

# Electric Railway Journal

DAILY EDITION

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Railway Association and Its Affiliated Associations

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HENRY W. BLAKE, Editor.  
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Associate Editors:  
RODNEY HITT, FREDERIC NICHOLAS, WALTER JACKSON.

News Editors:  
G. J. MACMURRAY, FRANK J. ARMEIT.

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NEW YORK—OCTOBER 11, 1910.—ATLANTIC CITY

### PROGRAM FOR TO-DAY

- 9.00 a.m. Traymore Hotel, Meeting of the Claim Agents' Association.
- 9.30 a.m. Annex Court Hall, Convention Pier, Meeting of Accountants' Association.
- 9.30 a.m. Aquarium Court Hall, Convention Pier, Meeting of Engineering Association.
- 9.30 a.m. Greek Temple, Convention Pier, Meeting of Transportation & Traffic Association.
- 12.00 m. West Solarium, Marlborough-Blenheim, Meeting of Public Relations Committee of American Association.
- 12.00 m. Traymore Hotel, Group Photograph of Claim Agents' Association.
- 1.00 p.m. Marlborough-Blenheim, "Get-Together-Luncheon," Accountants' Association.
- 2.00 p.m. Greek Temple, Convention Pier, Meeting of American Association.
- 2.00 p.m. Aquarium Court Hall, Convention Pier, Meeting of Engineering Association.
- 2.00 p.m. Traymore Hotel, Meeting of Claim Agents' Association.
- 2.30 p.m. Aquarium Court Hall, Convention Pier, Meeting of Accountants' Association (Joint Meeting with Engineering Association).
- 2.30 p.m. Solarium, Marlborough-Blenheim, Entertainment for Ladies.
- 6.00 p.m. Windsor Hotel, Dinner, Claim Agents' Association.
- 8.30 p.m. Marine Hall, Convention Pier, Smoker and Indoor Baseball Game—Railway Men vs. Supply Men—"Stag."
- 9.00 p.m. Ball Room, Marlborough-Blenheim, Ladies' Progressive Euchre (Prizes). L

### Promptness in Attendance

The American Street & Interurban Railway Association and each of the affiliated associations have programs this year which are replete with interesting topics, and it would be a pity if the time available for their discussion were materially reduced through delay in commencing the meetings of the associations. It is safe to say that all of the committees have worked hard on the compilation of their reports, and practically all of them make recommendations which they desire considered by the association to which their reports are to be presented. We bespeak for these gentlemen, as well as for the hard-working officers of the associations themselves, prompt attendance at the meetings of the association and a full discussion of the papers and valuable reports presented.

### Program of the Week

No better evidence of the wide field covered by the American Street & Interurban Railway Association and its affiliated organizations is shown than by a glance over the list of topics contained in the official convention program. Altogether 28 committee reports and 25 papers are scheduled for presentation. Five years ago, with the methods then in vogue, it would have been impossible for the association to have considered this number of papers and reports except in a most cursory way. Conditions are far different now, because the reports are printed and distributed in advance so that the members can study them to advantage before coming to the convention. Each topic is most carefully considered by a committee for nearly six months, and the reports are written after a knowledge of the practice of the member companies on the subject under consideration has been gained by the replies to data sheets sent out by the committees.

The program of the American Association includes reports of 11 working committees besides 7 addresses or papers covering a wide range of subjects to be presented by gentlemen prominent in the executive management of electric railway properties in the East and the Far West.

The Accountants' Association will consider the reports of three committees whose work has extended over the year and will listen to six papers on accounting subjects. Of these papers, two will be presented by gentlemen not actively engaged in electric railway operation, but invited as authorities on the subjects which they will discuss. Particular interest attaches to both of these outside addresses, because the recent report on electric railways published by the Census Bureau is an example of the value which the bureau can be to the industry and because Professor Cooley's connection with a number of recent appraisals of electric railway properties lends additional importance to any opinions which he may express on the treatment of overhead charges in accounting practice.

### The New Engineering Committees

This year the program of the Engineering Association includes reports from two new standing committees appointed last winter. These are the committee on heavy electric traction and the committee on buildings and structures. The formation of a committee to deal exclusively

with subjects relating to the equipment of elevated, subway and electrified steam railroads greatly enlarges the usefulness of the association and was responsible at least in part for the acquisition of the Pennsylvania Railroad as a member of the American Association. The problems of heavy electric traction are in many respects closely allied with those of heavy interurban and rapid transit roads, and the American Street & Interurban Railway Engineering Association can be of great assistance in their solution. The new committee has begun its work by recommending admirable specifications for heat-treated axles and by proposing standard clearances for third-rail location. Next year it purposes to consider general maintenance of heavy electrical equipment.

The committee on buildings and structures is an outgrowth of the committee on way matters, which found itself overburdened with important subjects relating only to track construction and maintenance. This year the new committee has confined its work to general recommendations concerning terminals. It has a large field for future work, which includes car houses, repair shops, bridges and miscellaneous railway structures.

### The Work of the Claim Agents

The program of the Claim Agents' Association meetings will consist principally of seven papers, each of which will be the subject of a general discussion. The policy of working by committees has not been followed to so great an extent by the claim agents as by the other associations. Perhaps the most important single event in the work of the claim departments during the year has been the arrangement effected, at the suggestion of the Claim Agents' Association, by the parent association with the Hooper-Holmes Information Bureau. It is expected that one of the members of this bureau will be in Atlantic City early this week to address the Claim Agents' Association so that the members can obtain a better knowledge of the actual workings of the bureau than they could derive from the notices which have been published in regard to it. In addition to the papers by members of the association, Henry C. Page, general manager of the Worcester Consolidated Street Railway, has consented to present an address on the methods by which the operating and claim departments can coöperate. The final paper on the program relates to the criminal negligence of employees and will be presented by E. F. Schneider, general manager, Cleveland, Southwestern & Columbus Railway, whose remarkably successful campaign in instructing employees and the public on the avoidance of accidents has created much interest in the Central West.

### Standardization in Transportation

At first thought, transportation methods do not seem to lend themselves as readily to unification and standardization as those relating to accounting or engineering matters. Possibly it is for this reason that standardization was begun later in the transportation department than in electric railway accounting and electric railway engineering. Nevertheless it is a significant fact that practically all of the reports presented this year before the Transportation & Traffic Association are directly in the line of standardization.

Of course, the reports of the committees on city rules and on interurban rules relate directly to this subject. The main conclusions of the other committees, however, also embody important recommendations along these lines. Thus the committee on express and freight traffic suggests a method of prorating the operating expenses of a company operating both passenger and freight business, so that the relative costs between these two departments could be accurately determined. The committee on the training of transportation employees recommends a standard course of instruction for "breaking

in" motormen and conductors, and the committee on construction of schedules and timetables includes under its other recommendations standard definitions of straight and swing runs, and suggests the standardization of other terms in common use in street railway work. The report of the committee on passenger traffic is devoted exclusively to the subject of rates, and while rates can hardly be "standardized" in the usual acceptance of that term, the committee recommends strongly the establishment of a minimum of 2 cents per mile for interurban roads. Finally the committee on transfers and transfer information makes five distinct recommendations on standardizing transfers, a branch of the work in which the greatest variety of practice exists to-day.

### The Exhibits

To many of those in attendance at the convention the exhibit of railway appliances and materials is the most interesting feature of the week. Admirable as have been the exhibits in the past, it is no exaggeration to say that the display at this convention surpasses those of all previous years, both in point of size and in attractiveness. In spite of the handicap of three days of stormy weather last week the Million Dollar Pier has been so transformed that it would hardly be recognized by those who saw it a week ago. The first impression on entering the pier is that of stepping into a beautiful garden embellished with vine-clad pergolas and inviting summerhouses. The most prosaic pieces of apparatus which are being displayed seem to have received a touch from a magician's wand.

More than 180 manufacturers are represented among the exhibits, and the booths occupy about 70,000 sq. ft. of floor space. The representation of Western manufacturers at this year's convention is particularly gratifying. Last year at the Denver convention the Eastern manufacturers, at a very large expense, sent comprehensive exhibits of their apparatus and materials, and this year the Western manufacturers have responded in kind. The Manufacturers' Association is national in its scope and membership no less than the American Association and its affiliated associations, and no better evidence of this fact could be had than the cosmopolitan character of the exhibits, whether the conventions are held in the East or in the West.

Too much praise cannot be given to the exhibit committee for its untiring efforts to make this feature of the convention an unqualified success. For more than a week nearly all of the members of the committee have been hard at work on the pier superintending the installation of the exhibits and holding daily meetings at which many valuable suggestions have been made for improving the exhibit arrangements. The attendance of the members of the committee in Atlantic City so far in advance of the convention has been made possible by the liberal policy of the manufacturing companies, which permitted their representatives to come to the convention and spend their time and money in the interests of the common good. We feel sure that this liberality is fully appreciated by the other members of the Manufacturers' Association and by all of the railway men for whose benefit the exhibit committee has worked so untiringly.

Perhaps the most noticeable feature of the exhibits is the large number of devices offered for use in connection with pre-payment cars, which fact affords ample evidence that this type of rolling stock has come to stay. The various examples of steel construction and metal fittings for cars indicate the tendency toward securing greater strength in car construction concomitant with a reduction in weight. The constantly increasing severity of electric railway service on many city and interurban railways is shown by the extensive displays of higher-grade special track work, wheels, axles, gears and pinions. While catenary construction has become almost an old story, it will be found that the improvements being made in this class of material also are worthy of notice.

## Conventionalities

Who says we can't "come back"?

Are you an associate member? If so, where is your badge?

H. E. Weeks, secretary of the Accountants' Association, enjoyed himself on the special train from Chicago.

A. A. Anderson, general manager of the Springfield Consolidated Railway, Springfield, Ill., arrived on the Chicago special train Monday. He is accompanied by Mrs. Anderson.

Major Evans, with his silk hat, frock coat and cane, was a conspicuous figure in the lobby on the Pier Sunday afternoon. The better the day, the better the clothes.

J. W. Porter, of the Electric Service Supplies Company, did enough convention work in Chicago before starting for Atlantic City to entitle him to a pension. He was a transportation committee man. He is the great advocate of "lower berths only."

J. R. Wiley, of the Standard Underground Cable Company, and A. S. Littlefield, of the Lorain Steel Company, were two old-timers whose presence on the Chicago special train crowned the services of the day with the proper degree of reverence and austerity.

George Weston, assistant engineer, of the Board of Supervising Engineers, Chicago Traction, was a popular passenger on the Chicago special train. The chairman of the board, B. J. Arnold, will probably reach Atlantic City before the convention adjourns.

President John I. Beggs of the Milwaukee Electric Railway and Light Company reached Atlantic City Sunday evening. He was a passenger, during the latter part of his trip, on the St. Louis convention special, having boarded that train at Harrisburg, Pa.

Among the first arrivals from the West were W. H. McAloney, superintendent of rolling stock, and W. M. Casey, trainmaster of the Denver City Tramway Company, who were seen on the Boardwalk on Sunday afternoon. After the Denver convention they could not be kept away from this convention.

W. O. Wood has temporarily resigned his position as president, general manager, purchasing agent and a few other odd jobs on the New York & Queens County Railway, and has accepted a position as chief barker for Heywood Brothers & Wakefield Company. His maiden effort yesterday morning drew a large crowd at the booth of his confident and admiring new employers.

Among the early arrivals were S. W. Gunsalus, superintendent of transportation, and Fred M. Hulett, inspector of equipment of the Southwest Missouri Railroad, Webb City, Mo. They left their home city Friday, and after spending a day in St. Louis came to Atlantic City on the St. Louis special, which arrived Sunday afternoon.

Eight past presidents of the American Street & Interurban Railway Association are at the convention, or are expected in Atlantic City this week. They are: Albion E. Lang, president 1897-98; Charles S. Sergeant, president 1898-99; John M. Roach, president 1899-1900; Herbert H. Vreeland, president 1901-02; Jere C. Hutchins, president 1902-03; W. Caryl Ely, president 1903-06; John I. Beggs, president 1906-07, and H. M. Littell, president 1882-83.

It is a long journey from San Francisco to Atlantic City, but men do make it, and for the purpose of attending conventions. Thomas Finigan, purchasing agent, and J. H. Handton, claim agent, of the United Railways, San Francisco, arrived on the Chicago special train yesterday. They are mighty good travelers. They do not get tired. They are always early, especially Finigan.

A. W. Brady, president of the Indiana Union Traction Company and first vice-president of the American Association, is in Atlantic City, but neither H. A. Nicholl, general manager of the company and a member of the committee on interurban rules, nor E. C. Carpenter, claim adjuster of the company and president of the Claim Agents' Association, was able to come to the convention on account of urgent business affairs at home.

Music hath charm, and some of it has been transmuted into the bowery loveliness of the exhibit halls, through the efforts of that talented organ virtuoso, E. F. Chaffee. Before each meeting of the exhibit committee last week Mr. Chaffee inspired every member with the strains of some familiar hymn, played on the magnificent pipe organ in the Greek Temple. No small part of the success of the committee's untiring work this year may be attributed to the musician's art.

The registration of delegates and guests at the convention was very heavy yesterday. Up to 5:00 p. m. 727 badges had been issued by the Manufacturers' Association to members and 126 badges to ladies and guests. The American Association registered 112 delegates, and the registration of the other associations was as follows: Engineering Association, 149; Transportation & Traffic Association, 67; Accountants' Association, 50; Claim Agents' Association, 31. Thirty associate members badges were issued and 210 railway guests and ladies were registered. The grand total of all classes was 1502.

Ralph E. Moore, of the General Electric Company, is receiving the congratulations of his many friends upon his appointment as assistant general manager of the Philadelphia district of the company. In this position Mr. Moore succeeds the late Theodore P. Bailey. Mr. Moore has attended many electric railway conventions in the interests of his company, as he has been manager of the railway department of the Philadelphia district since 1900, when he succeeded H. J. Crowley in that position. He was connected with the original Thomson-Houston Electric Company and has been in Philadelphia in the interests of the General Electric Company since the year 1894.

Winnipeg, Canada, is a fast-growing city. So rapid is the influx of home-builders to that important inland center of His Majesty's American empire that those who administer the public service affairs of Winnipeg can hardly venture away for a week-end lest a new suburb of 10,000 population may, in the meanwhile, spring into existence and be demanding railway, light or power service on their return. This being the off season for suburbs, Messrs. W. Phillips, general manager; Richard R. Knox, traffic superintendent, and George Garrett, superintendent of shops of the Winnipeg Electric Railway, have come to the convention to renew friendships and see the exhibits.

The "pool on the run" of the special train from Chicago gave the journey something of the atmosphere of a sea trip. G. H. Atkin, J. R. Blackhall and E. H. Noyes were the pool committee. The pool was on the time that the rear truck of the last car would pass off the Delaware River bridge and enter Jersey soil. Fifty tickets were sold. C. K. Knickerbocker and H. L. Monroe were timekeepers, and as a matter of course they were the objects of much anxiety and suspicion. The anxiety arose from the fact that they had to decide the time without stop-watches and the suspicion arose from natural causes. The train left the bridge at 56 minutes and 38 seconds after 12 o'clock (12:56:38). The nearest number to this, 12:57, was held by W. H. Stevenson. The second prize went to J. R. Wiley and the third to B. H. Rider. The prizes were very neat and attractive and were made of various coins of the realm.

## THE BASEBALL GAME TO-NIGHT

The Yama-Yama indoor baseball game and smoker to-night in Marine Hall on the Convention Pier promises to be one of the most enjoyable and unique features of the week's entertainment. The railway men and the supply men are expected to give an exhibition of inside baseball that will rival the coming duels between Connie Mack's Athletics and Peerless Leader Chance's Cubs. A quintet of talented musicians has been engaged to provide music and other stunts, and the committee in charge will gladly accommodate any amateur performers who are willing to take a chance on getting the "hook." For this one night only the ladies must be content to play euchre by and between themselves.

## THE ST. LOUIS SPECIAL TRAIN

The special convention train from St. Louis arrived here Sunday afternoon. The train, which was composed of four Pullman sleeping cars, an observation car and a library buffet, left St. Louis at 1:00 p. m. Saturday and made an eventful run to this city. The party consisted of about 70 railway and supply men from the Missouri city, as well as several railway men from Texas and Southwestern cities. The train was operated under the personal supervision of C. C. Curtice, district passenger agent of the Pennsylvania Railroad at St. Louis. One of the features of the service afforded by the railroad was an attractive directory giving the names of the passengers, the companies which they represented and the number of the car and section occupied by each. Arthur S. Partridge, master of transportation, aided very materially in making the special a successful venture.

## RECEPTION TO THE OFFICERS OF THE ASSOCIATIONS

The reception to the presidents and other officers of the New York associations and their wives, which was held in the lobby of the convention pier last night, opened brilliantly the social activities of the week. The guests of the evening received at the east end of the lobby. Besides President Shaw, the following officers and ladies were in the receiving line:

A. W. Brady, first vice president of the American Association; Mrs. Jos. R. Ellicott; Mrs. D. A. Hegarty; H. C. Donecker, secretary of the American Association; Mrs. Donecker; Thomas N. McCarter, second vice-president of the American Association; Mrs. H. H. Adams, Gen. George H. Harries, third vice-president of the American Association; H. S. Swift, president of the Accountants' Association; Mrs. Swift; R. I. Todd, president of the Traffic & Transportation Association; Mrs. William H. Huelings, Jr.; John I. Beggs, past-president of the American Association; H. K. Bennett, third vice-president of the Claim Agents' Association; Mrs. Bennett; W. J. Harvie, acting president of the Engineering Association; J. W. Corning, secretary of the Engineering Association.

The lobby presented a charming sight during the evening. The handsome gowns of the ladies added to the effect of fairyland produced by the floral decorations of the booths and the soft colors of the lamps in the ceiling of the hall. A ladies' quartet rendered a selected repertoire of songs during the reception, and later an orchestra played for dancing after the floor had been cleared.

Charles O. Kruger, president of the Philadelphia Rapid Transit Company, has been elected a director of the company, to succeed Clarence Wolf, resigned.

Frederick W. Whitridge, receiver for the Third Avenue Railroad, New York, returned to New York on the "Mauretania" on October 7. Mr. Whitridge spent most of his time in Scotland, where he went for a rest.

## THE LIGHT THAT FAILED

Last night the city was shrouded in darkness for a time owing to the failure of the electric distributing plant to work properly. Inquiry of the manager of the local plant elicited the following information: The Atlantic City plant is what is known as the two-faced system. This method is operated by crossing the F rheostat with the lightning arrester abaft the forward exciter. Wednesday night the armature of the transformer short-circuited with the brushes of the wattmeter, causing the commutator to synchronize with the collector ring, which closed one face of the voltmeter, causing the currents to seek escape through the back door. This explanation appears to be the correct one and will be readily understood by the technical engineer, but to enable the layman to understand the matter we may say that the essence of the juice in the dinghammer coalesced with the lead fuse, which failed to vitrify properly, thus causing the current from two lines to run through one wire, burning out a fuse in the substallation. The matter has been adjusted.

## THE VALUE OF A COMPANY MAGAZINE

The Sioux Falls Traction System has been publishing a four-page paper "now and then" for the past two years under the name "On the Cars." A. W. Warnock, general passenger agent of the Twin City Rapid Transit Company, recently wrote to F. M. Mills, editor of the paper, who among other positions also has the titles of president, treasurer and general manager of the Sioux Falls Traction System, asking what his experience had been with the publication. The following is Mr. Mills' reply:

Sept. 25, 1910.

Mr. A. W. Warnock, G. P. A.,  
Twin City Lines,  
Minneapolis, Minn.

Dear Sir: Your favor received and we forward copies of "On the Cars" as requested. In answer will say that we issue the paper "now and then," usually about once in three months.

I am not prepared to speak as to the advantages derived from its publication. It gives us a chance to keep in touch with our patrons, to publish our time schedules and rules and make announcements from time to time and an opportunity to get even with our critics and keep the people posted on car ethics and etiquette.

