

Street Railway Journal

VOL. XXXI.

NEW YORK, SATURDAY, JANUARY 25, 1908.

No. 4

PUBLISHED EVERY SATURDAY BY THE

McGraw Publishing Company

James H. McGraw, Pres.

Curtis E. Whittlesey, Sec. & Treas.

MAIN OFFICE:

NEW YORK, 239 WEST THIRTY-NINTH STREET.

BRANCH OFFICES:

Chicago: Old Colony Building.

Philadelphia: Real Estate Trust Building.

Cleveland: Schofield Building.

San Francisco: Atlas Building.

London: Hastings House, Norfolk St., Strand.

Cable Address, "Stryjourn, New York"; "Stryjourn, London"—Lieber's Code used.

Copyright, 1908, McGraw Publishing Company.

TERMS OF SUBSCRIPTION

In the United States, Hawaii, Puerto Rico, Philippines, Cuba, Mexico and the Canal Zone:

Street Railway Journal (52 issues).....\$3.00 per annum
Single copies10 cents
Combination Rate, with Electric Railway Directory and Buyer's Manual (3 issues—Feb., Aug. and Nov.).....\$4.00 per annum
Both of the above, in connection with American Street Railway Investments (The "Red Book"—Published annually in May; regular price, \$5.00 per copy).....\$6.50 per annum

To Dominion of Canada:

Street Railway Journal (52 issues), postage prepaid.....\$4.50 per annum
Single copies10 cents

To All Countries Other Than Those Mentioned Above:

Street Railway Journal (52 issues), postage prepaid.....\$6.00
25 shillings. 25 marks. 31 francs.
Single copies20 cents
Remittances for foreign subscriptions may be made through our European office.

NOTICE TO SUBSCRIBERS.

REMITTANCES.—Remittances should be made by check, New York draft, or money order, in favor of the STREET RAILWAY JOURNAL.

CHANGE OF ADDRESS.—The old address should be given, as well as the new, and notice should be received a week in advance of the desired change.

BACK COPIES.—No copies of issues prior to September, 1904, are kept on sale, except in bound volumes.

DATE ON WRAPPER shows the month at the end of which the subscription expires. The sending of remittances for renewal prior to that date will be much appreciated by the publishers.

During 1907 the Street Railway Journal printed and circulated 427,250 copies, an average of 8216 copies per week. Of this issue 8500 copies are printed.

Parks and Pleasure Resorts.

Last year two issues of the STREET RAILWAY JOURNAL were devoted especially to the subject of parks and pleasure resorts of electric railway companies. This year we are continuing that practice and this number constitutes the first of the series. An excuse is hardly needed for giving attention at this time of the year to the park situation. Street railway managements are almost unanimous in the opinion that a park judiciously located and properly managed is a valuable asset for the company, on account of the amount of transportation which it produces. Social economists state that there is a marked trend among all classes

in this country toward giving greater attention to recreation and athletics. It is the general concensus of opinion that this is a desirable condition and should result in improved health and morals. Whether this is so or not, the existence of this tendency at the present time certainly cannot be denied. The increasing popularity of the various forms of athletics, as well as of the number who participate in them, and the avidity with which books on nature and wood-lore are read, testify to the existence of a desire on the part of the community to get from city streets into the country, where there is more opportunity for fresh air, exercise and amusement.

All street railway parks cater to this general demand. Many of them do so at a direct loss, when the cost of investment is considered; some about pay expenses, and a few show a profit. Nevertheless, the increase in number continues, indicating that when the indirect advantages of a park are considered, and the profit derived from transportation is added to the deficit or surplus derived from the park itself, a satisfactory sum appears on the right page of the ledger.

In our series of articles this week, accounts are presented of some of the most successful street railway parks in the country, the leading article being upon Big Island Park, of the Twin City Rapid Transit Company. The active campaign conducted by this company in the promotion of traffic was described by Mr. Warnock at the last meeting of the American Street and Interurban Railway Association, in a paper which attracted great attention. Mr. Warnock continues the recital this week by giving in detail some of the results secured last year and outlining in a general way the plans of the company for the coming summer, so far as its pleasure resorts are concerned. In the other articles on parks published in this issue an attempt has been made not only to describe the parks themselves but also to analyze, so far as possible, the factors which have contributed to their success. Other contributed articles give experience derived from park operation. Accounts of some of the new attractions for park resorts follow.

One of the most common forms of entertainment at street railway parks is the theatrical performance, generally taking the form of vaudeville, but sometimes embracing more elaborate productions. A very large proportion of the population of every city attends theatrical performances, so that during the heated season, when a closed playhouse would be almost unthinkable, the open theater, with its light form of attraction and low price of admission, appeals strongly to the amusement loving public. A few years ago only a few of the street railway parks attempted to stage any sort of a performance, but many companies are now making quite elaborate theatrical plans for their summer season. It is needless to say that a great deal of money can be sunk in this way unless care is taken. It is almost a truism, also, that performances which are successful in one

city often meet dismal failure in another, for no apparent reason. By-and-large, however, the summer theater has proved sufficiently successful to warrant the large investments which are being made in this direction by street railway park managers.

Some of the results of combining the amusement and transportation business have their humorous side. The modern superintendent or manager is forced to become an expert upon the latest theatrical novelties as well as upon the newest types of rolling stock, and should know equally well which variety will best suit the public to which he has to cater. He finds upon his desk requisitions for glass target balls, billiard cue tips and balloons, sorted in with those for trolley harps and strain insulators. The purchasing agent is expected to know the current prices on wild animals as well as on railway motors and to be as prompt to recognize flaws in sarsaparilla as in steel rails. Seriously, however, the park has come to stay; it has become recognized as a legitimate direction for effort on the part of a street railway company and one which repays for the energy put upon it.

Order at the Park

While street railway parks vary greatly in size, design, and the expense of the attractions offered there is almost universal agreement upon one matter, it is unwise to cater to any except the most orderly elements in the community, and that the sale of alcoholic drinks should be prohibited. It appears settled that the resort which attracts the women and children will bring the men too; and the latter will behave with more decorum and spend more money for sensible entertainment than they would at a "stag" picnic.

The policy of keeping liquor off the grounds should not only mark the inaugural year of a park, but be continued despite tempting offers for the bar privilege. Recently the manager of an Eastern railway park which had established a fine reputation for popularity during its first year of operation was offered \$5,000 for the sole right to sell liquor in the park for one season. The size of the bait can be imagined when one considers that the amount mentioned equals 50,000 admissions in a district where not more than twice that number are likely to visit the resort in a four-months' season. This offer was promptly refused. The liquor man was courteously informed that the railway company had no desire to see its park business ruined in one or two seasons for the sake of a short extraordinary profit; it was in the amusement field to stay and vastly preferred to make a smaller profit indefinitely with the satisfaction that it was establishing a reputation of orderliness for its property.

Aside from building up a highly desirable class of traffic, the total-abstinence park costs much less for policing and the danger of accidents on crowded home-going cars is greatly diminished, because of the absence of rowdies.

