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Arrangement of the Convention Program

The convention program this year has carefully been arranged so that the greatest good may be available for the greatest number. There are four meeting places for five associations. All of the sessions of the American and the Transportation & Traffic Associations will be held in the Greek Temple. This is a unique structure, built well toward the outer end of the pier. The building is independent of other structures and therefore affords an excellent meeting place, with good light, good air and little possibility of interference on the score of noise. Care has been taken to lay out the program of the American and Transportation & Traffic Associations so that the sessions of these two bodies do not fall within the same period, thereby making it possible for the general managers to attend all sessions of both associations. The same precaution has been taken in formulating the program of the Accountants' Association; thus the general managers, when the American Association is not in session, have the option of attending sessions of either the Accountants or the Transportation & Traffic Associations. The Engineering Association will hold its sessions on Tuesday and Wednesday in Aquarium Hall, a meeting place amply large, and well located near the center of the pier. On Thursday the engineers are scheduled to spend the day inspecting the exhibits, and on Friday they will hold two sessions. For this day the engineers' program includes several very important committee reports. The discussion of these reports, which are of vital interest, should sustain the attention of the engineers to the last moment of their convention. All sessions of the Claim Agents' Association will be held at the

Traymore Hotel, located near the pier. Withal, the program this year seems to be so planned that probably no visitor need miss attending the sessions of one association, because he wishes to hear the deliberations of another. In event of such a condition of affairs we respectfully refer him to the daily editions of the ELECTRIC RAILWAY JOURNAL.

Purpose of the Meetings

At the organization meeting of the American Street & Interurban Railway Association, in 1905, the objects of the association of companies were set forth in language to which it is interesting to refer now. The objects were stated as follows: "a. The discussion and recommendation of methods of construction, management and operation of street and interurban railways, and of safeguarding the interests of the same. b. The establishment and maintenance of a spirit of co-operation among the members, and the encouragement of friendly relations between the companies and the public. c. The acquisition of experimental, statistical and scientific knowledge relating to the construction, equipment and operation of street and interurban railways and the diffusion of this knowledge among the members." If the objects were to be dressed in more specific language, so as to fit closely the special activities of the association within the last year, they might contain references that would have amazed the framers of these sentences, who wrote before much specialization was thought necessary and when conferences with the Interstate Commerce Commission or State Commissions, were not incidents in the lives of prominent managers of street and interurban railways.

Activities of the Year

Yet the broad statement of objects comprehends the new duties which have been made more prominent with the lapse of time. The "management" of railways may consistently include the new questions of public relations which have arisen within the last year or two. The "operation" of railways may appropriately include those problems of traffic and transportation which will be discussed by the new auxiliary association. The compilation and circulation of valuable statistical information has been a more important feature of the work of the association than in any other year. That the construction of electric railways has been less prominent a development in the history of the last year is due to political and economic conditions over which managers have no control. With its present organization the association is in a better position than ever before to be of assistance to its members, and it has created opportunities for education in the meetings of this week that can be presented only once in a year. There should be free discussion in the meetings of the various associations concerning the topics on the various programs. If such discussion does not take place one of the most valuable of the advantages offered by these meetings will be lost. Sight should not be lost of the purposes for which the association was organized.

The Interstate Accounting System

Although the Interstate Commerce Commission classification of accounts for electric railways has not yet been promulgated formally, enough facts concerning it were presented last week at the meeting of the National Association of Railway Commissioners, as published elsewhere, to show that the scheme has been modified considerably from the plan outlined in the first tentative system submitted. The maximum number of primary accounts in the classification of operating expenses is shown to be 88 for roads with operating revenues of over \$1,000,000, while classifications with 58 and 36 primary accounts, respectively, are provided for companies with smaller operating revenues, as shown in the article. The accounting requirements enforced by classifications of this length will be much more reasonable than under the system which was originally suggested by the commission in Circular No. 20. All that can be done to facilitate and make economical the work of the accounting departments, not inconsistent with sound accounting principles, should receive the approval of the various commissions in the country which have jurisdiction over electric railways. As the number of electric railways which do an interstate business is relatively small in comparison with the entire electric railway mileage of the country, the jurisdiction of the Interstate Commerce Commission does not extend over many lines using this motive power, but the classification which is discussed in the report is important because of the bearing which it may have on the action of various State Commissions on the subject.

Problems of the Small Road

The problems of a small railway are comparatively no less difficult of solution than those of large roads. Encouraging traffic for the purpose of swelling the receipts is one of these problems, and the Transportation & Traffic Association has done well in having presented before it so valuable a paper as that entitled "How Can a Small Road Best Promote Traffic and Increase Its Revenue" by Ernest Gonzenbach, general manager of the Sheboygan (Wis.) Light, Power & Railway Company. The property which Mr. Gonzenbach manages is a high type of small road. To maintain such a railway in 100 per cent condition and satisfy the requirements of a critical patronage every energy and resource must be exercised by the operating management both in originating traffic and in handling it economically. As described by the author of the paper one of the important features of economical operation is the proper adjustment of service to meet the demands of traffic, bearing in mind that many roads are forced to operate more cars than the earnings warrant. The Sheboygan Railway has met this condition fairly by operating city service on a published schedule with various street intersections as controlling points. The results are said to be all that could be desired.

The New Transportation and Traffic Association

The Transportation & Traffic Association makes its initial appearance in the conventions without that modesty which is usually allotted to beginners. All the plans which have been arranged with particular care by the members of the executive committee of this association promise to make the first convention an impressive feature of the meetings. The usual custom of printing and circulating in advance the

papers and committee reports on the program will not be followed by this association; instead of adopting the practice of the other associations in this respect, the new organization will distribute printed copies of papers and reports only at the time they are read. This departure was arranged with the idea that it will sustain the interest in the proceedings and provoke full discussion regarding the ideas presented. The formation of the Transportation & Traffic Association has been received with warm expressions of approval by officials of various departments of electric railways throughout the country and there is no doubt that if the same energy and enterprise which have been manifested in the preparations for this meeting are continued the new organization will be one of the most successful of the group which now comprise the American Street & Interurban Railway Association and its affiliated and allied associations.

The Convention Exhibits

When it is remembered that the elaborate display of electric railway apparatus which has been installed on the new Million Dollar Pier is exhibited for only the five days of the convention, the enterprise of the members of the Manufacturers' Association is indeed worthy of the highest praise. In spite of the business depression the exhibits this year surpass in size and completeness the record of last year. Grouped in three buildings on the pier, two of which are entirely enclosed, are the exhibits of 175 companies occupying 60,000 sq. ft. of floor space. Last year when the Steel Pier at the upper end of the Boardwalk was utilized for the purpose, 187 companies were represented, but they occupied only 55,500 sq. ft. of space. Approximately 15 per cent of the companies represented among the exhibitors this year were not on the list in 1907, showing that the Manufacturers' Association is steadily extending its influence over newcomers in the field. The registration of members of the Association other than exhibitors shows a slight increase over 1907. Much of the credit for the interest displayed by the members in the preparation of their exhibits is due to the untiring efforts of the executive committee of the Manufacturers' Association. The members of this committee have acted in full harmony and accord with the common aim of producing what has proved to be unquestionably the finest display of devices which has ever been arranged for the benefit of street railway officers.

The "In-and-Out" Booth

The delegates should not forget to use the "In and Out" booth, which has been instituted by the Manufacturers' Association for their convenience. This booth adjoins the headquarters of the Manufacturers' Association and, as already explained in the *ELECTRIC RAILWAY JOURNAL*, is designed to provide a registration of the movements of members during the convention. Uniformed call boys are in attendance to assist in locating those registered, and by an indexed card system the record will be kept up to date constantly. The method being employed is to give each person registering a card to fill out upon which he is asked to indicate where he will be until a specified time. There are two kinds of registration cards, white cards which indicate to the clerks of the in-and-out booth that the information thereon can be given to any one inquiring, and red cards which show to the clerk that the information on the card is confidential and is to be imparted only to the persons named in the lower corner of the card. The clerk will identify these people by their badge number.

Conventionalities

D. G. Hamilton, formerly president of the Chicago City Railway, has just returned from Europe and may be present at Atlantic City during the week.

In the opinion of some delegates who spent Sunday along the boardwalk, the advantages of Atlantic City as a "dry town" have been seriously overrated.

H. A. Nicholl, general manager Indiana Union Traction Company, arrived from the plains of Indiana early Monday morning and has since been a familiar figure in the exhibit halls.

C. N. Duffy, comptroller of The Milwaukee Electric Railway & Light Company, arrived in Atlantic City last Friday from Washington where he had been in attendance at the Association of Railway Commissioners.

E. B. Katte, mechanical engineer of the New York Central Railroad, who has had much to do with the pioneer work on the first electrical division, has been spending the last fortnight in Atlantic City, and will be here again during the week.

At the Traymore, in practical possession of the top floor of the new wing, are P. G. Gossler, vice-president, J. G. White & Company; C. Loomis Allen, of the Oneida Railway system; Wm. Stanley, the well-known inventor and expert, and a few other kindred spirits.

The sand artist is early with his work as applied to the electric railway art, and is waiting for somebody to give him a chance at sand boxes. The open air advertising of the exhibit runs all the way from the sand line to the sky line, and may be said to be bounded on the east by the "Linolite."

W. H. Evans, chairman of the Standardization Committee of the Engineering Association, and master mechanic of the International Railway Company of Buffalo, will be unable to be present at the convention on account of the serious illness of his father. Mr. Evans is now at his father's residence at Newark, Ohio.

Mr. H. L. Weber, for a number of years chief engineer of the Ft. Wayne & Wabash Valley Traction Company, has resigned. Mr. Weber, it will be remembered, has contributed to the columns of the *ELECTRIC RAILWAY JOURNAL* and the *ELECTRIC RAILWAY REVIEW* several interesting items on track and roadway construction.

W. H. Burroughs, secretary and treasurer of the Memphis Street Railway, attended the recent waterways convention at Chicago, and followed the line of the drainage canal to Lockport. This was done by way of preparation for his first glimpse of the ocean against which he did not wish to make any invidious discriminations. The Atlantic pleases him—even after the drainage canal.

Frank N. Pennington, the new general manager of the Curtis Motor Truck Company, Decatur, Ill., is attending the conventions for the first time. Mr. Pennington, who has long been the general field manager of the Oliver Type-writer Company, was appointed on Oct. 1 to his new position, in which he actively enters the electric railway field. He has exchanged Oliver for the Roll-land.

For the local carnival, held on Monday, the authorities of Atlantic City built a special grand stand, accommodating 750 people, and placed it at the disposal of the members of the various associations. The stand was located at California and Atlantic avenues, and admission was by badge. It was

admirably located for the parade. A great many delegates on arrival took the decorations for the parade as a delicate mark of attention to the associations.

E. F. Peek, general manager, and G. L. Radcliffe, superintendent, were the pioneer arrivals from the Schenectady Railway Company, coming in time to enjoy the pleasant Sunday weather. The rest of the Schenectady party, arriving Monday, is composed of B. Penoyer, engineer, maintenance of way; F. J. Doyle, master mechanic; C. McAleer, claim agent; and Frank Walsh, manager Electric Express Company.

Outside the Billion Dollar Pier stand several sections of cars, some fitted with seats. They are admirable examples of car design and construction, but they bear some resemblance to large rolling chairs, and the local population, particularly that branch of it occupied in applying human energy to vehicular propulsion, is lost in wonderment over the exhibit. Sam Jackson and George Washington are speculating, in deep thought, as to the dynamic effort required to "push dem things along."

During the past month the Cooper Heater Company has received orders for Cooper heaters from the following electric railway companies: Dayton Street Railway Company, Dayton, O.; Citizens' Traction Company, Oil City, Pa.; Shamokin & Edgewood Electric Railway Company, Shamokin, Pa.; Waverly, Sayre & Athens Traction Company, Waverly, N. Y.; City & Elm Grove Railway Company, Wheeling, W. Va.; Oskaloosa Traction & Light Company, Oskaloosa, Ia.

The Philadelphia Rapid Transit Company's representatives naturally will be seen in large numbers at the convention owing to the proximity of Philadelphia. On Sunday there were present F. H. Lincoln, assistant general manager; F. B. Ellis, chief clerk to Mr. Lincoln; Harry Branson, superintendent of the Sixth Street shops; Thomas Mackel, assistant superintendent of the Sixth Street shops; and E. Finn, foreman of carpenters. These and other Quakers are immune to the attractions of Atlantic City's fine hotels and say they will spend their nights at home.

The weather is always a prime consideration in Atlantic City, and there have been many anxious forecasts about this week, especially by exhibitors holding the seaward positions on the Pier, or attending sessions where nothing intervenes between the Greek Temple and the Pillars of Hercules, but deep seas and scudding foam. It is therefore encouraging to note that the prognostications are for fair skies. A fierce nor'easter blew itself to pieces on Saturday, and left Sunday all balm and sunshine. A poll of the weather prophets down at the Inlet shows a large majority for an optimistic weather report.

The entertainment committee of the Manufacturers' Association has been on the spot, and busy, long before the special trains started, and the opening of the convention finds its work well organized, carrying out plans made as far back as three weeks ago. Atlantic City lends itself readily to festivity and entertainment, but even so simple a matter as the supply of rolling chairs has to be planned and manned. The program of the week, given elsewhere, takes care of the spare moments and odd hours, with dignified thoughtfulness. In fact the program may well be described as reticently lavish.

Bell telephones between every two adjoining booths and giving free local service are a great boon to exhibitors. For long distance calls they are equipped with automatic fare collectors. U. N. Bethell, general manager of the Bell

service throughout this part of the Atlantic seaboard, was on hand Sunday.

Ask A. W. Warnock how it happened that the name was abbreviated to the "T. & T." association.

Atlantic City—where public service commissions cease from troubling and the weary are at rest. See them resting from 1 a. m. till 12 p. m.

Major Evans is suffering from a badly sprained ankle and carries a solid cane. This in no wise interferes with his activity when he is sitting down.

Oil and water may not mix, but oil and "tea" do, as one may see in the demonstration now being carried on morning, noon and night in a certain Oriental booth.

The Public Service Railway of Newark, N. J., has a total of 52 representatives, headed by Thomas N. McCarter, the president. Has any other Railway a larger representation?

M. M. Baxter, electrical engineer of the Western Ohio Railway Company, Wapakoneta, Ohio, is attending the convention. He is the only representative of the company that will be present this year.

A crowd of delegates and supply men came over from Boston as members of the special party which was organized by Charles S. Clark, secretary of the Massachusetts Street Railway Association. The party occupied a private car on the Federal Express, which left Boston at 9 o'clock Monday morning and reached Atlantic City, via Philadelphia, about 9 o'clock last night.

J. G. White & Co., of New York, are represented by P. G. Gossler, second vice-president, and J. H. Pardee, operating manager, who are stopping at the Traymore; C. F. Conn, assistant engineering manager, and T. W. Moffat, assistant operating auditor, who are at the Chalfonte. C. G. Young, construction manager, and E. N. Chilson, purchasing agent, are also here.

There have been many inquiries for Hugh Wilson, who is now traveling through southern Europe and will probably visit Egypt, spending several months abroad, Mr. Wilson had desired greatly to attend the convention, but the state of his wife's health was such as to necessitate an immediate change to warmer climes. His absence, and for such a cause, is deeply regretted by a host of friends.

Hi Jinks—The Picnic Person—

Sighed for Big Island Park;

Good track, big cars, fast service

All helped him on his lark.

But when he reached the ferry

Folks said to his dismay,

"You can't enjoy yourself tonight,

"Arthur Warnock's gone away."

The Claim Agents' Association will give a smoker at 8 o'clock on Tuesday evening, at the Atlantic City Yacht Club House. The committee having the affair in charge are F. W. Johnson, chairman; Peter C. Nickel, James R. Pratt and H. V. Drown. There will be singing, music, vaudeville, and an excellent cold collation. A clever little program gives the words of the songs. The Club House is down by the Inlet.

All representatives of Southern electric railways are invited to attend an informal dinner given by the supply men travelling south, at the Marlborough-Blenheim, on Tuesday evening, at 7.30. Those who propose to attend will kindly advise Mr. F. L. Markham, chairman of the committee, care of the Marlborough, or at the Information Booth, Conven-

tion Pier. It is especially requested that the chairman be notified not later than noon Tuesday. Guests will meet in the Marlborough lobby at 7.30 sharp.

On Tuesday evening the annual reception will be given in the Solarium of the Marlborough-Blenheim at 9 o'clock; and the entertainment committee have bent their best endeavors toward making it at once enjoyable and successful. Refreshments will be served during the evening and there will be a musical performance with Miss Margaret Keyes and Mr. Oley Speaks as soloists. Dancing is also on the program. This will be the grand social rally of the convention, and it is believed that the participation will be ununiversal and enthusiastic.

Pergolas are a somewhat new fashion in American garden designs. Frank H. Gale, of the General Electric Company, has boldly adopted the idea for conventions, and is keeping his architectural pergolator busy. He has one of these graceful arbors at the electrical show in New York, and one very much like it attracts the eye of everybody entering the Billion Dollar Pier. It is not true, however, that the company will have a Pergola Department. There are limits. In New York Mr. Gale has festooned his shady walks with artificial foliage; here he has rifled the sand dunes of the most vivid red leaves and creepers he could find.

Montreal, birthplace of the "pay-as-you-enter" car, is represented by the following gentlemen from the Montreal Street Railway Company: W. G. Ross, managing director; Duncan McDonald, manager; A. S. Byrd, superintendent of power plants; W. A. McNaught, purchasing agent, and Nelson Graburn, mechanical engineer, whose international experience has made him capable of handling car equipment in any climate and language between the equator and the poles. The Montreal delegates arrived Sunday night. The Toronto representatives are due Tuesday, and it is likely that the Quebec Railway, Light and Power Company will have E. A. Evans, manager and chief engineer, on hand.

N. M. Garland, chairman of the entertainment sub-committee on golf, wishes it to be known that qualifying rounds can be made at the links of the Country Club daily until midday Friday. The tournament begins at noon that day, with three flights of eight men each, and two prizes in each flight. There is also a prize for the lowest gross score made in the qualifying rounds, and a kieber's handicap, for a prize, on Saturday morning. Mr. Garland, who is at the Marlborough, should be seen by all intending competitors. Some rounds have already been made. The prizes, eight in number, will be displayed on the big mantelpiece at the Marlborough early in the week. The course is 18 holes, and about 6,400 yards.

The Rochester Railway Company will be represented in force at this convention. The advance guard arrived early on Sunday and consisted of W. R. W. Griffin, superintendent of transportation; J. E. Joyce, claim adjuster, and C. A. Tucker, treasurer, who is accompanied by Mrs. Tucker. Monday and Tuesday will bring the balance of the party, made up of E. J. Cook, general manager; W. O. Ingle, auditor; J. C. Collins, secretary; B. E. Tilton, chief engineer; C. L. Cadle, electrical engineer; B. E. Wilson, general passenger and express agent; Don Byrne, cashier; Terence Scullin, master mechanic; F. F. James and J. W. Hicks, clerk and assistant respectively to the general manager, and Mr. Cameron, chief draftsman. The headquarters of the Rochesterites will be Haddon Hall.

REGISTRATION ARRANGEMENTS

The booth for the registration of delegates to the American and its affiliated associations is on the south side of the main entrance to the Pier, and that for members of the Manufacturers' Association is at the left or north side of the entrance. The arrangements for registration this year differ somewhat from those previously employed, so far as delegates are concerned. Some time previous to the convention cards were sent from the secretary's office to the member companies containing blanks upon which the companies were asked to enter the names, addresses and other information usually called for on the registration card for those who would be present. Additional cards will be found at the secretary's office for use in those cases where advance information could not be sent in.

In all, six different types of cards are used for registration. Those who wish to attend the American Association will use a blue card, which must be signed by the president, vice-president or the general manager of the railway company to which the delegate belongs. In general, those who are eligible for the blue badge to which registry on the blue card entitles the delegate are the directors, presidents, vice-presidents, general managers and general attorneys of the railway companies and their official representatives.

Delegates to the conventions of the various affiliated associations will use a different card from those employed by the American Association, and will indicate with which association they desire to be enrolled. The registration guide printed on the backs of these cards indicates the titles of the officials who naturally would be particularly interested in the work of the different associations, as follows:

Accountants' Association

Secretary, treasurer, comptroller, auditor and other accounting officials.

Engineering Association

Engineer, architect, superintendent of rolling stock, power, roadway or line, master mechanic, inspector, foreman and other engineering officials.

Claim Agents' Association

Claim agent, counsel, physician, investigator and other claim department officials.

Transportation & Traffic Association

General manager, manager, superintendent of transportation or employment, traffic manager, division superintendent, publicity manager, passenger, freight or express agent, and other transportation and traffic officials.

Associate members use a pink card, the back of which states:

Associate membership registration at the convention is primarily for those who cannot register either as delegates of member companies or as members (or representatives of members) of the Manufacturers' association. Associate members who belong to member companies should register as delegates of their respective companies. Associate membership in the American Street & Interurban Railway Association does not carry with it any commercial privileges incident to the convention. All associate members who derive such benefits from attendance at the convention should pay their dues to the Manufacturers' Association and obtain Manufacturers' badges.

A new classification has been adopted this year to include special guests such as the officials of non-member companies and the representatives of State or national commissions and others who are not eligible as members of the Manufacturers' Association. The definition of a guest as given on the back of the registration card is as follows:

This registration is primarily for the officials of non-member companies, steam railroads, national and State commissions, national and sectional societies or institutes, sectional and State electric railway associations, representatives of financial institutions, and others occupying similar positions and who are not representatives of member companies or of manufacturing concerns. Registration as a railway guest does not carry with it any commercial privileges incident to the convention. All who desire such benefits from attendance at the convention should pay their dues to the Manufacturers' Association and obtain Manufacturers' badges. Railway guests are entitled to the general privileges of the convention, but are not entitled to attendance at or participation in the convention meetings, excepting in so far as such privileges are extended to them by the different associations.

Finally the American Street & Interurban Railway Association provides a white card for the registration of the ladies who accompany the railway delegates and of the guests of the railway association, and who are in attendance at the convention. Ladies who are members of the families of members of the Manufacturers' Association should register at the Manufacturers' booth.

Admission to each of the conventions of the affiliated associations can be secured by the badge of that association, but admission to meetings of the American Association is by ticket only. These tickets should be secured from Secretary Swenson.

BADGES THIS YEAR

The design of badge adopted this year is a very attractive one and the badge committee of the Manufacturers' Association has been the recipient of many complimentary remarks about it. The main features of the badge have already been described in the *ELECTRIC RAILWAY JOURNAL*. The colors of the ribbons which are used to distinguish the different classes of delegates or members of the different associations are the same as employed last year; that is, blue ribbons are used by members of the American Association, orange is the distinguishing color of the Accountants' Association, brown of the Engineers' Association and green of the Claim Agents' Association; purple is worn by the associate members and red is the insignia of the Manufacturers' Association. The ribbon worn by the members of the entertainment committee of the Manufacturers' Association is blue and red. The ladies, as formerly, are given white ribbons. In addition, two other colors which have not heretofore been employed, have been adopted. As this is the first year in which a convention has been held by the Transportation & Traffic Association, its members are indicated by a badge of gray ribbon. To further distinguish attendants at the convention, those who are guests of the association, other than ladies, will be given badges with pale blue ribbon instead of the white badges used last year.

BULLETIN ON RECEIPTS

The secretary of the American Street & Interurban Railway Association has recently issued a bulletin to member-companies giving statistics, compiled from 53 roads, of the different operating expenses in percentage of gross receipts and of the total operating expenses. These figures were prepared at the request of one of the large city member-companies and proved so interesting that they are being sent to other member-companies.

CONVENTION ISSUES OF THE PAST

From the date of its establishment in 1884 the STREET RAILWAY JOURNAL made a feature of the issues of the paper published just prior to the annual conventions of the American Street & Interurban Railway Association and of its predecessor, The American Street Railway Association. During the earliest years the "Convention Issue" was combined with that for October, for the STREET RAILWAY JOURNAL was then a monthly. It was not until 1891 that the first special "Souvenir" issue was published. It was in honor of the Pittsburg convention and contained 74 pages of reading matter descriptive almost entirely of the street railways of Pittsburg.

The success of the issue was so great that the plan was repeated in October, 1892, when the convention was held in Cleveland. In 1893 the association went to Milwaukee and this year the "Souvenir" was consolidated with the regular issue of the STREET RAILWAY JOURNAL for October, which contained 80 reading pages, but in 1894 the plan of a separate issue was again adopted. That year the association met in Atlanta, and opportunity was taken of this fact to print an account of the electric railway development of the South. Separate articles were published on the railway systems in the principal cities in South Carolina, Georgia, Alabama, Mississippi, Louisiana, Texas, Arkansas, Kentucky and Tennessee.

The following year, 1894, marked the first decade of the existence of the STREET RAILWAY JOURNAL, and the publishers took advantage of this fact to include in the "Souvenir" of that year an account of the work and policy of the paper and also an extended history of the street railway industries during the previous ten years. In 1895 the convention met at Montreal, and the special issue that year was devoted to the street railway and electrical development in Canada.

Up to that time the convention souvenir issues of the STREET RAILWAY JOURNAL, while profusely illustrated, carefully printed on coated paper, and attractive typographically, did not differ greatly in size from the regular issues of the paper. The year 1896, however, marked the first of the big convention issues. The special issue in 1896 was combined with the regular issue for October and contained a series of carefully prepared articles on the different features of the St. Louis railway systems, which were then conducted by seven separate companies. It is interesting to note that this issue also included an article on street railway cars, by Richard McCulloch, who advocated the use of a long car with 36 seats in place of the short car with 28 seats which up to that time had been considered about as large a car as could profitably be used on city systems. This article attracted a great deal of attention in the East, where the short car was still the standard, but Mr. McCulloch's figures and arguments in favor of what was then considered a "long" car were so convincing that they assisted greatly in the general adoption of double-truck cars for city service. Other articles included one on the general power stations in St. Louis, by Winthrop Bartlett; a financial article analyzing the capitalization and earning capacity of the 28 principal electric railway companies of the country, and discussions on other topics of current interest.