We have been unable to decide whether it is a good thing for the company or not. The only tangible acquirement we have to our credit is a libel suit, which entitles ours to rank as a real newspaper.

The writer, being an old newspaper man and still troubled with the disease known as *cacoethes scribendi*, must have his fun and if any malice can be shown may have to pay for it. So if your ambition has journalistic tendencies we warn you to derail in order to avoid collision with the ambulance chaser.

Very truly yours,

F. M. MILLS.

The following was overheard on one of the special trains to the convention: "No, my wife didn't come after all. She got the dress all right. And she got the hat. Yes, and she got the shoes, too, but at the last minute she found that the shoes didn't fit. So she couldn't come."

The Birmingham (England) Corporation Tramways sell workmen's tickets at greatly reduced rates. On some lines a charge of only 2 cents is made for a trip of  $4\frac{1}{2}$  miles. These low rates are in effect only up to 8 a. m., but the return ticket which is purchased at the time of paying the going fare is good at any time of the day.

**A WELCOME TO THE RAILWAY MEN**

Hail to the Human Trolley Wires!  
The men who run their cars  
From Everywhere to Everyplace  
Beneath the twinkling stars.

A welcome to you, mighty host,  
Is blazoned on this page!  
A welcome to you, one and all,  
You builders of the age.

A welcome to the salt sea waves,  
Which in the Summer Time  
Embrace the fairest sylphlike forms  
From every earthly clime.

A welcome from the people of  
This city by the beach,  
Which for renowned attractiveness  
Is something of a peach.

A welcome, too, from Mr. Young,  
Who's pleased again this year  
To have you hold your meetings on  
His Million Dollar Pier.

Inventive Genius welcomes you,  
And—know it for the truth—  
You'll find the warmest welcome here,  
AT EACH PARTICULAR BOOTH.

E. B. GRIMES.

**SCHEDULE OF ROLLER CHAIR COMMITTEE**

The roller chair committee has prepared a complete schedule of assignments of members, to be in charge during the week of each of the three checking stations which have been established. The accompanying table shows the name of the member of the committee in charge of each station at all hours of the day, from 9:00 A. M. to 7:00 P. M.

SCHEDULE OF ASSIGNMENTS OF CHAIR COMMITTEE						
MONDAY	9-11	11-1	1-3	3-5	5-7	
Pier	Keys	Cory	Olds	Smith	Frantz	
Marlborough	Green	Lavelle	Horn	Hegeman	Dunham	
Chalfonte	Denton	Verner	Weston	Nicholl	Mason	
TUESDAY						
Pier	Mason	Denton	Verner	Weston	Nicholl	
Marlborough	Frantz	Keys	Cory	Olds	Smith	
Chalfonte	Dunham	Green	Lavelle	Horn	Hegeman	
WEDNESDAY						
Pier	Hegeman	Dunham	Green	Lavelle	Horn	
Marlborough	Nicholl	Mason	Denton	Verner	Weston	
Chalfonte	Smith	Frantz	Keys	Cory	Olds	
THURSDAY						
Pier	Olds	Smith	Frantz	Keys	Cory	
Marlborough	Horn	Hegeman	Dunham	Green	Lavelle	
Chalfonte	Weston	Nicholl	Mason	Denton	Verner	
FRIDAY						
Pier	Verner	Weston	Nicholl	Mason	Denton	
Marlborough	Cory	Olds	Smith	Frantz	Keys	
Chalfonte	Lavelle	Horn	Hegeman	Dunham	Green	

W. E. Wilkinson, of the Pressed Steel Car Company, who is chairman of the roller chair committee, is endeavoring this year to provide more efficient service than ever before. The committee will appreciate the coöperation of members and guests to that end. The greatest measure of assistance will be rendered by observing the request to wear the official convention badge at all times, and in plain sight. By doing this neither members, guests nor the committeemen will be subjected to embarrassment, owing to any question arising over the privilege to use the chairs provided. The committee will welcome any complaints or suggestions relating to the roller-chair service. Rules governing the use of the chairs will be found in the booklet of general information

and program of entertainment, page 10. In addition to the regular service each day, the committee has arranged for additional service, as follows: On Monday evening, from 8:00 to 10:00 P. M., on account of the officers' reception at the Convention Pier. On Wednesday evening, from 8:00 to 9:30 P. M., on account of the vaudeville performance at the Apollo Theater. On Thursday evening, from 8:00 to 10:00 P. M., on account of the promenade concert and ball at the Convention Pier.

**THE CONVENTION BADGES.**

The design selected for the convention badge is particularly appropriate, suggesting, as it does, the atmosphere of the sea. Below the spreading eagle, which surmounts a miniature electric railway car, is a life preserver, which forms the central medallion of the badge. A windlass, wheel and anchor, inside the life preserver, are emblematic of life on the ocean wave. The American, British and Mexican flags typify the three divisions of the North American Continent and add a touch of color. The color of the ribbon attached to the badge indicates the association with which the wearer is affiliated. The following is the key to the color scheme adopted: American Association, marine blue; Accountants' Association, orange; Engineering Association, brown; Claim Agents' Association, green; Transportation & Traffic Association, gray; Manufacturers' Association, red; guests, light blue; ladies, white; associate members, purple; members of finance, entertainment and exhibit committees of the Manufacturers' Association, dark blue and red stripe.

**ASSOCIATE MEMBERSHIP**

The committee on associate membership is anxious to add 500 new associate members to the association during the coming week. The constitution of the American Street & Interurban Railway Association says that those eligible for membership as associate members are "individuals, co-partnerships and corporations who are actively identified with street and interurban railway interests, and other persons who, in the opinion of the executive committee, have had experience of such a nature as to render desirable their connection with the association."

There ought to be at least 500 men at the convention this year who are eligible for membership under this definition but have not yet joined the association. Each one of these should sign an application blank immediately, and hand it with a five-dollar bill either to one of the attendants at the association headquarters or to any member of the committee on associate membership. It will prove the best five-dollar investment he ever made.

It is pretty hard to miss a member of the associate membership committee. They can be recognized by their badges. But their names follow: H. H. Adams, S. W. Mower, F. D. Hall, Paul Winsor, M. H. Bronsdon, W. J. Harvie, J. S. Doyle, M. C. Brush, Martin Schreiber, Charles T. Herrick, E. O. Shryock, J. M. Larned, T. A. Cross, W. J. Kehl, Charles J. Bendt, Joel Hurt, Charles Madden, L. P. Crecelius, E. O. Ackerman, F. A. Healey, L. C. Shipherd, J. B. Crawford, H. A. Davis, W. Worth Bean, John Z. Murphy, M. M. Lloyd, A. W. Warnock, C. F. Holmes, W. H. McAloney, J. J. Johnson, W. J. Jones, P. E. Mitchel, D. A. Hegarty, G. J. Kuhrts, Frank Dabney and Warren H. Fiske.

One of the first railway men on the Boardwalk was H. H. Adams, superintendent of rolling stock and shops, Metropolitan Street Railway, New York. He put his own "John Hancock" on the Chalfonte register on Saturday, and also wrote the names of Mrs. Adams and their son.

## PRESIDENT CARPENTER'S ADDRESS TO THE CLAIM AGENTS' ASSOCIATION

It is with the most pleasant memories of our former meetings that I bring you greetings to this, our seventh annual convention. We have felt from the general interest manifested throughout the year that this convention would have the largest number of persons in attendance of any of our conventions, and I am glad to know that the number of delegates now registered shows this to be the fact.

The past year has been one of great activity in railway circles. With the increase in business comes the increased responsibilities necessary for its care. Increase in business brings a corresponding increase in accidents, with the burden of their care resting upon the claim departments. Some localities seem to have been particularly favored by Dame Fortune, and troubles have been few, while in other places the hand of Fate has laid a heavy hold and the toll of human lives and property has been great indeed.

There are few, if any, conditions that can arise quickly that will so severely shake a company from stem to stern as a disastrous accident where the loss of life is great and injuries many and serious. Then it is that the claim adjuster must keep his head level and his wits alert. He is the "buffer" of the treasury, against whom claimants must come before their claims are allowed.

The matters which have come before your officers the past year have received their prompt attention. For several years it has seemed desirable for a contract to be made with some information bureau, whereby data regarding claimants could be quickly exchanged among its members. This year the executive committee of the parent organization, following the recommendations of our executive committee, entered into a contract with the Hooper-Holmes Information Bureau. This contract entitles each member company of our parent organization to full information from the bureau, at a very small cost.

You were advised by circular letter of the plan of reporting and requesting information upon claimants. From results since the contract was made, we are led to believe that the plan is not understood by all. In order that we may be fully advised along the lines upon which the bureau operates, Mr. Hooper will address us on Wednesday.

I desire to express my hearty thanks to the various committees which have cooperated with me in such a willing manner, also to the officers who have responded promptly to every call. It has, indeed, been a great pleasure to have been associated with such pleasant gentlemen and to know that the work of the year has been carried along without a single jar. I desire also to thank kindly the gentlemen who have given their time and thought to the preparation of the papers upon the various subjects to come before us. I feel no hesitancy in saying that as we listen to the papers as they will be presented we shall hear expressed the ideas of some of the brightest minds of our membership.

That we have been fortunate in again being permitted to return to Atlantic City goes without saying. The city is known largely by its reputation to furnish pleasure to its guests. Enjoy its hospitality while here in whatever way you may each desire.

A fine spirit of good-fellowship has heretofore prevailed, by reason of which we entertain the kindest feeling, each to the others. Continue this fellowship. Extend your acquaintances while the opportunity is present. Take home with you that which is good and practical and of benefit to your company. Talk over with your superiors those things from which you derive benefit. Put into practical use the suggestions suitable to your own conditions. In this way the usefulness of our associations will be manifest, and we shall occupy the place of importance to which we are entitled.

## CLAIM AGENTS' DINNER TO-NIGHT

The annual dinner of the American Street & Interurban Railway Claim Agents' Association will be held at the Hotel Windsor this evening from 6 to 8 o'clock. Ladies will attend and all claim agents or representatives of the claim departments at the convention, or any ladies in attendance with them, are cordially invited to be present at the dinner. Tickets will be on sale by the members of the committee, H. K. Bennett, C. B. Hardiman and C. A. Avant. The price will be \$2.50 per plate. Those who have not yet purchased tickets but wish to attend the dinner should secure their tickets from one of these members of the dinner committee before 12 o'clock to-day, as the committee is anxious to know how many will be present. A few speeches will be made after the dinner, but they will conclude by 8 o'clock, so as to allow those who wish to attend the ladies' progressive euchre at the Marlborough-Blenheim or the indoor baseball game at Marine Hall to do so.

## ARRANGEMENT OF EXHIBIT HALLS

Delegates will notice a slightly different arrangement of exhibit halls this year from that which prevailed at the convention of 1908. Then the upper floor of Building No. 2, or Marine Hall, was used for exhibit purposes and the lower floor of the building was closed. This year the lower floor has been opened for exhibits and Marine Hall has been retained in its normal condition as an amphitheater with rows of seats and a stage. This plan doubles the space available in the building for convention purposes. The exhibit committee first thought of using Marine Hall for exhibits, but this would have involved the removal of all the seats and of the stage. The committee finally decided to keep the hall in its present condition and hold the entertainment and smoker this evening there. This decision is in line with the policy adopted this year of concentrating as far as possible the activities and evening entertainments of the association on the Pier, a plan exemplified by the location of the reception held last evening at the Pier.

## DEATH OF C. W. REINOEHL

On Sunday afternoon early arrivals at the convention were shocked and saddened by a report which came over the long-distance telephone that C. W. Reinoehl, superintendent of the frog and switch department of the Pennsylvania Steel Company, had been killed in an automobile accident near Buena Vista, N. J., while en route from Steelton to Atlantic City. Mr. Reinoehl was driving the car himself at a moderate speed, when he looked backward to see a following car, which contained a party of friends. In doing so he lost control of the car, which skidded to one side of the road and turned over twice. He was thrown out and the car fell on him, inflicting injuries from which he died in a few moments. William R. Miller and H. Barbee, both of the Pennsylvania Steel Company, who were in the automobile with Mr. Reinoehl, were thrown out, but escaped with minor injuries. When news of the accident reached Atlantic City Howard F. Martin went to Buena Vista in a fast automobile and took charge of Mr. Reinoehl's body.

Mr. Reinoehl entered the employ of the Pennsylvania Steel Company in 1880 and had been superintendent of the frog and switch department since 1904. He leaves a widow. His business associates who are in attendance at the convention have been the recipients of many expressions of sympathy in their loss, and all of Mr. Reinoehl's friends feel saddened and depressed as the result of his tragic death.

The funeral services will be held at Steelton, Pa., Wednesday afternoon.

## ADDRESS OF PRESIDENT TODD OF THE TRANSPORTATION & TRAFFIC ASSOCIATION

The delegates of the Transportation & Traffic Association are, I feel, most sincerely to be congratulated in meeting in this "Fair City by the Sea" for the third annual convention of this association. The surroundings are in marked contrast to those of one short year ago when our meetings were held almost under the shadow of the Rockies; but it will be our most earnest effort and desire that the exceedingly interesting and instructive meetings held last year shall be continued during our present convention and that even greater and more successful results shall be accomplished by the members and various committees of the association.

One of the many important matters which have been considered by your officers and executive committee at its recent meetings has been the change in the name of the association from "The American Street & Interurban Railway Transportation & Traffic Association" to "The American Electric Railway Transportation & Traffic Association," following the proposed change in the name of the parent association to "The American Electric Railway Association," and your officers and executive committee have unanimously decided to recommend to this association certain changes in the constitution and by-laws, which are required by this change of name, after corresponding action has been taken by the parent organization. We believe that the changes in the name of the association and in the constitution and by-laws will tend to broaden the work of this body and enlarge its field of activity and usefulness.

During the present year your officers and executive committee have thought it wise to add two committees to the standing committees of this association which are already in active work and have accomplished such admirable and efficient results during the past three years. The work of the committee on "topics and subjects," in the selection and discussion of live, up-to-date subjects for the preparation of papers to be brought before this association, and in many other directions, we believe will be of great advantage to the work of the association.

The committee on "construction of schedules and timetables" was appointed in line with the suggestion of one of our largest member companies, that this most important factor in the operation of all street railway systems had been given very little concerted thought or action by this association, and we believe that the first report of this committee, which will be presented during the present meeting, will be found to be of very great interest to the member companies and deeply instructive to all.

When we consider that this Transportation & Traffic Association has been in existence for only approximately three years, we believe that we may feel justly proud of the results accomplished. But in so wide a field as this association covers there still remain many subjects for the most careful consideration and investigation.

The adoption by this association at the 1909 convention of a standard set of rules governing the operation of interurban lines and the operation of city lines, and their approval by the parent association, has, we believe, marked a very decided advance in the successful operation of city and interurban properties. We feel that the further development of the rules and regulations governing particularly the operation of high-speed interurban cars should be followed up most carefully and thoroughly by this committee, and that joint meetings should be arranged between the interurban rules committee and the rules committee of the American Railway Association, so that by these conferences and discussion of rules we may still further secure, if that be possible, the benefit of the many years' experience of the steam railroads in their rules governing the operation of their lines, methods of dispatching, etc., and that we may adopt any

additional rules which may be found advantageous in the operation of interurban lines.

We should most earnestly strive at all times to perfect these rules in every possible way, to keep them up to date, and to have them contain the very latest and most modern practice in operating rules. The interurban rules will be of particular interest and importance to those companies which operate high-speed interurban lines, and therefore realize that for the safe and successful operation of such lines these rules are of the most vital importance.

The adoption by all member companies of these standard rules governing the operation of both city and interurban lines will, we believe, mark a long step forward in the systematic and successful operation of all their properties.

No two factors can be more important in the successful operation of any property than standard rules governing the operation of the lines, and the standardization as far as possible of cars with particular reference to height of drawbars, bumpers, platforms, etc., together with the standardization of equipment, including journals, axles, brake shoes, etc. In this standardization work the results accomplished by the Engineering Association have also been of great benefit to all member companies.

The report of the committee on training of transportation employees will, we trust, be of particular interest to the members of the association and bring out a very full and free discussion of this most important subject. In these times, when the attempt is so constant to make the general feeling of the public antagonistic and hostile toward all corporations, it would be impossible to place too much importance on the securing of the most capable and efficient employees, and on their training and discipline. To a very large extent, the employees of any company represent to their patrons and the general public the corporation itself, and those employees who come directly in contact with the public, if of the proper type and thoroughly trained and disciplined, can accomplish most wonderful results in molding public sentiment in favor of, rather than against, the corporations.

The greatest asset that any company can have is the good will and friendship of its patrons. Every company and every employee should use their utmost endeavors to secure and retain cordial and friendly relations with the public. The best means of accomplishing these results will, we trust, be most earnestly considered and thoroughly discussed during our meeting.

The committee on topics and subjects has selected a number of interesting subjects for the preparation of papers to be read before your association at this meeting, which we trust will be of very great interest to all of the members present and result in even larger attendance than at previous sessions. The work, however, of your association, as at previous meetings, will very largely be devoted to the reports of the regular committees of this association and the full discussion of these reports. We trust that all members will be present and take an active part in the consideration and discussion of all reports and papers presented.

In closing, I wish to express my most heartfelt thanks and appreciation to the officers and members of the executive committee, to the secretary, and all members of this convention for all the assistance given during my term of office, and to the chairmen and members of the standing committees for the hard and conscientious work performed by all members of these various committees. Anyone who has experienced the honor of being president of this association cannot but feel proud of, and deeply grateful for, the loyal, earnest and able support given him by its officers and all members of the association.

The Rochester, Syracuse & Eastern Railroad was the subject of an illustrated article which was published in "Commerce" for September, 1910, a magazine issued at Rochester and devoted to industry and trade.

## THE CLAIM AGENTS' ASSOCIATION

The first meeting of the American Street & Interurban Railway Claim Agents' Association was held at the Traymore Hotel yesterday afternoon. President E. C. Carpenter was unable to be present, owing to important business engagements, so that J. S. Harrison, first vice-president of the association, presided. Secretary Davis read a letter from Mr. Carpenter in which he stated that he had been looking forward to the meeting with the greatest interest, and it was a great disappointment to him that he would be unable to be present.

Mr. Carpenter's address as president of the association was then read by the secretary. It appears elsewhere in this issue. The secretary then presented the report of the executive committee, containing the minutes of the committee held January 26 and June 15.

The secretary then read his annual report. He stated that during the year 300 letters relating to the association had been received and answered by him. It also contained a list of various official announcements issued by the association.

According to the program, a paper was then to be presented by James R. Pratt, Baltimore, Md., on "What Matters Particularly Interesting to Claim Departments Ought to Be Subject to Legislation, and How Can the Claim Agents Best Exert Proper Influence to Obtain Such Legislation?" Mr. Pratt was unable to reach here, and notified the secretary that he would be unable to reach Atlantic City until this morning, so that his paper will be taken up at the morning session to-day.

About 50 were present at the meeting. A committee was appointed to send a telegram to Mr. Carpenter on his inability to be present at the opening session.

## RECORDS OF CONVENTION BENEFITS

Under date of Oct. 1 Secretary Donecker sent the following letter to the chief executive officer of all member companies of the American Street & Interurban Railway Association:

"My Dear Sir:—

"A plan which has been successfully followed by some few of the member companies in past years seems to contain so much merit as to warrant our bringing it to your attention, so that, if you desire, you could make use of it in connection with the coming convention.

"Briefly, the plan is that each representative who attends the convention shall, after returning to his home city, prepare and file with his superior officer a somewhat detailed report of his personal observations of practice and equipment which appear sufficiently valuable to apply to the operation of the company with which he is connected. This report should outline the new ideas developed at convention meetings or through the interchange of thought with delegates outside the meeting halls with respect to any department or phase of electric railway operation. Problems solved and doubts dispelled should be definitely set forth and new developments and improvements in mechanical appliances and apparatus as they affect your particular company should be clearly defined. In many instances, the immediate application of new methods and equipment is not feasible and when an opportunity to utilize them does arrive they are either forgotten or overlooked. Filed records of the kind described to a large extent eliminate this trouble.

