occur in England.

MR. CHARLES F. LUTHER, who severed his connections as superintendent of the Pawtucket Street Railway Company, of Providence, R. I., July 1, was presented with a handsome clock by the employees of the company as a token of the esteem in which he was held by them. Mr. Luther has been connected with the street car service of Providence since 1886. He was in turn cashier and secretary and general manager of the company. In 1894 he was appointed superintendent of the company. Mr. Luther is succeeded by George R. Cook.

MR. JULIUS F. PRATT, of Indianapolis, vice-president and treasurer of the Atlas Engine Works, of Indianapolis, died at Glengariff, Ireland, July 7, where he had only recently arrived in

the course of a tour abroad for health and recreation. Mr. Pratt was widely known, and had many business connections. At the time of his death he was a director of the People's Gas Company, Parry Manufacturing Company, Merchants National Bank of Indianapolis, and proprietor of a wheel manufacturing company at Davenport, Ia., beside being connected with the Atlas Works. Mr. Pratt was born in Worcester, Mass. Early in life he went West, and eventually settled in Indianapolis, entering the employ of the Woodburn-Savern Wheel Company, of which he later became one of the proprietors. On the absorption of that company by the American Wheel Company he was elected president of the new company, serving in that capacity until the dissolution of the company. He then became interested in the Atlas Engine Works. Mr. Pratt is survived by two daughters, both of whom were with him when he died.

MR. CHARLES O. KRUGER, who has recently been elected second vice-president and assistant general manager of the Union Traction Company, of Philadelphia, has served with the company as its secretary and treasurer since its organization in 1895. Mr. Kruger is also secretary and treasurer of the People's Traction Company, now a constituent of the Union Traction Company, and has held this position since the organization of the People's Company in 1893. Mr. Kruger is a native of Philadelphia. He was born there on Dec. 14, 1864, and was educated in the public schools of the city, which he attended until January, 1882. On Feb. 21, 1882, he entered the employ of S. & W. Welsh, merchants and bankers, and remained in their employ until elected secretary and treasurer of the People's Traction Company in 1893. To Mr. Kruger has devolved a large part of the organization of system of the Union Traction Company, and the success achieved by that company has been in large part due to his efforts.



CHAS. O. KRUGER

NEWS NOTES

[News notes for this department are solicited.]

LITTLE ROCK, ARK.—The street railway franchise committee has decided to advertise for sale the franchise now being sought by the Little Rock Traction & Electric Company and Mrs. James R. Miller. There is every indication of a spirited fight for the franchise. Mrs. Miller has offered \$101,000 for the franchise, and the Little Rock Traction & Electric Company \$15,000 in cash for a thirty-year franchise, with 1½ per cent of the gross earnings for the first fifteen years and 2 per cent for the remaining fifteen. The company also agrees to carry the members of the police and fire departments free when uniformed. If they secure the franchise they propose to construct two additional lines, one west on Twenty-Second Street from Main to Ringo Street, and one south on College Street from Ninth Street to Oakland Cemetery.

NEW HAVEN, CONN.—The Winchester Avenue Railroad Company has just published a descriptive booklet of New Haven and West Haven, with illustrations showing views in both cities. The route of the Winchester Avenue Road is described from the Green to Woodmont, and all the points of interest along the road entertainingly treated.

ATLANTA, GA.—Judge J. H. Lumpkin, of the Superior Court, has decided that the Atlanta Rapid Transit Company can cross the tracks of the Southern Railway on Decatur Street, and that the Atlanta Railway & Power Company can cross the tracks of the Southern at Henderson's store, at the end of South Pryor Street. Both companies had been granted franchises which would carry them across the tracks of the Southern at the points named at grade crossing, and when the lines were being constructed with this end in view the steam railroad company filed petitions in each case for injunction. Temporary injunctions were issued pending hearings.

VENICE, ILL.—All connections have been completed and the power turned on the Venice, Granite City & East St. Louis Electric Railway. Cars are now running from Granite City via Venice to East St. Louis.