In 1897, Niagara Falls was selected for the meeting of the American Street Railway Association, and the October issue of the STREET RAILWAY JOURNAL that year contained an account of the electrical development at that place and

in the neighboring city of Buffalo, as well as a notable article on engines for electric railway power stations, by Charles E. Emery, Ph.D., and other important contributions. In 1898, the convention was held in Boston, in September, so that the street railways of Boston and of Eastern Massachusetts were treated in detail. This "Souvenir" issue contained 120 pages, the largest number published up to that time in any one issue.

In 1899, Chicago was selected as the convention city and the issue of the STREET RAILWAY JOURNAL published just prior to the convention contained not only a full account of the surface and elevated electric railway system in that city, but a number of special articles on the electric railways of Europe, many of which had then just been electrically equipped. One of these articles was on the electric railways in Germany and was contributed by Louis J. Magee, then managing director of the Union Elektrizitäts Gesellschaft; one was on the British roads and was written by Prof. Sidney H. Short, who had recently disposed of his American interests in the Short Electric Railway Company to become associated with Dick, Kerr & Company, of London. The third was on the electric railways in Austria-Hungary and was from the pen of E. A. Ziffer, of Vienna, vice-president of the International Street & Interurban Railway Association. A fourth was on electric railway practice in Argentina, by E. Manville, of the engineering firm of Kincaid, Waller, Manville & Dawson, of London. In January, 1900, the STREET RAILWAY JOURNAL was changed from a monthly to a weekly paper, so that the convention issue that year was dated on the Saturday previous to the meeting of the association, a practice which has ever since been followed. The leading article was on the street railway system of Kansas City, the place of meeting of the association. The signed articles in that issue were from A. N. Comette, H. F. Parshall, John Lundie, H. H. Vreeland and Louis Bell.

In 1901 the association met in New York, and the issue of Oct. 5 was a symposium of traffic conditions in that city by the managers and engineers of the New York operating companies. In addition, Frank R. Ford contributed an analytical article on the traffic conditions of the city, and William Kent, M.E., one on the engineering features of the three power stations recently completed by the Metropolitan Street Railway Company, the Third Avenue Railroad Company, and the Manhattan Railway Company. At that time these were the largest electric railway power stations in the country. This number contained 156 reading pages, and, like subsequent convention issues of the STREET RAILWAY JOURNAL, really constituted a monograph on some one important topic of street railway interest.

It will be unnecessary to recite in equal detail the contents of the later special convention issues of the STREET RAILWAY JOURNAL. That of Oct. 4, 1902, described the system in Detroit and also contained other articles on interurban electric railway development. That of Aug. 29, 1903, treated in detail the electric railways in the Mohawk and upper Hudson River Valleys, and contained also a series of statistical articles descriptive of current engineering practice in the city track construction, overhead construction and rolling stock. The convention number of 1904 was issued on the twentieth anniversary of the establishment of the STREET RAILWAY JOURNAL, a date which was also coincident with the final year of activity of the American Street Railway Association. This number was devoted largely to putting on permanent record the early history of the industry and of the association. Among the

contributors were Thomas Lowry, T. C. Penington, C. Densmore Wyman, Leo Daft, Charles S. Sergeant, B. J. Arnold, B. G. Laume, Henry A. Everett, C. N. Duffy, J. G. White, John A. Brill, Frank J. Sprague, Robert McCulloch, E. C. Spring, W. J. Wilgus, L. B. Stillwell and Louis Bell. In 1905 an elaborate report was published on the Philadelphia Rapid Transit system with the text printed on heavy antique finish book paper and the half-tone illustrations on coated stock. In 1906 a similar monograph was published on the interurban railway development of the Central West, and in 1907 one on the electric trunk line installations in Europe and America. In the 1908 "Souvenir," as the readers of the *ELECTRIC RAILWAY JOURNAL* know, a review has been prepared of operating electric railway practice.

In other industries it may be possible to cover the engineering features by a series of books, but in an art which is developing so rapidly as that of electric railways, the ordinary book cannot be made adequate satisfactorily to cover the field. It has seemed to the publishers of the *ELECTRIC RAILWAY JOURNAL* that the exigencies of the electric railway situation demanded rather a series of yearly publications, such as have been described above, accompanied by prompt weekly service during the year on all topics of vital interest to electric railway companies.

AN UNDELIVERED POEM

Many delegates to the convention will not know, until they read this article, how nearly they escaped a full-fledged dinner on the part of the baby association ("The Transportation & Traffic"). This newest organization planned to have a dinner in the full sense of the word but in view of the many entertainment features planned, it was decided to forego the dinner till another time. Thus the songs that were written will never be sung. One of these tells a street car story and is printed herewith:

Tell me what's this awful object
Comin' down the village street,
With a bumpin' and a thumpin'
That it's difficult to beat:
With a rattlin' and a shakin'
And the squeak of rusty steel,
With a dingy coat of varnish
And a flat spot on her wheel.

Oh, her trolley pole is busted
And it's fastened up with string;
Her armature's short circuited;
Her foot-gongs will not ring.
All her gears are worn to shadows,
So she shrieks as she goes by
With a spavin on her fender,
And her journal boxes dry.

And the roadbed there in Podunk,
It would surely give you pain;
It is bulged by many winters,
It is washed away by rain.
It has never had new ballast,
It has never known repair,
And a single solid rail-joint
Would make Podunk sit and stare.

Now, the cause of these conditions,
'Twouldn't take you long to guess,
Though the village council members
Wouldn't willingly confess:
For they passed an "8-fer" franchise
And they knocked the earnings down—
So the trolley line in Podunk
Is a black-eye to the town.

Thomas K. Bell, chief engineer of the Interstate Railways, is here to attend the meetings of the Engineering Association. He is staying at the Dennis.

ACTION OF RAILWAY COMMISSIONERS ON ACCOUNTS FOR ELECTRIC ROADS

The proposed uniform classification of accounts for electric railways was brought before the National Association of Railway Commissioners, composed of members and other representatives of the various State railroad commissions throughout the country, at its annual meeting on Oct. 6 to 8, in Washington, D. C. The members of the committee on construction and operating expenses of electric railways who signed the report were as follows: William J. Woods, of Indiana; D. N. Lewis, of Iowa; W. J. Meyers, of New York, Second District commission; and James S. Harlan, Interstate Commerce Commission, chairman. In the absence of Mr. Harlan the report was read by Prof. H. C. Adams, in charge of statistics and accounts, Interstate Commerce Commission. The report, which was adopted without any discussion, was as follows:

In carrying out the provisions of Section 20 of the act to regulate commerce, as amended, the Interstate Commerce Commission realized the importance of first providing a uniform system of accounts for the steam carriers by which the great volume of commerce of the country is moved. It was for that reason that the preparation of a uniform system of accounts for electric railways was not actively taken up until the latter part of last year. In then entering upon the work, the commission followed the plan adopted in connection with the preparation of the system of accounts for steam railways. In other words, the electric railways were asked to co-operate in the matter. Various conferences were had with the representatives of the American Street & Interurban Railway Association and with members of the American Street & Interurban Railway Accountants' Association. As the result of these conferences a tentative text of classifications of operating expenses and expenditures for road and equipment was prepared and submitted to the various electric railways of the country for their criticism. Subsequently the text underwent some modifications to meet the suggestions made by the various interests involved. Most of these changes not only met with the approval of the representatives of the two associations above mentioned at a meeting held in Washington on May 12 and 13, 1908, but at that time were also considered and approved by representatives of several of the State railroad commissions. At this conference a special committee of five, consisting of four electric railway accountants and a representative of the Interstate Commerce Commission, was appointed for the purpose of making a final draft of the text for these accounts. This committee met at Atlantic City during the week of May 18 and prepared the text of the classification of expenditures for road and equipment and the classification of operating expenses which, on June 1 last, were approved by the Interstate Commerce Commission and are now ready for distribution.

THREE CLASSES OF COMPANIES

The annual operating revenues of the different electric railways in the United States seem to vary from less than \$10,000 to \$17,000,000. In order not to embarrass the smaller companies by requiring them to adopt a more elaborate system of accounts than was necessary, it was decided to divide the electric carriers of the country into three classes, designated as Class A, Class B and Class C.

Class A embraces all the electric railways of the country that enjoy annual operating revenues of more than \$1,000,000. For this class the text of the classification of operating expenses, thus prepared and approved by the Interstate Commerce Commission, provides for 88 accounts.

Class B includes all the electric roads, the annual operating revenues of which are more than \$250,000, but not in excess of \$1,000,000. For these roads the classification of operating expenses, as approved by the commission, embraces 58 accounts.

In Class C are grouped all electric lines that have annual operating revenues of not more than \$250,000. And for

roads of this class the classification of operating expenses, approved by the commission, provides 36 items.

The 88 accounts provided in the text for roads in Class A are so grouped that roads belonging either to Class B or to Class C can readily determine the accounts to which various items are to be charged. It is also possible to reduce the various accounts of Classes A and B to the 36 accounts provided for railways of Class C, thus affording an accurate basis for a general comparison of the operating expenses of all classes of electric railways.

An examination of the classification of operating expenses for electric lines thus prepared and approved by the commission will disclose the fact that it differs from the corresponding classification for steam lines in two particulars.

First. Joint facilities, debit and credit accounts are altogether eliminated on the ground that the occasion for the use of these items in connection with the operating expenses of electric lines is not sufficient to warrant the refinement in accounting methods which the application of such accounts would require. Many electric railway companies are, however, engaged not only in the transportation of passengers and property, but in the business of furnishing light to municipal communities, as well as power for the operation of manufacturing enterprises. To meet that situation joint debit and credit accounts are inserted to provide for such inter-departmental charges. Under this arrangement the total cost of producing power for transportation and lighting, for example, will be carried in the primary accounts of either one of the departments, and the necessary adjustment can be made through the joint debit and credit accounts.

DEPRECIATION CHARGES

The second respect in which the classification of operating expenses for electric lines differs from the classification of operating expenses of steam lines is in the matter of depreciation charges. This matter was left to the judgment of the several State commissions, at whose hands the whole question of depreciation will doubtless receive careful consideration. Although your committee assumes that the same tests that are applied to determine whether a steam railroad is under the jurisdiction and authority of the Interstate Commerce Commission will suffice also to determine whether particular electric lines are under the jurisdiction and authority of that body, nevertheless, it seems to be true that a substantial portion of the electric mileage of the country is not subject to the provisions of the act to regulate commerce. It was largely on this account that the Interstate Commerce Commission thought it best to accept from such electric carriers as are subject to its jurisdiction, reports including or excluding depreciation charges according as the several State commissions might require them or not. That is to say, if the greater portion of a particular interstate electric line is within the boundaries of a State which does not require the State lines to report depreciation, this will not be required in the reports of that line to the Interstate Commerce Commission. On the other hand, where the whole or a greater part of a particular electric line lies within a State which does insist upon depreciation charges, the Interstate Commerce Commission will require such charges to be set up in the reports made to it by that line. Under this arrangement the particular company will report in the same manner both to its State commission and to the Interstate Commerce Commission.

The matter of the date for making the classifications effective was the occasion of some difficulty and embarrassment. While the fiscal year of steam carriers generally closes with June 30 of each year, this seems not to be universally the case with electric lines. In investigating the question it was ascertained that of 193 designated companies, located in 39 different States, 113 had been in the habit of closing their fiscal year on December 31 of each year, 43 on June 30, 14 on September 30 and 23 on other dates. This investigation seems to indicate that the majority of electric roads have accepted the calendar year as their fiscal year, and it was this fact that determined the Interstate Commerce Commission to make the classifications for electric railroads effective on January 1, 1909. But your attention is called to the fact that under the terms of Section 20 of the act to regulate commerce carriers are required to file with the Interstate Commerce Commission

reports for each year ending on June 30. Although the new classifications do not go into effect until January 1, 1909, it would be very advantageous from every point of view if all the electric lines should adjust their accounts for the months of July to December, inclusive, of this year, to the new classifications.

In this connection it may be well also to add that a special form of annual report has been provided for electric railways to cover the year ending June 30, 1908. This form is not prepared in accordance with the new classifications, but is adjusted to what is understood to have been the previous practice of accounting among the electric lines. It was thought wise to save a year by calling for such a report, and it was deemed desirable also to have this annual report based on the old classifications in order that comparisons might be made with the first annual report under the new classifications.

In conclusion, your committee thinks it well to say that the Interstate Commerce Commission, in preparing these classifications, has had in view the fact that most of the State commissions have signified their intention of using them when issued, and also the fact that to a great extent the administration of the system of accounts for electric lines will rest largely in the hands of the State commissions.

COMMITTEE ON RAILWAY STATISTICS

Professor Adams presented also the report of the committee on railroad statistics, of which he is chairman. This report, which was adopted, contained a statement of conditions bearing on the accounting system for electric lines. An abstract follows:

In the report of this committee to the National Association of Railway Commissioners, at its last annual meeting, attention was called to the fact that the twentieth section of the act to regulate commerce, as amended June 29, 1906, followed very closely a resolution adopted by this association in 1897, and for that reason your committee thought it proper to include in its report a concise statement of the work undertaken upon the authority of that section of the Federal law, and to ask approval of the general principles underlying that work. It was further recited in the report that certain of the classifications and accounting rules could not be completed so as to be authoritatively promulgated prior to July 1, 1908, and it was requested that the authority of the committee be extended "to the consideration and approval, subject to subsequent report, of such changes in the details of this classification as may appear necessary when the entire system of accounting can be brought under review."

The association approved the above request, and by so doing expressed again its confidence in general uniformity and co-operation between the States and the Federal government, so far as the accounts and the reports of carriers are concerned.

Classifications of accounts have been prepared for electric railways, express companies and sleeping car companies.

Among the difficulties which arise in prescribing a uniform system of accounts for all transportation agencies, mention should be made of the manner in which steam railways should treat electrical equipment and electrical operation in the case of a steam carrier which operates at the same time by electrical power.

DIVISION OF CARRIERS

Another very practical question is suggested by the fact that the transportation agencies for which this uniform system of accounts is prepared vary greatly in the amount of transportation handled and in the gross and net revenue accruing therefrom. In the case of electric railways, for example, it was found necessary to adjust the classification to the requirements of carriers whose gross annual revenue varied from \$10,000 to \$17,000,000. In this instance, electric railways have been divided into three classes, according to gross revenue received, and the classification of operating expenses adjusted accordingly. Steam railways have been divided into two classes, the large and the small, and a condensed classification provided for small carriers. In this instance, terminal and switching companies are classed as small carriers, regardless of the amount of revenue which they may receive. It should also be stated that a small steam

railway which operates as a part of a large system is obliged to keep its operating expense accounts according to the extended classification. The proper treatment of industrial railways from the point of view of accounts and reports has not yet been finally determined.

An examination of the supplements to the several classifications would disclose three changes of sufficient importance to warrant specific mention.

First. Repairs, renewals and depreciation of work equipment have been transferred from the general account maintenance of way and structures to the general account maintenance of equipment. This change was made at the request of a committee of executives representing the American Railway Association, and was readily agreed to for the reason that the inclusion of charges for repairs on work equipment in the way and structures accounts seemed to be an application of the cost theory of accounting which resulted in impairing the usefulness of the accounts as general statements.

Second. The five insurance accounts in the original classification have been consolidated into a single account under general expenses. This change was also made at the request of the committee referred to.

Third. The equipment borrowed and equipment loaned accounts, which resulted in a separation of the per diem on interchanged equipment between operating expenses and income, have been abandoned, the total per diem being made an income charge. This change does not mean that the analysis upon which the classification was originally based is an incorrect analysis. The change was made because experience with these accounts seemed to indicate that the results did not warrant so extreme a refinement of accounting.

As a matter of information, it is proper to state that the committee of the American Railway Association above referred to urged strongly upon the Interstate Commerce Commission the abandonment of the rules and accounts involving the formal recognition of a depreciation charge in operating expenses. The commission did not approve this suggestion for the reason that the recognition of the principle of depreciation was believed to be essential to secure in the reports of the carriers a correct statement of net revenue from operations. Your committee desires to call especial attention to this conclusion, and to say that it approves the decision of the Federal commission in the matter, and further calls attention to the fact that the adoption of this report by the association will be a formal statement that the State railway commissioners, as a body, approve the principle of depreciation charges.

The committee presented as part of its report a paper by Charles A. Lutz, chief examiner of accounts, Interstate Commerce Commission, on "The Purpose of Examination of Accounts of Common Carriers Under the Provisions of the Twentieth Section of the Act to Regulate Commerce." Mr. Lutz said in part:

The purposes of examinations of accounts would seem to be classified as follows:

(a) To see that the uniformity aimed at in the classifications prescribed by the commission is, in fact, attained in the accounts as kept by the carriers.

(b) To prevent, through this method of supervision, such unjust discriminations prohibited by the act as the accounts may reflect.

(c) To assist in the adjustment of errors or inconsistencies in the monthly and annual reports rendered by carriers when such adjustments may not be readily and promptly made by correspondence.

(d) To assist in the further development of the system of accounts through investigations of conditions and methods in accounting for those matters concerning which the commission has as yet not prescribed classifications, and to make other special investigations from time to time as required by the commission.

George Keegan is presenting his annual sketch in multiple personality as secretary of the Manufacturers' Association and assistant to Vice-President Frank Hedley of the Interborough Rapid Transit Company.

CONVENTION PROGRAM FOR TO-DAY

Claim Agents' Association

(TRAYMORE HOTEL)

9:30 A. M. to 12:30 P. M.

Paper—"The Organization of a Claim Department for a Small or Moderately Large Company, Including a School of Instruction as a Means of Preventing Accidents," by Francis J. Ryan, M.D., Syracuse Rapid Transit Railway Company, Syracuse, N. Y.

Paper—"The Claim and Its Disposition," by Peter C. Nickel, Claim Agent, New York City Railway Company, New York, N. Y.

2:00 P. M. to 5:00 P. M.

Paper—"Uniformity in Claim Department Records and Accounts," by John J. Reynolds, Claim Agent, Boston Elevated Railway Company, Boston, Mass.

Paper—"The Duties of Claim Agents and Other Officials of Quasi Public Corporations to the Public," by Eugene R. Roberts, Claim Attorney, Knoxville Railway & Light Company, Knoxville, Tenn.

Appointment of Nominating and other Committees.

8:00 P. M.

Social Smoker and Entertainment.

Transportation and Traffic Association

(GREEK TEMPLE)

9:30 A. M. to 12:30 P. M.

Paper—"Carrying of United States Mail on Electric Railways, Its Advantages and Disadvantages, and the Compensation Therefor," by C. H. Hile, Assistant to Vice-President, Boston Elevated Railway Company, Boston, Mass.

Report of Committee on Freight and Express.

Paper—"Progress to Date in Carrying Freight and Express Matter by Electric Roads—Some Mistakes That Have Been Made and Their Remedy," by C. V. Wood, General Freight and Passenger Agent, New England Investment & Security Company, Boston, Mass.

Accountants' Association

(CONVENTION PIER)

2:00 P. M. to 5:00 P. M.

Registration and Badges (Convention Pier).

Engineering Association

9:30 A. M. to 12:30 P. M.

Registration and Badges (Convention Pier).

(AQUARIUM COURT HALL)

2:00 P. M. to 5:00 P. M.

Convention Called to Order.

Annual Address of President.

Annual Report of Executive Committee.

Annual Report of Secretary-Treasurer.

Appointment of Convention Committees.

Report of Committee on "Maintenance and Inspection of Electrical Equipment."

American Association

9:30 A. M. to 12:30 P. M.

Registration and Badges (Convention Pier).

(GREEK TEMPLE)

2:00 P. M. to 5:00 P. M. (Executive Session.)

Convention Called to Order.

Annual Address of the President.

Annual Report of the Executive Committee.

Annual Report of the Secretary-Treasurer.

Announcements.

New Business.

Reports of Committees.

(a) Membership.

(b) Subjects.

(c) Federal and State Regulation.

ADDRESS OF PRESIDENT ALLEN TO THE TRANSPORTATION AND TRAFFIC ASSOCIATION

The annual address of the president of the Transportation & Traffic Association, C. Loomis Allen, was as follows:

Owing to the unavoidable delay in the arrival of W. Caryl Ely, the opportunity which we have been promised of listening to a congratulatory address by him has been postponed until to-morrow. Mr. Ely not only was responsible for the organization of the American Street Railway Association and the formation of the American Street & Interurban Railway Association, with its now four active sections, but to him must be given the credit for the formation of this section, known as the American Street & Interurban Railway Transportation & Traffic Association; since upon Page 311, Vol. 1, of the proceedings of 1907, is found the resolution offered by Mr. Ely, which directed the executive committee to take the necessary steps to encourage the formation of this organization.

As this is the first convention of the Transportation & Traffic Association, there is no history of work performed or of things accomplished. The association is neither bound by traditions nor precedents of any name or nature. There is one thing certain, however, there is much work ahead, and the accomplishment of this work will redound to the credit of every member of this association, and more particularly to him who gives his time and energy to this work. The secretary will, in the proper order of business, report the proceedings or minutes of the organization of this association at a meeting held in New York City on January 30, 1908. This address will, however, only refer to the proceedings of that meeting in mentioning the committees, which will be sufficient to outline the possibilities of the work and development of the Transportation & Traffic Association.

The work in the American Street & Interurban Railway Association will in the future undoubtedly be confined very largely to questions of policy and public relations, including national, State and municipal governments, and to such other matters as only the chief executive officers would be interested in, and to the parent organization is left this most important field of work.

The oldest branch of the American Association is the Accountants' Association, and for 11 years the Accountants' have carried on a most excellent work, the value of which is clearly understood and fully appreciated by every manager, and to measure that value would be difficult indeed. It is from the accountant that a true statement of the gross revenue and operating expenses is obtained.

The second section of the American Street & Interurban Railway Association to be formed was the Engineering Association, which has held five conventions. The efforts and energy expended by the engineers in fixing standards of maintenance and construction have produced results which, while not as perfect as future years will produce, should be and are greatly appreciated.

The third section is the Claim Agents' Association, this being its fifth annual convention. If the only evidence of its existence were the sending of circulars to the member companies, calling their attention to, and warning them of the activities of accident fakirs in various localities, the unanimous opinion would be that their work had been productive of much good.

The Transportation & Traffic Association has a much larger field of work, and it will require in the future the

expenditure of more energy, more time and more money if the greatest results from this fertile field are to be produced. The accountants, the engineers and the claim agents are, to a very large extent, the consumers of gross earnings; the transportation and traffic men are primarily the producers of gross earnings. The statement of this fact alone proves the greater field of work of this association, and by the same token, much more is expected of its members. Since the organization meeting, it has been a pleasure to devote considerable time to the work of this association, and the president is convinced that the best results and the work that will be most appreciated by street railway operating men will be produced by committee work. It is not intended that committee work shall be confined to a meeting of a committee once or twice during the year and wondering what form of report and what facts embodied in a report shall be presented to a convention; but by committee work is meant the study and knowledge of conditions existing in the various properties of the member companies as bearing upon the subject which the committee is considering, the reduction of these conditions to a fair statement in writing, the remedy which should be applied to reconcile abnormal conditions insofar as is practicable, and the recommendation by the committee of a practical application that will meet transportation and traffic conditions; that will, if you please, perfect the street railway service for its patrons, with all that that perfecting may mean. After this practical recommendation, the following up of its application, the timely readjustment of the recommendations and the insistence upon the use of transportation and traffic standards, not only by the member companies, but securing as well, if possible, the adoption of these standards by the national, State and municipal public service commissions. For the accomplishment of these results, all committees should consist of six men, two to serve for three years, two for two years and two for one year. This plan makes possible the infusion of new blood into the various committees each year. The appointees to these several committees are expected by the association to accomplish much in the work allotted to them, and much depends upon the personnel of these committees. Something of this idea was in the mind of your president when the five standing committees, namely—"Training of Employees," "Promotion of Express and Freight Traffic," "Promotion of Passenger Traffic," "Rules for City Operation" and "Rules for Interurban Operation"—were appointed. You must judge of the results of this committee work at the close of this convention. No doubt additional standing committees should take up and study other transportation matters; the suggestions for these committees should come, however, from the members at each convention.

To pursue the question of this committee work in greater detail, the following illustration is given, taking the Committee on Interurban Rules as an example: This committee has been in session three days; its report will be read in full and discussed in detail by the members at this convention; the report and discussion will be published in the minutes and in due time forwarded to the member companies. The report reflects the judgment and experience of the members of this committee as to the best rules for operation of interurban railway properties, but their recommendations of to-day may not be, and in all probability will not be, their recommendation of one year from to-day, and certainly will not be, five years hence. Why? Changed conditions. In the street railway business we do not stand still. We are moving, and undoubtedly, in the direction of improvement in transporta-

tion matters. What might be considered good practice in 1908 in train rules or dispatching very likely would be considered obsolete, or, at least, not up-to-date, in 1913. This committee, through the secretary of this association, should send to every street railway company in this country a copy of this report and the discussion thereon, together with a circular to be prepared by the committee requesting the results of their interurban operation and inviting criticism of this code of rules, or reasons for its non-adoption, and their recommendations. Many of the roads may not answer this circular. The officers of many roads do not like the system of circulars that are sent out by the secretary of the parent association on the various subjects presented to the association, upon which information is desired; but there is one thing certain—if practical, desirable information is to be obtained, it must be given by the member companies, and there is no one who should regret furnishing any details of operation or experience which might be useful to another member, and if these circulars were viewed in this light, the answers would be received by the secretary more promptly, and the feeling that another daily bulletin has been issued upon some subject would be changed from one of dislike to, at least, one of duty to furnish the desired information, and that promptly.