"We are sure that the merits of the system in many other directions will appeal to you, without the necessity of our going into further detail.

"The plan, as described above, covers only its application to the individual company, but it has been our thought that herein there is a field in which the association might, with your coöperation, be of considerable benefit to the companies as a

whole. The idea is that shortly after the close of the convention we should invite each member company to file with us a copy of the synopsis of the reports submitted by its officials with especial reference to such portions of these reports as would be of more than local interest. The association would then make a careful study of the material obtained, and would publish the result in the form of a confidential bulletin to be sent to all companies participating. Suggestions as to association work in general, with reference to the especially interesting parts of committee reports and papers, with the thoughts that these may have brought about as to lines of investigation and work which, in your opinion, the association should take up, will also be welcomed. We should also be pleased to receive, if agreeable, a brief statement as to the returns received throughout the year through participation in association work.

"As a preliminary move, it is respectfully suggested that the plan be brought to the attention of your representatives before their departure for the convention, perhaps at a meeting to discuss possible improvements in practice or equipment. This would tend to bring about definite lines of investigation during convention week."

## SEABOARD AIR LINE SPECIAL

For the first time in the history of the American Street & Interurban Railway Association, a special convention train was run from Atlanta, Ga. The train was composed entirely of electric-lighted Pullman cars furnished by the Seaboard Air Line Railway through C. D. Wayne, assistant general passenger agent, Atlanta. The train left Atlanta at 11:30 a. m., Saturday, Oct. 8, and arrived in Atlantic City on the following afternoon. Twenty-three railway and supply men made up the party, which is the largest single delegation ever attending the convention from the Southeastern States. The train was in charge of Mr. Hampton, of the Seaboard Air Line Railway, who paid every attention to the passengers.

## THE SPECIAL TRAIN FROM CHICAGO

The special train from Chicago started at three o'clock on Sunday afternoon under lowering skies as the second section of the 18-hour Pennsylvania Special and arrived in Atlantic City at two o'clock Monday afternoon as a section of a slow local train, but the sun was shining. The train was composed of one sleeping and observation car, six sleepers, two diners and one buffet-smoker. The equipment was the most modern steel passenger cars, for which the Pennsylvania system is noted, and the service was up to the standard of the best fast trains.

T. R. Wilt, city passenger agent of the Pennsylvania lines at Chicago, was in charge of the train and was tireless in his attention to his guests. The work which the transportation committees of the American and the Manufacturers' Association had done made the trip one of great comfort and much pleasure to each passenger, Messrs. J. M. Roach, E. C. Faber, J. W. Porter, L. E. Gould and Hiram J. Kenfield constituted these committees. The passenger list contained 118 people, among them a considerable number of ladies.

Ten steel passenger cars make a rather heavy train, and it was to have been expected that the schedule of the 18-hour train would not be maintained. But as only a very few upper berths were occupied and as, in consequence, the cars were not badly crowded, the comfort which the party enjoyed compensated for the late hour of arrival at the scene of the convention.

Gen. G. H. Harries, W. F. Ham, H. W. Fuller and C. S. Kimball, of the Washington Railway and Electric Company, arrived on Sunday.

## MEETING OF THE TRANSPORTATION & TRAFFIC ASSOCIATION

The first meeting of the American Street & Interurban Railway Transportation & Traffic Association was held yesterday afternoon at the Greek Temple. The hall had been tastefully decorated with flags. President R. I. Todd called the association to order at 3 P. M. and read his presidential address. This is published elsewhere in this issue.

The president then called for the report of the executive committee. This gave an account of the meeting of the committee on January 28, when the committees of the association were appointed. At this time also a letter was received from C. S. Sergeant, vice-president, Boston Elevated Railway, suggesting that a committee be appointed to report on schedules and timetables. This suggestion was received favorably and a committee on this subject was appointed. The report also mentioned the action taken by the executive committee at the other meetings during the year.

Secretary Donecker then presented the report of the secretary and treasurer. He stated that the total expenses during the year had been \$3,555. Of this amount \$2,123 had been for printing and distributing the proceedings and for other printing required for the association. The remainder, \$1,432, was for all other purposes. The secretary also called attention to the facilities possessed at the headquarters for supply of information.

President Todd then called for the report of the committee on passenger traffic. It was read by J. W. Brown, and is published elsewhere in this issue.

At the suggestion of Mr. Brush, the president then called for the paper on the "Creation of Passenger Traffic," by J. F. Keys, general passenger agent of the Detroit United Railway. This paper is published elsewhere in this issue.

Mr. Keys called attention to some 20 samples of advertising cards and timetables used by the Detroit United Railway, which were posted on the walls of the convention hall. He added that cards of this kind were carried on every car of the Detroit system, both city and interurban.

### DISCUSSION ON PASSENGER TRAFFIC

M. C. Brush, Boston Elevated Railway, called attention to the statement of Mr. Keys that the Detroit United Railway made no special excursion rates and carried no excursions. Mr. Brush said that he agreed absolutely with that policy, but knew there were many who held the opposite view. Referring to his experience on the Buffalo & Lake Erie Traction Company, he said that he had had considerable experience in trying to compete with steam railroads in excursion business. He said that the Lake Shore Railroad gave a round-trip rate of \$1.25 for a journey of 192 miles, whereas the regular rate on his electric road was \$1.65 one way. Buffalo & Lake Erie Traction Company had never endeavored in any way to compete with any such reduced rate. It would mean that it would have to haul the passengers for less than a half cent a mile, and he did not believe that electric railways could afford to do that. A steam railroad, with from 5 to 14 coaches behind one locomotive, might be able to do so, but an electric railroad would have to provide separate cars for every 50 or 60 passengers, with separate crews for each car. This would make the labor cost and other expenses incident thereto prohibitive, and for that reason his company had not undertaken to compete with the steam railroads in that class of business. He added that the Erie Railroad had practically discontinued running any excursions, the president of the company maintaining that the liability to accident and the contingent losses destroyed any profit that might otherwise accrue to the company. This year, for the first time in the history of the Erie Railroad, it ran no excursion trains to Chautauqua, whereas in previous years it had run excursions of from 6 to 14 cars. He then asked whether Question 3 in the committee's data

sheet referred to raising or to lowering electric railway rates to meet steam railroad competition.

John F. Keys, Detroit United Railway, said that the fares on that line were practically governed by local franchises. During the summer the steam railroads frequently ran Sunday excursions from Detroit to Toledo, charging 75 cents for the round trip. The rate on the electric road is \$1.50.

E. C. Hathaway, Norfolk & Ocean View Railway, said that company had two lines operating to the seashore, and on both of those lines the steam railroad rate for excursions was less than a cent a mile.

D. A. Hegarty, Little Rock Railway & Electric Company, thought that banners and dasher signs were not of much service at night. The monitor ventilators in his cars were used to display signs that can be read at night from the sidewalks, as the light from the car shines through them. The lettering is white on a black ground. Such signs as "Go to Forest Park" and "Take a Moonlight Ride on the Mountains" were used. These advertisements were changed the same as the advertising on the dasher.

John F. Keys explained that the bulk of the travel is in morning and at night, when the banners can be seen. In the evening, in the heart of the city, the streets are lighted up so well that the advertisements can be read as easily as in the day time. The type used is large enough so that the banners can be read at night. He knew of nothing that in any way compared with the advertising on the front of the cars.

W. B. Rockwell, Eastern Pennsylvania Railways, said he was not afraid of any competition of the steam roads.

As regards advertising, every attraction should be self-sustaining. Such things as a band, fireworks and attractions of that kind drew considerable money, but they also involved considerable expense, and when there was no means of getting it back, except from the car fares, he believed it was a false method.

G. W. Parker, Detroit United Railway, thought that the steam road competition between Detroit and Toledo, referred to in Mr. Keys' paper, had been a very good thing for his company, because the steam trains are scheduled to leave at a certain time in the morning and to return at a certain time in the evening, whereas, with the interurban limited service, passengers did not have to stay in Toledo or in Detroit, but could come back at any time they pleased, and the contrast was all in favor of the electric line. He was of the opinion that steam railroad competition, even including cut rates, was a good thing for the electric lines. The steam roads were creators of traffic, as well as the electric lines. If the regular rates are charged on Sundays and holidays, however, the people must be taken care of in good equipment on a limited schedule, so arranged as to give all the service required for comfort.

J. W. Brown, Aurora, Elgin & Chicago Railway, said that company had carried 20,500 people as excursionists during the past six weeks, between Chicago and Elgin and Aurora. The "Chicago American," one of the Hearst newspapers, had boomed this excursion business daily in large headlines, and the readers of the paper, by clipping a certain number of coupons and paying a small amount of money to the newspaper, would receive a ticket good for the round trip from Chicago to Elgin or to Aurora and return, as might be desired, on some specific date. These dates were arranged by the company on a schedule so that it would not interfere with the big days of business which would come during that period.

The result had been that the company had done a large business, and in many cases the patrons who travelled on these cheap excursion tickets had returned at the regular rates. The company had also had this method of advertising in connection with two of its local parks, and the people had patronized the city lines to various local points.

Mr. Brush said he thought a mistake often made was that all efforts for the creation of passenger traffic were confined to the creation of traffic primarily during the summer months. He thought most electric roads would be glad if they could do away with their summer business, provided they could substitute in place of it a business continuing 365 days in the year. A company often has a park line doing a good business for 100 days during the year, but during the other 265 days of the year the company carries a tremendous unproductive investment in open cars. In addition the company has to put on these open cars, for this special service in the summer, a lot of inexperienced men, who are costly to the company. He believed that a plan which had proved effective in the Far West, of having the local chamber of commerce or board of trade try to make the community a success, a manufacturing success, had more to do with the creation of passenger traffic than all the parks, pleasure resorts, band concerts, fireworks exhibitions or anything of that kind that could be conceived of. The railway company unquestionably was the first public service corporation to benefit by any increase of population in the city. It benefited more quickly than the gas company, the telephone company, or the electric company. If railway companies would cooperate with the secretaries of the chambers of commerce and manufacturers' associations in their different communities in endeavoring to bring to their city interests which would encourage the laboring class of people to go there, the result of expenditure in that field would be far greater than would come from trying to get 500 people to go to a park.

H. C. Page, Worcester Consolidated Railway, said it was a question in his mind how much money a company could afford to spend for summer business. The park business was often an expensive luxury and there were very few parks in Massachusetts that paid their expenses. He formerly had on his system 14 parks; and this year he operated only 6 parks. The gross receipts on the lines reaching the abandoned parks were no less than they were a year ago, and he felt that the company had made money by cutting down its park business.

Carl A. Sylvester, Middlesex & Boston Street Railway, said a word in favor of parks. One park on his road during the course of a year attracted about 500,000 people. He considered it one of the best features of the company's business. They could not afford to even consider abandoning the park.

E. F. Peck, Schenectady Railway, described a park about eight miles from the city of Schenectady, where the company own about 175 acres of land, on Ballston Lake. The property has been laid out in lots 100 by 150 feet. These lots are rented for \$25 a year, and the holders are given a ten-year lease. Five years ago there were 15 cottages on the park, and to-day there are more than 150. The campers invite their friends out to week-end parties, and a large traffic on Saturdays and Sundays results. One part of the park has been reserved as a picnic ground, and in January the company begins to advertise it for fraternal and church picnics; the dancing and boat privileges are rented out. The railroad company has earned better than 10 per cent in the last two years on the park, and the increased earnings of the road make it a good paying business.

C. R. Gowen, Oneida Railway, cited the New York State Fair, held just outside of Syracuse, as an example of ineffective steam railroad competition. The New York Central sells a one-week excursion ticket between Utica and Syracuse for \$1.50 and a one-day ticket for \$1.25, including admission ticket to the fair. The Oneida Railway charges \$2.25, or \$1 in excess of the New York Central rate, and carries most of the people during the rush hours.

Mr. Keys, in reply to a question, said that the pocket size folder is the most popular.

E. F. Schneider, Cleveland, Southwestern & Columbus Railway, said that he had previously tried fastening banners to the fenders, but they became soiled or got loose and frightened

horses. The system in Detroit obviated that entirely.

Mr. Sylvester exhibited a form of banner fastened on the trolley pole of the car. His company has adopted the slogan "Follow the Flag," and every car that goes near Norumbega Park flies one of these flags.

Mr. Keys said that the cost of the signs referred to in his paper was \$1 a hundred for the first hundred and 75 cents for each additional hundred.

C. Loomis Allen, of the Utica & Mohawk Valley Railway, thought that one sentence in Mr. Keys' paper made a pretty good slogan. This sentence was: "The policy is pursued owing to the fact that we feel we are giving excursion rates every day in the year." He thought that put the principle in concise form. Electric railway companies were giving excursion rates every day in the year, and the longer those present stayed in the railway business the more they would realize that fact. Mr. Allen then made a plea for a larger attendance at the meetings of the association. He said that this was only fair to the presiding officer and to the committees who have carried on the work of the association during the past year. Three things attract members to the convention. The first is the convention itself; the second is the exhibits, and the third is the opportunity, by personal contact with other men, to exchange ideas. The latter, he thought, was very valuable, but it was made possible only by the convention. He thought every one in attendance should make it a point to be present to-morrow, and bring every man that was wearing a blue and gray badge. Political conventions were always well attended, and they never lack interest. Legislative bodies always insisted that the representatives duly elected should attend, and he knew of no reason why the delegates to this convention should not show, by their presence, that they appreciated the work of the officers and the committees. He thought the association should have a rollcall, and that out of the 350 roads, members of the association, representatives of more than 20 per cent should attend.

Mr. Brush agreed with Mr. Allen, and moved that at the opening of the session of the Traffic Association, Tuesday morning, the roll of the member companies should be called and note made of the number present from each company. The motion was seconded and carried.

President Todd then announced that the next meeting would be held promptly Tuesday morning at 9:30, and urged all to be present promptly.

Clarence Learned, Boston Elevated Railway, moved that a record should be taken of those in attendance at the present meeting, and that, in passing out of the hall, the delegates should leave their cards on the secretary's desk. The motion was seconded and carried.

The meeting then adjourned.

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The number of passengers carried by the Moscow municipal electric and horse cars in 1909 was 143,581,248, against 111,561,960 in 1908. The fares collected during the year on the electric cars amounted to \$3,613,993, compared with \$2,423,588 in 1908, while the collections on the horse-car lines amounted only to \$52,433, against \$361,081 in the previous year. It is said that the net profit of the electric line, which is owned by the city, approximated \$1,000,000, against \$300,000 in 1908.

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At the end of the year 1909 there were 176 tramways owned by British municipalities. Only 84 of these tramways, however, were operated by the municipalities which owned them. The total mileage represented by these 84 systems was 2,422, and the capital investment in them was approximately \$200,000,000. A total of 7,986 cars were owned by the municipally operated tramways and during 1909 they carried 1,933,118,206 passengers. The total income from operation was approximately \$43,900,000.

## REPORT OF THE COMMITTEE ON PASSENGER TRAFFIC\*

BY F. W. COEN, CHAIRMAN; W. H. COLLINS, W. S. WHITNEY, A. E. POTTER AND C. E. FLAGG

The committee on passenger traffic in the handling of the question "What passenger rate should interurban railways charge?" forwarded to 231 electric railways a data sheet to which 76 replies were received. The answers for purposes of comparison have been divided into three groups, viz., electric railways operating in Western States, comprising the lines between Denver and the Pacific Coast; those operating in the Central States, comprising the lines east of Denver and west of Buffalo and Pittsburgh; and those operating in the Eastern States, comprising the lines east of Buffalo and Pittsburgh.

**Present Rates:** By far the greater number of roads are charging approximately 2 cents per mile and it is also recommended as the proper charge. This is especially true in the Central States, the Western States at the present time charging somewhat above 2 cents per mile. Some of them recommend a still higher charge. This, no doubt, is due to more expensive construction and operation.

**Increase or Decrease of Fares:** The increase in most cases seem to have been made where rates had been originally established on a low basis because of steam railroad competition, and in all of these cases reported the statement is made that very little, if any, traffic has been lost, but that more revenue has been derived. Where rates have been decreased the report shows that it was on account of sharp steam railroad competition and that in these cases improvement has been shown.

**Competition and Results:** Seven of the changes in rates reported were due to steam railroad competition and the figures given show an increase in earnings of from 3 to 20 per cent.

**Limited Trains:** The operation of limited trains has become quite popular on interurban roads and the reports show that almost 50 per cent of the roads are providing this class of service. That there are only three interurban roads in this entire list charging excess fare is quite remarkable; of the three so reporting, one makes a charge for chair-car service, while the other two operate from the same city in the Middle West. The question naturally arises as to whether the limited service is not being provided on a local service charge, unless sufficient limiteds are operated to take care of the city travel and the locals operated only for country travel where stops are frequent. Where towns and cities are close together, observation shows that passengers will wait for a limited and suffer the inconvenience of a crowded car rather than ride on a local car even with practically no difference in schedule.

**Commutation Rates:** Commutation rates are in force on a great majority of the properties throughout the United States, although no commutation rates are given on some of the most prosperous roads in the country.

**Rates of Fare:** The replies to this question are quite uniform when the three groups of States are considered, and the committee is of the opinion that the established rate should not be less than 2 cents per mile and higher in certain localities where construction and operation charges are of necessity very heavy.

The Portland (Ore.) "Carman," which is issued under the auspices of the Brotherhood of Electric Railway Employees of the Portland Railway, Light & Power Company, Portland, Ore., reprinted in its issue of September, 1910, the editorial entitled "The Union Issue in Columbus," which was published in the *ELECTRIC RAILWAY JOURNAL* of September 3, 1910, page 352.

## THE CREATION OF PASSENGER TRAFFIC\*

BY JOHN F. KEYS, GENERAL PASSENGER AGENT, DETROIT UNITED RAILWAY

The Detroit United Lines comprise 750 miles of city and interurban railways, radiating through a territory populated by about a million people. Detroit is within easy reach of several island park resorts splendidly maintained by the boat lines running out of Detroit, with which we exchange considerable business. These resorts serve as an attraction to the people living on the interurban lines who seek a change in scenery on the river or on the larger lakes.

North of Detroit lies Oakland County, which has over 365 lakes within its boundaries, many of which are within an hour and a half or two hours' ride on the interurban. In another direction lies the famous bath city of Mt. Clemens, and a short distance beyond, smaller towns on the shore of Lake St. Clair, famous as fishing and shooting grounds. South of Detroit lie Monroe and Toledo; to the west, Ypsilanti and Ann Arbor; to the north Flint and Pontiac, where are located large automobile factories.

Detroit is a great convention city and the Detroit United Lines, with their superior city and interurban service, have had no small part in making these attractions possible. The Detroit Convention and Tourists' Bureau, of whose Board of Managers the author is a member, through its secretary, brought 88 conventions with about 42,000 people to Detroit in 1909, and 110 conventions so far in 1910, with about 140,000 people, and it was largely through the publicity given to the interurban and boat-line attractions in the talks of the secretary and in the literature distributed broadcast by this bureau that these conventions were held in Detroit and are being booked for the future.

The Detroit United Lines are composed of five properties, which in turn are the consolidations of many smaller units, and, as a result, the rates are extremely low on our interurban lines compared to the steam road rates. Franchise provisions over our system call for an average of a little over  $1\frac{1}{4}$  cents per mile. With but few exceptions, the steam roads have failed to meet them, although in some instances they have met our round-trip rates by selling week-end tickets or tickets limited for use to seven days. On Sundays during the summer months some steam roads give excursions and cut our round-trip rates in two, but on these days we are taxed to our limit in spite of them.

In order to suggest possible trips to outsiders seeking recreation, we distribute thousands of bird's-eye map folders through the Central Railway and Hotel Distributing Company in 262 cities in the States of Michigan, Ohio, Indiana, Kentucky, Pennsylvania and West Virginia during the months of May, June, July and August, and often, when local delegations attend conventions with the object in view of securing the location of conventions in Detroit for the following year, they take a large supply of folders with them. Then, too, we supply the local representatives of some of the steam roads and boat lines with folder maps for distribution at their various ticket offices and they are always very glad to get them, as we are mutually benefited if people come to Detroit.