CHICAGO, ILL.—The Council has granted an extension of franchise, giving the Metropolitan West Side Elevated Railroad Company the right to extend its terminals on two branches, after a contest which defeated temporarily an amendment granting a surface franchise extension enabling the company to run its cars to the grade and continue as a surface line to Austin Avenue. The extension, as granted, enables the Metropolitan to compete with the Lake Street Elevated Railroad Company in the western suburbs. The ordinance grants a fifty-year franchise, the work of extension to be completed within two years. It grants the company the right to extend its

Douglas Park branch, between Twentieth and Twenty-First Streets and Campbell and Western Avenues, to South Fortieth Avenue, and its Garfield Park branch at Forty-Eighth Avenue to Fifty-Second Avenue. The ordinance requires the company to proceed to the purchase or acquisition of a right of way within sixty days and to have the extensions completed within two years. A bond of \$50,000 is required.

INDIANAPOLIS, IND.—The Indianapolis & Greenwood Electric Railway Company and the Indianapolis Electric Railway Company have reached an understanding in regard to the operation of the former company's cars over the lines of the latter company in the city proper, and a contract will be signed shortly. The franchise is for twenty years. The Greenwood Company is to pay the city \$100 for every passenger car that is used regularly on the streets and \$50 a year for every combination freight and passenger car. Fare is to be the same as that collected by the Indianapolis Street Railway, but no transfers will be granted. The Board of Works reserved the right to require transfers at the end of five years. Interurban cars are to stop at all crossings if passengers want to get on or off. The Greenwood Company objected to being required to maintain a warehouse, but the Board stood by the proposition. The Board will require that large freight be put off at the Belt Railway. The Greenwood Company will run cars west of Maryland Street, but will be allowed to use Washington Street as they leave the city.

AUGUSTA, MAINE.—Crescent Park, on the line of the Augusta, Hallowell & Gardiner Railroad, at Farmingdale, has just been opened to the public. It has been the aim of the landscape gardener who laid the park out to make the park rustic in appearance and to maintain its natural beauty. A dam has been built in a gully in the park, and the banks around the pond rise to a height of 50 ft. A rustic bridge has been built to span this stream and make a very pretty decoration. The park is lighted with electricity and the walks are covered with gravel. A stand has been erected on the banks of the river and from this band concerts are given.

MEDFIELD, MASS.—The Medfield & Medway Street Railway Company held a public opening of its line between Medfield, Medway and Franklin Center, June 27. In response to invitations of H. Gore & Company, of Boston, the contractors and builders, three special cars filled with street railway men, town and county officers, citizens and newspaper men, left Dedham at 12:15 over the Norfolk Western Street Railway. The run was all the way through a beautiful rural district, and covered sections of Dedham, Westwood, Dover, Walpole, Medfield, Millis, Medway and Franklin. The party was in charge of Edward S. Spring, superintendent of the road. The new road is 4 miles in length. The total cost of construction was about \$240,000. Brill, Laconia and Newburyport cars are used. The car house, waiting-room and storage-battery buildings are located at Pond Plain, in Westwood.

TEMPLETON, MASS.—The Templeton Street Railway Company expects to have its new line ready for operation by Aug. 1. It was originally planned to have the line in operation by June 1, but unavoidable delays were encountered.

BOSTON, MASS.—A broken brake-chain on an inward bound car of the Boston Elevated Railway Company from Brookline to East Boston caused the car to jump the track at Roxbury Crossing, on Tremont Street, June 29, and dash into a house. Twenty persons were injured.

BAY CITY, MICH.—The Bay Cities Consolidated Railway Company has worked a complete transformation at Wenona Beach since the first of last month, and with the exception of the bath and boat-houses there is little left to identify the old place. The peanut stands have been remodeled and moved from their former sites and now occupy a row along the main entrance to the grounds. The café is an open building, fitted with electric lights and chairs and tables. A broad and very substantial sidewalk has been built to the boat and bath-houses and the walks around them widened. A number of cottages have been moved away and arrangements will be made for moving the remainder. The site of the old pavilion has been graded and a large portion of it sodded, while the remainder was filled with black earth and planted with flowers. Broad cinder walks start from the entrance of the grounds and connect the various buildings. The trees and bushes throughout the place have been trimmed, the grass cut, and everything is fast being made to look as neat as a pin. All the buildings have been painted white.