You will pardon the digression from the question of committee work to the one of answering the secretary's circulars, but it seems appropriate to speak of it at this time. There is no one in this organization who, if serving as secretary of the American association or any of its allied branches, would not have sent out these circulars, and even more of them. It is the sending and answering of these circulars and the proper filing of them in the secretary's office that is not only making these organizations valuable at the present time, but, as time goes on, will make them absolutely indispensable to the members.

To resume: When the member companies have replied to the circular, giving the results of their knowledge, observation and experience, their reasons for or against adopting such code of rules, it should be the duty of the committee to study these recommendations and answers, and, based upon the results of their study, either to recommend again the adoption of their report at the next convention, or, if it is to be amended, recommend the amendments to it. In other words, to make the report each year up-to-date, and representing the best knowledge, practice and experience of the day.

Your president believes that the sessions of this association should be taken up, very largely, in the consideration of these committee reports, and that but little time, comparatively, should be spent in the reading and discussion of papers. There are, however, certain subjects which are bound to be live subjects, and in which great interest will be taken by the members; and the Committee on Subjects and Program should endeavor to have one or two papers at the annual convention on subjects that cannot well be handled by committee work, due to lack of knowledge or practical experience with the subject.

The policy of your officers in relation to the reports and papers, which was adopted only after full discussion and careful consideration—namely, the printing of the committee reports and distributing them only prior to their being read, and the reading of the papers from manuscript only, and not printing and distributing them prior to the convention—it is believed will be productive of the greatest interest and the best discussion at the convention. This question should be discussed, however, in the proper order of business, and the

sentiment of the convention obtained by a vote upon the subject.

Sincere thanks are extended to the officers and committees of this association for their co-operation and the work done since the organization meeting. All members of this Transportation & Traffic Association are urged to be prompt at its meetings, and to remember that they have come here not to listen alone, but to discuss the papers and the committee reports, giving the association the benefit of their knowledge, observation and experience.

ADDRESS OF PRESIDENT OF CLAIM AGENTS' ASSOCIATION

The annual presidential address of H. R. Goshorn was delivered before the Claim Agents' Association on Monday afternoon, October 12, at the meeting place in the Traymore Hotel. The address in abstract follows:

It is gratifying, indeed, that so many are here. I am convinced that the interest in these conventions would be much greater if more of our members could attend, and that many more would attend if they could be spared from business in October. How much better for all concerned it would be if our annual meetings were to be held in mid-summer when the courts are closed. Then we would not be so hurried in our convention work. There would be more real pleasure for us and more real benefit for the interests we represent.

Notwithstanding the handicap, I believe that our association has shown capacity for good work, that it has already accomplished something, and that if given the opportunity it will one day be recognized as one of the most useful of the affiliated street railway organizations. The assistance we have been enabled through our acquaintance to render each other in our work is no small matter to our respective companies. It has a real value that can often be reckoned large in dollars and cents.

There are other and even greater benefits, some already here, others on the way. Two years ago at the Columbus convention your then president addressing the parent organization stirred the assembled presidents, general managers and operating men by showing the enormous cost of preventable accidents. He urged upon them the need for greater effort in preventing collision of cars, premature starts and other mishaps of the indefensible sort and declared that that was the only way to stop the growing expense of their claim departments.

PREVENTABLE ACCIDENTS

Again at last year's convention the prevention of accidents by systematic and persistent instruction of the men who run the cars was ably presented by the pioneer in that line of work, F. W. Johnson. No subject received more marked attention from the members present. In the eager discussion which followed it became apparent that the seed sown a year before had taken root. A number of members described the efforts of their respective companies to curb the accident habit among their operatives by providing them with more or less thorough courses of instruction. The subject was later taken up by the electric railway magazines and it is to-day engaging the serious attention of managers of many of the progressive electric lines.

To the credit of the claim agents it must be said that in most cases they are not only behind the movement, but are actually doing the work. They have come to realize that the over-busy division superintendent cannot be relied upon

because he has not the time and frequently not the equipment for the proper accident instruction of conductors and motormen. And so it usually is the claim agent who is educating the men in the work of preventing and the proper handling of accidents. Astonishing results have been obtained. The number of accidents has been cut down, particularly the most serious kind, and the "blind" or unreported cases greatly reduced. Instead of an average of two or three witnesses per report, the number has been raised on some roads to seven, eight and even more. On one division of our company we had last month an average of a fraction over 10, and on our entire system the average was 7.3 witnesses to every accident reported. How important this is in protecting a company against the numerous claimants who sustain injuries through their own negligence! With such an imposing list of eye witnesses you do not experience so often the feeling that it is cheaper to settle than to fight for your rights, regardless of liability.

Yet this result is obtained by little effort and small expense. A carefully prepared talk to the men collectively at stated intervals, followed by a semi-monthly or even monthly distribution of a simple folder or bulletin to keep up their interest in the course of instruction—nothing more. You do it all yourself. The extent of your success depends entirely upon how much spirit and intelligence you put into the work. To any company here represented which has failed to take up this work I cannot too strongly advise that it be deferred no longer.

INDEX BUREAU

Another evidence of progress in our association is to be found in the organization of the local index bureau. While such bureaus have not multiplied as rapidly as they should there has been a most encouraging growth. A year ago New York and Boston had the only local index bureaus in operation, and when Russell Sears, of Boston, at our last convention delivered a short address, setting forth their advantages, few of us comprehended the idea. I am free to say that I did not. But, shortly afterwards, a visit to Boston for investigation opened my eyes, and three months after Mr. Sears' address we had organized in Philadelphia and had our local bureau in operation.

The plan of organizing a national index bureau was then taken up and with that end in view the formation of local index bureaus was proposed by the executive committee of the Claim Agents' Association. A circular explaining the whole subject was sent out to all our member companies asking their co-operation in the movement. That the response was not more general was, I believe, due to a misconception of the plan. Nevertheless, good progress has been made, considering that only eight months have elapsed since that circular was issued.

There has been established, I am informed, a large bureau for the cities of St. Paul and Minneapolis and others in that section, by A. M. Robertson, of Minneapolis. The Central Electric Railway Association, through the efforts of E. C. Carpenter, has recently organized in its territory²—Ohio, Indiana and Illinois—a central bureau, covering all member companies of that association and expects to extend the service to other firms and corporations within that large field. In Baltimore James R. Pratt has recently established a bureau which logically will include Washington and other neighboring cities within its territory before very long. A letter from C. B. Hardin, of St. Louis, some time ago, indicated that he would soon have a bureau in operation in that city. The largest bureau is in Chicago.

It was organized about January 1 last, and has 36 subscribers, including the city of Chicago, which suffered so notoriously from the accident grafter that its treasury was recently on the verge of bankruptcy. It is said that the index bureau has greatly lessened Chicago's litigation.

Wherever they are in operation the local bureaus are popular with the subscribers. The accident insurance companies are generally glad to join them, as well as the steam railroads and other large firms and corporations. The street railway companies, of course, derive the greatest benefit because they have the largest number of claimants, but since they also have the greatest amount of information to give, they thus equalize matters with the other subscribers. Some idea of the work being done by three of the bureaus in the east will be found in the following:

The Boston Index Bureau, having 17 subscribing companies, since it began business in December, 1905, has accumulated reports on over 67,000 claimants, 2200 attorneys, 4700 doctors, memoranda regarding 100 "suspected" witnesses and 1100 newspaper clippings referring to accidents not otherwise reported. Since January 1, 1907, the bureau has answered inquiries from subscribers on 9836 cases, and since its organization has furnished over 19,500 references,—about 34 per cent of the reports received.

The New York bureau is conducted by the Alliance Against Accident Fraud and has been in operation about two and a half years. Its ten subscribers in New York have reported the names of 26,000 claimants, and they have on file reports on 2000 lawyers and 4000 doctors. This bureau confines itself principally to damage suits rather than claims, as I understand it. Since the first of this year it has reported references on 104 cases in which two or more damage suits had been brought against the bureau subscribers. In two of these cases fraud was shown up by the information furnished by the bureau, and the suits were thrown out of court. Owing to its connection with the Alliance Against Accident Fraud the New York bureau has taken up the criminal prosecution of crooked claimants, the disbarment of dishonest lawyers and other matters not yet contemplated by the other bureaus.

In the Philadelphia bureau we have placed on file in nine months of business reports on 17,000 claimants, 2500 doctors and 1725 lawyers. We have had references on 700 cases, and our files contain newspaper clippings on 2205 accident cases not otherwise reported. These references are mainly on damage suits, as we have not thus far kept a record of the others.

It must not be supposed that every "reference" means a fraudulent claim uncovered. The term is applied to any case reported by one subscriber where the same party appears in the index as having had a previous claim against another subscriber, or it may be that a member of the same family has had a previous claim, or even a party by another name in the same house has had a claim. The bureau includes an index to houses, as well as to the inmates, and therein lies one of its valuable points, for as many as six claimants of different names have been traced to the same dwelling. Furthermore, it is of value in checking up jury panels to ascertain how many of the jurors have suits pending against you or have other members of their households in that position. In this detail alone you will sometimes find that the expense of maintaining the bureau is well worth while.

The time is almost ripe for the organization of a national index bureau operated by our association, to which can be reported the names of all claimants against every member company, and in which the files of every local bureau can be duplicated. The progress we have made in the present year

gives us reason to expect that another 12 months will see a chain of local bureaus across the country, so that the formation of a national accident clearing house will be a mere matter of detail.

If it were not that it requires upward of a year after a local bureau has started for the accumulation of a sufficient number of reports to give it substantial effect, I would say that we are ready at this minute to establish a national index or information bureau. The cities and towns already enlisted, from Boston to Minneapolis, provide an excellent foundation for such an organization. Once it has been put into operation additional recruits will fall into line, until eventually we will have a wonderfully effective machine to protect our companies against the fraud, the migratory fakir, and others equally dangerous.

First, we must decide whether or not we need and want such a clearing house. If so, our executive committee must take it up with the officers of the parent body and secure their permission and assistance. There is much to consider before final plans can be laid. Shall we join hands with the Alliance Against Accident Fraud or shall we effect a combination with the Hooper-Holmes Information Bureau, or both? The Alliance has a committee appointed ready to confer with us on the subject, if we wish, or to meet us half way on any reasonable plan that may be offered. With more than a million of claimants' names in its indices and a large clientele of casualty and liability companies, electric railways and the leading steam roads, Hooper & Holmes have something really substantial to offer in the way of such a combination.

The question of expense must also be considered. To be attractive to all our members the system must be inexpensive, but, as all who have had experience know, the small cost is a strong feature of index bureau work. Although much more could be said I will leave this subject now with the earnest hope that it will be taken up seriously by the next administration and that by another year every street railway will be enjoying the advantages of a local index bureau. A national bureau will, I believe, follow as a natural consequence.

AMENDMENT TO CONSTITUTION

In a circular issued under date of Sept. 10, you were notified of proposed amendments to the constitution and by-laws. The executive committee of the parent body desires that the constitution be amended so that the associate membership may be increased and classified. At present an associate member's rights are broader than necessary, but if the amendment is adopted associate membership will only entitle the holder to the privileges of the subsidiary organization to which he has been elected. A substantial increase of income is expected to result from this amendment. This matter should receive your attention if approved by your executive committee.

You are doubtless familiar with the proposed amendment to section 1 of the by-laws which provides for making the office of our secretary-treasurer an honorary one and transfers the active duties to the secretary-treasurer of the parent organization, the officers of which have asked for the change. This matter should be considered and impartially decided at the present session. The other amendment to section 1 relating to past presidents of our association is of little importance. The engineer's association is voting on the same proposition at this convention.

A word about the Question Box. In 1906, when it was first inaugurated, 26 member companies sent in answers. The next year 27 answered. This year the number was doubled,

55 companies responding. Let us double it again next year. A proper interest in this feature of our work cannot fail to benefit us all.

As noted in the executive committee's report, W. F. Weh, our second vice-president, has resigned from our association because the reorganization of the Cleveland traction system took him out of the street railway business. While he is at present engaged in another field, he hopes for an early return to claim work. I know you will join me in regret at his leaving us and in wishing him all possible success for the future.

In conclusion I take this opportunity of rendering my sincere thanks to the officers and members of this and the parent organization for the loyal support I have received and the many courtesies extended to me. I gladly return to the ranks and my successor in office may be assured of my hearty co-operation in the work of the coming year.

ABSENCE OF PRESIDENT GOODRICH

All attendants at the convention will regret to learn that the chances are against the presence at Atlantic City this week of President Calvin G. Goodrich, of the American Street & Interurban Railway Association. Mr. Goodrich has taken a very active interest in the association throughout the year and fully expected to be present at the convention this week. Owing, however, to the serious illness of Thomas Lowry, president of the Twin City Rapid Transit Company, who is a brother-in-law of Mr. Goodrich, and who has been sick for a long time, it was considered inadvisable for Mr. Goodrich to be so far away. The Twin City Rapid Transit Company, however, is well represented at the convention by W. J. Hield, general manager, A. W. Warnock, general passenger agent, and G. L. Wilson, engineer maintenance of way.

ENTERTAINMENT FEATURES

The roller chair committee this year is composed of Ross F. Hayes, The Curtain Supply Company; W. H. Wilkinson, Pressed Steel Car Company; W. J. Walsh, Galena-Signal Oil Company; W. R. Kerschner, Columbia Machine Works; C. L. Walters, Adams & Westlake Company; J. H. Denton, Allis-Chalmers Company; E. B. Smith, American Brake Shoe & Foundry Company; S. P. McGough, Lorain Steel Company; F. L. Olds, Chicago Varnish Company; F. A. Elmquist, Sherwin-Williams Company; H. M. Frantz, Johns-Manville Company. The committee calls the attention of delegates and guests to the notice in the official program to the effect that chairs will be furnished to those wearing official badges between the hours of 9:00 a.m. and 6:00 p.m., except on Wednesday and Thursday, when the hours will be from 9:00 a.m. to 9:00 p.m. Regular stations have been established at the main entrance of Young's Million Dollar Pier and on the Boardwalk opposite the Chalfonte Hotel; and a special station has been established on the Boardwalk opposite the Marlborough-Blenheim, where chairs may be taken between 9:00 and 10:00 a.m. Other stations will be established if found necessary. For the convenience of guests of the Marlborough-Blenheim, Dennis and Shelburne, a special station has been arranged for on the Boardwalk in front of the Marlborough-Blenheim, between the hours of 9:00 and 10:00 a.m., or longer if necessary.

HOW CAN THE SMALL ROAD BEST PROMOTE TRAFFIC AND INCREASE ITS REVENUE?*

BY ERNEST GONZENBACH, GENERAL MANAGER, SHEBOYGAN LIGHT, POWER & RAILWAY CO., SHEBOYGAN, WIS.

The career of any electric railway, and particularly the smaller one, is never a path of roses. Between the unscrupulous political demagogue, the gullible public and the still more unscrupulous and rascally franchise grabber and speculator, the legitimate business of earning money by means of carrying people and goods on electric cars is beset with difficulties. The electric railway business is a retail business dependent entirely upon a local market for the sale of its product, but quite unlike any other retail business, the electric railway cannot pull up stakes and move its location and try its luck in a new field if the market does not suit. No matter what imposture may injure us, we must keep on, not even the bankruptcy courts can save us from supplying our wares.

To sell them, electric railways must have, in comparison with other retail businesses, an enormously expensive plant. The average retail store having a capital of \$100,000 will do a gross annual business of \$500,000 or \$1,000,000, sometimes more. The electric railway to do a business of \$1,000,000 yearly has to have at least \$5,000,000 invested in its plant, and this money is tied up in such a way that removal or change of location would destroy almost the entire plant. We may consider that electric railways are permanent retail commercial establishments serving the community in which they are located; that the amount of money tied up in plant, equipment and stock in trade is enormous in comparison with other retail businesses, and it is apparent that the location of this business is finally and positively fixed for all time. The electric railway must serve the community whether the community appreciates it or not.

The number of vicissitudes to which the purely retail business of electric railroading is exposed is all out of proportion to the stable character of the business. The ordinary retail establishment has only the problem of selling its wares at a profit. The electric railway must not only look to the sale of its wares at a profit, it must supply those wares many times without profit. Its vital principles are subject to regulation by incompetent authority and it is equally exposed to the blackmailing grafter and the franchise speculating highway robber.

A small electric railway, it seems now to be quite well established, is one serving a territory producing more or less a small revenue in comparison with other railways, located in better territory, serving a more densely populated community. A railway may possess a considerable track mileage and still be a small railway. The small road is at a particular disadvantage in the fact that it is more exposed to the attacks of the demagogues than larger roads; that it is in a weaker position and not as well prepared to defend itself, and it is, further, more often exposed to the attacks of the industrial freebooters who ravage the country from time to time seeking franchises and threatening to or pretending to build electric railways where none are needed, for the purpose of wringing a few dishonest dollars from those established interests which, more often than is generally admitted, by painstaking and costly efforts have brought a railway to a point where it is of some use to its

owners, as well as to the community. There is probably not a member of this Association who has not personally had some experience in combating the electric railway freebooters' flag of skull and cross-bones.

The problem among large electric railways is one principally of handling traffic and keeping discipline among employees. The large electric railway executive does not have to care where traffic comes from, and he is but very little concerned with its development. His troubles appear large enough to him, but they seem mere trifles when they appear in the life of an executive official of the small electric railway. When the problems of handling traffic and preventing strikes are the principal ones which trouble the management of an electric railway, it is a very good sign that the railway has reached the high-water mark of prosperity. There are hundreds of smaller properties whose executives would be very happy to sit down with a glad smile and a Havana cigar if they ever reached the condition where the handling of traffic permitted them, and as to the matter of strikes, the business agent and the walking delegate are busy in the nearest metropolis with political ambitions. There are some problems, however, which loom up mountain high to the average small electric railway man which might seem mere bagatelles to the smug electric railway executive of the plethora East. West of the Alleghenies the problem of traffic promotion and increasing railway revenues is an all-important one. As prudent retailers, we study conditions and markets where to best dispose of our product, who buys it and how often, who doesn't and why, and how can we make the first do it again and the second sorry he didn't do it before. Give the average person an opportunity and he will find his own excuse to use a pair of wheels as a means of locomotion, rather than the double-jointed pedal extremities with which Nature, with her old-fashioned notions, has attached in the place where, in the opinion of many, wheels ought to have been provided. There are some even who believe that in some cases Nature has provided the wheels, but in the wrong place. The desire for transportation is born with us. The entire community, from children to grown-ups, is one every ready market for the stock in trade of the electric railways, which is capable of subdivision and sale in about the following manner:

COMMUTER TRAFFIC

(1) Commuter's traffic is probably the bread and butter of all electric railway companies. A commuter, in the generally accepted sense of the word, is one who is an habitual rider at reduced rates. The electric railway commuter is a regular traveler, but he does not always have the reduced rates. Some of the interurban roads are issuing commutation tickets, and they are catering to this traffic with a great deal of profit to themselves and to the satisfaction of their patrons, but generally there is no commuter's rate on city lines. A straight 5-cent fare prevails, with very few exceptions, as when tickets are sold at the rate of six for a quarter. The small electric railway has probably more to gain from commuter's business and the cultivation thereof than have others. The average middle and lower classes in the smaller cities still have the walking habit, and much can be accomplished in the way of stimulating the street-car habit. A plan which the writer has followed for the past season has been to give a number of strip tickets printed slightly different in color from the regular supply, and these off-color strips would be "lost" in different portions of the city. The purpose of the off-color

*Read before the American Street and Interurban Railway Transportation and Traffic Association, Atlantic City, N. J., October 12, 13, 14, 15 and 16, 1908.

is to identify these tickets as they come into the office. A finder of one of these strips four times out of five becomes an habitual rider, and particularly is this the case among the workingmen. Another, and no doubt the best means by which the small electric railway can increase commuter's traffic is by providing clean, attractive cars, running absolutely on schedule time—stereotyped advice which is as old as the business.

There are many small electric railways all over this country which are providing too much and too frequent service, rather than the opposite, but to tell the average citizen or politician this, would be considered lese majeste. To illustrate this, it is only necessary to cite the fact that interurban cars in the Central West rarely use a headway of less than one hour and the public adjusts itself to the time of the interurban without the slightest inconvenience. In the smaller cities having a very uncertain street railway patronage, the city cars very often can be run on a headway of 30 minutes, and more money will be made by so doing than to run cars every 10 or 15 minutes. After a short time the public will become accustomed to the new schedule and while the process is somewhat disagreeable when first inaugurated, the public will soon become used to it. The writer increased the headway of cars and cut down the number of cars running to just one-half at a time when the public and politicians were all bitterly attacking the company. Under the new method, however, the cars are kept as carefully on time as the 20th Century Limited. Every motorman is provided with a watch and time-table, placed in front of his eyes, and is held strictly to account to arrive at a certain corner at a certain minute. This system, together with new cars, has had a good effect upon the people and they are even inclined to boast of the excellence of their street railway service, and very few of them, indeed, are aware that only one-half as many cars are in service now as formerly.

SHOPPING TRAFFIC

(2) Shopping Traffic in some cities is almost as certain as, and may be classed with, commuter's traffic. There are many places, however, where this class of traffic will stand considerable development. Patrons of this class are principally women, and it has been the writer's aim to appeal particularly to the feminine portion of the community in developing this sort of riding. For that purpose, so-called "shopping tickets" were issued for a time, good only between the hours of 9 a. m. and 4 p. m. There were a few feminine protests about limiting these tickets to hours not later than 4 p. m., but the result was very satisfactory. These tickets appealed to the natural bargain instinct of the women as they were sold 7 for 25 cents and they were placed on sale in all the stores. The merchants were furnished these tickets at 21 cents per strip, or 3 cents per ticket, and thereby made 4 cents or approximately 20 per cent on every strip sold. The bargain propensity of women encouraged them to begin the return trip before 4 p. m., in order to take advantage of the lower rate, thus relieving the peak hours. These tickets were kept in use for a year and a half, or until such a time as it was considered that this traffic had been fully developed. After it became apparent that no greater volume of shopping business could be secured, these shopping tickets were withdrawn on a convenient occasion, and the shopping passengers now travel on tickets sold 6 for 25 cents, and they are fully in the habit of returning before 4 p. m.

(3) Pleasure Riding is not necessarily riding to and from

an amusement park. Where amusement parks are provided, the ride to and from is usually anything but a pleasure, but the passenger hopes to get some of that article at the end of his ride. Amusement parks, therefore, do not belong in this class. Pleasure riding is that class of riding which consists of passengers getting on cars without any other purpose than the pleasure of the trip. This is possible on electric lines, but never on steam railroads. In the writer's opinion, pleasure traffic is more capable of development among small electric railways than any other class, but to develop it requires a fairly good roadbed and quite good rolling stock. There must also necessarily be some objective point, not necessarily an amusement park. If the company will carefully develop places having natural attractions, such as pieces of woodland, a lake or a beautiful river scene and other places where families can enjoy an outing, and will then still more carefully and painstakingly advertise such places, there will be developed a class of traffic which is fairly constant throughout the summer season and even at times during the winter. This traffic comes at a time of the day when it can be carried on regular cars without calling for extras. It is therefore virtually all "velvet," but it is utterly impossible to attempt to cater to this traffic if the rolling stock or the track or both are in such condition as to make the ride itself a discomfort. To be successful in handling this business we must have an objective point and we must make the ride part of the outing.

STIMULATING TRAFFIC

(4) Human nature requires a stimulant occasionally. In some cases the habit is developed oftener than occasionally. Electric railways have been imbibing rather freely the last few years in the form of unhealthy, unnecessary, tissue-destroying amusement parks. Just why an electric railway, whose business consists of retailing transportation, should enter into the business of providing amusements for its customers is a difficult question to solve, as difficult as the problem of intoxication. We seem to need prohibition laws preventing the sale and use of traffic stimulants quite as much as we do those covering liquid stimulants. The so-called amusement parks, which are started and maintained by electric railways and have been the rage for the past decade are ingenuous devices for adding to the peak load, for the relief of an overburdened treasury, and to keep the claim department from being overcome by ennui. That road is only half afflicted which has an amusement park on its lines without giving it any financial aid or having any part in its management. There are many roads, and, sorry to say, many small roads, which are actually operating and maintaining at their own cost an amusement park, apparently under the impression that they are making money by doing so. An amusement park sometimes does swell the receipts. It also swells expenses and maintenance, which have a habit of disguising themselves and sneaking in in unexpected places. The cost of an amusement park not only appears in the cost of "Advertising and Attractions" in account No. 31, but it shows in a considerable percentage in the accident column, account No. 33, it shows up in the wages of conductors and motormen, Nos. 17 and 18, and it has a way of eating into the coal pile at the power station. Counting these extra expenses and extra mileage, there may be some places where an amusement park is a benefit to the small road, but the writer does not know of any such case. If one is bent on providing amusements it would be much better to distribute the park appropriations

among the company's employees for the amusement of their poor relations.

• FREIGHT AND EXPRESS

(5) Inanimate Transportation, or the traffic in goods which cannot unload themselves. Judging from recent convention papers, the subject of freight traffic has as many points as a porcupine. Papers in favor of and reciting many advantages of freight traffic in no uncertain tones have been presented and discussed. There have been other papers which have been veiled attacks on the practice of handling freight and express on electric railways. It is generally to be noticed that the gentlemen east of the Alleghanias do not have much faith in the revenue producing capacity of freight transportation. West of the Alleghanias, that question seems settled definitely except in the minds of one or two gentlemen with Eastern affiliations. It would be folly indeed to suggest that the electric railway should go into the transportation of goods on the same scale as the steam road does. The profit in freight depends entirely on the magnitude of the business handled. Steam roads can move freight at a cost of a few mills per ton mile. It costs electric railways from one to ten cents per ton mile to move freight in an ordinary motor car. The cost can be lessened somewhat by having a motor car with trailers, but this is not the general practice to-day. If the small electric railway, therefore, would add to its receipts by the handling of freight, it must break away from the steam railroad classification and steam railroad rates. It must study the community served and must make a tariff which will attract to the service such a class of freight as can stand a fairly good remuneration for quick and convenient transportation. The low classes of freight, with very few exceptions, are not to be considered. The higher classes of freight and those requiring quick transportation can be and are being made the source of very considerable profit to electric railways. This class of business may sometimes be called express, and in some cases it in fact is, the electric railway actually calling for and delivering express packages by its own teams or by special arrangement with local expressmen. The latter seems to be the best plan for small electric railways. When an electric railway is so situated as to be able to run loaded passenger cars on short headway, the freight business has no attractions, but there are very few of the small roads, and particularly very few of the Western small roads, which are so fortunately situated, and any plan which will tend to keep the rails hot and the revenue coming in will meet a most encouraging reception among progressive railroad men.