When conventions of any prominence are held, we get out a few hundred map folders marked "Elks' Edition" on the cover, or whatever convention name it may be, and we place these at convention headquarters for distribution, most of them being carried away and kept as souvenirs. We feel that we have such an attractive folder map that, once it is in the hands of the public, it will do us service for some time, as they may often be seen tacked up around the country. We constantly have calls for these maps from

\*Abstract of report read before the American Street & Interurban Railway Transportation & Traffic Association, Atlantic City, N. J., Oct. 10 to 14, 1910.

\*Abstract of a paper read before the American Street & Interurban Railway Transportation & Traffic Association, Atlantic City, N. J., Oct. 10 to 14.

all parts of the United States, which we feel shows that people have seen them somewhere and are interested.

We are always very glad to supply our working timetables to publishers of guides and are thus benefited to a considerable degree by having timetables in at least nine different guides which are published from Idaho to Michigan and Ohio. In this way we get closer to the traveling men, who use electric lines more and more every day.

Having brought strangers to points on our system, we endeavor through advertising, locally distributed, to make our guests as well as our regular patrons wish to see more.

Our efforts to accomplish this are directed in the following channels, and we feel have produced excellent results:

As the seasons progress, we necessarily change our advertising matter. As spring comes on and the wild flowers begin to appear we distribute broadcast on our cardboards banners reading, "To the Wild Flowers," and our information department directs those making inquiries. Frequently a high-school teacher will take her whole botany class out into the country to study the flowers. As the fishing season opens, we plaster the system with banners reading, "Good Fishing on the Interurban Lines," with a picture of an enthusiastic angler landing a fish. We soon have so many telephone calls that there shortly appears on the cars another banner reading, "Fishermen's Specials to Orchard Lake and Algonac, 5 a. m. Sunday," and we have two good loads nearly every Sunday.

For the benefit of those seeking other forms of recreation we carry banners advertising "Famous Fish, Frog and Chicken Dinners at Lakeside" (Lakeside being a popular resort on our Shore Line Division); "May Festival at Ann Arbor. Take Interurban Cars," or "Band Concert at Belle Isle To-day," or "Baseball To-day," or "Big Boat Launching at Ecorse Saturday." Maybe it is "Homecoming at Algonac, July 20. Take Interurban Cars," or "King Wamba Celebration at Toledo. Take Interurban Cars"; "Ringling Brothers' Circus at Flint," or "Aeroplane Races at the State Fair To-day." Just recently we advertised "Lotus Beds in Full Bloom at Monroe Piers," advertising those giant white water lilies imported from Japan and planted. As a result, two special cars were chartered to take people to see them, and I myself was a member of a party of ten who went to see this beautiful sight. As time passes, other banners appear, such as "See the Autumn Leaves on the Interurban," "Good Duck Shooting. Take Interurban Cars," and later, "Good Ice Boating at Lakeside," or "Good Skating at Belle Isle." During the cooler months we have a sprinkling of banners advertising theatrical attractions or concerts at the Detroit theatres. We continually keep before the public banners advertising our limited service, such as "Six Limited Cars Each Way Daily Between Detroit and Toledo—2 Hours," etc., and frequent changes are made in the color of the print and paper so that the public is kept more or less interested watching to see what is coming next. I am firmly convinced that there is no means of advertising that in any way approaches advertising on cardboards.

We have arranged with the theatres to place on the bottom of their billboards, in towns adjacent to Detroit where they advertise, a small strip reading, "The cars that take you to the theatre will take you home after the performance," this slip being supplied to the bill-poster by us. We also advertise in all of our folders, for the benefit of our interurban patrons, that "Last cars await closing of Detroit theatres."

One form of advertising which is greatly in demand is a baseball calendar, showing where the Detroit Tigers are playing, the home dates being in red and the others in black. At the top of the card is printed the time of all limited cars leaving their respective terminals.

In each station on our system are two framed cards, one

giving the time of limited cars at each station on that particular division and the time of local cars at the station where the frame is hung, and the other card giving the time of all limited cars of all divisions leaving Detroit. We also hang the first-mentioned framed cards in conspicuous places in hotels in all towns and cities on our system outside of Detroit.

A supply of local timetables and all-limited folders is always kept in the folder boxes in each station and on hotel desks, this last privilege being extended to us in Detroit hotels, although we are not permitted to hang the frames. These local timetable folders are of pocket size and are printed for each interurban division. They show the schedule of a particular division, and in addition, the time all limited cars leave terminals on all divisions. Our all-limited folder gives the time of all limiteds at each stop, and a synopsis of all local cars leaving terminals and larger places. It also has a synopsis of "owl car" service on all lines in Detroit, this useful information being featured as an inducement for people to keep these folders with them. Each interurban line has an individual color for its own folders. These folders may be had at all interurban stations, hotels, clubs and Baltimore lunch rooms on our system, and are freely distributed in cities and towns adjacent to the territory through which we run. In addition to all this, our timetables appear in 86 newspapers within a radius of 125 miles of Detroit, and we also make a practice of distributing in the stations over our system a one-sheet poster announcing the service which will be given for any particular event, such as the Michigan State Fair. We have a large supply of views on our system which we have freely loaned for use in programs or articles in papers or magazines, and have recently taken a number of new pictures which will be framed and hung in our stations to further induce traffic.

Our advertising has been done at comparatively small expense, and we feel has been the means of bringing a great deal of business to our system; in fact, our operating department has not provided sufficient accommodations to permit us to charter special cars on Saturdays, Sundays and holidays from May 1 to Oct. 1. Unlike most systems, we run no excursions over our lines at all. This policy is pursued owing to the fact that we feel that we are giving excursion rates every day in the year, and the week end finds us carrying to capacity.

It will thus be seen that we depend on advertising largely to create passenger traffic, and our efforts are directed toward getting interurban people to the city and parks or onto the river, and the city people out into the country and closer to nature. By providing frequent, clean and comfortable cars, manned by courteous crews, and maintaining reliable service, we are able to make our trolley service very popular with our patrons either traveling on business or on pleasure bent.

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Morgan Crucible Company, Ltd., London and New York, is an exhibitor for the first time at this convention. It shows various types of "Morganite" and "Battersea" carbon brushes and "Battersea" type resistances. This company has an extensive business in England and on the Continent, and has recently opened an office in New York for the distribution of its products in the United States. The method of joining the flexible conductor to the brush itself is somewhat unique. The carbon is drilled about  $\frac{1}{2}$  in. deep, after which the flexible connection is inserted, being splayed out on the end, and held firmly by a metallic powder, forced in and retained by compression. The company is represented by the manager of the American interests, Henderson W. Knott, and by Harry De Steese, who is a special representative at this convention.

## THE PAY-AS-YOU-ENTER EXHIBIT

The Pay-As-You-Enter Car Corporation's exhibit consists of three full-size models of as many different types of vestibules and entrance-exit platforms. The models are in front of the pier, facing the Boardwalk. One of the models is a copy of the cars used by the Chicago City Railway; the two others embrace some novel features. One of the latter has a new style, double folding door, with protected steps. This protection is obtained by spring-hinged leaves, which are attached to the lower part of the doors, and which cover the steps at an angle when the doors are closed. The same section shows new style bulkhead doors, which slide past the ends of the seats. This type will be known as the "split corner post" design. It gives full seating capacity, and permits wider entrance and exit. The other new section is of the Metropolitan Street Railway type, except that it has a single door, with two leaves, which fold toward each other to make a continuation of the platform dividing rail. As the doors close, the steps fold up, to secure a fully enclosed vestibule. The company is represented by Duncan MacDonald, president; Thomas W. Casey, general manager, and David Murdock, special representative.

## BALDWIN TRUCK DISPLAY

The Baldwin Locomotive Works are exhibiting at their booths, 565-571, two most interesting trucks. One, Class 84-35-S, is for the Southern Pacific Railroad's Alameda electrification. The other is a short wheel base city truck class 54-18-F-2. The heavy truck for the Southern Pacific company has the following data: Gauge, 4 ft. 8½ in.; equalization, two double bar; center pin load, maximum, 35,000 lb.; wheel base, 84 in.; motors, G. E. No. 207 A; wheels, Standard steel-tired of 36½-in. diameter; axle diameter at motor bearing, 6½ in.; journals, 5 in. x 9 in.; weight of truck, complete, without motors, 15,000 lb. The unique features are the steel gusset castings, acting as the supports for the brake work, as well as being ties between transoms and side frames. Another point of interest is the swing bolster arrangement, with solid forged swing links.

The light city truck, class 54-18-F-2, has the following data: Gauge, 4 ft. 8½ in.; equalization, four double bar; wheel base, 54 in.; motors, G. E. No. 216; wheels, Standard forged rolled steel of 34 in. diameter; axle diameter at motor bearing, 4½ in.; journals, 3¾ in. x 7 in.; weight of truck, complete, without motors, 6,000 lb. The equalization of the truck is next to perfection. The effect of the motor torque, acting through the equalizing beams, always results in an upward force on the truck frame. The Baldwin Locomotive Works are represented by J. R. Dickey, S. A. Bullock, Charles Peterson, J. A. Hanna and C. F. Dodson.

## MODEL PAY-WITHIN CAR

In space 800, Building No. 3, is shown a 22 ft. model of a "pay-within" car built by the Pay-Within Car Company. It embodies several features of "pay-within" construction, and illustrates also the extreme flexibility of this design. The front platforms on this car are of different length, one being 6 ft. and the other 5 ft. over all. The long platform has two sets of 48 in. double folding doors operating outwardly, one set being arranged for manual control from the conductor's control stand and the other for pneumatic control by the motorman. One side of the short platform has one set of single folding doors opening inwardly. They are controlled by the motorman from a lever placed to the right of the controller and directly in front of him. The clear opening of this door is 30 in. The other side of this platform has a sliding door pneumatically operated by the conductor from his con-

trol lever on the control stand. This sliding door is a duplicate of the type used with success by the Philadelphia Rapid Transit Company and the Capital Traction Company, Washington, D. C.

The platforms are likewise equipped with folding steps, which are interconnected with the door control devices. The rear platform of this car is sufficiently long to accommodate both incoming and outgoing passengers. It is possible, therefore, both to enter and leave by the rear door and leave by the front door. Various forms of grab handle ideas are shown for the different platforms.

The Electric Service Supplies Company, general sales agent for the Pay-Within Car Company, is showing a number of its specialties, among which may be named the "automotoneer," "International" fare registers and fittings; "Keystone" air valves and other "Keystone" pneumatic devices, including sand trap, gong ringer and whistles; "Imperial" arc headlights etc.

## A BRAKESHOE EXHIBIT

The American Brake Shoe & Foundry Company, in its 1910 exhibit, in space 801, Building No. 3, is making another good effort to encourage standardization of brake shoes among electric railways. The exhibit is splendidly illustrative of the great variety of shoes manufactured by the company as well as of the economies and advantages of standardization. Every variety of malleable iron brake heads for all types of trucks taking either narrow or wide gage shoes is exhibited. These shoe designs have been adopted as the standards of the American Street & Interurban Railway Association. The development of these standards and their adoption by about 60 per cent of the electric railways in the United States have been largely due to the efforts of the engineers of this company. The company is prepared to standardize the shoes of any property by furnishing heads which will take any standard shoe without disturbing any part of the present brake mechanism. The exhibit deserves a careful examination. It is in charge of W. S. McGowan, F. W. Sargent, E. L. Janes, R. F. Holt, F. L. Gordan, T. B. Thompson.

John C. Dolph Company, Long Island City, N. Y., has a nicely arranged booth for the entertainment of his long-time friends and customers. Mr. Dolph is exploiting the insulating specialties manufactured by his company.

The Garlock Packing Company, Palmyra, N. Y., is showing in space 816, Building No. 3, a complete line of Garlock packing samples. H. W. Gulager, Philadelphia, is in charge of the exhibit.

United States Electrical Signal Company, West Newton, Mass., exhibits, in space 547, its standard automatic block signal and its counting signal, which are wired up ready for demonstration under operating conditions. This company has recently developed a crossing signal which is exhibited for the first time. It is so constructed that it automatically sets a bell ringing before the car gets to the crossing. At the same time a semaphore is set as evidence to the motorman that the bell is ringing. The company is also placing on the market an electric railway signal especially designed for interurban service. Among the recent orders received for its standard block and counting signal may be mentioned Public Service Railway, Newark, N. J., 250 blocks; Worcester & Blackstone Valley Railroad, 30 blocks; also a number of blocks for the following roads: Pacific Electric Company; Poughkeepsie Railway, Light & Power Company. Representatives in attendance include Roland F. Gammons, second; W. W. Harrington, John J. Ruddick, J. W. Putnam.

## THE JOHNS-MANVILLE EXHIBIT

One of the most interesting displays is that of the H. W. Johns-Manville Company, New York, in spaces 636 and 638, Building No. 2. The latest 600-volt "Noark" car fuse boxes, in capacities of from 100 amp to 400 amp, occupy a prominent place. These boxes take National Electrical Code standard fuses. J-M insulators up to as high as 100,000 volts are well represented, together with porcelain insulators in both petticoat and disk types with pins, fittings, etc., for long-distance transmission systems. J-M fiber conduit is shown with a complete line of fittings, tees, elbows, crosses, etc. This is a molded conduit. The walls are  $\frac{3}{8}$  in. thick and the material is molded under very heavy pressure to prevent warping, splitting or cracking. The joints are readily made water-tight, acid and gas-proof. The glass-smooth internal bore prevents abrasion of cable-sheath during "pulling through." This conduit is said to be of unusually high insulating efficiency, and to afford thorough protection from electrolysis.

The J-M fiber oil switch tanks shown are made as containers for oil switches and circuit breakers of capacities up to 60,000 volts. They are homogeneous, without grain, strong mechanically and good insulators. J-M transite asbestos wood for fireproofing cars, power houses, etc., and ebony asbestos wood for panels and switchboards are shown in great variety. There is also an extensive exhibit of molded insulation for power houses and electric car apparatus, such as molded mica, electrobestos, vulcabeston, also "Linolite" illuminating devices, friction tape and splicing compound, dry cell batteries, etc.

## THE GENERAL ELECTRIC EXHIBIT

The General Electric Company's exhibit is in spaces 112-115. One of the main features is a 100-kw 60-cycle Curtis horizontal steam turbine unit operating at 3600 r. p. m. Horizontal Curtis turbines are made in capacities of from 100 kw to 7500 kw. The apparatus for 1200-volt d. c. railways includes a complete type "M" control equipment mounted to show its operation and installation. The apparatus is for the control of four 50-hp 600-volt-1200-volt railway motors as used on the Shore Line Electric Railway, Aroostook Valley Railway and elsewhere. Although designed for use with 1200-volt motors, the contractors, reverser and other parts show the latest practice in 600-volt control equipments. The GE-217 600-volt-1200-volt 50-hp railway motor with this equipment is of the box frame, commutating pole type. The 400-kw 1200-volt d. c. rotary converter panel has no exposed live parts on its front.

The complete emergency straight air brake equipment for both motor car and trail car operating with a CP-27 air compressor is for electric railways which require operation of both single cars and short trains. It includes the quick service feature which gives a marked decrease in the time used for applying and releasing the brakes. The air compressor has a glass over it, and the crank is illuminated to show the lubricating system in operation. A CP-27 compressor is also shown "exploded" so that all parts may be thoroughly examined. There are also exhibited two motor car equipments of the electro-air brake system, including CP-28 air compressors. This brake equipment is particularly suited for long high-speed trains making frequent stops. The operation of the brakes with several cars in the train is simultaneous regardless of the number of cars.

Several recent railway motors are exhibited, including the GE-88 form "A" box frame, commutating pole railway on 500 volts; GE-214 box frame, commutating pole railway motor rated at 75 hp on 600 volts; GE-219B. split frame, commutating pole railway motor rated 50 hp on 600 volts. The last motor is shown "exploded." A complete line of railway

line material and rail bonds is mounted on display boards. Among the smaller apparatus is a recording steam and air flow motor, an indicating steam meter, a magnetic arc headlight, K-35 and K-42 controllers, switches, rheostats, motor-man's valves, etc.

## BEACH CARS PROPELLED BY EDISON STORAGE BATTERIES

During the convention the first double-truck car and single-truck Beach battery car propelled by Edison storage batteries will be operated over the Atlantic City & Shore Line Railroad, through the courtesy of J. A. Akarman, general superintendent. The routes will have their terminals convenient to the Million Dollar Pier and the principal hotels. Both cars will be equipped and operated with recording instruments, so that the power consumption may be ascertained at all times for the varying conditions of speed, acceleration, track, traffic, grades, curves, etc.

The double-truck car, designated as "Type 101," will be moved from the works of the Federal Storage Battery Car Company, at Orange, N. J., to Atlantic City under its own power, over the Central Railroad of New Jersey and the Reading Railroad from Winslow Junction. The four driving wheels of this car are independently mounted on stationary axles, in a novel kind of truck frame, and the wheels, of Vandegrift design, are equipped with roller bearings, made by the Railway Roller Bearing Company. Each wheel is independently driven by an electric motor. The gear is shrunk on to an enlargement of the wheel hub. There is also a band-drum brake on the wheel, as in automobile work.

The single-truck car, designated as "Type 1," has a battery equipment sufficient to move it from Orange to Atlantic City under its own power, but as it is designed especially for operation over grooved city rails the wheel flanges and tread are not adapted to operate over the T-rails of steam railroads. Hence this vehicle will be shipped to Atlantic City on a flat car. The "Type 1" car as used on the Twenty-eighth & Twenty-ninth Street Crosstown Railroad, New York, is reported to have shown a power consumption of 70 watt-hours per ton-mile, but Mr. Beach believes that several improvements in cars subsequently built will reduce the power consumption to 50 watt-hours per ton-mile. The ton-mile power consumption of the double-truck car in actual operation is still unknown, but it is expected to be even less than the single-truck car.

A cordial invitation is extended to all delegates to ride on the cars, whenever convenient. Passes entitling the holder to transportation will be liberally distributed, but if any delegate should be overlooked he can obtain them at the company's booth, space 523, where full information will be obtainable.

The end sections of pay-as-you-enter cars at the left of the entrance to the hall are a good indication to the laymen of the fact that an electric railway convention is being held at the Pier. They are models of the platforms of cars used by the Metropolitan Street Railway, New York; the Third Avenue Railroad, New York, and the Chicago City Railway. At first, it was planned to exhibit these end sections in Aquarium Court, but the entrance to the court was not large enough to admit them. It was then proposed to carry them over the beach and raise them by a derrick into the court. Finally, the decision was reached to place them at the entrance to the Pier. It is said that Captain Young is very much interested in the pay-as-you-enter plan and is thinking of using one of the sections after the close of the convention in front of each entrance to the pier, so that visitors will have to pay as they enter.

## Among the Exhibits

Edison Storage Battery Company, West Orange, N. J., is exhibiting in space 523 the new Edison storage battery, which should attract unusual attention. Represented by D. C. Arlington.

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MacGovern Archer & Company, New York, have no exhibit, but are represented by Frank MacGovern, who is extending the hand of welcome to his many friends and customers.

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Flood & Conklin, Newark, N. J., space 948, show sections of steam and electric cars to demonstrate the advantage of the F. & C. Simplex (four-coat) system of car painting. Represented by H. J. Huhn, L. A. Williams, L. H. Conklin.

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Gold Car Heating & Lighting Company, New York, is displaying in space 612 an interesting line of electric heaters for longitudinal and cross-seat cars; also details of the Gold system of car ventilation. Represented by E. E. Gold, E. B. Wilson, J. M. Stayman, F. H. Smith, F. Cahill.

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C. W. Hunt Company, West New Brighton, N. Y., displays in Building 3 models of conveying and hoisting machinery; industrial railway track and car; "Stevedove" transmission rope; and conveyor buckets. Represented by W. F. Hunt, A. S. Larkin, J. A. McIntyre.