KANSAS CITY, MO.—The Kansas City, Liberty & Excelsior Railway Company has been incorporated, with a capital stock of \$1,000,000, to construct a railway from a point in Clay County opposite Kansas City, Mo., through the town of Liberty to Excelsior Springs, on the eastern line of Clay County, a distance of 30 miles. The motive power of the road is not specified. Claud Hardwick, Charles H. Scott and Riley Bevins are among the incorporators of the company.

ST. LOUIS, MO.—The St. Louis County Court has granted the Wellston, Creve Cœur Lake & St. Charles Railway Company a franchise to construct an electric railway, which will connect with four steam railways and four other electric lines. The franchise designates a route beginning at Carsonville, where the St. Louis & St. Charles Electric Road connects with the St. Louis & Suburban, thence running along the Natural Bridge Road to a point of intersection with the St. Charles Rock road and going through Bridgeton. Another branch commences at the Missouri River, near the Burlington Railroad bridge, thence traverses southward through Crosskeys and Florissant, connecting there with the St. Louis & Suburban Railroad. From Florissant it continues southward to the crossing of the Wabash Railroad at Bridgeton; goes through Bridgeton and Palonville, connecting with the Midland Railroad. Extending southward, it enters the town of Mokeville and connects with the St. Louis, Kansas City & Colorado Railroad. Crossing this, the proposed line continues to Stephen's Grove, at Creve Cœur Lake. The entire line is to be constructed on a private right of way. The court provided that at the crossing of highways no more than 200 ft. of them be traversed. Ninety days was given the company to file a bond of \$5,000 to guarantee compliance with the provisions of the franchise.

ST. LOUIS, MO.—An ordinance has been introduced into the City Council by the St. Louis Transit Company asking for permission to tear up some of

its tracks in the vicinity of the Fair Grounds and substitute a loop for lines centering there.

ST. LOUIS, MO.—The employees of the St. Louis & Suburban Railway Company are to have a club-room furnished and maintained by the company. The auditorium at 3919 Morgan Street is the place selected by Manager Jenkins. A pleasant feature of the innovation is that all reliefs of train crews will be made from the club-house, instead of at Sarah Street as heretofore. Baths are to be provided at the quarters, where the men can get rid of the heat and dust of their work when their runs for the day are over.

KANSAS CITY, MO.—During the Democratic National Convention, held here last week, the Metropolitan Street Railway Company maintained two information bureaus for the convenience of the delegates to the convention. The bureaus were in charge of men thoroughly familiar with the city and its surroundings, and were of great convenience to the visitors.

NASHUA, N. H.—Two cars of the Nashua Street Railway collided a few days ago. Several passengers were injured and one had her leg broken.

DUNKIRK, N. Y.—The Dunkirk & Point Gratiot Traction Company has completed and placed in operation its line between Dunkirk and Point Gratiot. The company is at present operating seven cars. The officers of the company are: L. F. Stearns, president; J. C. Haggett, vice-president and general manager; George A. Starr, secretary; A. J. Lenet, treasurer; L. F. Stearns, J. C. Haggett, Wm. Bookstaver, M. L. Hinman, E. R. Warner, A. J. Lenet, J. C. Karney, A. H. Marsh and S. F. Nixon, directors.

SYRACUSE, N. Y.—The Syracuse, Lakeside & Baldwinsville Railway Company has satisfactorily settled the difficulty between it and the village of Baldwinsville, and the tracks are being extended across the Seneca River and through Canal Street to the Delaware, Lackawanna & Western tracks in that village, thus completing the road under the terms of the franchise.

POUGHKEEPSIE, N. Y.—The village of Wappinger's Falls has begun action against the Poughkeepsie City & Wappinger's Falls Electric Railway Company to have the franchise granted the company in Wappinger's Falls vacated. The franchises were given seven years ago. Only the line to Poughkeepsie was built and operated. The village seeks to compel the forfeiture of the franchise for the other lines, on the ground of "non-user." The company seeks to hold the franchises on the ground that no public interest is affected thereby. If they are permitted to lapse there would be a loss, for since they were granted in 1893 the State Legislature has enacted a law prohibiting the granting of any further franchises for the construction of railroads in the old Boston Post Road. The company asserts that conditions of traffic do not warrant the building of the lines at present.