ORGANIZATION

The above five subdivisions of the traffic problem can be handled to the advantage of the railway company only if the most thorough organization prevails and it is a mistake to suppose that only the larger railways are capable of maintaining it. Their organization may be more specialized, as indeed it is, but the small railway is capable of maintaining as thorough an organization and one quite as efficient. The component parts of the small road organization may have a greater variety of functions assigned to them and must therefore be more flexible, but they can be made to be as efficient. Organization is the oldest of arts—it has enabled the Romans and the Standard Oil Company to conquer their respective worlds—and it is to-day the least practised of all the well-known arts. Organization is not a part of the title of this paper, it deserves a series of

papers and a session of its own, and this paragraph is intended merely as a passing reference to its importance.

Employees.—All efforts of the management to increase the revenues of the company are unavailing if employees do not co-operate, and small electric railways are fortunate in being generally able to recruit employees from a class of labor which is superior in every way to the field from which the large companies must draw. In the smaller towns wages are lower, but employees have an opportunity of better living at a figure which would astonish the employee of a metropolitan company. The writer is aware of a number of instances where employees of small companies, working from eight to eleven hours a day and earning not in excess of \$65 to \$75 per month, and that with absolutely correct registration of all fares, are able to live in as substantial a manner as salaried employees in the large cities drawing as high as \$150 per month. There is, furthermore, the fact that the employees of smaller companies, located as they generally are in small cities and country towns, as a rule, are residents of the district, have families and a home which they own or are paying for and they are therefore more tractable and interested in their work than the class of men composing the majority of employees of the large companies.

Above all things, the small electric railways should not neglect the little niceties of the service, for instance, the matter of uniforming of employees, which is often glaringly neglected. There is nothing which adds as much to the service as neatly uniformed trainmen, and it does not matter whether the railway company is small or large, if its representatives are neatly uniformed, they will be twice as efficient as they would be if allowed their own free will in the matter of appearance. Keep a man dressed up at all times as if on parade and he will soon acquire parade ground discipline.

As for choice of trainmen, the writer's preference is for Irish-Americans. They are naturally quick-witted and endowed with sufficient natural tact to enable them to get along famously with untractable passengers, and if trouble does come, as it occasionally will, their racial characteristic is a guarantee that they will be masters of the situation. But the small electric railway cannot always choose or draw fine racial distinctions, it is sufficient to know that its labor market is extremely favorable.

It has been the policy of the writer to train employees to be both motorman and conductor. The latter two words have, in fact, been entirely abandoned, and the men are referred to as trainmen and numbered consecutively. They are shifted from time to time to keep them in practice at both ends of the car. The selection and training, together with careful uniforming and instruction of men, will in every case return the maximum amount of satisfaction and the greatest revenue.

OPERATING EXPENSES

Gross revenue is not altogether the final test of the pudding. There is usually a party at the back of the executive officer who scans returns and lays stress on net results. If the small electric railway prospers, it must not only look to increase in gross but it must still more closely look to increase in net. The simplest way and the one most often practised is to cut down operating expenses to the very lowest possible limit. This is a commendable practice, and it has indeed tided over many an electric railway in the worst periods of its existence at a time when gross revenue was small and money difficult to raise. An electric railway

has every right to operate at the lowest cost, even if it shall neglect maintenance for a period of two or three years, but it is a very dangerous habit to get into. Probably more properties have been wrecked by this than any other cause.

Lack of efficient purchasing power is another weak point. Rarely, indeed, is it that the small electric railway can afford a trained purchasing agent; the executive officer generally does his own purchasing. It is still rarer to find an executive officer whose training has enabled him to be in touch with the purchasing methods of large companies, that buy at the lowest possible market price. There is a still further disadvantage in that quite often the small company is struggling financially and making heavy weather of it, being inclined to be slow in payments and stretching the 30 days' time limit on invoices to 60 and 90 days. Large properties with ample revenue purchase for cash at decidedly less than the small company. Again, the small electric railway is at a disadvantage in generally being located away from a shipping center and its freight charges are proportionately higher. Those of the small companies who have not tried it, will be astonished to find the amounts which may be saved by careful purchasing and the placing of as large orders as possible at a time. The latter is an item which can best be done if repair parts and supplies are fairly well standardized and a year's supply may be ordered at a time. The work of the Standardization Committee of the Engineering Association will save much money to all classes of roads, but most to small ones.

This paper contemplates the handling of a property fully equipped and does not aim to discuss engineering judgment, but passing notice of one of the "secret sorrows" of many small roads must not be omitted, viz.:

EQUIPMENT

There seems to be a perpetual and heedless race between manufacturers of electrical equipment and between some engineers basking in the sunshine of the manufacturers' favor, as to who can equip a new road with the biggest stock of motive power. The fellow who succeeds in unloading on some poor, struggling embryo road, whose earnings-to-be are a mere guess and none too big at the best guess, the largest motors and the biggest generators and prime-movers, gets the most notice in the technical press and the most talking about at engineers' meetings, also the biggest smile and two glad hands from the sales manager. In no other business are manufacturers able to exercise the influence and even the despotic rule which they wield in the electric railway business and the luckless property or engineer who gives umbrage by daring to counter their dietum is marked for ostracism. It is not denied that on the whole their influence has been beneficial, but that need not prevent one from using one's own judgment. Large railway motor equipments are, no doubt, of some advantage, they give plenty of reserve power; they stave off the day when renewals must be made and they operate with little heating and general satisfaction to the engineering department, but—they add extra and unnecessary weight, they consume more power, they produce sharper peak loads, they require more copper in trolley and feeders, more substation apparatus, more generator capacity, more engine capacity, more boilers and more coal, and they cause general dissatisfaction to the financial department. The surprising fact is that so few are aware of the terrible drain which heavy equipments make on the treasury, a fact which is a compliment to the subtle adroitness of the manufacturers' campaign. To illustrate:

An interurban railway in the West is using four-motor equipments of 40 hp and 50 hp with 50 ft. cars, built about the same as other interurbans in Ohio and Indiana, with perhaps a little more care in eliminating unnecessary weight. The schedule speed is 28 miles per hour, grades 3 per cent, lay-over about 10 minutes every two hours. The power consumption ranges between 2.5 and 3 kw-hours per car mile at power station. The road has been in operation seven years and the service is noted for its promptness; cars are always on time. The only possible difference between this road and others is that the line voltage is never below 500 volts at the car and generally 550 volts. Keeping up the line voltage is the joker in the pack which has defeated the manufacturer's assertion that the road could not get along with this small equipment. There is not much good judgment in the practice of equipping cars with 600-volt, 100-hp motors and then letting line voltage drop to below 300 volts in actual service, about cutting in half the working capacity of the motors. Cars on that road average 280 car miles per day, power costs about 1½ cents per kw, about one cent of which is coal cost. Had 75-hp equipment been used, the power consumption would range between 4.0 and 4.5 kw-hours as determined by actual test by running such a car over the lines. Allowing a saving of only 1¼ kw-hour per car mile and one cent per kw-hour for coal, each car saves in cost of coal alone every year the sum of \$1,275. And that is only a little part of the saving; a far greater sum is saved in interest and depreciation of the extra plant, all the way back to the boiler-room, which is not bought. The semi-annual interest date has less terror by several thousand dollars for this road than it might have if all the expensive equipment considered necessary by some engineers and manufacturers had been bought. No passenger so far has seemed to care a continental about the size of equipment and gross-revenue, therefore, is not affected.

As to repairs and burnouts, that stuffed hobgoblin which is held up to view of intending purchasers, they have not been a burden. In the first place, the cooling effect on motors of the draft created by a rapidly moving interurban car seems to be generally underestimated. In the case above cited repairs have been higher than they would have been if larger equipment were used; it is intended, in fact, to completely rewind armatures and fields every two years or one-half every year. The complete rewinding of a 50-hp four-motor equipment can be done at a net cost of about \$500 or \$250 per year, a trifling sum considering the saving effected. It has not in fact been necessary to rewind as often as that, but care has been used to periodically test armatures and fields and as soon as any show signs of weakening, they are taken from interurban cars and mounted on city cars where service requirements are less severe. As the interurbans require new armatures, the weakest ones are selected from among the city cars, re-wound and used on interurban cars. It is not the practice to allow armatures to burn out from age and very few are so lost. There are other examples of roads besides the one here cited which use their own judgment and small equipments, with marked profit to themselves.

It is quite impossible to lay down any hard and fast rules for the general maintenance of the property as each one presents its own individual problem. There is one direction, however, in which the writer has been able to make a considerable saving, namely, in the careful selection of maintenance crews. There is in every community a certain class of men who are handy men at almost everything.

"Jacks of all Trades—Masters of None," but useful if properly directed. It has been the policy of the writer to make up a maintenance crew of such men carefully selected and this crew is available in almost every department. They are kept on track maintenance, but are all trained as extra conductors and motormen and are so used on peak days. They are also trained to handle the snow fighting equipment for the company. They are, furthermore, available for any extraordinary calls, the nature of which is endless and familiar to every railway executive. They can be used for erecting poles, for line repairs, extra substation help, working from a tower car, etc. A flexible crew like this is a wonderful aid and the source of endless satisfaction in small electric railway companies which cannot afford to maintain separate and distinct department lines. The wages of such men are fixed somewhat higher than those which prevail for common labor in the community and not quite as high as that paid for skilled labor. The men are put on a monthly basis and nothing is allowed for overtime except when working on cars as conductors or motormen, in which case they are paid for all overtime at the same rate at which the car crews are paid. They are occasionally allowed days off with pay, particularly if overtime has been called for frequently. It has also been the policy to occasionally distribute extra rewards in recognition of extraordinary efforts, but care has been taken that this distribution is made on a day at least two weeks removed from the regular monthly payday so that this extra honorarium will be more appreciated and the purpose of it not mistaken.

POLITICS AND POLICY

Not the least of the troubles of the small electric railway is the matter of politics and policy. The small politician takes his cue from the large one, and if the large politician uses a big stick on big corporations, the small politician uses the same-sized stick on small corporations. It is fortunate, indeed, that the politician is usually very much smaller than the stick he wields or a great deal of damage might be done. The average local politician does not consider the fact that running street cars in the city of New York or Chicago where they may be packed full and running with one-minute headway is not quite the same thing as running a partially loaded car every 20 or 30 minutes in the small city. In his mind the amount of money taken in is about the same, and if he is an honest politician he does not want a share of the money, but he does want to use the corporation as an illustration of his patriotic devotion to the "people." Just what policy the small road had best pursue in its relation to the public and public officials is one which is governed entirely by local circumstances, but the writer feels safe in saying that as a general rule the roads are too much afraid of the little politician with the great big stick. It is a fine art to keep the middle of the road between bull-doing the officials and servility to them. It is a good plan to borrow a leaf from the creed of the politician and "get in solid" with the public. The personality of the railway's chief executive will determine the value of such a method and there are dozens of ways in which one may win the plaudits of the proletariat without loss of dignity or damage to revenues. Let the railway or its officers win the good will of the public and the little politician will be very careful with his big stick.

Above all things, the electric railway executive must be a diplomat, but he must not be that poorest stick of all—the diplomat with a reputation. The most successful type

of diplomat very carefully avoids acquiring a reputation, for it will undo some of his very best work, and his ability may be judged by the extent of his success in suppressing a public knowledge of his ability. An electric railway executive who has the reputation of being very diplomatic in his dealings with public officials is half disarmed. The forceful man combining tact and strategy will always be a winner in the contests which confront the electric railway business. To illustrate: In a Western city the officials delighted in twisting the tail of the corporation which runs the electric cars. That corporation has been managed for several years by a set of speculators whose policy was plainly "the public be damned." The owners of the property decided the policy was wrong and put in charge of the property an accomplished diplomat, whose reputation arrived ahead of him. The politicians thought it perfectly lovely, the diplomat with a reputation was a good fellow and they could beat their tomtoms, demand, negotiate and compromise to their hearts' desire. But the company after a while tired of demands made for the sole purpose of compromising, and the diplomat and his reputation soon got a job with a large electrical manufacturing concern which makes a specialty of that sort of talent. A different policy evidently had to be pursued. The next executive arrived without any diplomatic reputation among his baggage. He also was a pleasant sort of chap and loved to hobnob with the politicians and the politicians loved to play with him. The politicians wanted certain things which it was impossible for the company to grant. The company said so, but the politicians insisted and even intimated that they might condescend to compromise. The company could not compromise. The politicians insisted some more and grew belligerent, besides that it was very nearly election time and the grand stand wanted its money's worth. The company responded by withdrawing all car service for a day. The victory was easily won, but the lesson lasted only a short time. After a little, the politicians thought they would try again and demanded something else. They found the company willing to do everything within its power, but did not seem to be able to give what the politicians wanted. Election time was coming around again and the tail was due for another twist. This time the company did not have to do a thing except threaten the withdrawal of the workmen's tickets which it had voluntarily inaugurated. The politicians saw the handle of a gun protruding and said nothing more, and that particular set of politicians to-day is perfectly docile and gentle. Too much coddling of politicians is a blot on our business; the public is not unreasonable, but the politician usually is, therefore, a good plan is to get right with the public and the politician is harmless.

To sum up, the way in which the small road can best promote its traffic is by going out after it and selling its goods to best advantage, and the way it can best increase its revenues is by a concentration of energies and expenditures and by keeping the proper balance between good service and public policy.

Two floats in the industrial parade at the recent celebration in Philadelphia, which were a striking example of the development in street railway transportation in the past 30 years, were exhibits of The J. G. Brill Company. One of the floats showed a street car which was in use 30 years ago. The other float showed a car of the pay-as-you-enter type, such as is used in large numbers in New York, Chicago, Buffalo and elsewhere.

CLAIM AGENTS' ASSOCIATION—MONDAY AFTERNOON SESSION

Owing to the unavoidable absence of President Goshorn, who was detained on account of court proceedings in Philadelphia, the opening of the first session was delayed until 3.45 p. m., when the Chair was taken by the third vice-president, J. S. Harrison, in the absence of President Goshorn, first vice-president Farrell and second vice-president Weh.

The president's address was read by Charles B. Hardin, claim agent, United Railways of St Louis. The suggestion made in the address met with hearty approval.

The executive committee reported that W. H. Weh, second vice-president, has resigned because of his leaving the employ of the Cleveland Electric Railway Company to engage in other business. The committee reported that at a meeting held in New York on Jan. 30, there had been some discussion about forming a national index bureau, for protecting the claim departments of railways liability insurance companies, manufacturing companies, etc. The president was instructed to prepare circulars describing the operations of the local index bureau organized in Philadelphia by Mr. Goshorn, and have a copy of each blank form used by this bureau sent with the circular as a guide, to all the claim departments of member companies with the request that they confer with other interested companies outside of the railway field in their respective territories with a view to organizing such index bureaus. The executive committee at this meeting adopted the following suggestions regarding the 1908 convention: That all papers be printed in advance as heretofore, but not distributed until read at the meetings, and then only to members on application; that the convention meetings be in executive session; that the secretary act as press agent for the Claim Agents' Association at the convention, and have sole authorization to furnish matter for publication.

The treasurer reported that the cash on hand Oct. 1, 1907, was \$9.26, and a remittance of \$800 had been received from Secretary Swenson of the American Street & Interurban Railway Association, making the total receipts \$809.26. The total expenses were \$807.89, leaving a balance of \$1.37 on hand Oct. 1, 1908.

At the conclusion of the routine business, F. W. Johnson, assistant claim agent of the Philadelphia Rapid Transit Company, announced that special arrangements had been made to take visitors to the smoker to be held at the Atlantic City Yacht Club on Tuesday night, leaving the Hotel Traymore at 8 P. M., a special rate of 15 cents per person each way will be charged. Details of the entertainment will be found elsewhere in this issue.

In the absence of President Goshorn, no committee assignments were made. The meeting then adjourned until Tuesday morning.

30 members were present at this meeting and it is likely that the attendance on Tuesday and Wednesday will be larger owing to the fact that few claim agents can afford to spend three days at the convention at this time of the year.

The Goldschmidt Thermit Company will give a demonstration of welding rail joints with Thermit on the pier this afternoon at 4 P. M. A crucible outfit has been set up on the west side of the pier between Marine Hall and the Annex Building.

TRANSPORTATION & TRAFFIC ASSOCIATION—MONDAY AFTERNOON SESSION

The first annual meeting of the American Street & Interurban Railway Transportation & Traffic Association was held at Atlantic City, N. J., on Oct. 12-15, 1908.

President C. Loomis Allen, of Utica, N. Y., called the meeting to order at 3 p. m. on Monday and, after announcing that W. Caryl Ely would deliver on Tuesday the congratulatory address for which he is on the program, proceeded with the annual address of the president, which is published elsewhere.

Following the reading of the annual address of the president, B. V. Swenson, the secretary, read the report of the meeting in New York on January 30, 1908, at which the association was organized. An account of the organization meeting was published in the Street Railway Journal of February 8, 1908, page 217.

John L. Beggs, Milwaukee Electric Railway & Light Company, called attention to several points in connection with the constitution and by-laws, which were included in the report of the organization meeting. It was suggested that three points be referred to a committee for consideration and report. A motion providing for such reference was carried.

The report of the executive committee, covering the work transacted during the year, was read by Secretary Swenson and accepted.

Mr. Swenson then presented his report as secretary and treasurer, covering the period to Sept. 30, 1908. This report said that all of the expenses of the Transportation & Traffic Association have been borne by the American Association, and that in addition, the executive committee of the American Association at the January meeting set aside \$600 for the purpose of committee work and other especial expenditures. Of that amount \$272 was expended to Oct. 12, 1908. The report was accepted.

President Allen then said that the association had been in session one hour and five minutes. He added: "We have gone through the routine business of the meeting, and, while there may have been some repetition of details in relation to the organization of the association and the work of the executive committee, at the same time it is absolutely necessary, in order that the proceedings should reflect the work of the association, that these details should be presented to you, and so we have now come to the point at which the real work of the association begins. I want to urge upon everyone present, again, that you are not here to listen alone, but you are all to give of your knowledge and experience, and we ask that each gentleman who takes part in the discussion will give his name and address."

The next topic on the program was a paper entitled "How Can a Small Road Best Promote Traffic and Increase its Revenue?" by Ernest Gonzenbach, general manager, Sheboygan Light, Power and Railway Company, Sheboygan, Wis. Mr. Gonzenbach was not able to be present, but his paper was read by J. H. Pardee, operating manager, J. G. White & Co., Inc. This paper is published elsewhere.

Mr. Carl A. Sylvester, assistant manager of the Newton & Boston Street Railway Company, expressed his interest in the paper, especially in what the author had to say in regard to dealing with local politicians. He did not believe in the policy of giving in to their demands. Success is brought about by trying to give good service and to arrange the schedules to meet the requirements of the public, and also

by being absolutely frank with the public. The public as a whole are reasonable; but the politicians are not.

Mr. D. A. Hegarty, general manager Little Rock Railway & Electric Company, agreed with Mr. Gonzenbach, except in the matter of commutation and other reduced fares, and in regard to schedules. In many small towns the local ordinances regulate the schedules. They call for a certain headway which must be maintained, no matter whether the cars are profitably loaded or not. This is the case in Little Rock, where on certain divisions the ordinances require the company to maintain a headway of ten minutes' service. Such service is too much for that line—that is we don't get the traffic. The line runs through the outlying districts of the town; half hour service would suit the traffic better and it would make is a more paying investment for us, but on account of our ordinance there we have to run on a ten minute headway. In regard to commutation rates most cities have a police power in regard to the regulation of fares, and if fares are reduced it may be difficult to restore them if they prove too low. Mr. Hegarty said that the rates at present in force require the company to sell six tickets for 25 cents until the town reaches a population of 60,000, and a census is now being taken to determine whether this number has been reached. Mr. Hegarty said that he knew, from past experience in Eastern cities, before he went west, that the sale of tickets for reduced rates, or say six for a quarter, did not increase the gross traffic. In one town in which he was stationed he abolished the six tickets for a quarter rate after it had been in force for some years, yet the company had an increase in revenues the first six months after the rate was abolished although there was no perceptible increase in the population of the town. The receipts increased about 21 per cent. That proved that six tickets for a quarter were not increasing the traffic any. In other cities people are carried on commutation tickets for three cents a trip although it costs the company $3\frac{1}{2}$ cents to carry a passenger. Of course if a company wants to do business for less than cost it can get all the business it wishes.

T. W. Passailaigue, Charleston (S. C.) Consolidated Railway, Gas & Electric Co., said that Charleston had a population of about 60,000, and the receipts of his company had almost doubled during the past ten years with an increase in the number of single truck cars operated of only two, and an increase of miles of city lines of only three.

Mr. Hegarty said, in reply to a question: that his company determined the proper headway of cars by plotting curves made up every day, showing the traffic in the road, and the seating capacity of our cars. Then if the cars are overcrowded, more cars are put on. The company had a short line on which cars were run on a headway of 10 minutes. When the company decreased the headway and put on more cars, the people stopped walking and rode on the cars. The Electric Railway Journal had a set of these curves.

All the properties controlled by the firm of Ford Bacon & Davis, use that same method in preparing their schedules.

Mr. H. A. Davis, Nashville, Tenn., Railway & Light Company, spoke commending the paper. I did not believe, however, in reducing the rate to 6 tickets for a quarter.

J. H. Pardee, operating manager, J. G. White & Company, New York, said that the title of the paper seemed to presuppose the fact that small roads do not pay, but that the paper itself and the gentlemen who had spoken had pointed out many ways in which the traffic and revenues can be increased. Another point to be considered was the education of the public in the matter of whether the

roads do pay or not. The Public Service Commissions in several of the States, particularly in New York State and in Massachusetts, have done a very good work along these lines, in educating the public to the fact that many of the small roads do not pay, and I think that not only the public is realizing that, but also the stockholders and directors. As this is a Transportation and Traffic Association, represented by managers, it seems to me that it is up to the manager of the small road to determine first, whether his road is really paying, that he has done everything that can be done to make the road pay, and then he has to educate and to present the facts, not only to the public, but to his own board of directors. Boards of directors are apt to think at times that a road pays, when it is not possible to make it pay, and they ask managers to do things in the operation of that road that are not for the ultimate good. It is the duty of the manager, if he is a good manager, to show these directors—and educate them if they are not practical street railway men—the exact condition of the small road. It is also the duty of the manager to show the public how much the company is giving, and how small a return it receives. In Massachusetts in some instances, fares have actually been raised, and in that way the small roads have been made to pay.

There is no question but that, as stated in the paper, and in the remarks of the speaker, many things can be done to increase the revenue, but at the same time there are many roads that are in a condition, or in a location, where it is absolutely impossible for them to be profitable. It is not only the duty of the manager in such an instance, but it should be his desire for his own self-preservation to show to the directors and to the public the exact condition of things; then the road, by action of the directors and its stockholders, will be put on a basis where it can be made to pay, either by extension of lines or the use of additional equipment or by some other improvement, or the company will be permitted to raise its fares. There is no doubt in my mind that in the near future the fares will be raised on many small roads, probably not on city roads but on small interurban and suburban lines. While some companies are passing through throes in working out proper means for raising fares, in time their action will be great benefit to the small roads particularly.

President Allen said that if there were any transportation men present who have succeeded in making successful a small road he thought it the duty of such men to stand up and tell about it.

Mr. J. D. Dozier, Nahant & Lynn Street Railway, said he had had an experience different from that of the majority of the delegates. He had charge of what is called a summer road. It did a flourishing business during three months and a half of the year. The remaining part of the year the road did practically nothing and the problem was to get enough money out of the property to operate it during the 12 months. The company started in 1905 and constructed a road through a little town with a winter population of 800 and a summer population of 8,000. It carried on a good Sunday something like 12,000 or 15,000 revenue passengers. That represented fares both ways. The road also had competition, which most railroads have not. There are two boat lines, one from the city of Boston and one from the City of Lynn. The officials made up their mind that they would endeavor to have enough revenue to begin with, and that at any time they saw fit and could do the business at lower rates, they would do so; the road started with an 8-cent fare. A round trip ticket was 15

cents, and 15 rides were sold for \$1.00, or 6 2-3 cents a ride. The company ran its cars on time, and in his opinion that is one of the best things a railroad corporation can do. In the winter time cars were run once an hour and in the summer time on a 10-minute schedule. That is as frequently as cars could be run on account of the fact that a small part of the track was single. Up to date they have been able to pay expenses and have a little bit left. He attributed this to the fact that they had enough to begin with. The railroads of to-day are not what they were 20 years ago. Look at the expense those days as compared with the expense in the present time. The public does not realize or appreciate the greater operating costs of the present and finds fault. His company believes in explaining to patrons everything they desire to know. A great deal can be done by this policy rather than with curt replies to inquiries. The first year his company had trouble, but explained it, and to-day, everything is harmonious. He fully appreciated the paper and agreed with the main points brought out. His company did not have the political factor to deal with as the three selectmen in his town co-operate with the railway agreeably. They never make any demand that he considers unreasonable. If one starts right in these matters, one will remain right; if one starts wrong, the probabilities are that one remains wrong—at least until the wrong is righted.

P. G. Gossler, vice-president, J. G. White & Co., thought that it would be very interesting to hear what the effect was of increasing rates and asked if there were present representatives of any roads who could describe what the effects on the traveling public had been.