\* \* \*

National Lead Company, New York, is exhibiting in space 810 its various pure white lead products, "Phoenix" metal, heavy pressure metal, and other of its products. The "Dutch Boy Painter" is very much in evidence. Represented by J. B. Mendenhall, of the St. Louis office; William A. Dail, Charles E. Barnum.

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Crocker-Wheeler Company, Ampere, N. J., has a neat reception room in space 540, Machinery Hall. The booth is decorated with some excellent photographs of railway generators, motor generators, power transformers and typical installations of power, railway and industrial plants. Represented by Rodman Gilder, J. R. Wilson, Clarence E. Delafield.

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Heywood Brothers & Wakefield Company, Wakefield, Mass., show in space 962 various styles and types of rattan and plush upholstered "Universal" car seats. Special attention is called to pressed steel car seats recently developed for fireproof pressed steel cars. A handsome brochure of the company's products is being distributed. Represented by Bertram Berry, R. F. Fowler, C. W. H. Frederick.

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D. & W. Fuse Company, Providence, R. I., is in space 633, Building No. 2. The exhibit includes enclosed fuses and safety devices for lighting, heating, power, railway, signal, telephone and telegraph circuits; "Deltabeston" magnet wire, field and armature coils, controller coils, arc lamp magnets, heating units, etc. The company is now making square, as well as round, wire with "Deltabeston" insulation. Represented by W. S. Sisson, H. F. MacGuyer, H. P. Hinds.

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Joseph Dixon Crucible Company, Newark, N. J., shows a large line of graphite products in spaces 516-518, Machinery Hall, including lubricating graphite, foundry facings, crucibles, graphite curve grease, graphite wood grease, brushes, pencils, graphite air brake grease, silica graphite paint, marking crayons, solid or paste form belt dressing, graphite gear grease, graphite journal box grease and graphite commutator compound. Represented by J. J. Tucker, J. M. Willitts, J. A. Condit, R. Belleville, H. W. Chase, Wm. McIntosh.

Carbolineum Wood Preserving Company, New York, is exhibiting in space 690, Building No. 2, specimens of poles, ties and posts treated with Avenarius Carbolineum, showing the preservative effects of carbolineum on wood after it has been in the ground for several years. Pictures of installations for railroads of the open-tank method of treating ties with carbolineum are also presented. Represented by Ernest Hartmann, Ralf Eisenberg, Basil Grant, John J. Wessmiller, John N. Schlude.

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Columbia Machine Works & Malleable Iron Company, Brooklyn, N. Y., has space 469, Aquarium Court. The steel gear cases exhibited show the latest developments in this line. Weak parts have been strengthened and objectionable features eliminated to produce an ideal steel gear case. As an illustration of the company's special work, some excellent forged steel brake levers are shown as well as coupling sockets and coupling plugs. A junction box of the latest type is also on exhibition. Represented by J. G. Buehler, James Grady, W. R. Kerschner, John Kress, Jr.

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Consolidated Car Heating Company, New York, shows in spaces 876-879 a comprehensive variety of electric heaters for both longitudinal and cross-seat cars for all voltages up to 1200 volts; also switches up to 1200 volts. A "Consolidated" buzzer is shown operating on a 600-volt circuit. To illustrate the durability of its pneumatic door operator, the company shows one that has operated 3,000,000 times without a failure. Electric relays, electric resistance tubes and automatic train signals constitute the rest of the display. Represented by Cornell S. Hawley, Thomas Farmer, W. S. Hammond, H. L. Hawley.

\* \* \*

W. R. Kerschner, New York, is extending the "glad hand" to several hundred customers and friends from all parts of the country. His headquarters are at the booths of the Columbia Machine Works & Malleable Iron Company and Selah & Hoopes. Mr. Kerschner is sole sales agent for the automatic air-brake lock manufactured by Selah & Hoopes, which is on view in space 526. Although Mr. Kerschner has had the sales agency less than two months he has sold nearly 3,000 equipments. It is evident from this record that the merits of the device and its ease of application to all types of air brakes must appeal to the practical man.

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National Carbon Company, Cleveland, Ohio, is displaying in spaces 463-467 a full line of its high-grade Laclede carbon brushes. Before these brushes were placed on the market the company's engineers visited and corresponded with a large number of operating railway men, to accumulate data for use as a basis in brush manufacture. Since its introduction the Laclede brush has been adopted by over 100 of the largest and most exacting electric railways in this country. Records of 500,000 miles have been obtained from a single set of brushes, and even the lowest records run close to 100,000 miles. The wide variation in mileage is not due to differences in the brushes, but to different operating conditions.

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National Lock Washer Company, Newark, N. J., has spaces 650-652, Building No. 2, where it has a very handsome exhibit, consisting of six solid mahogany full-sized car windows. These windows have curtains and curtain fixtures of different styles, also sash locks, sash balances, and the company's new parallel sash guides. There is also displayed a section of an open car and of a Brill semi-convertible car, both equipped with protected groove curtain fixtures. A few of the very many different lock washers are shown; also neat little sash lock, specially designed to hold a street car sash at any height. The latter can be applied without defacing the woodwork. The company proves, in connection with its new parallel sash guides, that

it is possible to have a steel sash fit perfectly in any window without special fitting. Represented by W. C. Dodd, F. B. Archibald, John B. Seymour, Daniel Hoyt, J. Howard Horn.

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Le Valley Vitae Carbon Brush Company, New York, is represented at the convention by its general manager, M. W. Robertson.

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Heany Fireproof Wire Company, New York, is exhibiting its asbestos-covered fireproof magnet wire in space 891, Building No. 3.

\* \* \*

McLeer Electric & Manufacturing Company, Brooklyn, N. Y., has its electric railway department ably represented by C. B. McLeer and J. F. McLeer.

\* \* \*

The E. W. Bliss Company, Brooklyn, N. Y., has its gear and pinion department represented at the convention by Mr. Stone, of the sales organization.

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After two years' absence from the convention, J. H. Denton, of J. H. Denton & Company, New York, is again present to greet his many customers and friends.

\* \* \*

Cameron Electrical Manufacturing Company, Ansonia, Conn., has no exhibit of its manufactures at the convention, but is well looked after by its general manager, J. B. Davidson.

\* \* \*

Harry De Steese is present at the convention not only in the interest of his own business but as a special representative of the Morgan Crucible Company, Ltd., London and New York.

\* \* \*

Electrose Manufacturing Company, Brooklyn, N. Y., manufacturer of Electrose overhead line material and high tension insulators of all types, is represented at the convention by its executive head, Louis Steinberger.

\* \* \*

W. P. McVicker & Company, New York, have space 679, Building No. 2, for an exhibit of their work as chemical engineers in boiler compounds. W. P. McVicker is on hand to expatiate on the quality of his company's work.

\* \* \*

Charles N. Wood, of the Wilson Trolley Catcher Company of Boston Mass. is attending the convention in the interests of the "Wilson" catchers and retrievers, and also for the manufacturing companies for which he is the New England agent.

\* \* \*

Barbour & Stockwell Company, Cambridgeport, Mass., has no exhibit, which policy is in accordance with its custom. Its presence at the convention, however, is very much in evidence in the "good fellowship" of F. F. Stockwell, William W. Field and H. R. Luther.

\* \* \*

I. R. Nelson & Company, Newark, N. J., are represented at the convention by Mr. Nelson himself. He says he is too busy to make an exhibit. Mr. Nelson has recently moved from his old factory into a bigger and better shop where he is meeting with promptness the increased demands of his customers.

\* \* \*

Ramapo Iron Works, Hillburn, N. Y., are showing in space 831 a full line of track specialties and manganese products, full automatic parallel-throw switchstand, automatic return safety switchstand, manganese reinforced switch point, solid riser plates, guard-rail clamps with adjustable and reversible filler blocks. Represented by W. B. Lee, A. Gemunder, G. E. Hering, W. W. Snow, J. E. Davidson.

Hunter Illuminated Car Sign Company, New York, has space 434, in Building No. 1, where is shown a model section of a car equipped with the Hunter sign, illustrating the easy manipulation of the sign from the inside of the car. Represented by Lytle J. Hunter.

\* \* \*

New York Switch & Crossing Company, Hoboken, N. J., has space 658, Building No. 2. As pioneers in the development and sale of the anti-straddling tongue switch, this company's exhibit is especially instructive. Excellent examples of a T-rail anti-straddling tongue switch and a girder rail anti-straddling tongue switch, with right or left-hand spring adjustment, are shown; also a layout of girder rail mate, hard-center construction, girder rail cross-over frog, and a 90-deg. street railway crossing, with renewable center. Represented by W. C. Wood, H. R. Sherman.

\* \* \*

Wendell & MacDuffie Company, New York, is well represented. This company is Eastern representative of the Falk Company, Russell Car & Snow Plow Company and D. W. Bosley, as well as special sales agent for asbestos building lumber and reinforced asbestos corrugated sheathing. Considering the wide acquaintance and personal friendship of R. L. MacDuffie among railway managers of the East, the interests of the companies which he represents are certainly in good hands. Other representatives on hand are Henry E. Oestereich and W. C. Bamber.

\* \* \*

Albert & J. M. Anderson Manufacturing Company, Boston, Mass., displays in space 624, Building No. 2, a standard line of overhead material, with Aetna insulation, frogs, crossings, and other overhead construction devices. An excellent illustration of the class of heavy switch work done by this company is shown in a solenoid-operated remote-control switch of 4000-amp capacity. Switches similar to the one exhibited have been made up to 6000-amp capacity, and even as high as 14,000-amp, for the New York Edison and the Commonwealth Edison Companies, of Chicago. Represented by J. M. Anderson, Ernest Woltmann, W. H. Hincker, A. H. Burns, George B. Crane.

\* \* \*

The Western Electric Company is showing in spaces 637-639 a newly-marketed trolley harp called the M-B. The harp has been in continuous service for at least three years and is reported to have given a remarkable record in longevity and regularity of wear to harp, wheel and bushing. Kalamazoo wheels showed an average mileage of 12,500 miles when used with this harp. The wheel lubrication is cared for by wool yarn packing placed in a cavity in the frame of the harp. As the wool yarn is thoroughly saturated with oil, it feeds readily into the bearing installed in the frame. All action takes place within the bushing itself because the spindle is solid in the wheel hub. The bushings are made of cold rolled steel into which the wheel spindle is set. This spindle is made of bronze-bearing metal.

\* \* \*

Consolidated Car Fender Company, Providence, R. I., presents in space 627, Building No. 2, excellent examples of its fenders and wheel-guards. A car platform, equipped with a projecting fender and a wheel guard, is shown in connection with an automatic air-drop device, which trips the fender or wheelguard whenever the emergency air brake is applied. The fenders and wheelguards of this company can be operated in all or any one of three ways—by apron, by motorman or by the special device mentioned. Several types of Narragansett lockers for electric railway employees are also exhibited. The quality of workmanship used on these lockers may be judged from the fact that in the United States Government specification for navy lockers it is stated that "the lockers must be 'Narragansett' type or equally good." Represented by A. J. Thornley, George Hollingsworth.

Elliott Company, Pittsburgh, Pa., is using space 607, Building No. 2, for an exhibit of its twin strainers, oil purifiers, vertical steam separators and feed water regulators. Represented by W. A. Darrow, of Philadelphia.

\* \* \*

Columbia Lock Nut Company, Bridgeport, Conn., is represented by Fred Atwater, without whom an electric railway convention would be incomplete. The Columbia lock nut is exhibited in space 609, Building No. 2, by the U. S. Metal & Manufacturing Company, the distributor and general sales agent for this lock nut.

\* \* \*

Recording Register & Fare Box Company, New Haven, Conn., is displaying its new fare box in space 561, Machinery Hall. This box has many interesting features. Besides the fare box, there are shown several recording fare registers, trolley wheels, register fittings and car trimmings. Represented by Frank Kennedy, M. DeForest Yates.

\* \* \*

Wallace Supply Company, New York and Chicago, shows in space 960, Building No. 3, car and car builders' equipment, door fixtures, parcel racks, ventilator openers, bronze car trimmings and a general line of car builders' material. Represented by W. Meeteer, E. Mittenhausen, C. C. Chapman.

\* \* \*

Walker & Bennett Manufacturing Company, New York, has employed space 447, Aquarium Court, for a comprehensive exhibit of stationary and reversible car seats for city and interurban service. There are shown some excellent samples of cushions and backs, made with steel frames, for the longitudinal type of city and interurban cars. Represented by Sheridan A. Walker, K. D. Hequemour.

\* \* \*

Anthracenol Wood Preserving Company, New York, has an exhibit of its "Barol," a coppered carbolineum wood preservative, in space 609 of the U. S. Metal & Manufacturing Company, which is its distributor among steam and electric railways. Information about "Barol" is disseminated at the convention by Fred C. Bartels, president of the preservative company.

\* \* \*

Transportation Equipment Company, New York, exhibits the new "TEC" fare box in space 824, Building No. 3. One hundred of these boxes were recently ordered by the Public Service Railway, Newark, N. J., for its P-A-Y-E cars. There are also 350 of these boxes in service on the Metropolitan Railway Company, New York. The box is novel, in that it registers in dollars and cents the money deposited. Represented by Robert C. Adams.

\* \* \*

Massachusetts Chemical Company, Boston, Mass., is showing insulation specialties in space 635, Building No. 2. Liquid and rubber insulation, such as armalac, enamelac, insulac and other insulating paints, are shown; Walpole and other friction tapes; Neponset and other splicing compounds; and all kinds of mechanical rubber molded specialties. Represented by E. W. Furbush, L. O. Duclos, A. E. Duclos.

\* \* \*

Universal Safety Tread Company, Boston, Mass., is using space 882 in Building No. 3 for its first convention exhibit. Various types of car treads and treads for subway and elevated station traffic purposes are exhibited. The company's executive head, F. W. Langford, is attending the convention in the interest of the company. He is ably seconded by Mr. Whipple, of the Whipple Supply Company, who is sales agent for this tread in the electric and steam railway field. A. E. Langford is also representing the company.

E. L. Post & Company, New York, is represented by R. S. Foster, F. O. Ketcham and J. Frank Lanning, all of whom are expounding the merits of Post's "Zero" metal. In an announcement in a recent issue of the ELECTRIC RAILWAY JOURNAL, the address of this company was given as 50 Church Street, New York. It should have been 50 Cliff Street, New York. Cliff Street has been the address of the company for the past 40 years.

\* \* \*

W. J. Jeandron, New York, has an exhibit in space 677, Building, No. 2, as sole sales agent in the United States for the products of Le Carbone Company, of Paris, France. This exhibit is characteristically French in the neatness of its arrangement and the fine quality and workmanship of the products shown. All types of traction and generator brushes are presented. Although this company has been established in this country less than three years, it is interesting and instructive to learn that 50 per cent of the entire electric railway mileage in the United States is now operated with Le Carbone brushes.

\* \* \*

Standard Motor Truck Company, Pittsburgh, Pa., has spaces 680-681, Building No. 2, where it has a novel exhibit, consisting of four aluminum models of Types C-80, C-60, O-50 and O-45 trucks; also complete plans and details of the trucks which this company manufactures and many photographs. The company has received an order from the United Railroads of San Francisco for 160 type O-50 trucks. The Standard Steel Car Company, of which the Standard Motor Truck Company is a subsidiary, is now building cars for electric railway service as well as for steam service. Represented by R. L. Gordon, A. W. Fields, W. G. Price, W. G. Cory.

\* \* \*

Pantasote Company, New York, in its exhibit, space 956, Building No. 3, gives a demonstration of the waterproof and non-buckling quality of "Agosote" head-lining. A panel of "Agosote" is suspended beneath a pipe, which sprays it continually with water, without injuring it in the least. Fire-resisting "Agosote" only  $\frac{3}{16}$  in. thick has withstood a flame of 6300 deg. Fahr. for one minute, while the same flame would pierce  $\frac{3}{4}$ -in. steel in 20 seconds. Many samples of "Agosote" in different shapes and finishes are also displayed. "Pantasote" curtains and seats are also shown in various shades and colors. Samples of both "Agosote" and "Pantasote" are furnished. Represented by John M. High, W. A. Lake, A. S. Barrows.

\* \* \*

Wonham, Sanger & Bates, New York, are in space 969, Building No. 3, where they are showing the H. B. life guards, the American automatic track switch, tripartite steel poles, White foundry equipment and Hayes run fire-brick. Important among the items of interest to railway officials are the life guard and the automatic switch. Since the convention of 1909 these guards have picked up hundreds of persons unhurt. Fifteen thousand H. B. guards have replaced projecting fenders of various types during the past 12 months. The Chicago City Railway, Chicago Railways, Brooklyn Rapid Transit Company, Metropolitan Street Railway, Third Avenue Railroad, Rio de Janeiro Tramway, Light & Power Company; Richmond Light & Railroad Company are among its many users. The popularity of the automatic switch is shown by its installation on such lines as the Brooklyn Rapid Transit System, Washington Railway & Electric Company, Capital Traction Company, United Railways & Electric Company, Baltimore; Cleveland Electric Railway, Pubelo & Suburban Traction & Light Company and East St. Louis & Suburban Railway. The representatives here include R. Sanger, F. Wonham, H. A. Goode, R. V. Collins.

Lancaster Iron Works, Inc., Lancaster, Pa., has space 551, Machinery Hall, to show Lancaster safety brake shoes and webs for electric and steam service. Represented by J. W. Holman, president.

\* \* \*

Universal Trolley Retriever Company, New York, is in Building No. 3, next to the convention hall. It is exhibiting its "Universal" trolley retriever and is demonstrating its operation. Represented by Edward Shapiro, Peter J. Minck.

\* \* \*

H. R. Langslow, Company, Rochester, N. Y., has on view, in space 821, Building No. 3, a prepayment platform laid out with railing, showing a straight nickel fare prepayment machine with automatic registration and automatic released turnstile. Represented by A. R. Langslow, C. R. Lattig, F. H. Damon.

\* \* \*

Archbold-Brady Company, Syracuse, N. Y., has space 837, Building No. 3, where it is showing a model catenary bridge, such as is used on the Syracuse, Lake Shore & Northern Railroad, and photographs and blueprints of transmission towers, bridges, etc. Represented by W. K. Archbold, president, and R. L. Allen, engineer.

\* \* \*

Duff Manufacturing Company, Pittsburgh, Pa., has space 968, in Building No. 3, where it is showing its complete line of Barrett track and car jacks, along with the Duff ball-bearing screw jacks and the new forged-steel Duff-Bethlehem hydraulic jacks. It is also showing for the first time a novel bonding drill. The company is represented by George A. Edgin, E. A. Johnson, E. P. Hess.

\* \* \*

U. S. Metal & Manufacturing Company, New York, is at the convention in full force, headed by Charles C. Castle, the head of the sales department. Mr. Castle ought to be a valuable asset to this company, whose organization he joined during the last year, in view of his wide acquaintance, his large circle of personal friends and his genius for salesmanship.

\* \* \*

Lord Manufacturing Company, New York, shows many of its electric railway specialties in space 888, Building No. 3. The display includes a sample of each of the various types of Earll catchers and retrievers; "Luminator" flaming arc lamps; Bradshaw car-skids; laminated soldered rail bonds; "controlators," and lightning arresters. Represented by W. R. Garton, general manager, and Mr. Arnold.

\* \* \*

The G. Drouvé Company, Bridgeport, Conn., reports that since last convention time "Anti-Pluvius" puttyless skylights have been installed on the new car houses built by the Connecticut Company at Bridgeport, Conn.; Oneida Railway Company, Syracuse, N. Y.; Detroit United Railway, Public Service Railway car terminal, Hoboken, N. J., and Sioux City Electric Railway Company. These skylights are now being installed for the third order of the Chicago City Railway Company.

\* \* \*

McConway & Torley Company, Pittsburgh, Pa., has in its exhibit, spaces 807-811, Building No. 3, a full-sized Janney radial coupler mounted on a car platform, an application of the equipment identical with that now in service on many electric lines. The coupler itself is the standard Janney M.C.B. type similar to those used on thousands of steam railroad cars. This coupler with the radial feature is now in successful operation on several hundred interurban cars and is being applied to a large number of new cars under construction. The company also is showing a McConway steel-tired wheel.