ROME, N. Y.—The Rome City Street Railway Company has placed an order with the Compressed Air Company, of New York, for the equipment of fifteen of its cars with the new type air motor.

BROOKLYN, N. Y.—It is said that the Brooklyn Rapid Transit Company has decided not to take to the Court of Appeals the right to charge 10 cents to Coney Island, provided a decision can be had on that question in the Appellate Division of the Supreme Court sitting in Brooklyn. This may put an end to McNulty's suit through the State Attorney-General to take away the franchise of the roads.

BROOKLYN, N. Y.—The Brooklyn Rapid Transit Company has arranged to reduce the number of trips on all the lines, except those running to the seashore. Cars will run just as frequently during the rush hours, however, the reduction only operating during the middle of the day and late at night.

SYRACUSE, N. Y.—The valuation of the franchises of the Syracuse Rapid Transit Railway Company has been placed at \$1,262,000 by the State Tax Commission.

NEW YORK, N. Y.—Commissioner Shea, of the Department of Bridges, has reported to the Mayor that the receipts of the Brooklyn Bridge for the year ending Dec. 31, 1899, were \$435,208.76, and expenditures \$284,507.19, leaving a profit of \$150,701.57. The electric and elevated companies paid \$159,593.30 for the privilege of running cars on the structure.

BINGHAMTON, N. Y.—The Stowe Driving Park, in this city, has been purchased by the Binghamton Street Railroad Company backed by New York capitalists. The property brought \$22,617.

BUFFALO, N. Y.—The International Traction Company contemplates making a number of important improvements in its park at Olcott, and has plans for remodeling the grounds, drawn by Frank M. Blaisdell, of Boston, who laid out Norumbega Park at Boston, and Merrymeeting Park at Brunswick, Maine. The plans for the improvements of the park are elaborate. All of the buildings will be of rustic design. The principal building outside of the hotel will be a theater. The auditorium will be covered in for the protection of the audience, and the stage will be open to the sunlight. Nature will supply the scenery. The lake and the grove will be in plain view of the audience, and this feature will also allow of free ventilation and comfort. J. W. Gorman, of Boston, will furnish the attractions at the theater, and a new cast will be presented each week. The present hotel on the grounds will be enlarged and greatly improved and made to conform with the rustic surroundings. The hotel is of brick, but the new addition will be a frame structure and will extend to the lake. One of the largest buildings will be the pavilion, which will be 200 ft. long. In it will be a dance hall, a restaurant and a shelter building combined. It will be provided with open sides fitted with slide windows, which will afford protection in rough weather. There will be bath houses, toboggan slides, boat houses and merry-go-rounds galore, and all the features of a summer resort will be found. One of the contemplated improvements to the grove is the erection of a sea wall for the protection of the grove and the beach. It will be built of cement and will be 8 ft. high. A dock will be built out into the lake, so that boats can land and swimming and fishing be enjoyed from it. Mr. Ely said during the course of the interview that eventually the company would make an effort to have a lake excursion boat line touch at Olcott.

STATEN ISLAND, N. Y.—The waiting-room and transfer station of the Midland Electric Railway Company at Concord was destroyed by fire July 2. The loss was between \$3,000 and \$4,000.

LONG ISLAND CITY, N. Y.—The New York & Nassau County Railway Company, which was incorporated early this year to construct an electric railway from Queens Borough line near Queens to Hempstead, has elected the following officers: Joseph Bermel, president; P. J. Marra, vice-president; E. J. McKeever, treasurer; W. L. Woodill, secretary. The directors have adopted a resolution requesting the State Board of Railroad Commissioners to set a date for a hearing upon an application for permission to build the road.

ZANESVILLE, OHIO.—The Zanesville Electric Railway Company has awarded prizes to the motormen and conductors who have had no accidents during the past six months. Thirteen men secured prizes. Ten dollars was given to the motormen and five dollars to the conductors.

COLUMBUS, OHIO.—The Council has passed an ordinance granting the Grove City & Green Lawn Street Railway a franchise for the construction of electric lines on Mound and McDowell Streets to connect with the lines of the Columbus, London & Springfield Railway Company. This gives the Grove City & Green Lawn entrance to the heart of the city.