Mr. Sylvester said the situation had been brought up on the Newton & Boston, and that a great deal of thought and time had been devoted in Massachusetts to the working out of some means of increasing revenue by an increased fare. First it was considered it might be advisable to put in extra fare limits. The company did not feel that that was advisable because the amount of revenue wanted was about 20 per cent to give what would be a reasonable charge and the company felt that this charge could be more evenly distributed by adding one cent additional to each of the fares. The method of going about it was to get the approval of the authorities, which was done in this way: In the first place a publication was made, showing the financial statements of the companies, the passengers carried, the revenue, etc. It was shown that the road consisting of about seven controlled companies was able to pay only about 2 per cent dividend. Frankness was shown on all sides, and absolute figures given of the earning capacity of the company. Finally the matter was brought up in a hearing before the Railroad Commission. In every way the company endeavored to give a publicity to the situation. The local newspapers took it up and the company printed hand bills, etc. At the hearing, a great many objections were raised, of course, by the local people and especially by the politicians. Those were met, however, with certain statements, and the speaker believed that the public appreciated them and believed the position of the company was sound. The decision of the Railroad Commissioners was to the effect that a one year's trial would be granted the companies to make this experiment. The trial on one road was commenced on Jan. 1, 1908, and the traffic dropped off approximately 20 per cent. Another road commenced with the new rates Feb. 1st. The traffic on that road dropped off very nearly 20 per cent. Of course it was a very unfortunate time to increase fares—it was in the height of the

depression. Gradually, however, the traffic has been coming back, so that the gross, while it has not increased to 20 per cent, has been in the neighborhood of from 10 to 15 per cent. Of course the number of passengers carried has decreased, but not in proportion to the increase of fare, so to-day the gross is between 10 per cent and the 20 per cent, which the company wanted. That has been the experience of practically all the roads on which the 6-cent fare was adopted. I should be glad to answer any other questions that I can.

G. W. Parker, Detroit United Railway, said that the discussion was so interesting he thought each member present should bring in an additional member to-morrow. Instead of having an attendance of 60, that would make 120 or 150; and he felt that those who had been neglectful of the opportunity of attending the meeting this afternoon will regret doing it to-morrow.

John I. Beggs, Milwaukee Electric Railway & Light Company, said that as Mr. Gonzenbach was from the same section of the country as he, he desired to say a word in general commendation of the paper. He wished, however, to throw out cautionary signals on some of the points which had been suggested by the author of the paper and which might induce some managers of small roads, as many managers of large roads have done, to offer inducements which would greatly increase the number of their passengers and would require increased facilities without increasing the number of dollars coming into the treasury. Everyone of these examples establishes a precedent not only to the small roads but the larger ones, and if pursued, will carry many more of the small roads into bankruptcy. The speaker believed that a great many of those present would be surprised, if they had the facts, to know the large percentage of interurban roads throughout the country which failed to earn operating expenses and fixed charges. In general, he approved Mr. Gonzenbach's paper and desired to add his thanks to the author for the many suggestions embodied in the paper, yet, people should not be led into the belief of the old apple woman who bought apples at \$2 a hundred and sold them 3 for 5 cents, and when asked how she could do it, replied, it was because of the great quantity she sold. He wondered how many of the operators of the small roads feel that they can continue to cut their rates. These managers, after a time, will grow to be managers of large roads and will find that many of the theories which they held as managers of small roads will not hold, as their road grows in mileage and in the number of people served. Mr. Beggs said one of the most important elements in the operation of electric railway lines is a rigidly maintained schedule as far as that is practicable, and it may seem to some from the paper to be an easy matter. It is an easy matter on a road of 7 miles, or eight miles, or twelve miles in length. But when that road comes to have several spurs, lengthening year by year until it gets up to 30, 40 and 50 odd miles, it is a very different matter to maintain the schedule on such a road, especially if it passes through a number of cities where there are obstructions to traffic and traffic regulations of various municipal bodies.

Continuing, Mr. Beggs said that he took issue with Mr. Gonzenbach's suggestion of putting in bargains, as it were—seven tickets for a quarter—and then giving practically the department stores 20 per cent of that. It establishes a bad precedent and the general public jumps at the conclusion if that can be done at certain hours of the day, it can be done all day long. He believes positively and was here to assert that the reduction of fares does not begin

to give the increased revenue which is necessary to make up for the difference in fares. In one of the Metropolitan cities a property which he administered, some nine years ago, applied for an extension of franchise and accepted an ordinance which provided for 6 tickets for 25 cents and 25 tickets for \$1.00. The reduction of fares which the tickets meant did not add, when it was made, a single passenger to the traffic on the lines and never had done so, and the revenue was reduced from 16 to 18 per cent., which was a very serious result; it was serious enough a matter in these times to operate a line even with a straight 5-cent fare. When passengers were carried for 4 cents, with practically universal transfers, it required the greatest skill and economy in the world and the greatest fidelity on the part of every employee of the company. These reduced fares were generally brought about by mountebank promoters, who had cursed the business, brought it into disrepute and made questionable the securities of the properties. When the operation was first started it did not appear to cost anything to operate the properties, and all the revenue appeared to be profit; but in about five years normal conditions were reached, although even then much of the wear that had gone on did not have to be replaced. Massachusetts was fortunate in having a Railroad Commission and laws which permitted increases of fares. The Central Western States had established rates of fares and there was no possibility of increases there because people had been inflamed by yellow journalism. He desired to display a cautionary signal. There were few of the rates that are sufficient to-day on any of the lines in that territory, no matter how consistently they have been fixed. During the summer season his lines were in competition with, for instance, the Chicago, Milwaukee & St. Paul road in the lake region of Wisconsin, practically paralleling it for 25, 30, 40, 50 miles through the same territory. The steam road made a much lower rate in summer than the electric lines. He had refused to yield to the importunities for reduced rates. His rates were as low as they could be made; cars were run every hour, taking passengers into the heart of the city, with expensive terminals. The steam railway ran four or five trains a day and could make a lower rate than the electric line, which maintained service all the time and throughout the year. He would like to ask whether the Newton & Boston Street Railway was able to reduce the number of units running over the tracks on account of the decline of 20 per cent in traffic?

Mr. Beggs said he offered to give a baseball park a certain amount of money if it would abolish the league in the city. The money derived from that business was not profitable because the company had to run a large number of special cars to the park at 12 or 1 o'clock in the day and keep them standing in the baseball park until 5 or 6 in the night, whenever the game might be finished. During this time the men were paid platform time, and the company was better without that character of business. A great many things made the difference between a profitable and an unprofitable property.

Many people seem to think that having taken a nickel from a passenger it makes no difference whether that passenger used three or four or a half dozen lines to reach his destination. It has been proven very conclusively that it costs so much money to take every passenger up and land him whether he is on a transfer or on a cash fare. And the fallacies of the business are only beginning to be realized. A company cannot carry a passenger for a nickel and then have 6 cents profit left.

Upon motion the meeting adjourned to 9:30 a.m. Tuesday.

Among the Exhibits

The Edwin A. Denham Company's representatives are located in the booth of the Globe Ticket Company, spaces 718, 720 and 722.

The Galena-Signal Oil Company's exhibit is located at the rear end of the main building and, as in previous years, is one of the most attractive booths on the pier. It has confined itself to a reception and lounging room for its customers and friends, where it is serving tea and cigars.

The exhibit of the Curtis Motor Truck Company, Decatur, Ill., has a distinctive location in spaces 851-855 in the Annex, Building No. 3, being entirely separated from the other truck exhibits, which are in Machinery Hall. The exhibit includes two types of Curtis forged steel trucks for high-speed interurban or elevated service and city service.

The Hale & Kilburn Manufacturing Company, Philadelphia, is making a specialty of fittings for steel cars, and its exhibit this year includes a number of types of all-steel doors and window frames, seat ends and similar fittings. It is also displaying all types of electric railway car seats for city and interurban cars, upholstered in plush, rattan and other materials. The special features of Hale & Kilburn seats include oval pedestal and base at the aisle end, single-rail foot rest, diagonal corner grip handle and tempered band and spiral spring construction in the seat backs and cushions and its patented reversing mechanism. A. F. Old, H. T. Bigelow, B. F. Pilson and Clarence Laskey are looking after the interests of the company.

The Crouse-Hinde Company, Syracuse, N. Y., has an extensive display of arc and incandescent headlights, including 39 lamps of 12 different types. Some of these are connected up and are shown in operation. The new flush headlight, exhibited for the first time, is attracting much attention. This is shown with plain glass front, gridded and semaphore lenses. The lense projects only about 2½ in. in front of the dash.

The Picrome Hide Company, Syracuse, N. Y., is showing their Quiride car seat coverings mounted on two-passenger reversible car seats. This covering is clean and sanitary; the samples show one finished in natural color, which is recommended, but other colors and shades can be furnished, particularly dark red and green. The exhibit also includes rawhide gears and uncut gear blanks. These are furnished for use with motor-driven air pumps, in repair shops and other places where quiet running is desirable.

A new machine for slotting armature commutators is being shown in operation by the Dwier Improvement Company, Hanover, Pa., at its booth, spaces 773-775. The machine operates on the principle of a shaper, the slotting tool having a reciprocating motion. It does its work quickly and cleanly and is said to have a number of advantages over circular milling cutters. This company is also exhibiting in operation an improved banding machine. Robert E. Mauley and Walter Gemmill are in attendance.

The Egry Register Company, Dayton, Ohio, came to the convention with an assignment of space in the Annex, Building No. 3. As a result of the exercise of the hustling pro-

panies of M. C. Stern, its general manager, it secured on Sunday a choice assignment in the Main Building, spaces 317 and 224, which adjoin. Here it is exhibiting its line of manifold copying devices and other apparatus used in connection with the system of train dispatching and waybilling which it advocates. If delegates have already received notices of this company inviting them to visit the company's booth in the Annex, don't forget the invitation, but forget the Annex and look around in the Main Building.

The Homer Commutator Company, Cleveland, is making no exhibit this year, but is represented by Baird, who will be on hand all the week. He is making his headquarters at the Marlborough-Blenheim.

The Schenectady Railway Company is the latest convert to the semi-plastic plug bond, which can be installed in girder rail in paved street without disturbing the pavement or removing the angle plate. The manufacturer, Harold P. Brown, is showing photographs and tests of the work at Schenectady, together with numerous other interesting exhibits at spaces 568, 570 and 572.

The striking, rich yellow body color used on so many cars throughout the country is recognized by those familiar with car painting as Lowe Brothers Company's cadmium yellow. For many years this company has been especially successful in maintaining the peculiarly beautiful tone and durable quality of this product, which has proved so popular with street and interurban and steam railways. A number of years ago one railroad company abandoned a cheap color it was using and adopted cadmium yellow, costing more than ten times as much when it was demonstrated that the high-priced paint was more economical in the end. Cadmium yellow is only one of the many colors the company makes especially for car painting. A number of other special colors which have given wide popularity to its products are described in a book—"Paints and Colors for Railway and Structural Uses"—which is a complete manual for car painters issued by Lowe Brothers Company. It will be sent to any one interested in car painting on application.

An innovation for an electric railway convention is the telescope through which the J. G. Brill Company will permit its friends to view the sun, moon and stars, and the ships on the horizon. The telescope is 5 ft. long, has a 4-in. objective, and will be in charge of an expert attendant. With a full moon and pleasant weather the telescope man will be busy. It is said (by certain salesmen) that there is a possibility of finding Brill snow sweepers and plows busy in the frozen moon country.

It is said that repairs costing \$30,000 had to be made on one of the skyscrapers in New York because the contractor saved \$5 by using a cheap paint on the structural steel in the base of the building. This may be somewhat exaggerated, but it illustrates the importance of using only the best covering for metal surfaces. The Lowe Brothers Company, Dayton, O., has given much attention during the past ten years to perfecting preservative and protective coatings for metal with the result that its red lead metal preservative, red lead lute, black metal coating, graphite, and other similar products now on the market are meeting with favorable comment from users. Their composition is based on careful scientific investigations made in the paint

factory and in the iron and steel mills of the causes and effects of corrosion. These products are being used by many of the leading steam and electric railways for painting cars, bridges and other structures. One advantage in using red lead metal preservative is that it does not harden in the container, is always ready for use and can be carried from place to place by the painters.

The Pennsylvania Steel Company has in operation as part of its exhibit a unique machine which has been built to test the wearing qualities of Manard steel rails. The machine was designed to reproduce as nearly as possible the actual conditions under which wheels wear rails in curved track. It consists of a circular track 20 ft. in diameter on which roll two 33-in. car wheels mounted on the ends of a revolving arm. The wheels are pressed outward against the rail by springs and the revolving arm is also pressed downward by spring pressure. A maximum vertical pressure of 67,465 lb. and a total side pressure against the rail of 15,000 lb. can be exerted by each wheel. The track is composed of three sections of 100-lb. rail of different qualities of steel and the comparative wear of the three rails under identical conditions is being measured. The machine has not been in service long enough to supply any accurate comparisons of wear, but the indications from the preliminary tests made so far are that Manard steel rails will outlast Bessemer steel rails in a ratio of more than 10 to 1. It is proposed to add to the machine a brake mechanism on each wheel and a wheel driving mechanism with which the condition of "all driven wheels" which prevails on electric railway tracks, can be reproduced.

The Consolidated Car-Heating Company, Albany, N. Y., has brought out a new signal for use at crossings which is simple and compact. It consists essentially of a substantially built switch operated by a pull cord which closes a circuit through a bank of lamps. The entire apparatus is weather proof. It is impossible for the lamps to remain burning after the cord is released, as the switch automatically opens the circuit. The signal can be seen at the booth of this company, space 114-115.

One of the most interesting exhibits at the Convention is the small Sherardizing plant in operation by Harold P. Brown, of New York, at spaces 568, 570 and 572. Sherardizing, or, as it is sometimes called, dry galvanizing, is a process of treating metals with zinc to prevent corrosion. It has a number of features that are said to recommend its use over hot or electro galvanizing. Small threaded articles and even micrometer screws can be successfully treated by this method without affecting their mechanical fit. The percentage of weight added is but 5 per cent, and, when applied to track nuts, bolts and overhead material, the life is greatly increased. Sherardized wire as a substitute for galvanized wire is merely a matter of designing suitable plants in which to apply the Sherardizing coating. Briefly, the process consists in packing the articles to be Sherardized into a closed drum or other suitable receptacle in contact with the ordinary zinc dust of commerce. The receptacle is then put into an oven and gradually heated to about 600 deg. F. for two or more hours, then allowed to cool down. The articles are found to be evenly coated with pure zinc, and will resist corrosion even when placed in salt water. A brilliant polish resembling nickel plate is obtained by buffing.

The National Ribbed Lock Washer for use on rail-joints, frogs and switches, electric motors, car trucks, and other places where it is essential to prevent nuts from working loose on bolts, is being exhibited by The National Lock Washer Company, Newark, N. J., in spaces 216-220. The company states that this device is being used by more than 80 per cent of the electric railways in this country, Canada and Mexico, as well as by many foreign roads. It has demonstrated by 22 years of service that it is one of the most simple and effective nut locks ever devised. To meet the large demand for these washers this company has recently erected an extension to its plant, in which has been installed new automatic machinery for their manufacture. The company is now in a position to fill all orders promptly.

The McConway & Torley Company, Pittsburg, Pa., which was a pioneer in the introduction of the M. C. B. type of coupler on the steam roads in this country, has an interesting exhibit in spaces 707-713, Marine Hall, consisting of two model cars equipped with an adaptation of the well-known Janney passenger type of coupler to meet the requirements of interurban service. The details of this equipment have been previously described in this paper. The question of standardizing couplings for this class of service to meet the requirements of the State and Interstate laws is a vital matter and one which will probably require early settlement, and every electric railway officer attending the convention will be interested in examining this exhibit, which is designed in general according to the recommendations of the Standardization Committee.

The convention exhibit of Allis-Chalmers Company this year is of unusual interest. Many improvements and new features of this company's appliances are being shown to street railway men for the first time, and the exhibit affords a good opportunity to become acquainted with the latest developments in the electric traction field. Allis-Chalmers Company has on exhibit only the latest improved devices which, it is believed, will interest visitors, including, among others, the following, all of which embody some one or more desirable features: One sectional slide engineer valve; one sectional O. B. governor; one sectional emergency valve; one new type cylinder head; one B-4 armature, complete; one set of bearings; one drop forged crank shaft; one AA-6 connecting rod; one connecting rod bushing; one section of impregnated field coil, and one armature coil of each size, wound with silk tape. In addition to the foregoing there is also to be found in Spaces 750 to 757, provided for this company, one two-car multiple unit train straight air equipment with the new type "J" emergency valves, the new "AA-6" compressors, and also one two-car train equipment with quick automatic air brakes, using B-4 compressors. These make a unique and one of the most extensive exhibits ever furnished for a street railway convention. The exhibit also includes a large number of photographs of steam turbines, engines, hydraulic turbines, gas engines, condensers, generators, rotary converters, street railway motors and controllers; power and electrical machinery of every kind, and complete traction equipments for power-houses, substations and cars.

The T. H. Symington Company, of Baltimore and Chicago, has an interesting exhibit of journal boxes fitted with a

malleable iron lid designed especially for electric cars operating in city service. The points of superiority claimed for this lid are its simplicity, secure fastening of the spring to the lid, and protection of the spring from possible blows by wagon hubs or other obstructions. The lid mechanism consists practically of one piece, the spring being so securely fastened to the lid as to eliminate all possibility of its being lost in service. The company invites a careful inspection of the sample boxes fitted with this lid on exhibition in its booth in Machinery Hall, Spaces 552-554. It is prepared to supply boxes equipped with the lid for any existing type of truck in common use.

The R. D. Nuttall Company is showing a large line of motor gears and pinions, including Titan manganese steel gears, which are so hard that no tool steel has been made which can be used to cut them. The teeth have to be ground. Gears for street car air-compressor work are also shown, together with automobile gears, and large and small split and solid gears and pinions. The company's removable rolled rim steel gears, which are constructed so that only the gear teeth need be renewed, are also displayed. Trolley stands and Detroit seamless trolley poles may also be seen at the company's booth. A 12-ft. pole is shown weighing but 21 lbs. and yet having all the strength required of any trolley pole, whether for high or low speed service. Nuttall sleet wheels and scrapers and a flexible shaft coupling for use wherever it is necessary to use two machines not on the same base, or where a change of alignment is liable to occur, complete the exhibit of this company.

The Standard Paint Company, New York, has departed from its usual custom in making an exhibit of its products, and this year can be found at space 735 where it has fitted up an attractive reception booth in which to receive its friends and customers.

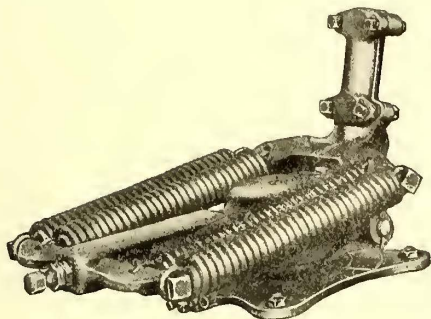
Standardization in the details of electric railway rolling stock has made a good start in the matter of brake heads and shoes, at least. Many electric railways have already changed their patterns of brake heads and shoes and are now showing a large reduction in the cost of brake shoe maintenance. In some cases the cost of new shoes purchased has been reduced 25 per cent. The American Brake Shoe & Foundry Company has been active in promoting the work of standardization along these lines and its exhibit in Marine Hall spaces, 763-767, is intended to point out in a striking manner the possible saving to be made by adopting the new standard shoe. It states that by using a separable shoe the cost of new shoes can be reduced from 5 cents to 10 cents and at the same time increased service can be gotten out of them.

A new type of panel heater has been brought out by the Consolidated Car-Heating Company in which no cast iron parts are used. The ends, back and face plate are all made of pressed steel, which makes an exceptionally light heater, and one which will withstand hard usage. The interior construction of the coils is of the Consolidated standard. Clamps are provided for holding the conduit and also a junction box on each end of the heater and this permits of making a neat installation. Several sizes of this heater may be seen at the booth of the company, space 114-115.

GENERAL ELECTRIC ROLLER-BEARING TROLLEY BASE

To meet the demand for a trolley base suitable for use on high interurban cars the General Electric Company has developed a new type known as the US-13 base. It is made of malleable iron of ample proportions for strength. The bearing proper consists of 34 tool steel rollers carried in a bearing cup which is constructed to be both water and dust-proof and to form a retaining well for the lubricating oil. This method of construction is said to give a constant and uniform lubrication of the rollers.

Pitting of the rollers through arcing is eliminated by a good contact obtained by having the center stud rest firmly on the stationary base. A cushioned stop has been pro-



The U S—13 Trolley Base

vided to minimize the possibility of mechanical injury when the trolley wheel leaves the wire. Four extra heavy tension springs are used and the spring retaining bolts, held by small cotter pins, are easily removed when it is necessary to place a spring. A heavily ribbed adjusting arm and slide, operated by a single adjusting screw, give a range of pressure of from 20 to 45 pounds at the wire.

While this is a comparatively new device, it has undergone severe tests in actual service, having been installed on cars operated by the Boston Elevated Railway Company, the Twin City Rapid Transit Company and the Schenectady Railway Company. The results of comparative efficiency tests with other types are said to have been in its favor in every case.

PROGRESS ON WESTINGHOUSE REORGANIZATION

The Westinghouse Companies have always been such a permanent factor in street railway conventions that here, more than anywhere else, intense interest is felt in the outcome of the efforts which are under way for the adjustment of the affairs of the Westinghouse Electric & Manufacturing Company. Several prominent officials of that company are in attendance at the convention, and, in discussing the matter with them, their views are found to be about as follows:

The plan of reorganization which has been proposed is not only fair to all the creditors but at the same time it gives some consideration to the interests of the stockholders. What it really amounts to is an extension in the time of payments of the various debts. The merchandise creditors have come up splendidly, and almost the entire number have accepted the plan. The bankers have been somewhat slower than the merchandise creditors and it is on them, more than on any other class of those involved, that the ultimate success of the plans depends. If they show a moderate amount of liberality, and, above all, if, as Americans, they have any pride in the great company

which is really a national institution, they will not delay in doing their part towards the rehabilitation of the company. It is the belief of the most competent financial men among the banking interests which have already participated in the plan that they are conserving their own best interests in the most thorough manner. The stockholders are doing their part also, although, as shown by the recent letter of Mr. George Westinghouse, a number of them have still to contribute their part. In short, it is a case of the old saying, "A long pull, a strong pull and a pull all together," and the company will be on its feet, and with the return of general business prosperity will be the same prosperous concern that it has always been.

EXHIBIT OF THE STANDARD MOTOR TRUCK COMPANY

The Standard Motor Truck Company has an extensive exhibit of its latest designs of motor trucks for high-speed and city electric railway service. These include a Standard C-80 high-speed "Trunk Line" double truck, a Standard C-60 high-speed "Interborough" double truck, a Standard C-50 "City and Suburban" double truck, a Standard O-50 "City and Suburban" double truck, and a Standard O-45 "Maximum Traction" truck for city and suburban service.

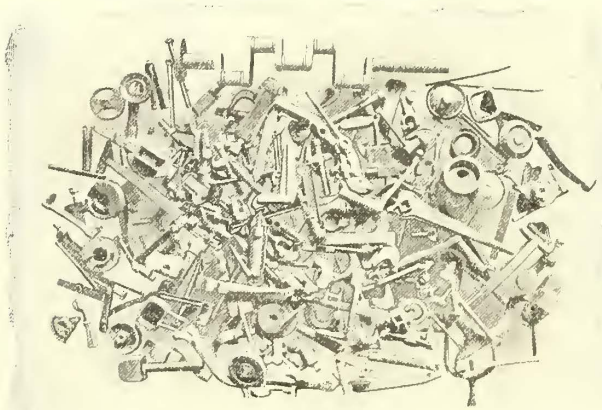
The Standard C-80 high-speed "Trunk Line" double truck is designed specially for high-speed trunk line railroad service and has a carrying capacity of 80,000 lb. at king pins. It has journals 5 in. x 9 in. and 33-in. forged steel wheels made by the Forged Steel Wheel Company, Pittsburg, Pa. The side frames and transoms are pressed steel channels. The pedestals are of cast steel, machine fitted, and are then pressed and riveted to the pressed steel side frames. The journal boxes are also made of cast steel and are fitted with the Standard Motor Truck Company's standard lid in addition to a hinge at the top. No brake beams are used as the brakes are carried on the equalizer bars and are adjustable in position to allow for varying diameters of wheels. All the holes in the brake rigging are bushed with hardened steel and all wearing bolts and pins are case hardened. Coil springs are used on the brake rigging bolts to prevent chatter and wear. The bolster is cast steel and the sides are protected from wear by detachable chafing plates of high carbon steel. Wear plates of low carbon steel are also bolted to the transoms. The bolster hangers have hardened tool steel saddles at their upper ends which rock on hardened tool steel pins which are pressed into the transoms. The bolster springs are elliptic, 37 in. long with six leaves. These are divided into sets of three leaves to reduce the damping effect which insures easy riding. This company also manufactures and is now building a truck of this same type having a carrying capacity of 120,000 lb., with 6-in. x 10-in. journals and 38-in. forged steel wheels, which will be operated at a speed of 70 miles per hour. The Standard Steel Car Company, of which the Standard Motor Truck Company is a subsidiary, is now building a number of steel passenger cars for the New York, New Haven & Hartford, which will be mounted on trucks of this type. All parts such as axles, brake heads, etc., are protected by safety straps.

More than 300,000 persons visited Atlantic City this summer and it is estimated that they spent \$110,000,000 with the hotels and shops.

DROP FORGE PRODUCTS

Before the invention of drop forging with dies, when hand or power hammers were the only available method of working malleable metals, it was impossible to cheaply produce uniform forgings. In the present state of the art of drop forging, however, duplicate parts of perfect uniformity can be made of tin bronze, copper, aluminum, iron or steel. Difficult shapes can be readily, rapidly and accurately made, leaving allowances for machining if desired or finishing smooth when no machine finishing is required.