Niles Car & Manufacturing Company, Cleveland, Ohio, is receiving its friends at space 565, Machinery Hall, where they will be welcomed by J. A. Hanna and F. C. Robbins. The company has no exhibit but is showing numerous photographs of some of its latest types of cars now under construction.

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The Railway Improvement Company, New York, shows in space 836, Building No. 3, some novel coasting time recorders, which are similar to those in use for checking motormen on the New York elevated lines. It is also showing German current clocks, as used in Berlin, Frankfurt and elsewhere in Europe. The exhibit also contains the improved "Rico" sanitary hanger, installed in the New York subway cars. The company is represented by Andrew J. Pezzini, Rufus L. MacDuffie, W. O. Wade, A. J. Newell.

\* \* \*

Elmer P. Morris Electric Company, New York, has an interesting exhibit near the aquarium. Standard ornamental lighting and electric railway service iron poles with ornamental brackets and fixtures attached are shown; also ornamental cast-iron seats and flower stands for parks; standard overhead material, and various other specialties handled by this company. Represented by Elmer P. Morris, M. R. Jarvis, Dwight E. Morris, C. H. Lambkin, T. H. Cowden.

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Goldschmidt Thermit Company, New York, has a unique exhibit in spaces 623-625, Building No. 2, comprising various types of compromise girder T and grooved rail joints welded by its new process. Samples of thermit and pure metals are displayed; also broken motor cases repaired by thermit welding; samples of welded pipe of all sizes; a machine designed for welding pipe; tripod crucibles for the thermit welding. Represented by William C. Cuntz, Felix Langer, G. E. Pellisier, W. Aldrich, H. S. Mann, W. R. Hulburt.

\* \* \*

Gould Storage Battery Company, New York, in addition to its booth in space 619, has a very interesting exhibit at the entrance to the pier of a car equipped with Gould batteries. This car is a duplicate of seven cars now in service on the Third Avenue Railroad, New York, between 110th Street and Fort Lee. These cars have given a good account of themselves. They are equipped with 58 cells type T-H-29 of 420 amp. hours capacity and operate daily from 90 to 100 miles on a single charge. A total of 32 cars of this type has been ordered by the Third Avenue Railroad. Represented by Dr. W. E. Winship, W. S. Gould, C. H. Hayes, Fred Booss.

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Watson-Stillman Company, New York, has an excellent exhibit of hydraulic machinery, including one 35-ton hydraulic bond compressor, a 3,000-lb. telescope motor lift, a 10-ton telescopic car jack, a 9-in. portable "Universal" beam punch, a 10-ton swivel claw jack, and a small motor-driven turbine pump. The new bond compressor has a quick-acting release; it can be put into place, the bond made and the compressor removed in one minute. The "Noscalon" machine and "Noscalon" feed-water treatment constitute another of this company's specialties. Represented by George L. Gillon, Frank H. Clark, Robert Weaver, Edwin A. Stillman.

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Rooke Automatic Register Company, Providence, R. I., is in space 827, Building No. 3. Of all the exhibitors having mechanism to show, this company needs the least display, as the register weighs less than 20 oz., and can be covered by the palm of the hand, or conveniently carried in one's pocket. Despite its small size, this register stands for an important principle in fare collection. This fact can be best appreciated only after listening to a thorough explanation and seeing this machine in operation. George F. Rooke and W. A. Williamson are on hand to demonstrate workings of this register.

## List of Exhibits

- Acme Indicator Company, Cleveland, Ohio, Space 815, Building No. 3—Street and station indicators. Represented by C. W. Johnson, T. W. Small, A. P. Mackie.
- Adams-Bagnall Electric Company, The, Cleveland, Ohio, Space 554-6, Building No. 2—Regenerative flame arc lamps, enclosed arc lamps for all circuits and accessory apparatus. Represented by G. A. Thomson, A. J. Mitchell, E. R. Bryant, R. C. Campbell.
- Adams & Westlake Company, The, Chicago, Ill., Space 682, Building No. 2—Car hardware, electric headlights, oil and electric signal lamps, hand lanterns, brake handles, etc. Represented by B. L. Compton, J. A. Foster.
- Allis-Chalmers Company, Milwaukee, Wis., Spaces 304-318, Building No. 1—Two racks of air brake equipments, showing straight air and automatic outfits complete; sectional model of Parsons type steam turbine; street railway motors and railway controllers; portable and stationary air compressors; photographs of products of the company. Represented by A. H. Whiteside, F. C. Randall, A. P. Peck, C. A. Burns, J. T. Cunningham, E. T. Pardee, Wm. Pestell, St. John Chilton, C. S. Johann, J. B. Nicholson, L. J. Costa, W. B. Spellmire, F. C. Colwell, J. W. Gardner, F. L. Bunton, J. L. Watson, O. C. Ross, J. C. M. Lucas. Exhibit in charge of F. G. Bolles, commercial engineer.
- American Brake Shoe & Foundry Company, Mahwah, N. J., Space 801, Building No. 3—Brake shoes, association standard. Represented by F. W. Sargent, W. S. McGowan, E. L. Janes, R. E. Holt, F. L. Gordon, J. B. Thompson.
- American General Engineering Company, New York, N. Y., Space 670, Building No. 2—A. G. E. motor-driven armature machine; A. G. E. Challenger pinion puller and other labor-saving appliances. Represented by George E. Austin.
- American Hoist & Derrick Company, St. Paul, Minn., Spaces 795, 793, 791, Building No. 3—Moving pictures of company's machinery use in railroad work. Represented by W. L. Manson, F. J. Johnson and W. O. Washburn.
- American Mason Safety Tread Company, Boston, Mass., Space 893, Building No. 3—All types of safety treads, car steps and subway, elevated and station treads. Samples of Karbolith flooring. Represented by Henry C. King.
- American Railway Guide Company, Chicago, Ill., Space 404, Building No. 1—Bureau for railroad information, time tables and Pullman reservations. Represented by Geo. E. Armstrong, business manager.
- American Railway Supply Company, New York, Space 826, Building No. 3—Conductor and motorman cap and coat badges; employee cap and coat badges; uniform buttons; police badges, etc. Represented by Walter Chur.
- American Rolling Mill Company, Middletown, Ohio, Space 606, Building No. 2—American ingot iron rust-resisting products, such as railway culverts, roofing, plates, boiler tubes, etc. Represented by G. H. Charls, G. F. Ahlbrandt.
- American Steel & Wire Company, Chicago and New York, Space No. 872, Building No. 3—Rail bands, electric wires and cables, rail-band tools and the Crown band tester. This tester is self-contained, its action not being dependent upon return current through the rail. Represented by B. H. Ryder, J. D. Sutherland, C. J. McGregor, R. K. Sheppard, C. R. Sturdevant.
- Anderson, Albert & J. M., Manufacturing Company, Boston, Mass., Space 624, Building No. 2—Insulation line materials; automatic time switches; switches and switchboards; special remote controlled switches; trolley wheels, etc. Represented by J. M. Anderson, Ernst Woltmann, W. H. Hincer, A. H. Burns, G. B. Crane.
- Anglo-American Varnish Company, Newark, N. J., Space 829, Building No. 3—Samples of packages, etc. Represented by William Marshall.
- Archbold-Brady Company, Syracuse, N. Y., Space 837, Building No. 3—Photographs of transmission lines and special crossing towers, catenary bridges and construction, steel work for car shops and heavy transfer tables. Represented by W. K. Archbold, C. L. Allen.
- Atlanta Car Wheel & Manufacturing Company, Atlanta, Ga., Space 684, Building No. 2—Reception room. Represented by Sterling G. Turner, Sam C. Watkins.
- Atlas Railway Supply, Chicago, Space 814, Building No. 3—Atlas rail joints, tie plates and braces. Represented by J. G. McMichael, D. Thomson.
- Automatic Ventilator Company, New York, N. Y., Space 621, Building No. 2—Car ventilators. Represented by George H. Ford, Leonard J. Hibbard, William J. Fleming, Jr.
- Badger Fire Extinguisher Company, Boston, Mass., Space 436, Building No. 1—Hand chemical fire extinguishers, chemical engines. Represented by Charles R. Edwards, A. E. Stone.
- Baird Electric Company, Chicago, Ill., Space 455, Aquarium Court—Baird selective signal telephone systems for steam and electric railroads; complete central office equipments, with working model of steam and electric railway dispatching lines, dispatcher and ticket office time recorders. Represented by A. Moore, A. E. Case.
- Baldwin Locomotive Works, Philadelphia, Pa., Spaces 565 to 571, Machinery Hall—One heavy interurban truck for the Southern Pacific Company (Alameda electrification), class 84-35-S; one light city truck for the Shore Line Electric Railway, class 54-18-F-2. Represented by J. R. Dickey, S. A. Bullock, C. H. Peterson, C. F. Dodson.
- Bayonet Trolley Harp Company, Springfield, Ohio, Space 671, Building No. 2—Trolley bases with detachable pole clamps; detachable trolley harps; trolley wheels; sleet cutters. Represented by C. S. Olinger, R. A. Garlough.
- Berry Brothers, Limited, Detroit, Mich., Space 840, Building No. 3—Varnishes. Represented by Major Robert E. Mills, George M. Kerr, Ferdinand W. Hormann.
- Best Manufacturing Company, Pittsburg, Pa., Space 632, Building No. 2—Valves, fittings, cocks, unions, pipe bends, etc., with sectional parts to show detail construction of each. Represented by John D. Hiles, Charles K. Thomas, C. W. Bergen.
- Black Diamond Boring Machine Company, Monongahela, Pa., Space 537, Machinery Hall—Boring machine for boring armature and axle bearings, patent adjustable boring tool, adjustable rolling tool. Represented by T. M. Boggs, A. J. Brown.
- Brill Company, The J. G., Philadelphia, Pa., Spaces 403 and 409 in Building No. 1, and track space—Light-weight semi-convertible car with plain arch roof; section of car with new vestibule folding doors; five trucks, namely: No. 21-E single truck, No. 30-E single-motor truck, No. 27-FE1 and No. 27-GE1 short-base pivotal trucks, No. 27-MCB1 light interurban truck, No. 27-MCB3 heavy interurban truck; four styles of "Winner" car seats with pressed steel pedestals and aisle plates; six types of fare boxes; line and unlined woven cane for car seating; pressed steel seat parts and a variety of car and truck springs—all of Brill manufacture; specialties like track scraper, folding gate, "Dump-it" sand box, "Dedenda" gong, ratchet brake handle, brake chain slack adjuster and half-ball brake hanger. Represented by S. M. Curwen, J. W. Rawle, W. H. Heulings, Jr., Geo. H. Tontrup, D. B. Dean, G. M. Haskell, R. H. Thompson, W. S. Adams, J. E. Brill, Edw. Bronenkamp, F. L. Markham, S. T. Bole, F. W. Brill, C. S. Ayres, A. N. Hargrove, A. H. Pease, A. S. Vane, S. M. Wilson, H. B. Baird.
- Brown, Harold P., New York, N. Y., Spaces 570 and 572, Machinery Hall—Plastic rail bond; lead-surfaced motor pinions; electrical contact alloys; electrical testing bureau; "Stay-There" track bolt and "O. K." nut lock; motor car mirror; G. P. paint oil; turptone. Represented by Harold P. Brown, J. Maxwell Coote, William Temple, Albert Temple.
- Buffalo Foundry & Machine Company, Buffalo, N. Y., Space 825, Building No. 3—Steam hammers; vacuum drying and impregnating apparatus, heavy castings; vacuum pumps, condensers, etc. Represented by E. G. Rippel, sales manager.
- Carbolineum Wood Preserving Company, New York, N. Y., Space 696, Building No. 2—Avenarius Carbolineum wood preservative treating methods and specimens of treated ties, posts and poles. Represented by Ralph M. Eisenberg, William E. Graf, Basil Grant, John J. Wessmiller, John N. Schlude.
- Chicago Pneumatic Tool Company, Chicago, Ill., Spaces 515-517, Machinery Hall—Electric drills, electric track drills, grinders, spike driving apparatus; pneumatic drills and hammers and electrically driven air compressors. Represented by Thomas Aldcorn, C. B. Coates, George Barden, Edward Aplin.
- Chicago Varnish Company, Chicago, Ill., Spaces 893-895, Building No. 3—Specimens of "CE-VE" process. Represented by Geo. S. Bigelow, F. N. Gundrum, Jr., F. L. Olds, T. M. Murray, R. K. Buckman, Jr.
- Cleveland Frog & Crossing Company, Cleveland, Ohio, Spaces 575 and 576, Machinery Hall—"Hard Service" manganese frog; combination "Hard Service" manganese and regular rail crossing; switch with "Hard Service" manganese point; "Hard Center" manganese switches, mates and frogs; "Hard Center" manganese crossing; Porter derailling switch; C. C. switch locking device; switch attach-

- ments, etc. Represented by G. C. Lucas, L. G. Parker, Geo. Arnold, Jr., Geo. Stanton, S. Balkwill, Jr., A. P. Ruggles.
- Coleman Fare Box Company, Buffalo, N. Y., Space 823, Building No. 3—Exhibiting fare boxes for pay-as-you-enter cars; also portable fare boxes. Represented by J. H. Coleman, A. P. Ridley, John Lennox, John Sinclair.
- Columbia Machine Works & Malleable Iron Company, Brooklyn, N. Y., Space 469. Aquarium Court—All steel gear cases, forged steel brake levers, coupling sockets, coupling plugs, junction boxes. Represented by J. G. Buehler, Jas. Grady, W. R. Kerschner, John Kress, Jr.
- Consolidated Car Fender Company, Providence, R. I., Spaces 627-629, Building No. 2—"Providence" fenders, "Providence" wheel guards, lockers. Represented by Albert J. Thornley, George Hollingsworth.
- Consolidated Car-Heating Company, New York, N. Y., Spaces 876, 877 and 879, Building No. 3—Electric heaters and switches for pressure up to 1200 volts, door-opening devices, buzzer systems, electric relays, electric resistance tubes, automatic train signals. Represented by Cornell S. Hawley, Thomas Farmer, Jr., W. S. Hammond, Jr., H. L. Hawley.
- Cooper Heater Company, The, Carlisle, Pa., Space 657, Building No. 2—Pressed-steel hot water car heaters. Represented by W. L. Blackwell, W. R. Crawford, C. S. Brinton, W. F. Pascoe.
- Corell Railroad Tie Company, Mount Jewett, Pa., Space 457, Building No. 1—Corell reinforced concrete tie. Represented by H. J. Corell, W. J. Caverly.
- Crocker-Wheeler Company, Ampere, N. J., Space 540, Machinery Hall—Photographic views of railway generators, power transformers, motor-generator sets, etc. Descriptive bulletins of Crocker-Wheeler electric railway apparatus. Represented by J. R. Wilson, Rodman Gilder, Clarence E. Delafield.
- Curtain Supply Company, Chicago, Ill., Spaces 883-885, Building No. 3—Ring No. 88 fixtures, Ring No. 89 fixtures for open or closed cars, curtain materials. Represented by W. H. Forsyth, R. F. Hayes, S. W. Midgley.
- D. & W. Fuse Company, Providence, R. I., Space 633, Building No. 2—"D. & W." enclosed fuses and safety devices for all electrical circuits, "Deltabeston" magnet wire and field and armature coils particularly adapted for railway motors, arc lamp magnets, heating units, etc. Represented by W. S. Sisson, H. F. MacGuyer, H. P. Hinds.
- Davis Expansion Boring Bar Company, St. Louis, Mo., Space 615, Building No. 2—Davis expansion boring tools, for boring car wheels, armature bearings and all classes of metal. Represented by W. N. Matthews, E. E. Davis, J. W. McKeen.
- Dearborn Drug & Chemical Works, Chicago, Ill., Space 411, Building No. 1—Scientific treatment for boiler feed waters, prepared to suit conditions shown by analyses of the waters. Represented by George R. Carr, Grant W. Spear, H. G. McConaughy.
- Detroit Steel Products Company, Detroit, Mich., Space 459, Aquarium Court—Detroit steel sash for car houses, power houses, etc., and showing photographs of installations. Represented by Mason Rumney.
- Dixon, Joseph, Crucible Company, Jersey City, N. J., Spaces 516-518, Machinery Hall—Lubricating graphite, foundry lacings, graphite crucibles, graphite curve grease, graphite wood grease, graphite brushes, pencils, graphite air brake grease, silica-graphite paint, marking crayons, belt dressings, graphite gear grease, graphite car box grease, graphite commutator compound. Represented by J. J. Tucker, J. M. Willitts, J. A. Condit, R. Belleville, H. W. Chase, Wm. McIntosh, L. H. Snyder.
- Dossert & Company, Inc., New York, N. Y., Space 813, Building No. 3—Dossert connectors; solderless splicing devices; cable taps; 2-ways of various types; insulated 2-ways and cable taps 3-ways; Y's; lugs, front and back connected angle and swivel; stud connectors, cable anchor equalizers, grounding devices; third rail jumpers. Represented by H. B. Logan, S. A. Jenkins.
- Dolph, John C., Company, Long Island City, N. Y., Space 962, Building No. 3—Specialties in insulation. Represented by John C. Dolph.
- Drouvé, G., Company, Bridgeport, Conn., Space 459, Building No. 1—Sample car house, "Anti-Pluvius" puttyless skylight and "Straight-Push" sash operator applied to steel sash, showing control. Represented by William V. Dee.
- Duff Manufacturing Company, Pittsburg, Pa., Space, 968, Building No. 3—Barrett track and car jacks, geared ratchet lever jacks, Duff ball-bearing screw jacks, Barrett motor armature lifts, car replacing traversing bases and Duff-Bethlehem hydraulic jacks. Represented by T. A. McGinley, G. A. Edgin, E. A. Johnson, E. P. Hess.
- Eclipse Railway Supply Company, Cleveland, Ohio, Space 669, Building No. 2—Car fender, destination sign. Represented by Ross Forward.
- Economy Oil Cup Company, Augusta, Ga., Space 525, Machinery Hall—"Economy" oil cup. Represented by H. E. Fitzgerald, E. M. Crozier and Wonham, Sanger & Bates.
- Edison Storage Battery Company, West Orange, N. J., Space 523, Machinery Hall—Edison storage battery, in detail. Represented by D. C. Arlington.
- Edwards Company, The O. M., Syracuse, N. Y., Spaces 832-834, Building No. 3—Window fixtures, extension platform steel trap doors, metal sash, tin barrel spring rollers, padlocks, metal office furniture. Represented by O. M. Edwards, Edw. F. Chaffee, C. H. Rockwell, W. C. Bradbury, T. P. O'Brian.
- Electric Omnibus & Truck Company, New York, N. Y., Space 522, Machinery Hall—Field electric omnibuses operated with the Edison storage battery shown in operation on the street in front of the Exhibit Hall, starting each hour. Represented by C. J. Field, R. C. Cilley, C. W. Hussey, W. C. Seaman, V. E. Daniels.
- Electric Railway Equipment Company, Cincinnati, Ohio, Space 462, Aquarium Court—Overhead line material, ordinary and catenary types; steel tubular poles; ornamental street lamp posts. Represented by W. A. McCallum, John G. Kipp, A. L. Johnston.
- Electric Railway Improvement Company, Cleveland, Ohio, Spaces 892-894, Building No. 3—Electric welding rail-bonding car in operation; rail bonds. Represented by George Long, William E. Huber, Albert Blakely.
- Electric Service Supplies Company, Philadelphia, Pa., Space 800, Building No. 3—"Pay-Within Car;" "Automotoneer;" Garton-Daniels lightning arresters, choke coils and grounding devices; Lyon steel gear cases; "Keystone" overhead material, block signals, sand traps, leakless valves, trailer connectors, railway telephones, lamp guards and porch light fixtures; "Protected" rail bonds and bonding tools; "International" fare registers; "Samson" bell and register cord; "Lock-On" controller handle; "Peerless" tension and banding machines; Locke insulators. Represented by Charles J. Mayer, J. W. Porter, J. V. E. Titus, A. H. Englund, M. A. Berg, E. R. Mason, T. C. Brown, R. D. Brown, W. A. Armstrong, Jr., F. A. Strail, G. E. Watts, G. W. Cox, A. F. Paul, F. C. Peck, H. G. Lewis, J. R. McFarlin, H. Hellyer, T. H. Henkle, W. D. Hamer, N. P. Hall, F. H. Jamison, R. Montgomery, G. Miller.
- Electric Storage Battery Company, Philadelphia, Pa., Spaces 666 and 668, Building No. 2—Street railway switchboard panel with new average adjuster; illustration of new oil insulator for batteries in lead-lined tank; samples of positive and negative plates; details of storage battery apparatus. Represented by Charles Blizard, G. H. Atkin, H. B. Gay, Edward L. Reynolds.
- Elliott Company, Pittsburg, Pa., Space 607, Building No. 2—Twin strainers, oil filter, reducing valve, steam trap, steam separator, oil separator, feed water heaters, feed water regulators, high and low water alarms, blow-off valve, tube cleaners, combined tube cutters and expanders. Represented by H. A. Pastre, W. A. Darrow, Glen M. Porter.
- Emery Pneumatic Lubricator Company, St. Louis, Mo., Space 435, Building No. 1—Pneumatic lubricators for air brakes and multiple unit control apparatus, also lubricant sticks used with the lubricators; brake cylinder lubricant for manual application to cylinders and packing leathers of air brakes and switch groups. Represented by E. A. Emery, N. J. McAloney.
- Eureka Tempered Copper Works, North East, Pa., Space 670, Building No. 2—Street railway material; commutators, trolley wheels, bearings, brush holders, line material. Represented by O. C. Hirtzel, Fred Rundell, T. E. Lynn, John Risbrigger.
- Flood & Conklin Company, Newark, N. J., Space 946, Building No. 3—Sections of cars, steam and electric, demonstrating the F. & C. Simplex (four coat) system of railway car painting. Represented by H. J. Kuhn, L. A. Williams, L. H. Conklin.
- Ford & Johnson Company, Michigan City, Ind., Spaces 662 to 665, Building No. 2—"Perfection" car seats, canvas-lined and unlined rattan for car seats, steel stationary seats, special designed seats, reed and fiber rush chairs for buffet and parlor cars, railway and station heating. Represented by A. D. Martin, Clarence A. Van Derveer, Walter J. Bennett.