Depreciation

This topic has been discussed so frequently at recent street railway meetings that the presentation of the subject by Mr. Duffy, published on another page, will prove of interest. To many companies depreciation signifies simply an intangible shrinkage in property values, which is partly counterbalanced by a more or less liberal inclusion of the

cost of renewals in operating expenses, and that any further deficit is more than made up by increases in the value of a property through the growth of the city in which it operates. It is undoubtedly true that any consideration of depreciation should include a concurrent regard for appreciation where any exists, but to assume that the two always balance is unwarranted.

The rapid development of the industry has complicated the situation in two ways. In the first place replacements have nearly always involved the introduction of such better apparatus or material than that discarded that it has been looked upon, and rightly to some extent, as a legitimate charge to capital account. Again, much of the original material has not been in use long enough yet to wear out. A period of twenty years would cover the construction of more than ninety-five per cent of the street railway mileage in the United States and ten years that of practically all of the interurban mileage. Without looking forward to the time when renewals and replacements are inevitable, low rates have been established which now will pay interest on bonds and dividends on stocks with ordinary maintenance charges included in operating expenses. With no adequate depreciation reserve set aside for future expenditures the day must come when the cost of renewals will have to be met out of the surplus available for dividends or even the prior obligation of bond interest.

If any railway manager doubts the reality of depreciation let him employ an engineer to make a valuation of the physical property under his charge and compare it with the cost of construction. Probably not one road in the country which has been in operation for more than five years could show a present value of more than eighty per cent of its replacement value, and most of them would fall below seventy per cent. On the Milwaukee Electric Railway & Light Company, where the principle of depreciation has been recognized and provided for by a liberal depreciation reserve for the last ten years a tentative valuation of the property shows a depreciation of 20 per cent. In other words, one-fifth of the original capital invested has been used up in service in spite of liberal maintenance and deductions from net income for depreciation, with nothing to show for it but the good-will of the company as an operating property. In his paper on depreciation, Mr. Duffy outlines three ways in which a depreciation reserve can be maintained, and points out that it should be an actual fund invested in interest-bearing securities. He also describes the practice of the Milwaukee Electric Railway & Light Company, which has paid especial attention to this subject.

Heating and Ventilation Again

The solution of the problem of the proper method of heating and ventilating electric cars seems to be practically as far away as ever, if one is to judge by the results of such efforts as are evident to the frequent user of electric cars of various classes in different parts of the country. To be sure, the problem is a hard one. The conditions are bad especially for ventilation. Practically the only constant in a given case is the size of the car, and that size is small in proportion to the number of persons contained, even if the room were a stationary one. Moreover, the

speed, which affects both temperature and ventilation, is not constant. Even the average speed, including stops, varies at different periods of nearly every run. During some portions of the trip the doors are opened and closed more frequently than at other times, while the number of persons in the car is constantly changing.

These conditions, especially the variable ones, obtain to a greater degree on city and suburban runs than on interurban runs, and tend to make any constant heating and ventilating arrangements impossible. Changes must be made in both, from time to time, to suit the variation in conditions, if anything approaching a satisfactory solution is attained. The responsibility for making these changes in arrangements falls to the conductor, who acts either upon his own initiative or upon the complaint of a passenger—in either case the results are more likely to be wrong than right.

The conductor's duties require him to be in and out of the car at intervals, and on this account, if the weather be cold, his natural tendency is to keep the car warmer than is necessary. His frequent excursions into the outside air also render him careless or incompetent to judge regarding proper ventilation. This is particularly the case on interurban runs, where conductors have more direct control of the heating, and also do not, as a rule, dress so warmly as do city conductors, who spend more of their time out of doors. The conductor's natural tendency is consequently toward uneconomical heating and poor ventilation. The secondary influence on his heating and ventilating arrangements is, as has been said, the complaint of a passenger, and unfortunately for the majority of the passengers, it is generally the invalid or the crank who makes such a complaint, which generally results in a car too hot or too cold, with too much or not enough fresh air for general health or comfort. This also happens more frequently on interurban roads than on the usually short city runs.

It is not the intention to discuss here the various appliances which have been devised for the heating and ventilating of cars. The heating appliances in general use are probably as satisfactory as the general design of cars and conditions of their operation will allow. The common ventilating devices are, however, far from satisfactory, generally being simply some arrangement for opening transoms at the top of the car. Unless a great deal of care be exercised, the opening of such a ventilator results in a strong draft of cold air apparently concentrated on the back of the neck of one or two passengers, with little benefit to the rest of the car. The form of transom hinged at one end is, of course, a great improvement over the one hinged on a horizontal axis, but a wrong manipulation of even the former may produce quite wrong results. Something radically different from the present method must be used before ideal ventilation is obtained.

In the meantime, while we are forced to use the present crude appliances, can we not greatly improve conditions by a more rigid instruction of conductors in this matter? There is not so much opportunity for improvement in conditions on city cars on account of the extreme variability of the conditions affecting the problem; on the other hand, the average passenger haul is shorter, and consequently the need for improvement is not so pressing. Where pas-

sengers are carried in one car for periods of thirty minutes, an hour, or even two hours or longer, runs that are becoming more and more common in interurban work, however, there is great need for improvement. On such runs the speed is nearly constant for a great part of the time, the car doors are opened infrequently, and there is apparently no excuse for the abominable conditions so frequently found. Use thermometers, good thermometers, and place them in the car intelligently. Use a type of ventilator which does not permit a strong draft of air to strike directly down in one current. Instruct conductors thoroughly and carefully in a sane method of using the heater and ventilators. Such tactics will result in far better conditions on probably a large majority of interurban cars of the country. Not only will traveling "by electric" be better appreciated because more comfortable and healthful, but a considerable saving in coal for car heating should also result, in many cases.

Encouraging Trainmen to Visit the Shop

On many electric roads the trainmen are seldom seen inside the shops where inspection and repairs are made. Close relations between the subordinates of the operating and maintenance departments are not easily maintained on large systems, and even in small companies it is not always easy to get the men to take an interest in one another's working conditions. There ought to be some way, however, of giving the men on the cars the direct benefit of the lessons which the equipment teaches to the men in the shop as it is brought in off the road. On the other hand, it would also be well if the shop force could be made better acquainted with the way certain adjustments of the rolling stock affect the easy handling of the cars on the road.

In most cases it takes some little time to bring any better way of handling equipment to the train service men's attention, especially if the system is a long one. Certain routine orders and bulletins must be issued as a result of conditions which may have been for a long time apparent to the shop force, but which have been gradual in their approach to the master mechanic's attention. There is no question that where conditions permit the friendly interchange of ideas between the trainmen and the shop force much good may result. Of course, there must always be some centralized operating authority to issue instructions to either department, but the need of these instructions can be lessened by encouraging trainmen to get in touch with shop conditions periodically, either through informal weekly meetings with shop department heads and picked subordinates held during the hours of light traffic, by occasional trips to the shop to note the repair methods followed in peculiar or unusual trouble cases, and in any case by the posting of bulletins in the lobbies and recreation rooms giving the causes of conspicuous breakdowns in service, suggestions for overcoming trouble and the like. Although the average motorman or conductor is not expected to exhibit much technical knowledge, many trainmen are quick and intelligent in apprehending the causes of mechanical and electrical difficulties, and as they are on the spot when breakdowns occur, their testimony and suggestions ought to be more generally secured.