COLUMBUS, OHIO.—The Columbus, London & Springfield Traction Company has filed its acceptance of the ordinance granting the company a franchise over the National Pike. The company paid \$2,500 for the grant, and has deposited \$5,000 to insure the construction of the road. The franchise is for a period of twenty-five years. Active preparations are being made to begin the construction of the road at once, and ties are being distributed along the route.

MARIETTA, OHIO.—The City Council has passed an ordinance granting the Marietta Electric Company a franchise for the extension of its line (known as Route 2) upon the county road known as Green's Road, from the easterly corporation line of Marietta to the northerly end of Duck Creek Bridge. The grant is for a term of twenty-five years, and will be subject to the terms and conditions contained in the ordinance establishing Route 2.

DAYTON, OHIO.—Local authorities have commenced proceedings to force the Southern Ohio Traction Company and the Dayton, Springfield & Urbana Electric Railway Company to put safety fenders on all cars operated within the city.

CHILLICOTHE, OHIO.—The Chillicothe Electric Railroad, Light & Power Company has removed its office to No. 22 West Second Street.

WORCESTER, MASS.—Opposition to the construction of the Worcester, Leominster & Fitchburg Street Railway Company appears to have disappeared, and the company is now preparing to present applications for franchises in Worcester, West Boylston, Sterling and Leominster.

COLUMBUS, OHIO.—The street railway employees here are donating 25 cents each per month to be distributed to the city poor at Christmas time.

SALEM, OHIO.—The reported sale of the Alliance Gas & Electric Light Company, the Alliance and Salem street railways and the franchise for the Alliance-Salem Road, to an Eastern syndicate is denied by officials of the companies.

CINCINNATI, OHIO.—The Millcreek Valley Street Railway Company has placed an order for twenty cars with the St. Louis Car Company.

POTTSVILLE, PA.—Two cars of the Pottsville Union Traction Company collided between Schuylkill Haven and Adamsdale on July 5. Twenty passengers were injured by the collision.

WILKESBARRE, PA.—On July 8 two cars on the Duryea & Scranton line collided, one man being killed and ten injured. The dead man was a motorman of one of the cars, who heroically remained at his post in an endeavor to stop the car, and was crushed. The accident is said to have been caused by a switch which had been mislaid by some boys.

HARRISBURG, PA.—The annual meeting of the Harrisburg Traction Company will be held July 17. The most important matter to come up at this meeting will be the reports of the year and the election of a board of directors.

PHILADELPHIA, PA.—The Philadelphia *Financial News* gives the following list of properties acquired or shortly to be taken over by the Consolidated Electric Company: Kennett Electric Light, Heat & Power Company, Kennett Square, Pa.; Haverford Electric Light Company, Haverford, Pa.; Oil City Electric Company, Oil City, Pa.; Franklin Electric Company, Franklin, Pa.; Franklin Gas Company, Franklin, Pa.; Titusville Electric Light & Power Company, Titusville, Pa.; Armstrong Electric Company, Kittanning, Pa.; Kittanning & Ford City Street Railway Company, Kittanning, Pa. On Aug. 1 the Consolidated Electric Company will operate the following additional properties: Wayne Electric Light Company, Wayne, Pa.; Coatesville Electric Light, Heat & Power Company, Coatesville, Pa.; Doylestown Electric Company, Doylestown, Pa.; Doylestown Gas Company, Doylestown, Pa.; Bristol Electric Light & Power Company, Bristol, Pa.; Bradford Electric Light & Power Company, Bradford, Pa.; Warren Electric Light Company, Warren, Pa.; Warren Gas Light Company, Warren, Pa.; United Light Company, Uniontown, Pa.; Steubenville Gas & Electric Company, Steubenville, Ohio; Steubenville Traction Company, Steubenville, Pa. The Consolidated Electric Company was organized under the laws of New Jersey a few months ago, with an organized capital stock of \$4,000,000. The officers of the company are: William F. Eidell, president; Stanley R. Ketcham, vice-president; C. E. Gouert, secretary; Charles F. Lamb, treasurer.

CHATTANOOGA, TENN.—The Chattanooga Electric Railway Company and the Chattanooga, Rome & Southern Railroad have entered into an agreement by which cars of the former will be run over the lines of the latter to Chickamauga Park.