- Forsyth Brothers Company, Chicago, Ill., Space 954, Building No. 3—Brinckerhoff unit pressed side construction for steel cars, Forsyth draft gears and buffing devices, Chaffee centering device, steel posts and carlins, one-piece steel doors for steam and electric cars, Forsyth metallic weather strip, steel sash, sash ratchets, buffing device. Represented by A. H. Sisson, Wm. Wampler.
- Galena-Signal Oil Company, Franklin, Pa., Spaces 126 to 131, Building No. 1—Reception booth. Represented by C. C. Steinbrenner, E. V. Sedgwick, Geo. A. Barnes, L. R. Spare, E. H. Baker, F. A. Guild, C. H. Thomas, W. A. Trubee, L. J. Drake, Jr., C. A. Record, F. R. Stakelum, A. O. Fletcher, W. A. McWhorter, E. G. Beatty, H. C. Mason, Geo. J. Smith, J. E. Southwell, C. L. Richards, J. C. Glair, W. A. Love, W. O. Stieff, E. M. Hedley, Alfred Green, John A. Wilson.
- Garlock Packing Company, The, Palmyra, N. Y., Space 816, Building No. 3—General line of packings. Represented by Herbert W. Gulager, H. N. Winner.
- Garwood Electric Company, Garwood, N. J., Space 524, Machinery Hall—Electric welding outfit. Represented by George Hill.
- General Electric Company, Schenectady, N. Y., Spaces 112 to 125, Building No. 1—Curtis turbine; Type "M" control equipment; railway motors; rotary converter panel; emergency straight air brake equipment; electro-air brake equipment; railway line material; rail bonds, recording steam and aid flow meter; indicating steam meter; magnetite arc headlight; controllers; switches; rheostats; motorman's valves, etc. Represented among others by J. G. Barry, W. J. Clark, W. B. Potter, C. C. Peirce, S. W. Trawick, R. E. Moore, E. H. Ginn, H. S. Monroe, G. D. Rosenthal, H. C. Marsh, R. I. Cash, H. M. Winter, H. C. Glaze, F. E. Case, E. D. Priest, G. H. Hill, W. G. Carey, Frank H. Gale.
- Globe Ticket Company, Philadelphia, Pa., Space 961, Building No. 3—City and interurban railway tickets, books, transfers, cash fare receipts, Pope P. M. coupon transfers, ticket destroyers, ticket choppers and ticket punches. Represented by W. C. Pope, P. C. Snow, R. C. Osman, W. P. Snow, J. Elliott, E. Elliott.
- Gold Car Heating & Lighting Company, New York, N. Y., Space 612, Building No. 2—Electric heaters, car ventilators. Represented by Edward E. Gold, E. B. Wilson, J. M. Stayman, F. H. Smith, F. Cahill.
- Goldschmidt Thermit Company, New York, N. Y., Spaces 523 and 525, Machinery Hall—Examples of the new thermit welding process by which the entire rail section is welded, comprising compromise joint welds, and regular welds on various sizes of rail sections; welded motor cases, welded pipes, metals and alloys produced free from carbon by the thermit process; appliances used in connection with this process; gasoline preheating torch and a demonstration of the thermit reaction. Represented by W. C. Cuntz, G. E. Pellissier, H. S. Mann, Felix Lange.
- Gould Storage Battery Company, Space 619, Building No. 2—Car at the entrance of pier equipped with 58 type T-H-29 storage cells. At booth, grids and batteries and photos of Detroit River tunnel installation. Represented by Dr. W. E. Winship, W. S. Gould, G. C. Haycs, Fred Booss.
- Grip Nut Company, Chicago, Ill., Space 674, Building No. 2—"Grip Lock" nuts, square and hexagon. Represented by J. W. Hibbard, E. R. Hibbard, B. C. Wilt.
- Hale & Kilburn, Manufacturing Company, Philadelphia, Pa., Spaces 884, 886, 887, Building No. 2—Seats for all types of cars and service; standard seats used by the principal surface, underground and elevated railways; suburban and interurban car seats; all-steel seats; doors, sash and interior finish for steel cars; rattan (canvas-lined) car seat covering. Represented by H. T. Bigelow, A. F. Old, C. W. Laskay.
- Heany Fire-Proof Wire Company, New York, N. Y., Space 891, Building No. 3—Fire-proof asbestos covered insulated wire and coils for armatures and fields; Heany Lamp Company's lamps (tungstens). Represented by R. K. Dana, Frank A. Duff, Edward Bond.
- Hess-Bright Manufacturing Company, Philadelphia, Pa., Spaces 571-573, Machinery Hall—One set of car wheels and axle, mounted on ball bearings, rotated by motor; two G.E.-80 railway motors, one with ball bearings and one with ordinary babbitt bearings, operated light; sample ball bearings and housings similar to those in service; photographs of various ball bearing cars in operation. Represented by Henry Hess, Cyril J. Hopkins, E. W. Rubencame, R. F. Runge.
- Heywood Bros. & Wakefield Company, New York, N. Y., Space 890-891, Building No. 3—Variety of styles of "Universal" car seats. Represented by Bertram Berry, R. F. Fowler, C. W. H. Frederick.
- Home Rubber Company, Trenton, N. J., Space 683, Building No. 2—"Black sheet" packing, N. B. O., together with rod packings, automobile tires, etc. Represented by A. R. Foley.
- Hunt, C. W., Company, West New Brighton, N. Y., Spaces 937 and 939, Building No. 3—Models of conveying and hoisting machinery; Industrial railway track and car; "Stevadore" transmission rope; conveyor bucket. Represented by W. F. Hunt, A. Summers, Mr. Larkin, J. A. MacIntyre.
- Hunter Illuminated Car Sign Company, New York, N. Y., Space 434, Building No. 1—All types of Hunter illuminated car signs. Represented by Lytle J. Hunter, Harry Reisinger.
- Indian Refining Company, Inc., Cincinnati, Ohio, Space 675, Building No. 2—Electric railway lubricating oils. Represented by J. V. Smith, A. J. Varrelmann, I. B. Connor, T. U. Franklin.
- Indianapolis Brass Company, Indianapolis, Ind., Space 667, Building No. 2—Overhead line material, section insulators, adjustable insulated crossings, frogs, crossings, ears, splicers, etc. Represented by James H. Drew, Fred C. Hornstein.
- International Register Company, Chicago, Ill., Spaces 611-613, Building No. 2—Coin-receiving register for prepayment cars; single and double International fare registers, car register fittings, waterproof trolley cord, wire center bell cord, ticket punches and Heeren employees' badges. Represented by A. H. Woodward, John Benham, F. C. Aray.
- Jcandron, W. J., New York, N. Y., Space 677, Building No. 2—Electric railway motor and generator carbon brushes. Represented by W. J. Jcandron.
- Jones & Laughlin Steel Company, Pittsburg, Pa., Spaces 532-4-6, Machinery Hall—Cold rolled axles, spikes, chains, structural sections, bars, cold twisted steel bars, steel sheet piling, cold rolled sections. Represented by E. D. Batchelor, Frank S. Slocum, George B. Mitchell.
- Johns-Manville, H. W., Company, New York, N. Y., Spaces 636-638, Building No. 2—Overhead material; rail bonds; high voltage transmission insulators and fittings; fibre conduit; "Noark" service and subway boxes and car fuse boxes for motor protection; dry batteries; fiber retainers for 60,000 volt oil switches; ebony asbestos wood for switchboards; plain asbestos wood for street car construction; friction tape and splicing compound; "Linolite" illuminating devices. Represented by J. W. Perry, G. R. Saylor, H. M. Frantz, R. R. Brageins, H. M. Voorhis, W. H. Robinson, E. B. Hatch, R. C. Buell, A. E. Brown, R. B. Lattin, A. G. Newton, R. C. Cole.
- Johnson Coin Counting Machine Company, New York, N. Y., Spaces 659 and 661, Building No. 2—Coin counting machines, registering fare boxes. Represented by C. H. Bird-sall, W. P. Butler, S. F. Champion, Jr.
- Kenfield Fairchild Publishing Company, Chicago, Ill., Space 407, Building No. 1—Copies of Electric Traction Weekly. Represented by G. R. Blodgett, G. S. Davis, W. J. Field, W. G. Thomas, H. J. Kenfield.
- King Fifth Wheel Company, Philadelphia, Pa., Space 686, Building No. 2—King roller-bearing pivot plate. Represented by Amos O. Chase.
- Lagonda Manufacturing Company, Springfield, Ohio, Space 676, Building No. 2—Weinland tube cleaners, air, steam, water and electric driven; Lagonda automatic cut-off valves; tube cutters; reseating machines; Lagonda-Enterprise Multiple strainers. Represented by J. P. Maloy, J. H. Johnston, Hart Hill.
- Lancaster Iron Works, Lancaster, Pa., Space 553, Machinery Hall—Brake shoes for steam and trolley cars and webb or blocks for cars. Represented by J. W. Holman.
- Langslow, H. R., Company, Rochester, N. Y., Space 821, Building No. 3—Automatic fare boxes and "Economy" turnstiles combined collection system. Represented by H. R. Langslow, C. I. Lattig, F. H. Damon.
- Leeds & Northrup Company, Philadelphia, Pa., Space 617, Building No. 2—Herrick inspection test set; Wheatstone bridges and other resistance measuring apparatus; standardization apparatus; galvanometers; cable testing apparatus; resistance thermometers and pyrometers. Represented by C. S. Redding.
- Lorain Steel Company, Johnstown, Pa., Spaces 850 to 850, both inclusive—Special track work for steam and electric railways; girder and high T-rails; electrically welded joints. Represented by H. C. Evans, F. J. Drake, Jos. MacCarroll, Jr., Wm. W. Kingston, S. P. S. Ellis, A. L. Verner, A. S.

- Littlefield, S. P. McGough, E. B. Entwisle, H. C. Stiff, P. M. Boyd.
- Lord Manufacturing Company, New York, N. Y., Space 888, Building No. 3—Flaming arc lamps, controlator, Bradshaw car skid, lightning arresters, rail bonds, Earll trolley retrievers and trolley catchers, etc. Represented by W. R. Garton.
- McConway & Torley Company, Pittsburgh, Pa., Spaces 807-809-811, Building No. 3—Janney radial coupler equipment, the McConway steel tired wheel. Represented by Stephen C. Mason, E. M. Grove, H. C. Buhoup, J. H. Milliken.
- McCord Manufacturing Company, Chicago, New York, Spaces 945, 957, Building No. 3—Universal window fixtures, weather stripping, sash locks, deck sash ratchets, McCord force feed lubricator, McKim gaskets. Represented by B. S. McClellan, E. G. Hunter, J. A. Lemon.
- McGraw Publishing Company, New York, N. Y., Spaces 401-405, Building No. 1—Convention Souvenir Number and Convention Daily Issues of ELECTRIC RAILWAY JOURNAL; Engineering Record, Electrical World. Represented by James H. McGraw, Hugh M. Wilson, H. W. Blake, L. E. Gould, Rodney Hitt, F. Nicholas, W. Jackson, George J. MacMurray, Frank Armeit, J. A. Kucera, W. K. Beard, C. A. Babbiste, C. T. Walker, E. J. Hunt, C. Henley, F. C. Wells, Miss Murphey, Miss Phelps.
- McVicker, W. B. Company, New York, N. Y., Space 679, Building No. 2—Scientific boiler compounds, hydraulic elevator compounds, high grade lubricants, odorless disinfectants, cleansing powders. Represented by W. B. McVicker, C. W. Dean.
- Massachusetts Chemical Company, Boston, Mass., Space 635, Building No. 2—Rubber and liquid insulating materials. Represented by Louis O. Duclos, Arthur E. Duclos, E. W. Furbush.
- Meyer Safety Guard Company, Omaha, Neb., Spaces 941-943, Building No. 3—12-ft. working model of open car, with guard; small copper model of "pay-as-you-enter-car," with guard. Represented by Martin Meyer, R. N. Burgess.
- Midvale Steel Company, Philadelphia, Pa., Spaces 400-402, Building No. 1—Solid rolled steel wheels and built-up wheels, and a midway high carbon steel heat-treated interurban axle. Represented by W. P. Barba, Ernest Harrah, Charles F. Tietze, T. W. Illingworth, Thos. Price, Col. James Thompson, W. S. Edger.
- Milburn, Alexander, Company, Baltimore, Md., Space 634, Building No. 2—Portable acetylene lights for construction, inspection and night work; acetylene emergency light (4,000 candle power) for emergency departments. Represented by C. R. Pollard, Jr., I. Stansbury.
- Mitchell, W. K., & Company, Inc., Philadelphia, Pa., Space 559, Machinery Hall—Steam header, welded steel; steam separator, welded; pipe bends; pipe fittings; rolled steel pipe flanges; steam trap. Represented by L. H. V. Harvison.
- Morgan Crucible Company, Ltd., New York, N. Y., Space 687, Building No. 2—"Morganite" and "Battersea" carbon brushes; "Battersea" type resistances. Represented by Henderson W. Knott, Harry DeSteele.
- Morris, Elmer P., & Co., New York, N. Y., Spaces A, B, C—Combination lighting and trolley poles, all types of poll fixtures, ornamental iron settees, chairs and vases for parks, overhead line material, flexible metallic hose for air-brakes, pneumatic tools, brakeshoes, etc. Represented by Elmer P. Morris, M. R. Jarvis, H. S. Tonks, C. H. Lambkin.
- Nachod Signal Company, Philadelphia, Pa., Space 568, Machinery Hall—Automatic signal connected for operation with miniature track; high speed trolley contactor; relay unit. Represented by Carl P. Nachod, Fred W. Kulicke.
- National Brake Company, Buffalo, N. Y., Spaces 654 and 656, Building No. 2—Ackley adjustable brakes and Peacock adjustable brakes. Represented by Frank D. Miller, W. D. Brewster, S. A. Benedict.
- National Brake & Electric Company, Milwaukee, Wis., Spaces 539 to 545, Machinery Hall—Air brake equipments, including motorman's, emergency and variable release valves and various types of governors; also motor-driven air compressors in both stationary and portable types; type "CC-4" D.C.-600-1200 volt air compressor. Represented by R. P. Tell, C. N. Leet, J. J. Nef, S. F. Weston, W. H. Goble, W. M. Bisel, W. D. Glenn, Robt. Long, James Paton, Geo. C. Anthon, B. S. Aikman.
- National Car Advertising Company, New York, N. Y., Spaces 842-844, Building No. 3—Auto-scope. Represented by E. H. Jewett and assistants.
- National Carbon Company, Cleveland, Ohio, Spaces 463, 465, 467, Aquarium Court—Carbon brushes, arc light carbons and batteries. Represented by D. D. Dickey, W. B. Brady, F. D. Kathe, O. T. Weaver, T. M. McNiece, E. H. Martindale, A. C. Henry.
- National Lead Company, New York, N. Y., Space 810, Building No. 3—Pure white lead, "Phoenix" metal, heavy pressure metal, etc. Represented by J. B. Mendenhall, Wm. A. Dail, Charles E. Barnum.
- National Lock Washer Company, Newark, N. J., Spaces 650 and 652, Building No. 2—Car curtains, curtain fixtures, sash balances, sash locks, lock washers. Represented by W. C. Dodd, F. B. Archibald, John B. Seymour, Daniel Hoyt, J. Howard Horn.
- National Tube Company, Pittsburgh, Pa., Space 653, Building No. 2—Shelby seamless cold-drawn steel trolley pole and welded trolley pole. Represented by J. G. Bateman.
- Nelson Valve Company, Philadelphia, Pa., Space 550, Machinery Hall—Power plant valves in steel, iron and bronze. Represented by W. J. Spencer, Carlisle Mason, R. E. Thomas, Leroy Gordon.
- New York Switch & Crossing Company, Hoboken, N. J., Spaces 658 and 660, Building No. 2—T-rail anti-straddle tongue switch for interurban service; girder rail, anti-straddle tongue switch with right or left hand spring adjustment; girder rail mate, hard center construction; girder rail crossover frog; 90 deg. street railway crossing with renewable centers. Represented by W. C. Wood, H. R. Sherman.
- Niles Car & Manufacturing Company, Niles and Cleveland, Ohio, Space 565, Machinery Hall—Office and reception room, with photographs of cars and catalogs. Represented by F. C. Robbins, J. A. Hanna.
- Nuttall, R. D., Company, Pittsburgh, Pa., Spaces 429, 431, 558, 560—Gears, pinions, trolleys, trolley poles, harps and wheels, flexible couplings, etc. Represented by F. A. Estep, Milton Rupert, G. A. Martin, Geo. W. Provost, T. M. Cluley, R. M. Kerschner, Chas. J. Mayer, A. H. Englund, H. G. Lewis, E. R. Mason, W. A. Armstrong, Chas. N. Wood, G. E. Watts, J. S. Monroe, J. W. Porter, M. Berg, J. V. E. Titus, S. K. Colby, E. A. Sharp.
- Ohio Brass Company, Mansfield, Ohio, Spaces 601 and 603, Building No. 2—Trolley fixtures, catenary materials, rail bonds, porcelain insulators, Tomlinson automatic and Tomlinson M. C. B. couplers, "O. B." diaphragm sander and whistle valve, "O. B." trolley retriever, luminous arc headlight, electric car signal system. Represented by C. K. King, E. F. Wickwire, J. R. Brown, C. H. Tomlinson, N. M. Garland, A. L. Wilkinson, A. L. Price, W. C. Starkey, G. E. Willis, J. E. Slimp, W. H. Bloss, Nathan Shute, Frank V. Cook, R. J. Deneen, E. C. Brown.
- Ohmer Fare Register Company, Dayton, Ohio, Spaces 600-602-604, Building No. 2—Fare registers from 2 to 60 classes of fares; two types of total cash fare registers; special equipment and registers for P-A-Y-E cars; John F. Ohmer's "Turn-In" car. Represented by John F. Ohmer, J. Harry Stedman, W. J. Kuhns, H. B. Ohmer, C. W. Ketterman, C. V. Funk, Walter H. Nelson.
- Pantasote Company, New York, N. Y., Space 956, Building No. 3—"Pantasote" upholstery and curtain material; "Agasote" headlining. Represented by John M. High, W. A. Lake, A. S. Barrows.
- Parsil Metal Company, Lansdale, Pa., Space 630, Building No. 2—Flower brush holder, pivot journal bearings and wedges, grease guns, oil guns, air pumps. Represented by David B. Flower, Charles W. Wade, F. W. Roth.
- Pay-As-You-Enter Car Corporation, New York, N. Y., Spaces 458, 460 and 462, Aquarium Court—Sections of pay-as-you-enter cars of different construction. Represented by Thomas W. Casey, David Murdoch.
- Pennsylvania Steel Company, Steelton, Pa. (with Maryland Steel Company, Sparrow's Point, Md.), Spaces 209 to 217, 305-415-417, Building No. 1—Solid "Manard" frogs, switches, mates and crossings; iron-bound switches and mates; spring frogs, switch stands, rails, photographs of work done, etc. Represented by H. F. Martin, C. S. Clark, John C. Jay, Jr., Richard Peters, N. E. Salsich, R. C. Hoffman & Company, R. E. Belknap, J. G. Miller, H. B. Green, F. H. Tackaberry, W. M. Henderson, G. S. Vickery, C. A. Alden, M. W. Long, B. L. Weaver.
- Philadelphia Electrical & Manufacturing Company, Philadelphia, Pa., Space 552, Machinery Hall—Tungsten arc lamps, street lighting fixtures, malleable line material of all kinds, trolley wire splicing sleeves, open circuit detectors, etc. Represented by C. L. Bundy, W. O. Dale.
- Poole Bros., Chicago, Ill., Space 678, Building No. 2—Railway tickets, folders, advertising booklets, maps, ticket cases and