THE STORY OF BEAUTIFUL BIG ISLAND PARK AND LAKE MINNETONKA

BY A. W. WARNOCK,
General Passenger Agent Twin City Rapid Transit Company,
Minneapolis and St. Paul, Minn.

Big Island Park, Lake Minnetonka's Resort Beautiful, really had its tryout during the season of 1907. For while the park was opened a short time during the latter part of

as a picnic resort and as a delightful objective for trips from Minneapolis and St. Paul over the two new "Twin City" electric lines. Thus, Big Island really came into its own when the electric lines were opened to the lake.

It is a difficult proposition to lay down a hard and fast rule for creating and operating a successful park. Conditions vary widely in different cases and each park must necessarily work out its own salvation. The geographical location of the park, the length of time necessary to reach



MUSIC CASINO AND PERGOLA, BIG ISLAND PARK

the season of 1906, there was no real definite knowledge of the place on the part of the public until the past year.

The history of Big Island Park is so unique and so many amusement managers as well as electric railway companies are watching its development that the story of our season for 1907 may prove interesting, and the facts are here given in response to an invitation of the STREET RAILWAY JOURNAL to tell how we got along last year.

For something more than forty years Big Island, located

it, the rate of fare and many other conditions are matters of such variation that in the last analysis each park's own success must be developed from its own experience.

Big Island Park is twenty miles from the city of Minneapolis and thirty miles from the city of St. Paul. I believe we have one of the most superb electric lines in the United States leading from the Twin Cities to Excelsior on Lake Minnetonka. We have double tracks of 80-lb. steel rail laid on a perfectly ballasted and graded roadbed, and over



A PICNIC PARTY AT BIG ISLAND PARK

in the larger part of lower Lake Minnetonka, and situated from the shore a distance varying from one-half to two miles, has been a particularly attractive isle of greenery for the many tourists who have visited the lake. However, its solitude was undisturbed and no attempt was made to prepare it for the picnicker or merry maker until 1905, when sixty-five acres of the most desirable part of the island were purchased by the "Twin City Lines" for development

this line our cars speed along at a mile-a-minute clip with ease. Of course, within the city limits we necessarily have to run slow, but the fourteen miles from the city limits of Minneapolis to Excelsior have been made as fast as fifteen and one-half minutes, so that distance is not necessarily a handicap. Nevertheless, it takes forty-two minutes to go from the center of Minneapolis to Excelsior, and ninety minutes from the center of St. Paul to Excelsior. The

trip is a delightful one through the woods, beside the brooks, across the creeks and by the lakes for which Minnesota is so famous. The ride is invigorating and refreshing and altogether invites the traveler to repeat it again and again.

On arrival at Excelsior passengers are unloaded at the dock station and board ferry boats for a two-mile trip to Big Island Park. This dock station is very conveniently arranged for a loading station, and it is at that point that cars connect with the entire fleet of boats operated by the

p. m., the amount of business they carried to the park was small as compared with the business that moved in the daytime. It can readily be seen that the time taken to go to the park and the time taken to return home would cut out the good part of the evening. So we can hardly hope to develop much evening traffic from town.

When we first opened Big Island Park we thought that the steamboat ride between Excelsior and the island might prove to be an argument against people going to the park in any considerable numbers, but last year's experience



FERRY BOATS PASSING NEAR BIG ISLAND PARK

"Twin City Lines." Six fast express boats carry cottagers to all points around the lake; three excursion boats do a special tourist business and three double-end, double-deck, side-wheel ferries, modeled on the lines of the Jersey City-New York ferries, perform a shuttle service to and from the park. It is only sixty minutes' trip from Minneapolis to Big Island Park and a little less than two hours from St. Paul.

Last summer we handled the majority of picnics con-

taught us that, for the most part, people enjoyed the ferry trip. Considering that it is only twenty minutes each way between Excelsior and Big Island Park, that the boats are roomy, staunch and safe and do not steam far from land at any time, this part of the trip appealed peculiarly to many patrons who would not care to make a longer water trip. During the week one ferry boat performs an hourly service between Excelsior and the park. During the rush hours of the day an extra boat is put on. On Sundays and holi-



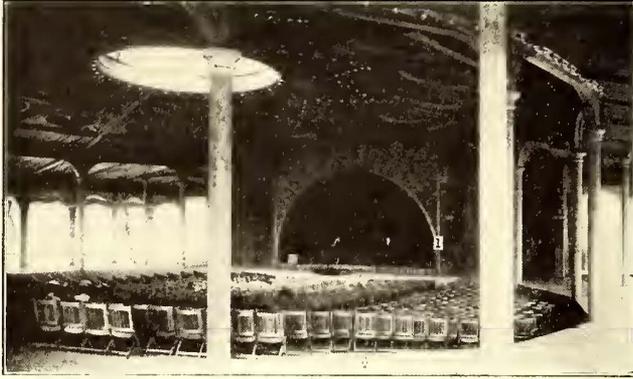
WALK FROM FERRY DOCKS TO WATER TOWER AT BIG ISLAND PARK

ducted by Minneapolis churches, Sunday schools, lodges and special parties, but owing to the fact that we had not yet put on through cars from St. Paul, the amount of business from that city was limited. We discovered that Big Island Park is essentially a spend-the-day picnic resort. Most of our business leaves Minneapolis before 10 a. m. It is either a question of going out before 10 o'clock and returning to the city about 6 p. m. or leaving the city about 2 p. m. and returning to the city about 11 p. m. Although our "Excelsior Limited" cars left Minneapolis as late as 7:30

days the three ferries furnish a twenty-minute service throughout the day and they have all they can do to take care of the business on that schedule.

With the intention of making Big Island Park strictly a family resort and a place to enjoy an ideal summer day's picnic, we have expended a great deal of effort to supply enough comforts on the island to make one's holiday pleasant. Still we have not attempted to improve too much on nature. The Almighty made the island and the thoughtful person will take counsel before attempting to improve on

His handiwork. Big Island Park is an island of majestic trees, rolling lawns, knolls and numerous beautiful vantage points from which may be enjoyed a variety of vistas of water and sky, and altogether it is a most unusual resort from a natural beauty standpoint. We have an artesian well 400 ft. deep, furnishing a fine water supply, and we store our water in a steel tower covered with concrete and studded with electric lights. This tower is a close copy of the famous tower of Seville, Spain, and makes an attractive ornament to the island. At the base of the tower there is



INTERIOR OF MUSIC CASINO, BIG ISLAND PARK

a shelter house, and there are attractive walks from the ferry docks to the tower.