The smooth and accurate surface of the forging as it comes from the dies generally answers for such articles as handles, wrenches, cranks and numerous other parts. If a bright and polished surface is desired, it may be produced with an emery wheel or buffing machine. The field for drop forged products is almost unlimited. They are used in the manufacture of firearms, sewing machines, bicycles, automobiles, locomotives, cars, truck parts and for many other purposes. The economy of drop forgings has been recognized to such an extent that in many instances steel



Samples of Miscellaneous Drop Forgings

castings have been replaced by drop forgings where the requirements of strength are great and the parts require finishing all over. The amount of machine finishing on drop forgings is usually quite small and there is little loss due to developing defects in the metal under the surface. E. W. Bliss Company, Brooklyn, N. Y., makes a specialty of drop forged equipments including dies. The accompanying illustration shows an assortment of products forged in the machines made by this company.

One of the new exhibitors this year is the Coleman Fare Box Company, Buffalo, N. Y., which is showing the Coleman fare box in space 304 in the main building. This device was designed for use on pay-as-you-enter type cars and has been furnished on all of the cars of this type now used by the International Railway Company of Buffalo as well as on a number of other city systems. By its use, the conductor is relieved of the responsibility of collecting and accounting for fares; the passenger deposits his fare in the hopper of the fare box on the rear platform from which it drops into a locked safe below which is removed at the end of the day and delivered unopened to the cashier. The conductor has merely to make the proper full change for coins of large denominations when asked for. The pay-as-you-enter feature insures that every passenger pays a fare and the Coleman fare box insures that every fare is turned in to the company's treasury.

THE RING CAR CURTAIN FIXTURES

The Curtain Supply Company, Chicago, Ill., which has had 15-years experience in the manufacture and sale of car curtain fixtures, believes that it is now offering in its Ring fixture one of the best devices of this kind yet designed. This fixture is adapted for use in closed, semi-convertible or open cars and was designed to meet every requirement of the hard service to which street railway car curtains are subjected. It holds the curtain in any position in the window frame and prevents it from creeping upward. As the curtain is drawn down the rings are rocked away from the bottoms of the grooves in which the curtain slides which allows the heads to be guided in the grooves only by the anti-friction rollers. These rollers prevent the fixture from getting out of line or binding at any point. This fixture can be operated by any inexperienced person and is so strongly made that it will withstand the hardest usage. The device has stood the test of three years' service and in that time has amply demonstrated the good points claimed for it by the manufacturers. There are no wearing parts to get out of order and its grip on the grooves is positive and firm.

AN ABRASIVE CAR FLOOR

The American Mason Safety Tread Company has recently put on the market a new type of abrasive car floor which is an improvement in some respects over its well-known Karbolith flooring. The base is Karbolith, which is a magnesite compound containing a small amount of fibrous material, and the top or wearing surface to a depth of $\frac{1}{4}$ -in. is covered with an abrasive mixture composed principally of carborundum crystals united with a cement compound which acts as a binder. It is claimed that this surface will resist any ordinary amount of surface abrasion, and that its frictional qualities are not affected in any way by the presence of moisture or oil on the floor. A number of electric railways have adopted this floor for new equipment. The Hudson Companies have specified it for the steel cars being built at the Berwick works of the American Car & Foundry Company and a number of steel passenger cars under construction at the works of the Pressed Steel Car Company, McKee's Rocks, Pa., are also to have it used. The abrasive top dressing is applied by the car builder after the regular Karbolith floor is laid in place.

The American Brake Company has on exhibit in the Westinghouse Companies' space a sectional slack adjuster connected to a brake cylinder, so that its method of operation may readily be seen. In order to compel all the brakes on a car or on a train to take their full share of work some method of maintaining a pre-determined travel of the piston in the brake cylinder should be provided as the brake rigging wears. Hand adjustment of the brake rigging is at best but approximate and must be made when the car is standing still. It is well known that the travel of the brake piston when standing is from $\frac{1}{2}$ in. to 1 in. less than when running, thus making hand adjustment difficult. An automatic slack adjuster compensates for the wear in shoes and foundation brake rigging, and maintains a constant brake piston travel. It makes it possible to secure the highest efficiency from the brakes, prevents flat wheels which are likely to accompany a wide range of piston travel, and also insures a braking force which may be depended upon by the motorman for any given brake pipe reduction.

EXHIBITS OF THE WESTINGHOUSE COMPANIES

The Westinghouse Companies' exhibit at this year's convention includes material manufactured by the Westinghouse Traction Brake Company and the Westinghouse Electric & Manufacturing Company, covering every kind of electric railway device from brakes to trolley lines. The Westinghouse Traction Brake Company shows two types of air brakes for high-speed interurban service on trains of four or five coaches and for city service where trailers are run during the rush hours. These represent brake equipments which have been proved by actual service to be thoroughly reliable under the conditions for which they are intended.

The Westinghouse Electric & Manufacturing Company displays a large amount of railway material, including d.c. and a.c. motors, control apparatus, repair parts, pantagraph trolleys and overhead line materials for both direct and alternating current systems. The interpole railway motor, which is manufactured in many different sizes, is especially worthy of mention because of the strength and solidity of the entire design. The pantagraph trolley exhibited, which is typical of those used on single-phase equipments, is mounted so that it may be raised and lowered as when in place on the car. Catenary line construction is also shown in detail with a miniature section installed. This type of construction is coming into extensive use on high-speed roads, for both alternating and direct current systems, because of the strength and rigidity it gives to trolley line.

EXHIBIT OF THE H. W. JOHNS-MANVILLE CO.

The exhibit of the H. W. Johns-Manville Co. in spaces 868-871 includes a number of new devices and materials, as well as an almost endless variety of the standard products of the company. A complete line of catenary line material is shown for the first time. This includes a number of devices for suspending and anchoring high tension trolley wires, all of which have been designed along approved lines and represent some radical departures in catenary line construction.

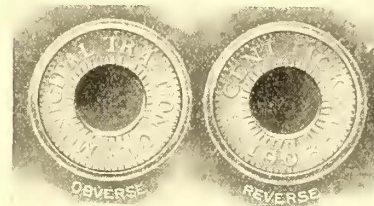
For high tension transmission construction, the company is showing a line of "suspended disc" type of insulators. These insulators, it is said, give a degree of strength and flexibility to high tension lines which is impossible with the ordinary type of insulator which is rigidly supported on pins. Each of the disc insulators is a complete unit in itself and adapted to a working pressure of 20,000 volts. On high tension lines a number of these insulators are used in series, depending on the voltage of the line. This type of insulator has been installed, during the past few months, by several of the largest hydro-electric companies in the country. J-M Indurated Fibre is the latest thing the company has brought out in insulating materials, and several forms of it are shown. This material is coming into general use for third-rail covering and for insulating battery jars, high tension oil-switch tanks, for transformer stations, and for a large variety of general purposes. Several forms of Asbestos Wood are exhibited, showing its adaptability as an electrical insulator, and also as a fireproof material for general construction. This material is being extensively used for panels and switchboards, electric car fireproofing, switch barriers for high tension construction, and other purposes requiring a material of high heat-resisting and electrical insulating properties, combined with great mechanical strength and dura-

bility. "Noark" fuse devices are represented by ear fuse boxes and other protective devices for railway motor service, as well as for high voltage circuits of 10,000 volts and less. This includes new forms of service, subway and fuse boxes and subway junction boxes of the latest approved patterns. The display also includes 600-volt overhead line material, third-rail insulators, J-M immovable guy anchors, water-proof sockets, J-M friction tape and splicing compounds, asbestos pipe and boiler coverings and asbestos roofings and packings. The entire booth of the company is outlined with Linolite, a new system of lighting show windows, show cases, desks, etc. A variety of new forms of Linolite are exhibited, showing the adaptability of this lamp to a number of uses.

The following representatives are present: T. F. Manville, J. W. Perry, T. L. Barnes, S. G. Meek, E. E. Schmid, J. McSorley, C. N. Manfred, H. M. Voorhis, G. A. Saylor, H. M. Frantz, R. R. Braggins, W. W. Power, C. W. Schultz, E. B. Hatch, and W. H. Kempton.

METAL FARE TICKETS

The accompanying illustrations show the obverse and reverse faces of the three-cent aluminum ticket issued by the Municipal Traction Company of Cleveland. It is perforated in the center and is thickened at the edges so that it is distinctive from any coin or token. The thick edge gives the cheeks additional strength so that they cannot



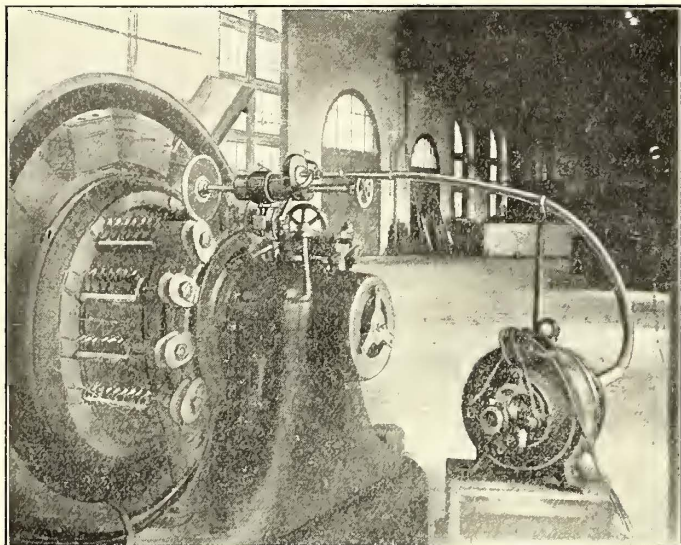
Three-cent Metal Fare Tickets

be easily bent or disfigured. These tickets are manufactured for the railway company by the American Railway Supply Company, New York, which is prepared to furnish similar tickets made in any design or, in fact, any description of metal novelty. It is exhibiting at its booth, space 830 in the Annex, a complete line of badges, buttons, punches and similar products furnished to steam and electric railway employees.

The Blake Signal & Manufacturing Company, Boston, Mass., has recently developed a type of signal designed especially for single-phase a.c. electric railways and for steam railways. Signals of this type have been in operation on a.c. lines for the last five months and the company reports that the service has been as reliable as that obtained with its standard signal for use on 500-volt d.c. trolley roads. The new signal has the same operating mechanism as the standard d.c. type of signal with the exception that a standard four-lense railroad oil switch lamp is used for giving the night indications instead of electric lamps. An ingenious mechanism has been designed for attaching this switch lamp to the signal in such a way that the lamp always shows the proper color, corresponding to the position of the semaphore arm. Signals of both types are in operation at the company's booth, space 564, in Machinery Hall. In addition to the signal exhibit, this company is displaying a board on which are mounted an assortment of wiring specialties, including Blake staples and compressed cleats for telephone wiring and Blake tube flux for soldering. The form in which this soldering flux is put up makes it especially convenient to use for all kinds of repairs to wiring in shops and in telephone and signal work.

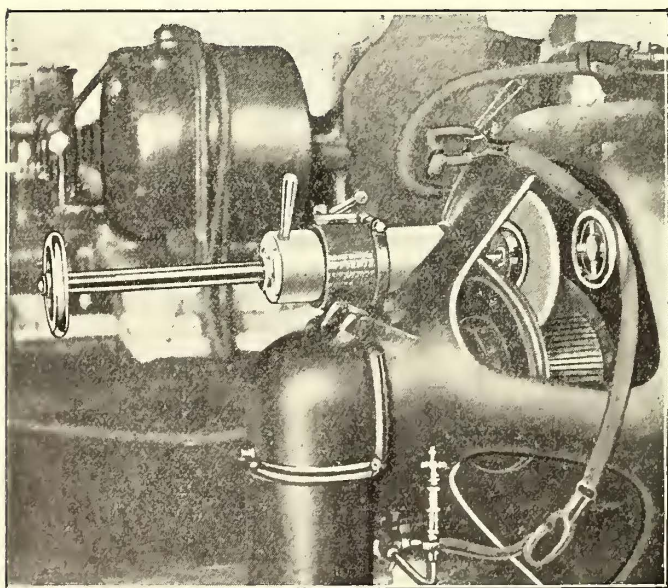
THE JORDAN COMMUTATOR TRUING DEVICE

It is frequently impossible to shut down a dynamo or motor long enough to take out the armature and true up the commutator in a lathe. Furthermore, the expense of this operation, especially in the case of small turbine units,



Jordan Commutator Device Applied to Rotary Converter

where it is necessary to dismantle the turbine as well as the generator in order to remove the armature, is excessive. For this reason, the Jordan commutator truing device, which can be attached to the machine while it is running, has met with the hearty endorsement of those who have had charge of the maintenance of electrical equipment and who have had its economy and efficiency demonstrated in actual practice.



Jordan Commutator Truing Device Applied to Curtis Turbine Set

A number of types of this device designed for use on different forms of electrical equipment have been developed. The accompanying illustration shows a Type I machine attached to a 1000 kw General Electric rotary converter on the a.c. side for truing up collector rings. The holder

is fastened under the pedestal cap bolts and the device can be readily moved from one ring to the other. A separate motor with flexible shaft drive is used in this type. For railway generators of large size the holder can be attached to the brush holder yoke.

The Type J device is belt-driven from a separate motor mounted on the floor below the commutator to be trued up. The truing wheel carriage is mounted on a horizontal carrier bar attached with a special holder to the outboard bearing and can be moved across the face of the commutator by means of a hand wheel. An interesting piece of work done with one of these machines recently was to true up the commutator of a 160-hp Westinghouse Type S motor. The motor, which was heavily overloaded, was operating an air compressor supplying compressed air for the locks of the Gowanus drainage tunnel in Brooklyn, N. Y., and it was not possible to even shut down the motor and compressor long enough to attach the truing device which was placed in position while the motor was running. The commutator was dressed up smooth and true without causing any short circuiting or other injury to the motor. This type of device is furnished with extra holders adapted to apply it to all standard generators, rotary converters and large motors.

The Type E device is intended to be driven by the revolving of the commutator on which it is being used. A split pulley is attached to the armature shaft or on the end of the commutator, and by means of a short belt drives the truing wheel mounted on the sliding carriage. This type is especially applicable for truing up commutators which are difficult to get at as in small horizontal Curtis turbine sets. With one of these machines the commutator can be trued up while the armature is running in its own bearings without dismantling either the generator or the turbine.

Among the numerous tickets placed on the market the "Electrograph" ticket manufactured by the Globe Ticket Company, of Philadelphia, and exhibited by it in spaces 718-22, Marine Hall, has been found to be a convenient and suitable form where commutation tickets are sold six or eight for 25 cents, and where numbering is not desired. These tickets are printed by a special process, and have non-counterfeitable tint plates on face and back in addition to the regular reading matter which is printed from plates of special design. They are designed to supplant many of the styles in use at present on account of their cheapness, as well as on account of the excellent appearance made possible by the new method of printing. The constant improvement in the various forms of tickets used by city and interurban railway companies is well illustrated by the exhibit of the different styles shown by the Globe Ticket Company. Never before has so complete an assortment of various forms been shown. The different styles include all forms of commutation, complimentary and mileage books, commutation tickets in strip form, transfers, cash fare receipts, single and one-way tickets for interurban companies and many styles of free transportation tickets.

Dossert & Company, Inc., of New York, manufacturers of the well-known Dossert joints, are showing a complete line of solderless connectors, cable taps and terminals in space 822. Their new combined feed-in and strain support for trolley wires is attracting favorable comment. H. B. Logan and Chas. A. Flynn are in attendance.

List of Exhibits

- Adams & Westlake Company, The, Chicago, Ill., Building 2, Space 774—Arc and incandescent headlights, signal lamps for every branch of the service, hand lanterns, brake handles, car trimmings, baggage racks, switch locks. Represented by W. H. Baldwin, B. L. Compton, J. A. Foster, F. N. Grigg, E. L. Langworthy, G. L. Walters.
- Allis-Chalmers Company, Milwaukee, Wis., Building 2, Spaces 750-757—Operating exhibit of the various types of air-brakes and parts, steam turbine parts, pictorial exhibit of other products. Represented by F. C. Randall, J. F. Dixon, H. W. Rowley, Harry Byrne, A. P. Peck, W. G. Clayton, J. T. Cunningham, St. John Chilton, J. B. Nicholson, S. H. Payne, J. M. C. Lucas, A. H. Whiteside, J. R. Jeffrey, J. H. Denton, W. A. Crawford, I. L. Dimm, W. S. Heger.
- American Blower Company, Detroit, Mich., Machinery Hall, Spaces 542-6. One No. 7 high pressure blower holding a ball in suspension in the air column, "ABC" dynamic blower, "ABC" disc fan blower, volume blower, "ABC" vertical, self-oiling engine direct connected to a Westinghouse generator, "ABC" sectional hot blast steam heating coil, Vento radiation. Represented by Clayton W. Old, Arthur Ritter, E. Morris Lloyd.
- American Brake Company, St. Louis, Mo., Building 1, Spaces 219, 229, 307, 319—Sectional slack adjuster, connected to a brake cylinder. Represented by E. L. Adreon.
- American Brake Shoe & Foundry Company, Mahwah, New Jersey, Building 2, Spaces 763-765-767—Brake shoes, brake heads. Represented by Otis H. Cutler, J. B. Terbell, W. S. McGowan, F. L. Gordon, F. W. Sargent, J. S. Thompson, E. L. Janes, C. C. Higgins, L. R. Dewey, F. H. Coolidge, R. E. Holt, E. B. Smith, R. M. Brower, G. R. Law.
- American Fender Company, New York, N. Y., Machinery Hall, Space 522—Hipwood fenders and wheel guards. Represented by Patrick Egan, George Hipwood, Gen. F. Kneeland.
- American Locomotive Company, New York, N. Y., Machinery Hall, Spaces 534 and 536—Electric motor and trailer trucks. Represented by William Wampler, W. E. Woodard, Raymond H. Baker.
- American Mason Safety Tread Company, Boston, Mass., Building 3, Space 833—American Mason Safety Tread, lead and carborundum filled, Karbolith composition flooring for cars and buildings. Represented by Henry C. King, L. H. Myrick, J. W. Scott.
- American Railway Guide Company, Chicago, Ill., Building 1, Space 421—Travelers' Railway Guides, railway information and Pullman reservations bureau. Represented by Geo. E. Armstrong.
- American Railway Supply Co., New York, N. Y., Building 3, Space 830—Cap badges, coat badges, police badges, uniform buttons, metal fare tickets. Represented by Walter Chur.
- American Steel Foundries, Chicago, Ill.
- American Steel & Wire Company, Chicago, Ill., Building 2, Spaces 710 to 716—Bare and insulated wires and cables, rail bonds and rail bond tools, springs, wire rope and strand, woven wire fence, concrete reinforcement. Represented by F. Baackes, C. S. Knight, Jr., G. A. Cragin, F. A. Keyes, C. R. Sturdevant, R. K. Sheppard, J. D. Sutherland, A. G. Greenberg, R. H. Pratt, B. H. Ryder, G. C. Kiefer, L. A. Dietrich, E. W. Vaughan, Chas. Larson, B. B. Ayers.
- Ames & Company, W., Jersey City, N. J., Building 3, Space 826.
- Anderson Manufacturing Company, A. & J. M., Boston, Mass., Building 3, Space 803—New remote-control oil switch, two new brush holders for heavy railway service, anchor and third rail insulators of composition, pure copper castings, complete line of Ætna railway insulators and Anderson line materials, section of new strain insulator of drop-forged steel and Ætna insulation. Represented by J. M. Anderson, Alfred Anderson, W. W. Hinchey, G. C. Crane, Ernst Woltman.
- Atlanta Car Wheel & Manufacturing Company, Atlanta, Ga., Building 1, Space 548—Street car wheels (reinforced spoke pattern). Represented by Sterling G. Turner, S. C. Watkins.
- Atlas Railway Supply Company, Chicago, Ill., Building 3, Space 831—Atlas standard rail joints, Atlas straight, compromise, insulated, special, and anchor joints for concrete construction, Atlas braces, Atlas tie plates, Atlas switch stand, Atlas primer and surfacer for cars. Represented by J. G. McMichael, G. M. Huber, D. Thomson.
- Automatic Ventilator Company, New York City, N. Y., Building 1, Space 609—Automatic car ventilator model, in operation. Represented by George H. Ford, William J. Fleming, Jr.
- Badger Fire Extinguisher Company, Boston, Mass., Building 1, Space 436—Two Badger 40-gallon chemical engines, Badger's 3-gallon hand chemical extinguisher, Badger's 1½-gallon hand chemical extinguisher. Represented by Charles R. Edwards, A. E. Stone.
- Baldwin Locomotive Works, Philadelphia, Pa., Building 3, Spaces 2-12—Baldwin trucks. Represented by John R. Dickev, Charles Riddel, Holstein DeHaven Bright, Harry W. Sheldon, Fred W. Weston.
- Barber Car Company, York, Pa., Exhibit Track, Spaces 14-20—The "Barber" trolley car. Represented by Gny Webster, Edward A. Barber.
- Bayonet Trolley Harp Company, Springfield, O., Building 3, Space 841—Bayonet roller bearing trolley base with detachable pole clamp, Bayonet detachable trolley harp, Butterfly sleet cutters, Bayonet long distance trolley wheels, and self-lubricating trolley axles. Represented by Jacob M. Olinger, R. A. Garlough.
- Berry Bros., Ltd., Detroit, Mich., Building 1, Space 222—Wood finish exhibit. Represented by F. W. Hormann, T. J. Lawler.
- Bethlehem Steel Company, South Bethlehem, Pa., Building 2, Spaces 770-772—Open hearth steel rails, standard and special section rails in high carbon and alloy steels, special wide flange I-beams and girders, beams, tool steel, drop forgings, hydraulic jacks. Represented by Frederick Conlin, L. H. Atkinson, A. D. Mixsell, W. B. Kennedy, G. H. Blakely.
- Blake Signal & Manufacturing Company, Boston, Mass., Machinery Hall, Space 564—Blake dispatchers signals, Blake tube flux for soldering, Blake wiring specialties. Represented by E. J. Burke, C. C. Blake.
- Bonney Vehslage Company, New York, N. Y., Building 3, Space 824—Conductors' ticket punches. Represented by E. C. Vehslage.
- Bowser & Company, Inc., S. F., Ft. Wayne, Ind., Building 3, Spaces 838-842—Oil storage equipment. Represented by C. A. Dunkelberg, A. D. Wyckoff, E. S. Taylor.
- Brill Company, The J. G., Philadelphia, Pa.; American Car Company, St. Louis, Mo.; The G. C. Kuhlman Car Company, Cleveland, O.; John Stephenson Company, Elizabeth, N. J.; Danville Car Company, Danville, Ill.; Wason Manufacturing Company, Springfield, Mass., Building 1 and Exhibit Track, Spaces 400-412 and 21-31—Brill high-speed truck No. 27-E3, Brill city and suburban short-base truck No. 27-GE1, Brill center-bearing maximum-traction truck No. 39-E, a pay-as-you-enter type car for Third Avenue Railroad, New York City, mounted on Brill center-bearing maximum-traction trucks No. 39-E, section of Brill convertible car with Brill "Narragansett" sill steps, five sections of Brill semi-convertible cars, showing twin-window arrangement, car seats, seating material, springs, track scrapers, platform gong, and other patented specialties, including the improved Brill "Noiseless" brake-hanger. Represented by S. M. Curwen, W. H. Heulings, Jr., J. W. Rawle, G. H. Tontrup, G. M. Haskell, D. B. Dean, A.