- station supplies. Represented by S. K. Poole, R. W. Hunter.
- Pyrene Manufacturing Company, New York, N. Y., Space 817, Building No. 3—"Pyrene" fire extinguishers, "Pyrene" liquid for extinguishing fires. Represented by P. L. Wilbur, E. M. Davidson.
- Q M S Company, Plainfield, N. J., Space 805, Building No. 3—Stanwood steel car steps, Stanwood steel folding car step, hand power traveling crane of 3-ton capacity, hand racked trolley, No. 6 style air-balanced load-retaining air hoist, pneumatic pit jack. Represented by C. H. Holbrook, Railway & Traction Supply Company, Chicago, Ill., Space 685.
- Rail Joint Company, The, New York, N. Y., Space 464, Aquarium Court—Weber, Continuous and Wolhaupter rail joints. Represented by L. F. Braine, Mr. McCaskey, W. A. Chapman, E. A. Condit, P. Holbrook, G. W. Smith, W. E. Clark, H. C. Holloway.
- Railway Improvement Company, New York, N. Y., Space 836-8, Building No. 3—Coasting time records, current clocks and metal sanitary car straps. Represented by Andrew J. Pizzini, Rufus L. MacDuffie, W. O. Wade, A. J. Newell.
- Railway Roller Bearing Company, Syracuse, N. Y., Brill 39-E truck with roller bearing boxes; a roller bearing journal box, operated one year under Philadelphia Rapid Transit Company's car. Four of the latest types of "Rollway" journal boxes. Represented by James N. Vandegrift, Harry D. Weed, John Hulbert.
- Ramapo Iron Works, Hillburn, N. Y., Space 831, Building No. 3—Full automatic-parallel-throw safety switch stands, automatic return safety switch stands, manganese reinforced switch point, solid rolled riser plates, guard rail clamps with adjustable and reversible filler blocks. Represented by W. B. Lee, A. Gemunder, G. E. Haring, W. W. Snow, J. Edgar Davidson.
- Recording Register & Fare Box Company, New Haven, Conn., Space 561, Machinery Hall—Registering fare boxes; fare registers; register fittings and car trimmings; trolley wheels. Represented by M. DeForest Yates, Frank B. Kennedy.
- Reiter, G. C., Canton, Ohio, Space 951, Building No. 3—Pneumatic gong ringer; rotary multiple ringing gongs; single tap gongs; pressed steel gongs, with various finishes. Represented by G. C. Reiter.
- Roebings' Sons Company, John A., Trenton, N. J., Spaces 614 and 616, Building No. 2—Bare wire, wire rope and fittings, wire cloth and netting, insulated electrical wires, cables. Represented by W. P. Bowman, A. B. Conover, U. G. Tingley, M. R. Cockey, G. R. Swan, W. L. Doyle, A. D. Clarkson, A. V. Errickson.
- Rooke Automatic Register Company, Space 827, Building No. 3—Fare registers. Represented by G. F. Rooke, W. A. Williamson.
- Russell Car & Snow Plow Company, Space 655, Building No. 2.
- Sherwin-Williams Co., The, Cleveland, Ohio, Space 631, Building No. 2—Reception booth. Represented by E. M. Williams, F. A. Elmquist, H. E. Billau.
- Smith Heater Company, Peter, Detroit, Mich., Spaces 672-673, Building No. 2—Nos. 1-C, 2-C and 3-C hot water heaters; Nos. 1-P, 2-P and 3-P forced ventilation hot air heaters; the first two in operation. Represented by Daniel W. Smith, Elmer J. Smith, Harry S. Williams, M. J. Phelan, R. M. Campbell, W. E. Hinmon.
- Smith Premier Typewriter Company, Syracuse, N. Y., Spaces 839 and 841, Building No. 3—New No. 10 correspondence machine with six interchangeable carriages; 10 models of billing machines; H. & M. loose-leaf sales and public record. Represented by H. I. Seddon, W. W. Yerkes, A. N. Ashmore, P. E. Barnes, Miss M. E. Reynolds, Miss B. Hager.
- Southern Exchange Company, New York, N. Y., Spaces 626 and 628, Building No. 2—Section long leaf pine octagonal and square poles; section Southern white cedar pole; cross arms, high grade long leaf standard and special sizes; pictures of mills and yards. Represented by E. G. Chamberlin, Walter E. Mitchell.
- Speer Carbon Company, St. Marys, Pa., Spaces 618-620, Building No. 2—Carbon brushes; railway motor, generator and stationary motor brushes. Represented by J. S. Speer, G. P. Fryling, A. Mullhaupt.
- Standard Coupler Company, New York, N. Y., Spaces 828 and 830, Building No. 3—Brake shoe slack adjuster ("shim slack adjuster"). Represented by E. H. Walker, C. D. Jenks, W. H. Sauvage.
- Standard Motor Truck Company, Pittsburgh, Pa., Spaces 680 and 681, Building No. 2—Four aluminum truck models. Represented by R. L. Gordon, W. E. Cory, W. G. Price, A. W. Field.
- Standard Paint Company, New York, N. Y., Space 822, Building No. 3—F. & E. and S. P. C. insulation varnishes, compounds and tape; "Flexite" and other preservative paints. Represented by Charles E. Smith, H. A. Inwood, H. E. Lavelle.
- Standard Steel Works Company, Philadelphia, Pa., Space 565, Machinery Hall—Steel-tired wheels, rolled wheels, open-hearth steel hammered axles. Represented by E. S. Lewis, C. R. Dodson, A. R. Green, C. H. Petersen, T. W. Weston.
- Standard Underground Cable Company, Pittsburgh, Pa., Spaces 688 and 689, Building No. 2—Lead covered and armored power cables; bare and insulated wires; "Colonial" copper clad wire; trolley wire; Davis open air and station terminals; manhole junction boxes; cable jointing materials. Represented by C. J. Marsh, G. L. Wiley, H. P. Kimball, R. S. Hopkins, T. E. Hughes, R. M. Hirst, S. S. Warner, J. R. Wiley, E. J. Pietzcker, J. H. Lytle, R. B. Wilcox, C. A. Brown.
- Star Brass Works, Kalamazoo, Mich., Space 820, Building No. 3—"Kalamazoo" trolley wheels and harps. Represented by O. P. Johnson.
- Sterling Varnish Company, Pittsburgh, Pa., Space 800, Building No. 3—Insulating varnishes, iron enamel paints, raw refined linseed oil, tank for dipping car fenders. Represented by A. S. King, W. V. Whitfield, W. F. Hebard.
- Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., Spaces 843-845, Building No. 3—Dispatchers' signal system; iron-clad dispatching telephones; street railway portable telephones; test sets; jack boxes; local and common battery private branch exchange switchboards; flush type and non-flush type wall and desk automatic key type intercommunicating telephones. Represented by J. O. Oliver, C. E. Hagues, E. P. Ellis, C. P. Button, H. C. Slemin.
- Symington, T. H., Company, Baltimore, Md., Space 803, Building No. 3—Journal boxes, center bearings, side bearings, flexible dust guards. Represented by J. F. Symington, C. J. Symington, W. W. Rosser, A. H. Weston.
- Taylor Electric Truck Company, Troy, N. Y., Spaces 527-535, Machinery Hall—M. C. B. quadrupe spring truck for heavy high-speed interurban cars; M. C. B. triple spring truck; heavy long base truck; improved short base truck for outside hung motors; extra heavy single 8-ft. wheel base truck; truck springs of Taylor manufacture; malleable center and steel tired wheels; axles. Represented by John Taylor, C. H. Dodge, Thomas Thorns, Walter E. Taylor, G. A. Tupper.
- Templeton-Kenley Company, Chicago, Space 651, Building No. 2—Simplex car and track jacks. Represented by J. H. Hummel.
- Tool Steel Gear & Pinion Company, Cincinnati, Ohio, Space 882, Building No. 3—Specially hardened gears and pinions. Represented by C. E. Sawtelle, Leroy Brooks, Jr.
- Transportation Equipment Company, New York, N. Y., Space 824, Building No. 3—Registering fare boxes. Represented by Robert C. Adams.
- Trolley Supply Company, Canton, Ohio, Space 608, Building No. 2—"Peerless" No. 10 heavy duty base for high speed and interurban cars; No. 5 Knutson trolley retriever; "Star" trolley base; "Ideal" trolley catcher; semaphore headlight. Represented by J. E. McLain, Joseph Hollis.
- Under-Feed Stoker Company of America, Chicago, Ill., Spaces 437-439-441, Aquarium Court—"New" Jones high duty, self-cleaning, entirely automatic, mechanical stoker. Represented by Chas. S. Crowell, D. Hunter, Jr., W. T. Jordan.
- Underwood, H. B., & Company, Philadelphia, Pa., Space 521, Machinery Hall—Portable cylinder boring bar set up ready for operation in a small cylinder; portable crank pin turning machine set up on a crank in operation. Represented by D. W. Pedrick, second.
- United States Electric Signal Company, West Newton, Mass., Spaces 547-549-551, Machinery Hall—Automatic block signal, automatic block recording signal, highway crossing signal, "Usesco" rail sander. Represented by Roland F. Gammons, second; John J. Ruddick, William W. Harrington, J. Warren Putnam.
- U. S. Metal & Manufacturing Company, New York, N. Y., Space 609, Building No. 2—"Diamond" steel poles, Wolfe automatic rail joint lock, "Columbia" lock nuts, paints and varnishes, wood preservative, Cunningham axle. Represented by B. A. Hegeman, Jr., Chas. C. Castle, Edw. D. Hillman, F. C. Dunham, H. A. Hegeman, Arthur Masters.

- Universal Safety Tread Company, Boston, Mass., Space 878, Building No. 3—Safety treads, car steps. Represented by F. W. Langford.
- Universal Trolley Retriever Company, New York, N. Y., Space 949, Building No. 3—Universal trolley retriever. Represented by Edward Shapiro, Peter J. Minck.
- Vacuum Car Ventilating Company, Chicago, Ill., Space 835, Building No. 3—Car ventilators, automatic car step lighting system. Represented by D. I. Cooke.
- Van Dorn, W. T., Company, Chicago, Ill., Space 574, Machinery Hall—Nos. 20 and 27 drawbar heads with draft gear; No. 32 MCB coupling with draft gear; No. 31 drawbar head with draft gear; three or four other sizes of the company's standards. Represented by W. T. Van Dorn, H. E. Van Dorn.
- Walker & Bennett Manufacturing Company, New York, N. Y., Space 447, Aquarium Court—Stationary and reversible car seats for city and interurban service; also longitudinal cushions and backs made with steel frames. Represented by Sheridan A. Walker, K. D. Hequembourg.
- Wallace Supply Company, New York, N. Y., Space 960, Building No. 3—Door fixtures, parcel racks, ventilator openers, car trimmings, bronze car trimmings, general line of car builders' materials. Represented by W. Meeteer, E. Metterhausen, C. C. Chapman.
- Warren Webster & Company, Camden, N. J., Space 519, Machinery Hall—Feed-water heaters; steam and oil separators; traps; special vacuum heating system apparatus; air washers (latter in operation). Represented by E. K. Webster, W. F. Bilyeu, E. K. Lanning.
- Watson-Stillman Company, New York, N. Y., Space 819, Building No. 3—Portable hydraulic punch, 3000-lb. telescopic motor lift, 10-ton telescopic jack, 35-ton hydraulic rail bond compressor, section of 30-ton hydraulic jack, "Noscalon" machine for feeding, "Noscalon" boiler water treatment. Represented by Geo. L. Gillon, Edwin Stillman, Frank H. Clark, Robt. T. Weaver.
- Western Electric Company, New York, N. Y., Spaces 637-639, Building No. 2—Telephone sets, including portable telephones and inter-phone sets, transmitters and receivers, selectors, relays, coils, condensers, transmitter arms, line poles and jacks, protectors, batteries, bells and buzzers; car equipment material including commutators, registers, trolley poles, car wheels, headlights, gongs and bells, high tension switches, "Hawthorn" soldering salts and paste; line material, including trolley frogs, crossing, strain insulators; "Electrose" material of many kinds, mounted on display boards and high tension insulators; "Hawthorn" flaming arc and a line of incandescent lamps. Represented by F. D. Killion, J. L. Ludwig, W. R. Lyall, D. C. Guest, R. P. Miller, M. A. Oberlander, E. D. Himan, H. B. Sullivan, R. H. Harper.
- Westinghouse, Church, Kerr & Company, New York, N. Y., Spaces, odd numbers 419-427, 307-319, 219-229, Building No. 1—Copies of booklet "Work Done."
- Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., Spaces, odd numbers 419 to 427, 307 to 319, 219 to 229, Building No. 1—Railway motors, controllers, circuit breakers, repair parts. Represented by S. L. Nicholson, C. S. Cook, C. H. Davis, M. B. Lambert, J. J. Sinclair, W. J. Conwell, Thos. Cooper, H. C. Stier, J. C. McQuiston.
- Westinghouse Lamp Company, Bloomfield, N. J., Spaces, odd numbers 419-427, 307-319, 219-229, Building No. 1—Railway incandescent lamps. Represented by Walter Cary, T. G. Whaling, B. F. Fisher.
- Westinghouse Machine Company, East Pittsburgh, Pa., Spaces, odd numbers 419-427, 307-319, 219-229, Building No. 1—Le Blanc condenser, complete with turbine, motor and air pumps. Represented by E. H. Sniffin, H. Van Blarcom, L. L. Brinsmade, H. P. Childs.
- Westinghouse Traction Brake Company, Wilmerding, Pa., Spaces, odd numbers 419-427, 307-319, 219-229, Building No. 1—No. 5 electro-pneumatic brakes, schedule AMM automatic brakes, electric pump governors, automatic car and air coupler, motor-driven air compressors. Represented by A. L. Humphrey, W. V. Turner, W. S. Bartholomew, J. R. Ellicott, E. L. Adreon, E. A. Craig, R. P. Noble, H. S. Clark, P. H. Donovan, R. E. Adreon.
- Wharton, Wm., Jr., & Company, Inc., Philadelphia, Pa., Spaces 208, 210, 212, 214, 216, 304, Building No. 1—Switches, mates and frogs of solid manganese steel construction and of manganese steel center construction; spring and locking devices for tongue switches; solid manganese steel crossings and manganese steel T- and girder rails, the girder section having been in service nearly seven years. Represented by V. Angerer, L. R. Ashhurst, Jr., R. C. McCloy, H. F. McDermott, George R. Lyman, J. C. Robinson, F. H. Osborne, A. S. Partridge, J. E. McLain.
- Wheel Truing Brake Shoe Company, Detroit, Mich., Space 818, Building No. 3—Abrasive brake shoes. Represented by J. M. Griffin.
- Whipple Supply Company, New York, N. Y., Spaces 880 and 881, Building No. 3—Hedley Anti-Climber, preventing climbing of platforms and telescoping of cars; including heavy and light weight rolled steel sections for interurban and city cars, also combination Anti-Climber drawhead for city cars. This company also represents Tool Steel Gear & Pinion Company, Cincinnati, and the Universal Safety Tread Company, Boston, whose exhibits adjoin. Represented by A. L. Whipple, R. J. Owens, H. F. Stevenson, H. F. Keegan.
- Whitmore Manufacturing Company, Cleveland, Ohio, Spaces 555-557, Machinery Hall—Gear and pinion from the Spokane & Inland Empire system; gear and pinion from Schenectady Street Railway Company; four other pinions; two pinions and one gear from Chicago Railways Company. Represented by S. W. Whitmore, W. M. Lawyer.
- Williams, J. H., & Company, Brooklyn, N. Y., Space 610, Building No. 2—"Vulcan-Bijaw" chain wrench; "Ratchetless" ratchet wrench; track, engineer and car wrenches; lathe dogs; "C" clamps; hooks, etc. Represented by A. S. Maxwell.
- Wonham, Sanger & Bates, New York, N. Y., Space 405, Building No. 1—Electric track switch; "H. B." life guard; Hayes Run fire brick. Represented by F. S. Wonham, Ralph Sanger, H. A. Goode, D. Polderman.
- Wright Wrench & Forging Company, Canton, Ohio, Space 812, Building No. 3—Wright quick-adjustable monkey and automatic wrenches; Stover pipe wrench. Represented by Wm. B. Haight.
- Yale & Towne Manufacturing Company, New York, N. Y., Spaces 542-544, Machinery Hall—Chain blocks, electric hoists, carrying trolleys, cranes. Represented by C. W. Beaver, H. C. Spaulding, R. T. Hodgkins.

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Whipple Supply Company, New York, has spaces 880-881, Building No. 3. This is the first convention at which Mr. Whipple is exhibiting products handled by his own company. He has been in business for himself less than a year, but has already secured a good clientele. The exhibit is novel and interesting. Among the specialties are new light-weight sections of the Hedley anti-climber, for city service, seven inches high, with three corrugations. It was found that the standard section of the anti-climber was too heavy for city cars. A special set of new rolls was therefore designed to turn out sections for city cars. The Boston Elevated Railway has specified this section for 100 city cars; the Indianapolis Traction & Terminal Company for 25 city cars, and the New York & Queens County Railway for 25 city cars. Combination anti-climber drawheads are displayed also. These include types used by the Cincinnati Traction Company, Buffalo & Lake Erie Traction Company, United Railroads of San Francisco, and Public Service Railway of New Jersey. About 5,000 cars are now equipped with the Hedley anti-climber. The Cincinnati Tool Steel Gear & Pinion Company's gears and pinions, for which the Whipple Supply Company is general sales agent, are also exhibited. Represented by A. L. Whipple, H. F. Stevenson and H. F. Keegan.

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J. H. Williams & Company, Brooklyn, N. Y., are in space 610, Building No. 2. Although a newcomer at the convention, this company has a varied and interesting exhibit of drop-forged specialties. On neatly arranged solid oak sample boards are standard drop-forged tools, such as wrenches, hooks, eyebolts, thumb screws, "C" and planer clamps, lathe dogs, machine handles, etc. There is also a working demonstration of mechanically driven chain pipe tools and ratchetless "Ratcho" track wrenches. The latter should appeal strongly to maintenance of way engineers. Represented by Messrs. Maxwell and Whittemore.