Some exceedingly effective architectural features are employed on the island, and of these probably the most novel is the peristyle following the ridge of the island. It is built of concrete and outlined with electric lights. We have excellent modern toilet rooms for men and women, as well as smaller comfort stations here and there throughout the grounds. Four picnic kitchens equipped with ranges and tables and built of concrete are located in different parts of the island in the picnic grounds so that it is possible for



TONKA BAY HOTEL, LAKE MINNETONKA

at least four large picnics to have culinary accommodations at the same time. All the buildings on Big Island Park are absolutely fireproof with the exception of the temporary refreshment pavilion, which we intend to replace at an early date with something more commodious and substantial. There are no more beautiful picnic grounds to be found in all America than those of Big Island Park, and it is proving an ideal place for churches, Sunday schools, family gatherings and parties, young and old, who wish to enjoy themselves amidst the pleasantest surroundings.

The place makes no pretensions to equalling the fatiguing clamor of Coney Island, and the thoughtful mother and father can feel that their children may visit the park with other children and be free from annoyance or improper influences of any kind. The best order is maintained under all circumstances, and last year's testimonials give proof that our painstaking care in this matter was appreciated.

While it is essentially a picnic resort, Big Island Park still has some inexpensive and attractive amusement features sufficiently numerous to add zest to the holiday and answer the question: "What is there to do here?" We have an excellent Figure Eight roller coaster, a carousel, a baseball ground, an Enchanted River, a Trip Through Yellowstone Park, a postal photo gallery and Pennyodeon. The park's main attraction, however, is the \$50,000 music casino, built of steel, concrete and glass, and seating 1500 persons comfortably. During the few weeks of the first season, 1906, we had Innes' band for two weeks, and last year Banda Rossa for five weeks, the Navassar Ladies' Band for two weeks, and "Nelson and His Band" with Twin City vocalists for two weeks. We are about convinced that foreign bands did no larger business for us than good local bands. It seems that band music should be an incidental matter, anyhow, with no charge for it, and I am inclined to think that a good local band, if bands we must have, are about as effective as any. At least that is the way it worked with us, for "Nelson and His Band" from the Twin Cities certainly did as much business in proportion, all things considered, as the other bands. Whether we will continue using the Casino for bands exclusively in the future, or devote part of the time to high-class vaudeville is a question we have not yet settled, but one of these two features will certainly be adopted. A good lecturer once in a while can add to a park's popularity. To have men of the calibre of Bryan or Watterson lecture at a park such as ours would undoubtedly result in securing great numbers of people from surrounding towns who would necessarily have to use our line and our boats, as



A BIT OF THE PERISTYLE AT BIG ISLAND PARK

well as be taken to the Island where the amusement features hold forth. Of course, that opens up the question as to whether it is desirable to go after congested crowds of people or cater simply to an even every-day traffic.

Our regular round trip rate, Minneapolis to the Park and return, is fifty cents; for parties of fifty or more persons, thirty-five cents. St. Paul rates are ten cents higher. We also sell an attractive twenty-five-ride ticket between Minneapolis and any point on the lake reached by our boats for \$4.50, or eighteen cents a ride. These tickets are

used by all cottagers and many transients. It was our experience last summer that we secured a great deal of business in the evening from the many cottagers about the lake, and by a convenient system of boat schedules on all our express boat routes, we enabled cottagers to leave their homes after supper, visit the park, listen to the band concert and return to their homes at a seasonable hour. We secured considerable business from these cottagers at the park, in addition to the 20 cents for the round trip on the boat, which entitled them to entrance to the island.

Early in the spring of 1908 we are going to extend our present line from Excelsior to Manitou, one and one-half miles, and from Manitou we have leased one and one-half miles of an old established steam railroad to Tonka Bay. This is part of the Minneapolis & St. Louis Railroad and we are going to electrify it. We are then going to run through cars from Minneapolis to Tonka Bay, instead of stopping them at Excelsior as at present, although they will continue to make all boat connections at Excelsior. By this move the Minneapolis & St. Louis Railroad, which has been doing a large picnic business will step out of the Minnetonka picnic field and we will have the entire South Shore section to ourselves. We also operate a cottage spur line from Deephaven Junction to Deephaven on the lake, which was formerly a steam line operated by the Chicago, Milwaukee & St. Paul and which we have electrified. This gives us another line to the South Shore cottage colony.

When we make our entrance into Tonka Bay next summer we are going to find several new problems on our hands, which will require solution and which will in many ways fit in with the Big Island Park plan very nicely. The largest hotel at Lake Minnetonka is the Tonka Bay Hotel, located at Tonka Bay. It is some years old, but still is a very comfortable summer hotel and beautifully located. Its management is going to pass into our hands, and we will be prepared to take care of 400 persons under its roof very comfortably. Near the hotel, and part of the hotel property, is a modern roller skating rink, which is a particularly favored resort for the cottagers, young and old, around the South Shore. When we secure large picnic parties hereafter, which will require hot meals, or hotel accommodations in addition to the park privileges at Big Island Park, we will be able to take care of them at Tonka Bay, and, by putting on a boat service between Tonka Bay

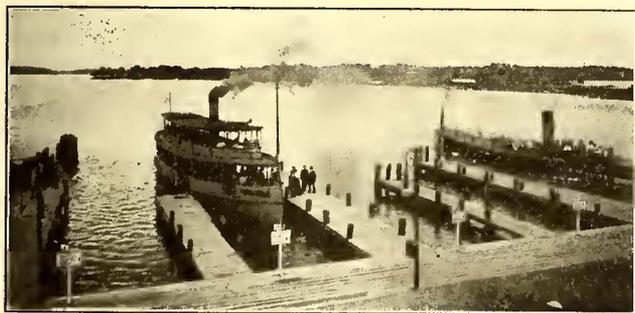
and there are a few of them—will be able to enjoy the car trip to Tonka Bay and play baseball, roller skate, dance and picnic to their heart's content, with everything to suit their taste, and still they "Don't go near the water."

We offer also a variety of other pleasure to the public who take advantage of our car service to Lake Minnetonka from the Twin Cities. We operate what we call "The Forty-Mile Lower and Upper Lake Trip," which can be enjoyed for the small outlay of 25 cents. By leaving



ROLLER SKATING RINK, TONKA BAY HOTEL

Minneapolis at 8.33 a. m. every day in the week during the summer, one can enjoy a fine spin to Excelsior, get aboard a big, safe excursion steamer and journey all over both lower and upper lakes, enjoying their bays, inlets, peninsulas, cottage colonies and the great variety of scenery for which this wonderful body of water, with its 300 miles of shore line, is famous. From 9.15 a. m. until 1 p. m., nearly four hours, one is on the water and steaming all the time. On return to Excelsior at 1 o'clock there is a car waiting to bring the traveler back to the city. We believe there is no better or cheaper trip for 25 cents to be found anywhere than this scenic tour of the lake. A similar trip is made every afternoon. If your time is limited and you prefer a closer inspection of the indentations of Minnetonka's shore, for which the lake is famous, and see its more secluded charms, you can get aboard one of our express boats, of which there are six, and enjoy a round trip ranging from one to two hours for the small sum of 20 cents. We have four of these express lines and they have been the means of educating the people to the lake's beauties in a way that has never been offered before. Of course, the hurried passenger who wants to see it all in the least possible time usually makes the forty-mile trip, but