- N. Hargrove, F. L. Markham, J. E. Brill, B. O. Brill, F. W. Brill, E. B. Bronenkamp, S. T. Bole, W. J. Mackle, H. D. Haddock, R. B. Liddell, C. F. Rice, L. A. Kling, C. V. de Jong.
- Brown, Harold P., New York, N. Y., Building 1, Spaces 568-570-572—Plastic rail bond, semi-plastic plug rail bond, electrical contact alloys, hand power track grinders, flexible shafts, electric grinders and track drills, rust-proofing process for iron and steel, Sherardizing. Represented by Harold P. Brown, Charles J. Kirk, George Archer Kroener, J. M. Coote, Daniel A. Kelley, Henry Temple.
- Buckeye Engine Company, Salem, O., Building 1, Space 426—Photographs of steam and gas engines. Represented by C. H. Weeks, A. H. Riddell, James T. Castle.
- Buffalo Foundry & Machine Company, Buffalo, N. Y., Building 1, Spaces 516-518—Vacuum drying and impregnating apparatus, sections of impregnated coils. Represented by H. E. Jacoby, E. G. Rippel.
- Carey Company, Philip, Cincinnati, O., Building 1, Spaces 116, 117.
- Carnegie Steel Company, Pittsburg, Pa., Building 2, Spaces 700-708—Steel cross ties, piece of track laid with steel ties imbedded in concrete, Duquesne rail joints, frog fillers, Schoen solid forged and rolled steel wheels, process of manufacture and examples of various types, Schoen solid forged and rolled steel gear wheels, steel sheet piling cofferdam. Represented by W. P. Siebert, John C. Neale, N. M. Henech, R. B. Woodworth, J. C. C. Holding, C. G. Bacon, Jr., F. E. Spencer, L. P. Lincoln, James B. Bonner, George Summers, Harry Summers, R. P. Hutchesson, W. N. Jeffries, W. L. Hoffman, William Breeden, Roscoe Bowen, W. W. Baker, J. H. Henry, C. B. Yarnell, E. B. Blandy, F. C. Deming, K. E. Porter, C. B. Friday.
- Chapman Valve Manufacturing Company, Indian Orchard, Mass., Building 1, Space 530.
- Chester Railway Supply Company, Chester, Pa., Building 3, Space 884—Dyer improved trolley cars, line materials. Represented by Harry G. Dyer, A. B. Trainer.
- Chicago Pneumatic Tool Company, Chicago, Ill., Building 1, Spaces 557-561—Electric drills, electric hoists, electric grinders, spike-driving electric drill, air compressor, air tools, vacuum cleaners. Represented by W. O. Duntley, Thomas Aldern, G. A. Barden, F. C. Severin, W. F. Heacock, Charles Booth, W. P. Pressinger, H. B. Griner, C. B. Coates, Howard Small.
- Chicago Varnish Company, Chicago, Ill., Building 3, Space 816—Wood finishes. H. J. Green, C. F. Olds, O. R. Ford.
- Chisholm & Moore Manufacturing Company, The, Cleveland, O., Building 1, Space 532—Chain hoists and trolleys. Represented by H. E. Dickerman.
- Cincinnati Car Company, Cincinnati, O., Building 1, Spaces 40-48—Pay-enter car for Municipal Traction Company, of Cleveland. Represented by H. C. Ebert, Robert Dunning, A. N. Stump.
- Cleveland Frog & Crossing Company, The, Cleveland, O., Building 1, Spaces 513-517—"Hard Service" manganese crossings, girder rail tongue switches, mate and frog, T-rail double spring frog, low target switch stand, combination joint, removable hard center plates. Represented by G. C. Lucas, A. P. Ruggles, Geo. Stanton.
- Climax Steek Guard Company, Chicago, Ill., Building 3, Space 824—Clay and steel cattle guards, models of three styles of farm crossing gates, automatic car counting electric signal, full line of ticket and conductors' punches, samples of full line of expanded metal, metal lath and reinforcing material, metal clothes locker. Represented by Fred. V. Stewart, C. P. Nachod, E. C. Vehslage.
- Coin Counting Machine Company, New York, N. Y., Building 3, Space 804—Johnson coin counting machine, Johnson coin counting and separating machine. Represented by C. H. Birdsall, W. P. Butler.
- Coleman Fare Box Company, The, Buffalo, N. Y., Building 1, Space 304—Fare boxes for pay-as-you-enter cars. Represented by G. H. Dreybus, John McCullough, John Lennox, E. J. Clink, E. A. Rooney.
- Columbia Machine Works & Malleable Iron Company, Brooklyn, N. Y., Building 3, Space 800—All steel gear cases, pinion puller, armature buggy, babbit moulds, brake handle, controller handle. Represented by J. G. Buehler, Jas. Grady, W. R. Kerschner.
- Consolidated Car Fender Company, Providence, R. I., Building 2, Spaces 764-766—Car fenders, wheel guards, snow brooms, steel lockers. Represented by A. J. Thornley, George Hollingsworth, E. C. Hall.
- Consolidated Car Heating Company, Albany, N. Y., Building 1, Spaces 114-115—Electric heaters and switches, trolley voltage signal bell system, crossing signal. Represented by Cornell S. Hawley, W. S. Hammond, Jr., Thomas Farmer, Jr., George H. Diack.
- Cook's Standard Tool Company, Kalamazoo, Mich., Building 1, Space 530—Climax track drill, standard track tool grinder, magic high speed flat bit, Cook combination chuck. Represented by Eugene Cook.
- Cooper Heater Company, Dayton, O., Building 2, Space 769—Cooper hot water car heaters. Represented by W. L. Blackwell, John B. Cooper.
- Crouse-Hinds Company, Syracuse, N. Y., Building 3, Spaces 807-809—Arc headlights, incandescent headlights, mine headlights. Represented by H. B. Crouse, A. F. Hills, E. M. Hawkins, C. M. Crofoot, F. Buchanan, D. C. Gidley.
- Curtis Motor Truck Company, Decatur, Ill., Building 3, Spaces 851-855—Curtis type L-689-81 truck for elevated service, Curtis type CI-158-72 truck for street service, various truck parts showing Curtis design and workmanship, test pieces of open-hearth forgings used in Curtis truck construction. Represented by E. A. Curtis, J. D. Johnson, F. K. Pennington, W. D. Glenn, J. P. Drennan.
- Curtain Supply Company, Chicago, Ill., Building 1, Spaces 872-874—Frames of curtains equipped with ring No. 88 and 89 fixtures for semiconvertible cars, ring fixtures for open cars, Forsyth No. 86 roller tip fixtures, Forsyth & Aeme open car cable fixtures, curtain materials of all kinds. Represented by R. F. Hayes, S. W. Midgley.
- D. & W. Fuse Company, Providence, R. I., Building 1, Spaces 652-654—Enclosed fuses and cutouts of all types for 250, 600 and 2500 volt circuits, service switch boxes, fuse boxes, cutout boxes for railway lighting and motor service, railway shoe fuse boxes, transformer and high tension cutouts, reels of Deltabeston magnet wire. Represented by Willard S. Sisson.
- Dearborn Drug & Chemical Works, Chicago, Building 1, Spaces 122-125—"The most novel and complete Street Railway Amusement Park in the world." Represented by Robert Carr, Wm. B. McVicker, Grant W. Spear and H. G. McConaughy.
- Diamond Steel Pole Company, Philadelphia, Pa., Building 1, Spaces 414-416—Diamond steel poles, trolley poles, brackets and arms. Represented by J. Livingston Poultney, James W. Rawle, Thomas S. Cooper, W. L. Wright.
- DeSteele, Harry, New York, N. Y., Building 1, Space 613—New controller regulator. Represented by Harry DeSteele.
- Device Improvement Company, The, Hanover, Pa., Building 2, Spaces 773-775—Improved armature banding and coil winding machine, improved tension machine for band and magnet wire, field coil winding attachment, commutator slotting machine, improved armature truck. Represented by Robert E. Manley, Walter Gemmill, LeRoy Stokes.
- Dispatching Signal Company, Fall River, Mass., Building 2, Space 768—Office transmitter, telephone station semaphore signals, autographic registers, dispatching signal systems. Represented by Orlando W. Hart, Ray P. Hall, James E. Marville.

- Dixon Crucible Company, Joseph, Jersey City, N. J., Building 3, Space 793—Special steel exhibition building. Dixon's Ticonderoga flake graphite oil, Dixon's lubricants, Dixon's silica graphite paint, photographs, a lead pencil 10 feet long. Represented by DeWitt C. Smith, L. H. Snyder, J. A. Condit, John J. Tucker, Thos. Findlay.
- Dossert & Company, Inc., New York, N. Y., Building 3, Space 822—Combined feed-in and strain support for trolley wires, solderless cable connectors, joints, taps and lugs; rail bonds, Y's, equalizers, reducers, motor leads, signal service clamps, junction boxes, receptacles, plugs, elbows. Represented by H. B. Logan, C. A. Flynn, D. J. Fitch.
- Duff Manufacturing Company, The, Allegheny, Pa., Building 3, Spaces 817-819—Barrett track jacks, automatic lowering jacks, Duff ball bearing screw jacks, pit jacks, armature lifts. Represented by George A. Edgin, Thos. A. McGinley, E. F. Dengel.
- Eclipse Railway Supply Company, Cleveland, O., Building 1, Spaces 420-422—Eclipse life guard. Represented by Ross Forward.
- Edwards Company, The O. M., Syracuse, N. Y., Building 2, Space 739—Car window fixtures, sash balances, metal sash, tin barrel spring rollers, steel trap doors for car vestibules, trap door fixtures. Represented by O. M. Edwards, Edw. F. Chaffee, Franklyn M. Nicholl, Geo. G. Norris, C. H. Rockwell.
- Edwin R. Kent & Company, Chicago, Ill., Building 1, Spaces 600-606—Allens solid stag manganese steel frogs and crossings. Represented by Edwin R. Kent, J. T. Stafford, George Brown, Fred Lieferman.
- Egry Register Company, The, Dayton, O., Building 3, Space 852—Egry train despatching system, Egry way billing system, Egry bill of lading system, Egry systems for railway departments and Egry registers. Represented by Milton C. Stern, W. E. Hinmon.
- Electric Railway Improvement Company, The, Cleveland, O., Building 2, Spaces 759-761—Rail bonding car in operation, outfit for cast-welding cables to rails, electric portable grinder, types and samples of rail bonds. Represented by W. B. Cleveland, George Long, Albert Smithnight, W. E. Huber, J. A. Cadle.
- Electric Service Supplies Company, Philadelphia, Pa., Building 2, Spaces 776-781, Exhibit track spaces 9-17—"Pay-Within" car, "Protected" rail bonds, Keystone overhead line material, Garton-Daniels lightning arresters, automotoneers, Lyon sheet steel gear cases, Keystone air sander trap, Keystone pneumatic bell ringer, Keystone lamp guard, pneumatic door operating mechanism, compressed air door operating mechanism. Represented by C. J. Mayer, J. W. Porter, J. V. E. Titus, A. H. Englund, M. A. Berg, E. R. Mason, F. H. Jameson, H. G. Lewis, Edw. Hanunett, H. R. Swartley, Jr., W. A. Armstrong, Jr., T. F. McKenna, F. A. Strail, R. P. H. Staub, F. C. Peck.
- Electric Storage Battery Company, Philadelphia, Pa., Building 3, Spaces 811-813-815—Samples of the Chloride Accumulator, diagrams of new split-pole rotary converter, used for regulation of alternating current loads, curves showing the regulation, and an average adjuster. Represented by Charles Blizzard, J. L. Woodbridge, G. H. Atkin, Albert Taylor, H. B. Gay, Edward L. Reynolds.
- Elliott Electric Company, The S. K., Cleveland, O., Building 3, Space 808—Armature and field coils and motor repairs. Represented by C. P. Billings.
- Eureka Automatic Electric Signal Company, Tamaqua, Pa., Building 3, Spaces 888-891—Eureka two-wire lantern signal and semaphore, Eureka car spaces, Eureka crossing bell, Eureka single and two-wire controllers, Eureka contact makers, Eureka semaphore. Represented by H. W. Sonder, Robert Gerhard, C. B. Sonder.
- Eureka Tempered Copper Works, North East, Pa., Building 2, Space 758—Commutators, commutator segments, trolley wheels, trolley ears, motor bearings, splicing sleeves, controller parts, section switches, brush holders, etc. Represented by O. C. Hirtzel, Fred Rundell, H. E. Norris.
- F. J. Stokes Machine Company, Philadelphia, Pa., Machinery Hall, Space 556—Vacuum impregnating apparatus. Represented by F. J. Stokes, C. F. Coleman.
- Flake Graphite Products Company, New York, N. Y., Building 1, Spaces 116-117—Flake graphite products and paints. Represented by C. H. Spotts.
- Flexible Compound Company, The, Philadelphia, Pa., Building 3, Space 430—Flexible compound and Flexible black enamel. Represented by Thomas H. Downward.
- Forsyth Bros. Company, Chicago, Ill., Building 3, Space 876—Metal sash, steel posts for wood or steel cars, sanitary hand strap, deck sash ratchets. Represented by A. L. Whipple.
- France Packing Company, Philadelphia, Pa., Machinery Hall, Space 526—Metallic and fibrous packing, grease cups. Represented by A. W. France, Geo. Van Sant, L. T. Safford.
- Galena-Signal Oil Company, Franklin, Pa., Building 1, Spaces 126-131—Reception and tea room, waste saving machine and filter. Represented by L. G. Miller, Geo. A. Barnes, Geo. C. Miller, E. V. Sedgwick, L. J. Drake, Jr., Chas. H. Thomas, C. E. Schanfler, J. V. Smith, C. A. Record, W. A. Trubee, L. R. Speare, E. C. Beatty, R. W. Cunningham, Alfred Green, W. A. Love, W. H. Lee, W. A. McWhorter, W. O. Stief, Geo. J. Smith, J. E. Southwell, W. P. Wescott, Wm. Walsh, H. A. Mason, B. C. Gesner, Geo. L. Morton.
- General Electric Company, Schenectady, N. Y., Building 1, Spaces 100-113—Type M automatic control for four 75-hp motors, US-13 trolley base with 12-ft. trolley pole and Form 21 fork with wheel, trolley forks and wheels for various speeds, MR-12 circuit breaker, MS-8 switch, K-35, K-36, K-34 controllers with handles, MA-13 and MA-14 fuse boxes, DB-160, DB-166, DBA-176 and DBA-168 contactors, switchboard panel for Type M control, ear light regulator, emergency straight air brake equipment with CP-21 compressor for motor car, emergency straight air brake equipment for trailer car mounted on rack for operation, motorman's valves, emergency valve, MC governor, split, solid and forged rim gears, cast-steel center for gears, armature and field coils commutator segments, armature linings for GE-216 motor, Grade F pinion, section of GE field coil to exhibit effect of vacuum compound treatment, GE-207 600-1200-volt railway motor, GE-216, GEA-611, GEA-506 and 205 railway motors, rail bonds, catenary and standard direct suspension line material, electrolytic car lightning arresters, Magnetite headlight complete, self-contained solenoid-operated circuit breaker arranged for 650-volt operation, a.c. and d.c. rotary converter panels. Represented by C. E. Sprague, C. C. Peirce, J. J. Mahony, H. D. Hawks, W. J. Clark, R. E. Moore, E. H. Ginn, H. C. Marsh, W. J. Hanley, H. L. Monroe, G. D. Rosenthal, Gen. Irving Hale, J. R. Lovejoy, J. G. Barry, C. E. Barry, H. N. Ransom, W. B. Potter, F. E. Case, E. D. Priest, A. H. Armstrong, E. H. Anderson, G. H. Hill, A. V. Thompson, F. H. Gale, Mr. Corbin, Mr. Buell.
- General Storage Battery Company, Boonton, N. J., Building 2, Spaces 729-731—Storage battery plates, jars, tanks and accessories in various sizes. "Bijur" regulator and switchboard. Represented by Joseph Bijur, James Dixon, Edward Lyndon.
- Gest, G. M., New York, N. Y., Building 1, Space 607.
- Globe Ticket Company, Philadelphia, Pa., Building 2, Spaces 718-722—P. M. coupon and other transfers, books, strip tickets, mileage books, cash fare receipts, ticket destroyers, special tickets, ticket punches, Deuham system for checking receipts. Represented by W. C. Pope, P. C. Snow, R. C. Osman, W. P. Snow, J. Elliott.
- Gold Car Heating & Lighting Company, New York, N. Y., Building 3, Spaces 823-825—Gold's improved electric car heaters, junction boxes and parts. Represented by E. E. Gold, E. B. Wilson, J. M. Stayman, F. T. Kitchen, F. Cahill.

- Goldschmidt Thermit Company, New York, N. Y., Annex, Spaces 892-893—All appliances used in rail welding and the repair of motor cases and truck frames by the Thermit process, samples of metals manufactured by the aluminothermic process and samples of rail welds, pipe welds and compromise joints. The company will give daily demonstrations of Thermit welding. Represented by G. E. Pellissier, W. R. Hulbert.
- Gould Storage Battery Company, New York, N. Y., Building 3, Spaces 818-820—1 type U cell, 1 type S cell, 1 type O cell, lead lined tank, 10 type WS couples, 12 type W couples. Represented by H. N. Powers, C. H. Bradley, H. W. Brow.
- Griffith, C. E., Philadelphia, Pa., Building 1, Space 603.
- Hale & Kilburn Manufacturing Company, The, Philadelphia, Pa., Building 3, Spaces 866 and 867—Car seating equipment, Walkover electric and interurban car seats, All-steel Walkover car seats, longitudinal car seats, steel car doors, steel car sash and fixtures, rattan for car seating. Represented by A. F. Old, H. T. Bigelow, C. W. Laskay, B. F. Pilson.
- Heany Fire Proof Wire Company, York, Pa., Building 3, Space 821—Asbestos covered magnet wire, asbestos tape and twine, asbestos packing. Represented by H. L. Owen, T. A. W. Shock, C. L. Hill.
- Hess-Bright Manufacturing Company, The, Philadelphia, Pa., Machinery Hall, Space 551—Wheels and axle mounted on ball bearings, and on plain bearings, driven by series motor, sample of 40 HP. armature housing for ball bearing, sample of journal box as used on Atlantic City & Shore R. R., sample ball bearings. Represented by Henry Hess, C. J. Hopkins, W. L. Batt.
- Heywood Brothers & Wakefield Company, Wakefield, Mass., Building 1, Spaces 314-226—Car seats, parlor car chairs, canvas lined rattan webbing, snow broom rattan. Represented by Bertram Berry, R. D. Stafford.
- Home Rubber Company, Trenton, N. J., Building 1, Spaces 118-119—N. B. O. sheet packing, steam hose, valves and gaskets, O. I. M. packings and mechanical rubber goods, automobile tires, etc. Represented by A. R. Foley, H. M. Royal, C. E. Stokes.
- Hunter Illuminated Car Sign Company, New York, N. Y., Building 1, Space 434—Car equipped with all types of the Hunter Illuminating Signs. Represented by Lytle J. Hunter.
- International Register Company, The, Chicago, Ill., Building 2, Spaces 719-721—Registers and fittings, badges, punches, trolley cord and insulating varnishes. Represented by John Benham, A. L. Tucker.
- Ironides Company, The, Columbus, O., Building 3, Space 875—The Ironides gear shield, wire and fibre rope shield, special lubricants, and metal preservatives. Represented by James L. Bone, H. C. Smith, D. J. Holliger, Ed. R. Carter.
- Jewett Car Company, The, Newark, O., Exhibit track, Spaces 28-36—Combination passenger, smoking and baggage car, model of semi-convertible car, model of window fixture, Walkover seat. Represented by W. S. Wright, Edwin Besuden.
- Johns-Manville Company, H. W., New York, N. Y., Building 3, Spaces 868-871—Catenary overhead line material, asbestos wood, indurated fibre third rail insulators, battery jars, low tension overhead line material, electrobestos are deflectors, high tension transmission porcelain insulators, Noark enclosed fuses, moulded mica sockets, friction tape and splicing compound, electric car heaters, asbestos pipe and boiler covering, asbestos roofing and packing. Represented by T. F. Manville, J. W. Perry, T. L. Barnes, S. G. Meek, E. E. Schmid, J. McSorley, C. N. Manfred, H. M. Voorhis, G. A. Saylor, H. M. Frantz, R. R. Braggins, W. W. Power, C. W. Schultz, E. B. Hatch, W. H. Kempton.
- Jones & Laughlin Steel Company, Pittsburg, Pa., Building 1, Space 433—Cold rolled steel axles, chain, spikes, twisted steel bars for reinforcing concrete. Represented by Roland Gerry, E. D. Batchelor, G. B. Mitchell, F. S. Slocum.
- Jones & Tompson, Boston, Mass., Building 4, Spaces 837-839—Fare-collector and change-maker. Represented by N. Ward Tompson, William D. Jones, Frank A. Johnson, Edw. B. Paul.
- Kenfield-Fairechild Publishing Company, Chicago, Ill., Building 1, Spaces 415-419—Electric traction Weekly, Represented by H. J. Kenfield, C. B. Fairechild, Jr., R. M. Standish, George S. Davis.
- Kennicott Water Softener Company, Chicago Heights, Ill., Building 2, Space 723—Model of machine, framed photographs, and stereopticon. Represented by Chas. L. Kennicott, Frank S. Dunham.
- Kinnear Manufacturing Company, Columbus, O., Building 2, Space 790—Steel rolling car house doors. Represented by F. B. Billheimer, S. R. Hewitt, F. C. Schmidt.
- Lackawanna Steel Company, New York, N. Y., Machinery Hall, spaces 573-576. Abbott rail joint; Lackawanna sheet steel piling; open hearth Bessemer T-rails; structural steel shapes; twisted square bars for reinforced concrete construction; sheared and universal shapes; axles; Maxwell deformed concrete bar; shoulder tie plates; sections of I-beams, channels, angles, rounds, flats, sheet, bars and special shapes; sections of standard rails, light rails, contact rails, splice bars, fish plates, patent rail joints, tie plates, billets, squares, brake beams, sheet steel piling. Represented by R. L. McDuffie, Frank Abbott, H. Sauborn Smith, Guy Hagar, D. H. Van Pelt.
- Le Carbone Company, Machinery Hall, Space 550—Carbon brushes. Represented by W. J. Jeandron, E. Gindre.
- Leslie & Trinkle Company, Philadelphia, Pa., Building 3, Space 802.
- Liberty Manufacturing Company, Pittsburg, Pa., Machinery Hall, Spaces 519-521—Liberty feed water regulators, Liberty strains, Twin Liberty oil purifiers and tube cleaners, Faber blow off valves. Represented by W. S. Elliot, C. A. Conn, W. A. Darrow, Wm. Owens.
- Long & Miekley, Allentown, Pa., Building 3, Space 883.
- Lorain Steel Company, Philadelphia, Pa., Building 2, Spaces 730-738—Special track work, girder and high tee rails, electrically welded joints. Represented by P. M. Boyd, Carroll Burton, F. J. Drake, S. P. S. Ellis, E. B. Entwisle, H. C. Evans, H. B. Frye, Jr., Wm. W. Kingston, H. F. A. Kleinschmidt, A. S. Littlefield, Jos. MacCarroll, Jr., S. P. McGough, H. C. Stiff, A. L. Verner.
- Lord Electric Company, New York, N. Y., Building 3, Space 879—Earl trolley retrievers and catchers, Thomas laminated soldered rail bonds, Shaw lightning arresters, Cosper controllers, Garton choke coils, Garton "Multi-Vapo-Gap" lightning arrester, cell and block type, Garton "Hydro Ground," Leco ground plates, points, cap and couplings, Leco car seat heat deflectors. Represented by Fred Lord, E. Kirkham, W. R. Garton, E. A. Robertson, Ray P. Lee, C. A. Davis, W. P. Cosper.
- Lumen Bearing Company, Buffalo, N. Y., Building 1, Space 428—Ideal trolley wheels, Lumen bronze truck and motor bearings, Alpha bronze check plates, Babbitt metals. Represented by Edward P. Sharp, Frank H. Warren, H. R. Forbes.
- Marshall & Company, R. W., Building 3, Space 805—Impregnating process, field coils, armature coils, commutators, axles, springs, trolley wheels. Represented by R. W. Marshall, W. V. Sweeten, F. B. Massey, J. F. McLeer.
- Massachusetts Chemical Company, Walpole, Mass., Building 1, Spaces 652-64—Armalac, enamelac, M. C. paint insulating tapes, splicing compounds, Walpole insulating board, field coil cushions, motor bushings, switch board matting car steps, corrugated matting. Represented by L. O. Duolos, A. E. Duolos, F. J. Gleason, E. W. Furbush.
- McConway & Torley Company, The, Pittsburg, Pa., Building 2, Marine Hall, Spaces 707-713—Janney radial coupler equipment, working models. Represented by Stephen C. Mason, E. M. Grove, H. C. Buhoup, I. H. Milliken.