STEAMBOAT DOCKS AT EXCELSIOR



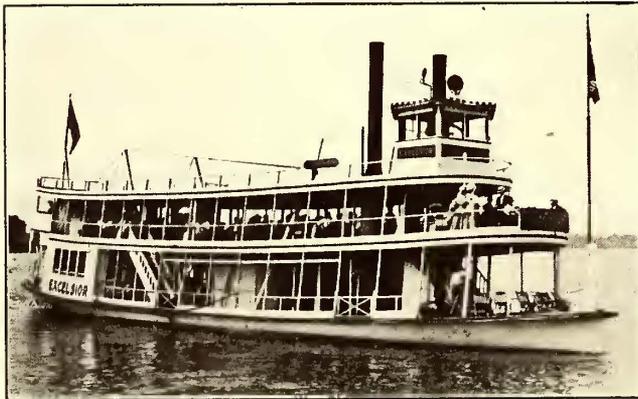
DOCK STATION, WHERE CARS AND BOATS CONNECT

and Big Island Park, we can shuttle our patrons back and forth between the hotel and the island in a very few minutes, and give them all the variety of comforts and accommodations they can possibly ask for. We will thus have the business of entertaining all the transient people we take to the lake, and with the equipment we will have on hand we will be in splendid shape to do so. There are also fine picnic grounds around Tonka Bay Hotel, and those who do not care to make the water trip to Big Island Park—

our express boats have demonstrated the fact that they are splendid feeders for our rail lines, and trailing the shores, as they do, they develop a good "point to point" business.

Now about our fleet of boats which is making Minnetonka so famous. Our twelve boats have a carrying capacity of over 5,000 persons. The six fast express boats—named after cities and resorts on our lines as follows: Como, Harriet, Hopkins, Minnehaha, Stillwater, White

Bear—were built in our own shops in 1906. Like all our other equipment, they embody the latest ideas for comfort, convenience, safety, speed and beauty and are fine types of marine architecture. They were modeled after plans furnished by the most experienced designers of the foremost American shipyards, and every detail of their construction has been considered to make them absolutely seaworthy and comfortable as well as speedy. They are 70 ft. long with 14 ft. beam, have torpedo sterns and are equipped with the finest machinery, insuring a speed of from twelve to fifteen miles an hour. They are fitted up as nearly like our cars as it is possible to make them, with easy spring cane cross seats accommodating two persons each, as well as long side seats for larger parties. Each express comfortably seats 140 passengers. The windows of the express cabins are of the same design as in the cars, providing for the generous admission of the delightful lake breezes in pleasant weather, and these windows can be readily closed to insure warmth and dryness in cold and stormy weather. The three ferries: Minneapolis, St. Paul and Minnetonka, are each 142 ft. long and 39 ft. beam, with



THE FORTY-MILE EXCURSION STEAMER

a capacity each of 1000 passengers. They are new, having been built during the winter of 1906-07. The three excursion boats include the safe, comfortable stern-wheeler "Excelsior," capacity 800, and the propellers "Puritan," capacity 300, and the "Plymouth," capacity 200. These boats are also open to charter to special parties at very low rates, so that excursion parties can conveniently include their own special boat trip with their other ticket and as a part of their day's program.

Big Island Park is going to be a more popular place each year, because we are going to make it so. It possesses all the elements which will appeal to the good, substantial people of our popular Twin Cities in such a way that they will feel a sense of proprietorship in the place the more they visit it. There are a number of things which will come to the park in their own time. We expect to have first class bathing facilities, a new and more commodious refreshment pavilion and some changes and additions to our amusement features. Many of our friends ask for a bowling alley. Many would like us to play up the dancing feature in a high grade way, and still others have requested that we put in a roller skating rink. However, as we will have a thoroughly modern rink at Tonka Bay, we will probably be able to take care of those who desire that form of amusement at the Bay this summer. All these problems will take care of themselves and they will be solved in their own time.

Public sentiment usually settles most questions, even such a matter as running a park, and the careful park manager

will keep his ear close to the ground and his hand on the public pulse in the endeavor to find out the correct thing to do at the psychological time. It is a difficult thing for any one to sit down and definitely say what should be done and what should not be done in any business, and I think as we all grow older we become more tolerant and believe that possibly we may not know the last word, even in the business to which we have been devoting a good many years. Of course, age and experience certainly entitle one to speak more or less with the voice of authority, but in the summer park amusement business particularly it is a difficult thing to foretell what is going to be a success and what is not going to be a success. When such an astute amusement purveyor as Mr. Frohman cannot tell in advance whether a play, however well it impresses him, is going to make a hit or not—and how many times he has discovered after the first one or two acts of a play that he has drawn a blank—how are we going to predetermine what is an absolute success from a street railway point of view and from the public standpoint? The best possible course we can follow for our solution is this: Each company and each park manager must work out his own salvation, and, while being in a receptive mood for advice and suggestions from others who have made successes of parks in other parts of the country, still keep definitely in mind all the time that his public may be a trifle different from some other public and that his proposition may be considerably different from some other proposition.

Applying the same reasonable business rules to your summer park that you would to any other proposition, and following this general policy, it seems to me that each man can solve his own park problem best.

HINTS ON CREATING ENTHUSIASM

BY A PARK MANAGER

Every electric road has a certain fixed population to draw from in the cities and towns and suburban districts along the line. I am referring not to amounts as given in census figures, but to the fixity, the permanency of residence among the greater number of your possible patrons. If a company has an amusement resort which is depended upon to increase materially the riding each year and for years to come, it is to these same people year after year that the company must cater. Hence every effort should be made to secure for the park or amusement ground the reputation of being the jolliest spot in the whole section for providing entertainment or as the objective point of an outing.

It doesn't take long for a reputation, good or bad, to work all the way through the population from which a park draws its patronage. Sooner or later one form of advertising, despite all efforts with ink, will determine the success of the park—the word-of-mouth advertising, or what one person says to another concerning it, or public opinion. The many ways of using printer's ink will inform new additions to the population and the summer visitors what they may expect to see of the beauties of the park and instill in them the desire to go, but once having visited the resort they know just what it has to offer, as the regular patrons already do. A company's main reliance in the way of advertising and popularizing a resort, therefore, after the expectant crowds have been transported there, is to treat them right, so that the park will get a reputation that will hold. If the returning cars never carry a disappointed patron, if they all feel that they have been made the objects of an

effort to please and have had their money's worth, the management has done all that is possible to popularize the place. If the returning crowds are angry and disappointed and bored it won't be long before this tide will prevail against the incoming rush and the resort will see not far ahead the limit of its possible future.

The average fun-follower can take care of himself pretty well and doesn't expect to be mollycoddled with attention, but there are certain ways of steering his enthusiasm into proper—and profitable—channels after he arrives that will give him the fun he is looking for and the company the nickels it brought him there to spend, and at the same time leave him highly pleased with the exchange. That is where the provider of amusement has somewhat the advantage of the seller of prosaic commodities.

A car rolls into the terminal station at the park filled with people. They have come to be amused, and are in the proper mood for it, perhaps a bit eager and expectant. Drag them into the center of it the minute they arrive, and don't let their enthusiasm get cold for want of encouragement. It is hard to overcome diffidence once it takes hold. Apply the theater claque on a large scale to the park grounds. Pretend to ridicule the custom of "warming up" a house as one will; there is nothing really so effective if the artificial means by which it is accomplished are not too evident. No matter how well the stage tries to please the chairs, if the audience is cold from the start everything is going to go wrong, and no one is having a good time. Even with an indifferent show, if some one starts the enthusiasm off with a swing and stampedes the audience into hand-clapping from the first curtain, every one is going to sit up and take notice and at the close will declare the show to have been a fine one.

"Fattening up the house" can be done quite legitimately, and only the manager indifferent to all his possibilities, and the main ones at that, will permit his theater crowd to get "cold." Men connected with the company, motormen and conductors and barn men off duty, are usually admitted free to the theater if the company has a direct part in running it; and they are usually the severest critics and "bromides" of it. Possibly the privilege and their familiarity with it breeds an assumed indifference which would consider enthusiasm as too flattering. They are the ones, however, to whom it is "up" to plunge in and give an expression to their enjoyment. Scattered over the house, their concerted action will carry the whole floor with it, and the theater will have a reputation for splendid shows that even printer's ink won't give it. Their entering into the fun with interest is the main thing; the show itself is really secondary to that. No show will please members of an audience that, overawed by the silence of a large house, have been allowed to slip down into their seats until they are sitting on their collar buttons.

As the people arrive on the grounds see that they are greeted by some evidence that fun rules the place. Don't set them down in the quiet hush of a sun-barred grove; they'll find that later if they want it. Bring them at once into the center of the fun. Noise, and plenty of it—the kind that shows that somebody is finding enjoyment—should greet them. The rumble of the cars on the roller coaster and the dull thunder of the balls in the bowling alley; the sound of music coming confusingly from several directions at once; the enticing harangue of a line of "spielers"; shouts of laughter from the smaller fun-making concessions—all serve to start the excitement that compels them to join in.

Keep the different amusements going somehow. If the merry-go-round stands idle temporarily for lack of sufficient patronage, the park patrons won't demand that it start up; they must be drawn to it. Keep it going and the music playing if you have to put somebody on it free. When there are no cars going around the roller coaster the crowds will certainly pass it by. In some places they even send the cars around empty to keep up the appearance of business that tends to draw the money. A good hearty laugh is certain to draw patronage to the concession from which it proceeds, and in one place that I recall a young woman who had a penetrating burst of merriment always at her command was welcomed to every part of the grounds, for there was always a crowd in line at the ticket booth where her laugh showed that somebody was finding fun. The whole theatrical business is nothing more than simulation, illusion, yes, even a variety of "fake." Its charm lies in the fact that the mask is never dropped for an instant, although we know that it is all deception, so far as fact is concerned. The whole amusement business should partake of this same quality. Only give your patrons all that the printer's ink promised them and then you can use it profitably every time. Providing enjoyment for other people calls for the constant keeping up of appearances. The old king's jester may have had sorrow in his heart, but it could never be read in his face. Keep the same look on the face of the park all the time. There is cold business underneath it all; but a sour face is never much of a lure.

Pull up first all of the "keep off the grass" signs. The people were not invited out into the country to be surrounded with depressing influences. It is only tempting them, by forcing the idea upon them, to do the very thing they are asked not to do. Park crowds won't ordinarily take short cuts through the flower beds. If they start to do so the perky little wooden sign won't hold them back. "Don't bark these trees" conspicuously displayed has been the cause of drawing many a knife from the pocket of an adventurous, fun-loving picnicker who would never have thought of that outlet for activity if it hadn't been so plainly suggested that this was the very thing not to do. Every one likes to test the effect of the "fresh paint" sign; it is an instinct as old as human nature. And if a sign should be posted warning patrons not to overturn the benches or not to climb the flagpole, the park management would have its hands full preventing it. "Rules and regulations" in some parks use up enough square feet of board to provide another concession with quarters.

Police the park and have it well understood that the arm of the law is handy in case of emergency; but the main duty of uniformed guards will be to direct the crowds and answer questions, and they should be made to know that this is a matter of business and an important duty lies in the manner of doing it. An employe who gets surly and taciturn when called on to answer the same question three times in succession should be fired. Cheerfulness is what he is being paid for. Platform men at terminal stations sometimes handle crowds as if they were loading the Black Maria instead of assisting people that the company has invited through expensive advertising to be its guests. Savageness has no part in duties where firmness and tact are called for. Information pleasantly given is so unusual as to create a good impression.

If any signs are displayed on the grounds they should be information signs—maps, schedules, time for leaving of last cars for all points, clocks and direction boards. If the expense does not seem to warrant a spieler at certain points

set up a phonograph to do it automatically; it's just as effective and a good deal more novel. Keep the crowd in good humor by having some things, at least, free. Possibly a big spectacular act, to give them something to look forward to and talk about afterwards, and to focus attention on for the day. Inexpensive souvenirs, like race track tags, are good to hand out to the homegoing crowds. If they have had a good time they will advertise the fact.

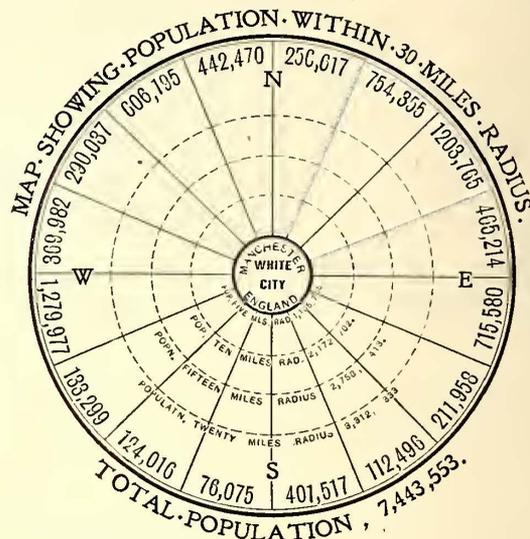
The best advertisement and the one to leave the strongest impression is to start the patrons for home as soon as they are ready to go. Park crowds usually stay until the last minute and then the necessity for getting home at a certain time becomes urgent. If they can be cared for and started for home with reasonable speed the impression of a pleasant day will have been clinched. A long wait in the terminal station, with crowds restless and impatient, will negate whatever good impression has been made. When they are ready to go, take them. That's the best time of the day for speedy and efficient service.

ENGLAND'S FIRST "WHITE CITY."

American traffic managers have long recognized the value of modern amusement parks in connection with electric railways in populous districts, but abroad the railway managements have given the subject little attention. It remained for an American park operator, John Calvin Brown, of Chicago, to prove that the English people are just as fond of the "White City" class of entertainment as are Americans, and consequently that such parks can be made equally beneficial to the lines serving them. Mr. Brown went to England in December, 1906, and after

diagram. A space of 16 acres was secured on the grounds of the Royal Botanical Gardens, which is reached over the city lines for a two-cent fare. On Monday, May 30, 1907, Manchester's "White City" was opened to the public.