- McGraw Publishing Company, New York City, Building 1, Spaces 401 to 413½—Electric Railway Journal's Annual Convention Souvenir Number, Dictionary of Electric Railway Material, Convention Daily Issues, Electrical World, Engineering Record, technical books. Represented by J. H. McGraw, J. M. Wakeman, H. W. Blake, L. E. Gould, T. C. Martin, Joseph A. Kucera, C. A. Babbiste, W. K. Beard, C. T. Walker, R. M. Babbitt, Rodney Hitt, F. Nicholas, Walter Jackson, E. J. Hunt, H. E. Hopkins, Ralph Lane, Miss Fisher, Miss Phelps.
- Meyer Safety Guard Company, Omaha, Neb., Building 2, Space 737—Models of device for prevention of accidents. Represented by Martin Meyer, F. D. Brown, Richard E. Mieth, E. W. Gwynne Vaughan.
- Milburn Company, Alexander, Baltimore, Md., Building 3, Space 856—Milburn lights for construction and track work, portable acetylene lights and generators. Represented by A. F. Jenkins, B. Surjeek.
- Morschhauser, W. H., New York, N. Y., Building 1, Space 424—Millionaire calculating machine. Represented by W. H. Morschhauser.
- Morris Company, Elmer P., New York, N. Y., Building 1, Space 613—Line material, car trimmings and general repair parts. Represented by Elmer P. Morris, Dwight E. Morris, Fred W. Roth, H. S. Tonks.
- Nachod Signal Company, Philadelphia, Pa., Building 3, Space 824—Nachod automatic signal, type C, in operation. Represented by C. P. Nachod.
- National Advertising Company of America, Chicago, Ill., Building 3, Spaces 836-838—Advertising device. Represented by F. L. Reynolds, M. T. Ash.
- National Brake Company, Buffalo, N. Y., Building 1, Spaces 316-18 and 228—Peacock brakes. Represented by G. S. Ackley, W. D. Brewster, Frank D. Miller.
- National Brake & Electric Company, Milwaukee, Wis., Machinery Hall, Spaces 539-545—Air brakes, air compressors, governors. Represented by R. P. Tell, S. I. Wailles, C. N. Leet, W. M. Bisel, W. H. Goble, J. J. Nef, J. J. Riley, B. Aikman, Geo. C. Anthon.
- National Carbon Company, Cleveland, O., Building 3, Space 812—Vibrating machine for testing strength and chipping characteristics of carbon brushes, samples of various grades of carbon brushes. Represented by N. C. Cotabish, F. D. Kathe, O. T. Weaver, W. B. Brady, A. E. Carrier, A. C. Henry.
- National Lock Washer Company, The, Newark, N. J., Building 1, Spaces 216-220—National cam curtain fixtures, National balance protected groove curtain fixtures, National sash lock, National sash balance, complete window fixtures, full size working models, samples of National lock washers. Represented by F. B. Archibald, W. C. Dodd, D. Hoyt, J. B. Seymour.
- National Railroad Trolley Guard Company, New York, N. Y., Building 2, Spaces 701-705—Railroad trolley guards. Represented by L. J. Mayer.
- National Roofing Company, Tonawanda, N. Y., Building 3, Space 857—Asphalt roofing, asphalt paint. Represented by Odell H. Dean, B. G. Casler.
- National Vacuum Cleaning Company, The, Dayton, O., Building 3, Space 878—Electric driven car cleaner, vacuum car cleaner operated by compressed air, small electric cleaner. Represented by Carl R. Green.
- New York Switch & Crossing Company, Hoboken, N. J., Building 2, Spaces 760-762—Anti-straddling tongue switches, frogs and crossings, hard steel center construction, manganese and hammered steel centers. Represented by W. C. Wood, H. R. Sherman, W. B. Phillips, E. Armerding.
- Niles Car & Manufacturing Company, Niles, O., Exhibit Track, Spaces 2-12—One 57-ft. combination passenger, smoking and baggage car on Baldwin class 90-35 trucks with 38-in. standard forged rolled steel wheels on 6½-in. hammered steel axles prepared for Westinghouse No. 148 single phase motors. Represented by F. C. Robbins, J. A. Hanna, A. W. Schall, F. A. Richards.
- Norfolk Creosoting Company, Norfolk, Va.
- Norton Grinding Company, Worcester, Mass., Building 1, Space 566—Car wheels, car axle, wheels and oilstones. Represented by H. N. Cudworth, Geo. C. Montague.
- Nuttall Company, R. D., Pittsburg, Pa., Building 1, Spaces 217, 219, 305—Gears, pinions, Titan gears and pinions, removable rolled rim gears, trolley bases, seamless trolley poles, harps and wheels, sleet wheels and sleet scrapers, flexible insulated couplings, compressor gears and pinions, special gears and pinions. Represented by F. A. Estep, C. J. Mayer, A. H. Englund, Max Berg, J. W. Porter, Geo. W. Provost, S. K. Colby, Charles N. Wood, G. E. Watts.
- Ohio Brass Company, The, Mansfield, O., Building 2, Spaces 701-705—Trolley hangers and ears, rail bonds, third rail insulators, catenary materials, high tension porcelain insulators, Tomlinson car couplers, Universal sander valves and traps, Collin steam pressure regulating valves. Represented by C. K. King, A. L. Wilkinson, G. A. Mead, E. F. Wickwire, A. L. Price, C. H. Tomlinson, N. M. Garland, R. M. Campbell, Nathan Shute, W. H. Bloss, F. E. Johnson, E. C. Brown, J. E. Slimp.
- Ohner Fare Register Company, Dayton, O., Building 3, Space 850—Various types of indicating, recording and printing registers. Represented by J. H. Stedman, E. B. Grimes, C. W. Ketteman, C. V. Funk.
- Palmetto Metal Company, Chicago, Ill., Building 1, Space 435—Bearings babbitted and samples of Palmetto babbitt metal. Represented by John H. Colvin.
- Pantasote Company, The, New York, Building 3, Spaces 862-865—Pantasote car curtains and seating materials, Agosote headlinings, panels, partitions, etc. Represented by John M. High, Douglas E. Bonner, George N. Boyd.
- Parmenter Fender & Wheel Guard Company, Boston, Mass., Building 1, Space 613—Fenders and wheel guards which went through the recent severe test of the New York railroad commission at Schenectady, N. Y. Represented by Geo. A. Parmenter.
- Pay-As-You-Enter Car Company, The, New York City, Building Exhibit Track, Spaces 33-43—Sections of different styles of Pay-as-you-enter cars. Represented by D. McDonald, T. W. Casey.
- Pennsylvania Steel Company, Philadelphia, Pa., Building 1, Spaces 201-215—Machine for determining wearing qualities of rails, rolled Manard steel rails, Manard steel car coupler knuckles, cold twisted 100-lb. Manard steel rail, new girder rail guard section, street railway frogs, switches, mates and steam railroad frogs, solid Manard crossings for street and steam use, switch stands, main line safety switch stand with disappearing blade. Represented by H. F. Martin, John C. Jay, Charles S. Clark, J. G. Miller, Richard Peters, R. E. Belknap, John T. Hill, H. M. Foster, Joseph Fitzpatrick, John B. Smiley, Roy M. Lechthaler, N. E. Salsich, C. E. Irwin, M. W. Long, W. R. Miller, C. A. Alden, George W. Parsons, William M. Henderson, C. W. Reinoehl, C. W. Cuntz.
- Perry Side Bearing Company, Joliet, Ill., Building 3, Space 861—Side bearings for trolley lines after two years service, side bearings for steam roads after 250,000 miles service, side bearings for heavy interurban equipment, models, reports of tests. Represented by H. M. Perry.
- Philadelphia Electrical & Manufacturing Company, Philadelphia, Pa., Building 1, Spaces 306, 308—Malleable iron line material of all kinds, brackets, gear cases, oil boxes, splicing sleeves, incandescent street lighting fixtures, Absolute cut-outs, fuse boxes, Antitrust paint, etc. Represented by C. L. Bundy, R. H. Manwaring.
- Pierome Hide Company, Syracuse, N. Y., Building 3, Space 801—Ouride car-seat covering, Ouride silent gears. Represented by William H. Roberts, George R. Mitchell, Robert Croasdale.
- Pittsburg Pole & Forge Company, Pittsburg, Pa., Building 1, Spaces 608-614—Pittsburg standard and Verona

- seamless trolley poles, tubular iron poles, steel insulator pins, rail benders, Pittsburg standard high-tension transmission, pole top insular pins. Represented by J. Parker Biggert, T. D. Dallmeyer, B. D. Foster.
- Pittsburgh Steel Foundry, Pittsburgh, Pa., Building 3, Space 84—Cast steel electric light pole, cast steel tie. Represented by H. V. Seth.
- Quincy, Manchester, Sargent Company, Plainfield, N. J., Building 3, Space 881—Stanwood step, pit jack, Bonzana rail joint, Sanson girder, rail bender, pneumatic hoist. Represented by C. H. Holbrook.
- Rail Joint Company, The, New York City, Building 1, Space 616—Rail joints. Represented by B. M. Barr, D. J. Evans, C. A. Cool, G. W. Smith.
- Railroad Age Gazette, New York, N. Y., Building 1, Spaces 423, 425—The Railroad Age Gazette and its publications. Represented by E. A. Simmons, F. S. Dinsmore, C. R. Mills, R. S. Chisolm, F. E. Lister, Ray Morris.
- Railway Audit & Inspection Company, Philadelphia, Pa., Building 2, Spaces 724-726—Auditing, engineering and inspection. Represented by E. C. Hathaway, H. N. Brown, Wm. R. Allen, C. E. Horney, T. C. Cary.
- Ramapo Iron Works, Hillburn, N. Y., Building 3, Space 810—Manganese steel rolled rails, and switches, frogs, switch stands, etc. Represented by W. L. Derr, W. B. Lee, Arthur Gemunder, Jas. B. Strong.
- Restein Company, Clement, Philadelphia, Pa., Building 3, Space 806—Belmont packings for steam, water, ammonia, hydraulics, oils, gases, acids, etc., etc., Belmont steam air drill and water hose. Represented by Clement Restein, Norman B. Miller, James E. Sulger, Russell Finnigan, E. N. Marey.
- Rubberset Brush Company, Newark, N. J., Building 3, Space 877—Rubberset paint brushes.
- Sight Feed Oil Pump Company, Milwaukee, Wis., Machinery Hall, Space 526—Richardson sight feed oil pumps and general lubricating specialties. Represented by J. Wm. Peterson, Wm. Martin.
- Southern Exchange Company, New York, N. Y., Building 2, Spaces 715-717—Overhead pole construction, octagonal and square yellow pine poles, round southern white cedar poles, cross-arms, pictures of mills and pole yards. Represented by E. G. Chamberlin, A. J. McKinnon, W. E. Mitchell.
- Smith, Charles H., Lebanon, Pa., Building 3, Space 835—Automatic block signal. Represented by Charles H. Smith, J. S. Gingrich.
- Peter Smith Heater Company, The, Detroit, Mich., Building 1, Spaces 427-429—No. 1-C Peter Smith magazine hot water heaters, No. 1-C, No. 2-C and No. 3-C. Represented by Daniel W. Smith, Elmer J. Smith.
- Spear & Miller Company, Building 3, Space 828—Brake shoes. Represented by F. R. Spear, H. A. Dorner, T. H. Price.
- Speer Carbon Company, St. Marys, Pa., Building 1, Space 611—Carbon brushes for motors and generators, circuit breaker carbons. Represented by J. S. Speer, G. P. Fryling.
- Standard Motor Truck Company, Pittsburg, Pa., Machinery Hall, Spaces 563-571—C-80 "Trunk Line Service" double truck, C-60 high speed "Interborough" double truck, C-50 inside hung motor, city and suburban, double truck, O-50 outside-hung motor city and suburban short wheel base double truck, O-45 maximum traction city and suburban double truck. Represented by A. W. Field.
- Standard Paint Company, The, New York City, Building 2, Space 735—Reception room. Represented by J. G. Satterthwait, Paul J. McCarley, Charles E. Smith.
- Standard Steel Works Company, Philadelphia, Pa., Building 3, Spaces 886-887; Exhibition track Spaces 2-12—Solid rolled steel wheels mounted on open hearth hammered steel axles; steel springs. Represented by Clarence F. Dodson, H. W. Sheldon, Fred W. Weston, E. Sidney Lewis, H. de H. Bright, A. A. Stevenson, Robert Radford, Charles Riddell.
- Standard Underground Cable Company, Pittsburgh, Pa., Building 3, Space 832—Cables, wires, junction boxes, cable terminals. Represented by H. P. Kimball, T. E. Hughes, C. W. Davis.
- Standard Varnish Company, New York, N. Y., Building 2, Space 771—Pocket samples of insulating specialties. Represented by L. Robinson, H. Chilcote, A. Steinberg, E. A. Holland.
- Star Brass Works, Kalamazoo, Mich., Building 3, Space 814—Kalamazoo trolley wheels, Kalamazoo trolley harps. Represented by O. P. Johnson.
- Sterling-Meaker Company, Newark, N. J., Building 2, Spaces 725-727—Sterling safety brake, Giant brake, Sterling trolley bases, fenders, life guards and wheel guards, Sterling sand box, fare registers and register fittings, conductors' punches. Represented by R. T. Stowe, George E. Willis, J. N. Akarman.
- Sterling Varnish Company, The, Pittsburgh, Pa., Building 2, Space 728—Insulating materials, coils and samples. Represented by A. S. King, W. V. Whitfield.
- St. Louis Car Company, St. Louis, Mo., Building 1, Space 418—Reception booth, car seats. Represented by A. H. Sisson.
- Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., Building 3, Spaces 894-895—Magneto dispatching telephones, central energy dispatching telephones and kindred equipments. Telegraph signals manufactured by Telegraph Signal Company, Rochester, N. Y. Represented by J. O. Oliver, H. W. Lucia, E. O. Munson, H. C. Slemm.
- Sweet Supply Company, Philadelphia, Pa., Building 3, Space 852.
- Symington Company, The T. H., Baltimore, Md., Building 1, Spaces 552-554—Journal boxes, dust guards, ball bearing center and side bearings. Represented by J. F. Symington, C. J. Symington, Donald Symington, T. C. deRosset, A. H. Weston.
- Taylor Electric Truck Company, Troy, N. Y., Building Machinery Hall, Spaces 527-535—Taylor extra heavy single truck; Taylor short base double truck, for city and interurban service; Taylor heavy long base double truck, for high speed service; Taylor M-C-B- triple truck for heavy high speed service; elliptic and coil springs; Taylor malleable center steel tired wheel, finished axles of different sizes. Represented by John Taylor, G. A. Tupper, Thomas Thornes, Walter E. Taylor.
- Tool Steel Motor Gear & Pinion Company, Cincinnati, O., Building 3, Space 808—Tool steel gears & pinions. Represented by C. E. Sawtelle.
- Trolley Supply Company, The, Canton, Ohio, Building 3, Spaces 858-859, Knutson trolley retriever, Peerless retriever, Ideal catcher, Star headlight, Peerless roller bearing trolley base. Represented by J. E. McLain, Jos. Hollis, M. A. Yeakley.
- U. S. Electric Company, New York, N. Y., Building 1, Space 668—The Gill Selector for use in connection with telephones on train dispatching circuits, line equipped to give dispatcher complete control of signaling at any station. Represented by M. E. Launbeauch, H. E. Merell, E. R. Gill, Mr. Osborn.
- U. S. Metal & Manufacturing Company, New York City, Building 1, Space 555—Victor No. 2, No. 3 and No. 4, and Perfect No. 1 and No. 2 car replacers, St. Louis Surfacor and Paint Company's products, Hillman locked clevis and turnbuckle, Columbia lock nuts, Continental whistling post, Wright wrenches, brake jaws. Represented by B. A. Hegeman, Jr., G. L. L. Davis, F. C. Dunham, Fred Atwater.
- Under-Feed Stoker Company of America, The, Chicago, Ill., Building 3, Space 860—Reception facilities. Represented by Chas. S. Crowell, W. T. Jordan, David Hunter, Jr.
- Underwood & Company, H. B., Philadelphia, Pa., Building Machinery Hall, Space 518—Car truck side frame facing machine, pneumatic pipe bender, portable crank pin turning machine, portable cylinder boring bar in a

- cylinder, vacuum dash pots, St. John self adjusting cylinder packing. Represented by E. J. Rooksby, D. W. Pedrick, 2d, Edmund Crawford.
- Union Electric Company, Pittsburg, Pa. Represented by T. M. Cluley, George W. Provost, R. M. Kerschmer.
- United Copper Foundry Company, Boston, Mass., Building 3, Space 841—Exhibiting complete line of trolley wheels and high speed bushings. Represented by Albert W. Mullen, Harry Seavey.
- United States Electric Signal Company, West Newton, Mass., Machinery Hall, Spaces 523, 525—Electric block signal, counting signal, track circuit controller, type G-1 signal box with semaphore attachment, No. 5 trolley switch. Represented by John J. Ruddick, Roland F. Gammons, 2d, William W. Harrington.
- Vaile & Kimes, Dayton, O., Building 3, Space 854—V & K oilless trolley wheels, V & K non-arcng harps. Represented by H. W. Kimes, Adam Cole.
- Van Dorn Company, W. T., Chicago, Ill., Building 2, Space 733—Six standard drawbars, improved M. C. B. couplings. Represented by W. T. Van Dorn, Herbert Van Dorn, Chas. J. Johnson.
- Van Dorn Electric and Manufacturing Company, The, Cleveland, Ohio, Building 1, Space 537—Armature coils, field coils, commutators, portable electric drills, fireproof coils. Represented by F. Schneider, H. L. Schneider, C. I. Cartwright.
- Wagner Electric Manufacturing Company, St. Louis, Mo., Building 3, Spaces 827-829—Single phase motors, poly phase motors, switchboard and portable instruments. Represented by W. Robbins, E. W. Goldschmidt, John Mustard, Brooks Faxton.
- Walker & Bennett Manufacturing Company, New York City, Building 1, Spaces 120 and 121—Car seats. Represented by S. A. Walker, K. D. Hequemong.
- Wallace Supply Company, Chicago, Building 3, Space 880—Wallace double door fixtures, Stanwood steel steps, bronze car trimmings, parcel racks, ventilator openers, gongs and signal bells, Shelby steel trolley poles, car couplers. Represented by W. Meeter, C. C. Chapman.
- Warner Instrument Company, Beloit, Wis., Building 1, Space 553—Railroad speed indicators, portable tachometer, cut-meters, automobile speed indicators. Represented by C. H. Warner, O. W. Doolittle.
- Watson Stillman Company, The, New York, N. Y., Machinery Hall, Space 569—Hydraulic machinery. Represented by Edward A. Johnson.
- Western Electric Company, New York, Building 1, Spaces 656-666—Overhead material, pole brackets, armature and field coils, commutators, arc lamps, safety strain insulators, high tension and third rail insulators, Kalamazoo trolley wheels, headlights, deltabeston coils and wire. Represented by A. E. Meixell, H. M. Post, F. Killion, M. A. Oberlander, R. Roth, F. C. Jaeger, R. H. Harper.
- Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., Building 1, Spaces 219, 229, 307, 319—Standard d. c. No. 101-B, 40 h.p. motors; d. c. No. 306, 50 h.p. motor of interpole type; No. 156, 150 h.p. motor, union switch system of control for use on d. c. and a. c. railways, single phase motors. Represented by J. A. Brett, W. N. Conwell, C. S. Cook, Thomas Cooper, C. H. Davis, H. P. Davis, T. W. Ewing, G. B. Griffin, W. M. McFarland, L. N. Reed, C. W. Register, H. C. Stier, C. B. Humphrey, J. C. McQuiston.
- Westinghouse Machine Company, East Pittsburg, Pa., Building 1, Spaces 219, 229, 307, 319. Represented by E. H. Sniffin, L. L. Brinsmade, L. C. Bullington, H. H. Van Blarcom, J. H. Wagenhorst, R. E. Adreon, G. M. Bates.
- Westinghouse Traction Brake Company, Pittsburgh, Pa., Building 1, Spaces 215-229—Air brake test track, representing operation of equipments suitable for single motor car, two car trains consisting of motor and trailer, and three to five car trains; sectional motor-driven compressor; sectional brake cylinder with slack adjuster. Represented by A. L. Humphrey, J. R. Elliott, C. R. Elliott, E. L. Adreon, S. D. Hutchins, P. H. Donovan, Robert Burgess, A. Johnson, C. P. Cass, C. W. Townsend, E. A. Craig, F. M. Nellis, F. V. Green, C. J. Olmstead, A. Johnson, W. V. Turner, J. F. Miller and W. S. Bartholomew.
- Wharton, Wm., Jr. & Company, Inc., Philadelphia, Pa., Building 1, Spaces 210-214 and 300-302—Switches, mates, frogs and crossings of solid and renewable center types of manganese steel construction; "restored" manganese steel frog; solid manganese steel T-rail. Represented by V. Augerer, W. McLain, Arthur S. Partridge, J. C. Robinson, James W. Stringfellow, A. Gilpin, George R. Lyman, H. F. McDermott.
- Wheel Truing Brake Shoe Company, The, Detroit, Mich., Building 3, Space 873—Abrasive brake shoes. Represented by J. M. Griffin.
- Whitmore Manufacturing Company, The, Cleveland, Ohio, Building Machinery Hall, Spaces 547-549—Whitmore's gear protective composition, Whitmore's journal oil, gears, pinions. Represented by S. W. Whitmore, W. M. Lawyer, W. P. Cosper, Henry Stuckenholz, Wm. Beaser, Jr.
- Wilson, James G. Manufacturing Company, New York City, Building 3, Space 882—Rolling steel doors for car houses, trolley wire device for carrying current and special safety groove and lock for wide doors. Represented by A. H. Dodge.
- Wilson Trolley Catcher Company, Boston, Mass., Building 1, Space 431—Wilson trolley catchers. Represented by Charles N. Wood, John F. Stont, Charles F. Wilson.

THE BRILL EXHIBIT

The exhibit of The J. G. Brill Company occupies most of the north side of the Main Building and a large section of the car exhibit trestle. Three large electric signs keep the name "Brill" much in evidence. The exhibit in the Main Building on the Pier consists of four trucks: Brill No. 27-E3, high-speed type; 27-GE1, 4 ft. 6 in. wheel base type; the new center-bearing maximum traction truck, and the 21-E single truck. A "Pay-as-you-enter" car, one of an order for 150 being built for the Third Avenue Railroad Company, New York, is attracting attention on the trestle, where it is open for inspection. It has several novel features which all street railway officials will be interested in. Four sections of cars are shown which illustrate novel window arrangements of the semi-convertible type. Brill standard types of convertible and semi-convertible cars are also shown. A large collection of photographs of interurban cars and of various types of city cars, snow sweepers, plows, baggage cars, etc., are displayed attractively, and Brill car seats, fare boxes and other patented specialties, have conspicuous places.

The American Car Company, The G. C. Kuhlman Car Company, Danville Car Company, John Stephenson Company, and the Mason Manufacturing Company, are included with The J. G. Brill Company in this exhibit, and together are represented by 25 members of the selling force and the officers of the various companies.

Agasote, a new waterproof fibre board for head linings and other interior finish of cars, is being shown for the first time by the Pantasote Company, New York. The waterproof qualities of this material are being demonstrated with a section of Agasote mounted on a stand in the center of the booth under a constant spray of water. A full line of Pantasote for car curtains and seat upholstery in all shades and colors is also being displayed.

A NEW WHEEL GUARD

The Consolidated Car Fender Company, Providence, R. I., has recently placed on the market four models of a new type of wheel guard. The company's long experience in the manufacture and sale of fenders has given it many opportunities to design life-saving devices adapted to special conditions and the wheel guards are intended to be used on cars operated in streets with heavy traffic where projecting fenders are not suitable. The new Providence wheel guards have the special advantage of being carried high

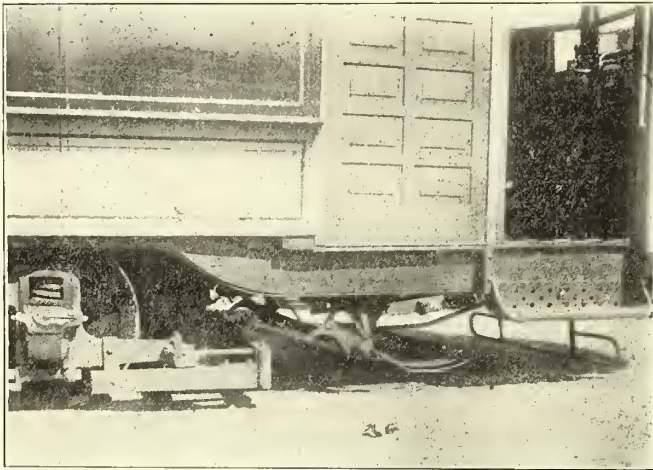


Fig. 1—Wheel Guard and Apron on Pay-as-You-Enter Car

above the pavement, under normal conditions, so that they are well out of the way of snow and ice in winter, and throughout the year avoid other obstructions between the rails. On this account the company claims they are immune from battering and are always in better condition to fulfill their proper functions.

The wheel guard is so balanced that its weight is forward, which condition ensures its instantaneous drop when released. The rubber roll along the front edge of the guard and its

even with the front end of the car. The guard is dropped by the motorman pressing a foot lever and is raised to its normal carrying position by the same means without requiring the motorman either to leave or stop his car.

Fig. 2 shows types C and D. The automatic air attachment is used only with type D. This guard is mounted directly in front of the truck and not only may be dropped by the motorman from the platform, but also drops automatically when a prostrate body comes in contact with the swinging apron carried under the bumper. This design is also illustrated in Fig. 1, which shows its application to one of the pay-as-you-enter cars of the Metropolitan Street Railway Company, of New York.

STATIONARY VESTIBULES FOR CITY CARS

The practice of vestibuling closed city cars is now almost universal. Many roads began with portable vestibules which were removed in summer and replaced in winter, but this practice has given way in favor of fixed vestibules. J. P. Sjoberg & Company has made a specialty of building these fixed vestibules for application to all types of equipment for a number of years. They have recently made a number of improvements in their three and five-light vestibules. Instead of hinging the center sash, as has been the practice heretofore, it is mounted on an angular steel track overhead. The curvature to conform to the shape of the platform is taken care of by the swivel sheaves by which the sash is carried. The sheaves adapt themselves to the curvature of the track while the sash moves diagonally across the opening. The sash is also guided at the bottom in each corner by plates with rollers running between guide strips, permitting the sash to operate freely above the guide strips. When closed, the sash is held in position by a sash fastening device which also serves as a handle to operate the sash. The side lights are fastened permanently into the frame of the vestibule. Narrow brass channels are employed in constructing the

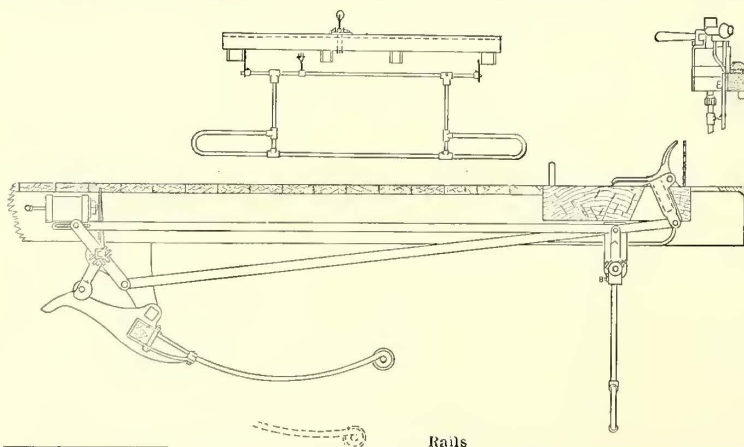


Fig. 2—Wheel Guard With Apron

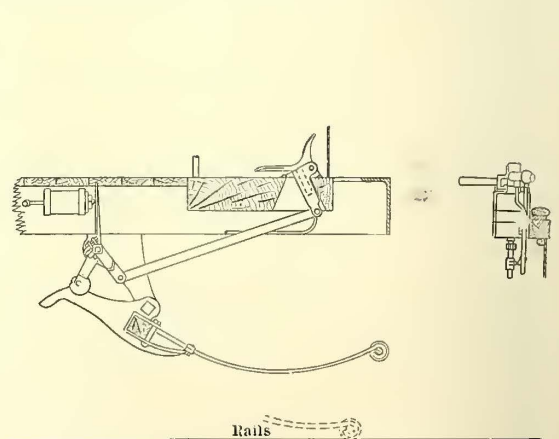


Fig. 3—Wheel Guard Without Apron

elastic construction throughout prevent damage while it is in contact with the roadbed when dropped.

The new guard is made in four types: A, B, C and D. Types A and B, which illustrate the wheel guard used without a front end fender, are shown in Fig. 3. Type A does not include the pneumatic attachment for automatically dropping the fender when an emergency application of the brakes is made. It will be noted that the wheel guard is mounted some distance in front of the truck, in fact, it is intended that the front edge of the fender should be about

center sash thereby giving the motorman the maximum amount of light. Over 7000 Sjoberg vestibules are now in use in New York City alone, and for all new cars built in New York or Brooklyn this type of vestibule is specified.

The steel framework of the Boardwalk is being damaged by rust. Work has already begun on a new walk 100 ft. wide to be built further out on the beach. It will have a surface of tile or concrete supported on foundation arches of reinforced concrete. Under these arches on a level with the beach will be sun parlors.