That the venture has proved a great success is evident from the fact that within 12 weeks the park had 866,000



MAP, SHOWING THE ENORMOUS POPULATION WITHIN DIFFERENT FIVE-MILE LIMITS OF "WHITE CITY," MANCHESTER, ENG.

visitors. Among the latter were the Lord Mayor and Lady Mayoress of Manchester, so it can be seen that the park has enjoyed some high-class patronage. The park soon after its success became known was also visited by many tramway managers from Great Britain, Ireland and the



A SCENE IN THE FINE PAVILION OF MANCHESTER'S "WHITE CITY." PROVING THAT THE ENGLISH ARE NOT BEHIND AMERICANS IN THEIR LOVE OF DANCING

careful survey of the conditions concluded that the great manufacturing city of Manchester would be a good place for the pioneer installation, particularly in view of the enormous industrial population within a 30-mile radius of Manchester, as graphically shown by the accompanying

Continent, who were anxious to study the workings of this novel enterprise.

In taking up this project the promoter did not think to ask for financial assistance from the municipality which owns the local system. The one privilege asked, that of

placing advertising banners on the cars, was promptly refused. The municipality's charge for power also was so high that it was found advisable to install a private plant of 2000-hp capacity within 60 days before the opening. Difficulties of this character are not likely to occur again, as the railway officials have discovered how much the "White City" has increased their traffic. The Manchester

receipts, it is certainly advantageous from the standpoint of maintaining order.

Great caution was exercised in selecting a list of shows for the park, that no two should be similar, and to insure an assortment which would successfully cater to all classes. These shows are divided into three general classes—illusions, spectacular and motion shows or riding devices. All are equally popular. The admission charges vary accord-



IN FRONT OF THE BOX-BALL ALLEYS AND SKATING RINK; SHOWING ALSO THE MINIATURE RAILWAY ALONG THE LAGOON



THE OBVIOUS CONNECTION BETWEEN PARKS AND STREET RAILWAYS

system carried daily an average of 7000 people for 147 days last season without any complaint from the park patrons. Some days the crowds have numbered over 80,000 and special cars carrying parties of 60 passengers or more are quite frequent. All of this business has been handled on the regular double-track line reaching the park. There is no storage siding, but a split switch near the grounds to give one line past each entrance.

Following the plan of the American parks, there is a general admission charge aside from those for the big

ing to the cost of the show, the expense of operating and its money-taking power, and run from 1 penny (2 cents) to 1 shilling (25 cents). The park is arranged to encourage the patrons to attend many times, to see all the shows, and on each trip to enjoy the bands and free attractions, which are included in the general admission fee, and which are changed nearly every week.

The illustrations of scenes at the park will give a clear idea of both the character of the entertainments offered and their popularity. The dancing pavilion is a splendidly illuminated, roomy structure artistically decorated with



WATCHING THE WATER SPORTS IN MANCHESTER'S "WHITE CITY"



VISIT OF THE LORD MAYOR AND LADY MAYORESS OF MANCHESTER TO THE "WHITE CITY"

attractions. In Manchester this charge is the convenient sixpence, or two cents more than is customary in this country. The grounds are open daily from 12:30 to 11 o'clock at night, instead of remaining open to 1:30 or 2 a. m., as is customary in the large cities of the United States. While the earlier hour tends to lessen the total

potted ferns and bunting. The park contains a central lagoon around which are a skating rink, nine American Box Ball Company's box ball 42-ft. alleys, helter-skelter, rifle range, scenic railway, tour-around-the-world panomara, miniature railway and many other features of the type that have made Coney

Island known everywhere. The quick appreciation the English have shown for this style of amusement really is remarkable in view of their usual conservatism. The entrances to all shows are equipped with turnstiles which are electrically connected with the office of the manager to enable him to see at a glance just what the takings of all the shows are at any given time.

In addition to the "White City," which was built in combination with Charles Heathcote & Sons, of Manchester,



THE BOX BALL ALLEYS BUILDING AT "WHITE CITY"

Mr. Brown controls "Yorkshire Jungle," Leeds; "Le Jardin de Plaisir," at Paris, and other places. He believes that amusement parks to be popular and profitable in or near large cities should cost between \$350,000 and \$500,000 to permit the installation of enough attractions to keep up the interest of the public. Under European conditions such parks may be expected to attract 5000 to 8000 patrons daily for about 150 days a year. The comparative benefits of an undertaking of this size to street railways are summarized as follows: If three-fourths of the patrons come by trolley at an average fare of 4 cents (2 cents each way), the electric lines receive £9,340 (\$46,680) to £14,960 (\$74,800) per season, with little or no added expense. On the other hand, the park gate charge is only one-third higher and the expense to the park owner is over £20,000 (\$100,000) per annum in addition to investment charges on five times the last-named amount.

Mr. Brown's company is in direct touch with more than a score of probable parks in England and on the Continent, but is unable to undertake them only on account of its present limited staff, and does not expect to complete more than two others for the season of 1908. However, it is securing the necessary managerial assistants to enable the company to open many more in time for the season of 1909.

This spring will see the opening of the Paris and Liverpool plants, in addition to the one in Manchester. The chief handicap has been to secure proper experienced mechanical and show employees. These must be brought from the United States, as the business is too new in England to have created men with ability in these departments.

The street traffic officials abroad seem to be quite alive now to the value of parks, and the company is con-

stantly receiving inquiries from this source, to which it is attending as quickly as possible.

The "White City" in Manchester is managed by A. Ellis, to whom thanks are due for the illustrations and notes embodied in this article.

PARK OPERATION AT FORT SMITH, ARK.

Considering the population of the city in which it operates, the Fort Smith Light & Traction Company has gone rather heavily in the amusement park business. Fort Smith has a population of about 15,000, yet the cost of the park improvements, exclusive of the land, is in the neighborhood of \$75,000. The company's policy with respect to park operation was adopted simply because the earlier experiments showed the park to be a paying investment.

The resort operated by this company, known as Electric Park, covers 110 acres and is located about $3\frac{1}{2}$ miles east of the business section of Fort Smith. It is reached by two car lines, and during the park season, a 10-minute schedule is run in the mornings, while in the afternoons and evenings a 5-minute schedule is maintained. Of the 110 acres, 54 on one side of the car line are devoted to a general amusement park and the remaining 56, which are heavily wooded, are used as picnic grounds.

Moorish architecture has been imitated in the construction of all of the park buildings. The largest on the grounds is the auditorium, which measures 240 x 110 ft., and has a seating capacity for 2,200 people. It has a fully equipped stage 70 x 40 ft. in dimensions and a proscenium opening 30 by 33 ft. The stage is equipped with 15 sets of scenery in addition to the drops, and is surrounded by 16 dressing rooms.

The cafe and dance hall is a two-story structure near the park entrance. The restaurant occupies a considerable



AUDITORIUM OF ELECTRIC PARK, FORT SMITH, ARK.

portion of the lower floor. The remainder is devoted to smoking rooms for gentlemen and reading rooms for ladies, in all of which are kept on file the daily newspapers and current magazines. The upper floor contains a dance hall 60 x 90 ft., and this opens out on broad balconies at each end of the building. The hall is provided with eight ceiling fans and a piano. A semi-circular band shell is used for open air concerts Sunday afternoons and nights. The grounds also contain a penny arcade, refreshment stand, rest cottage for ladies and building for the park superin-

tendents. A greenhouse has been built to care properly for flowers during the winter season.

The park has its own sewer and water system. Water is supplied from two deep wells by motor operated pumps. There is a total of 5600 incandescent lamps used in illuminating the grounds and buildings. Current for these, as well as for the motors on the grounds, is supplied from transformers located in concrete pits under the buildings. The picnic grounds are provided with lawn and circle swings and small shelters.

The park is kept open from May 1 to the middle of October. Colored people have a park of their own and are not admitted to this. No intoxicating liquors are sold on the grounds. The admission is free. All the features, except the penny arcade, are handled by the company.

The theater is the chief source of revenue in the park. During the park season performances are given every evening and Saturday and Sunday afternoons. The prices are 10, 20 and 30 cents, and it has been found that the highest-price seats are in greatest demand. Seats may be reserved at the downtown office. The highest class of amusements pay best. Vaudeville features are furnished by the Western Vaudeville Association. The company maintains an orchestra of six professional musicians at a permanent salary. All stage hands and ushers are also kept on regular wages.

During the present season, the theater was closed in with the idea of giving performances throughout the winter. Heat is furnished by natural gas. The company put on a stock company of its own, which ordinarily plays every

During the summer season, the grounds are turned over to the chautauqua association free of charge for a period of 10 days. Meetings are held in the auditorium and the other buildings are used for smaller assemblages. The



● CAFE AND DANCE HALL OF ELECTRIC PARK

company gets its returns from the traffic induced. In a like manner conventions of various kinds are tendered the use of the grounds. Newspapers, billboards and special cars are utilized to advertise the park.

Carl Berry, as amusement manager, devotes all his time



ENTRANCE TO ELECTRIC PARK, FORT SMITH, ARK., WITH THE CAFE AND DANCE HALL IN THE BACKGROUND

night, but at intervals gives way to larger attractions. Fort Smith is a midway point between Kansas City and Texas, and because of its location many of the larger theatrical companies can be secured which would otherwise consider Fort Smith too small a town to stop in.

to the operation of the park and the financial success of the park is no doubt largely due to the fact that one man gives all of his attention to it. J. Walter Gillette, as general manager of the railway company, has general supervision over the park.

BUSHKILL PARK, EASTON, PA.

Making a park attractive is not half as difficult as to make it profitable; the first requires only the faculty of selecting what is known to be the best liked by the average inhabitant, but the second demands careful figuring to estimate with a reasonable degree of success that the greater

advisable to turn it over to a lessee for a nominal rental. The land, covering 17 acres, main pavilion and animal cages are the property of the railway company, but all the other structures were put up by the lessee. The question of park accounting, therefore, is very simple, since, aside from advertising, all the railway is interested in is to know how many people are visiting the park. For the latter purpose

conductors carry a park tally slip on which they note on each run the number of passengers who left the car to enter the park.

Although not directly concerned now with the management of Bushkill Park, the Northampton Traction Company carries on an active advertising campaign during the park season in all the newspapers for 20 miles around. All advertising is paid for in cash, in addition to which newspaper men are given free transportation at all times.



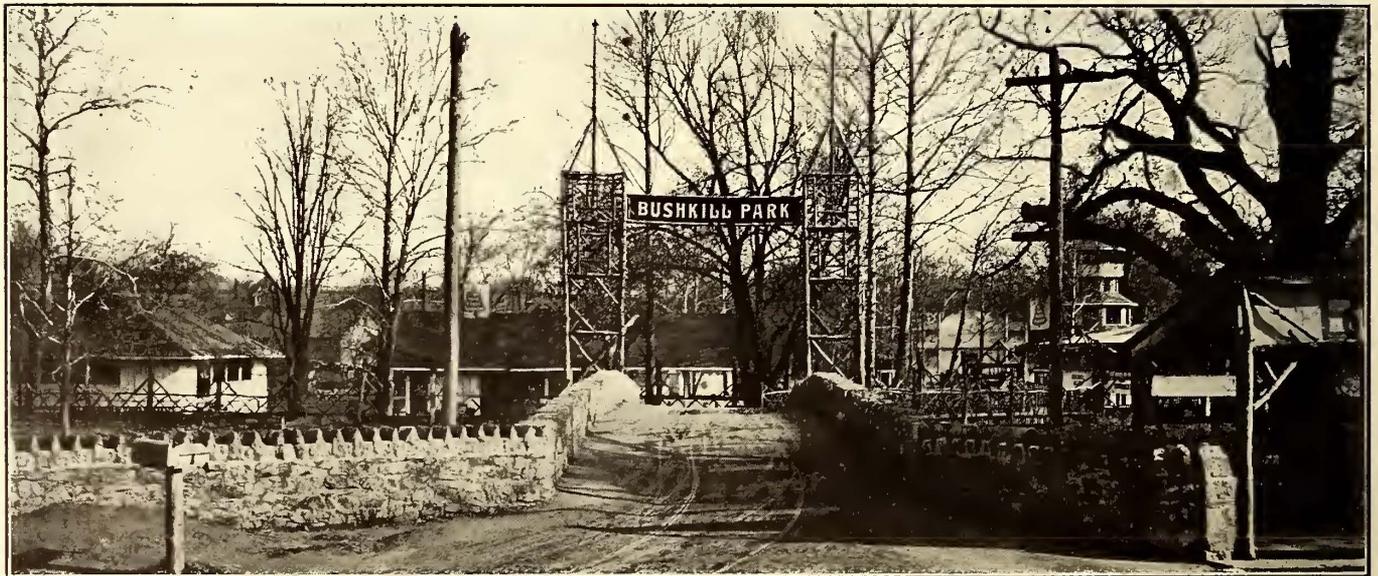
COMBINED SKATING RINK, DANCE HALL AND BOX BALL ALLEY

expense of the more elaborate shows will draw more people in proportion. The whole question really is a matter of population. Should the territory served be populous enough to attract thousands daily, then almost any elaboration is justified, but if the patrons can only be expected in hundreds, reliance for success must be placed on a few simple and comparatively inexpensive features.

Bushkill Park, owned by the Northampton Traction

This liberal policy results in the publication of many favorable reading notices, which frequently are more effective than straight advertising. The cost of this advertising is not entirely chargeable to the park business, as many passengers are so pleased with the scenic beauties offered by the ride on this railway, popularly known as the "Hay Line," that they spend more than the anticipated car fare.

In view of the fact that Bushkill Park is in the heart of



ENTRANCE TO BUSHKILL PARK OVER STONE BRIDGE SPANNING BUSHKILL CREEK

Company, of Easton, Pa., is a conspicuous example of a modestly conducted, profitable playground. The company entered the park business in 1902 by purchasing a wooded island in Bushkill Creek, $3\frac{1}{2}$ miles from Easton, and adjacent to the main line to Nazareth and Bangor. This favorable location made it practicable to give a five-cent fare, and made it unnecessary to invest even a single cent in extra track construction. At first the company managed the grounds itself, but as the business grew it was found

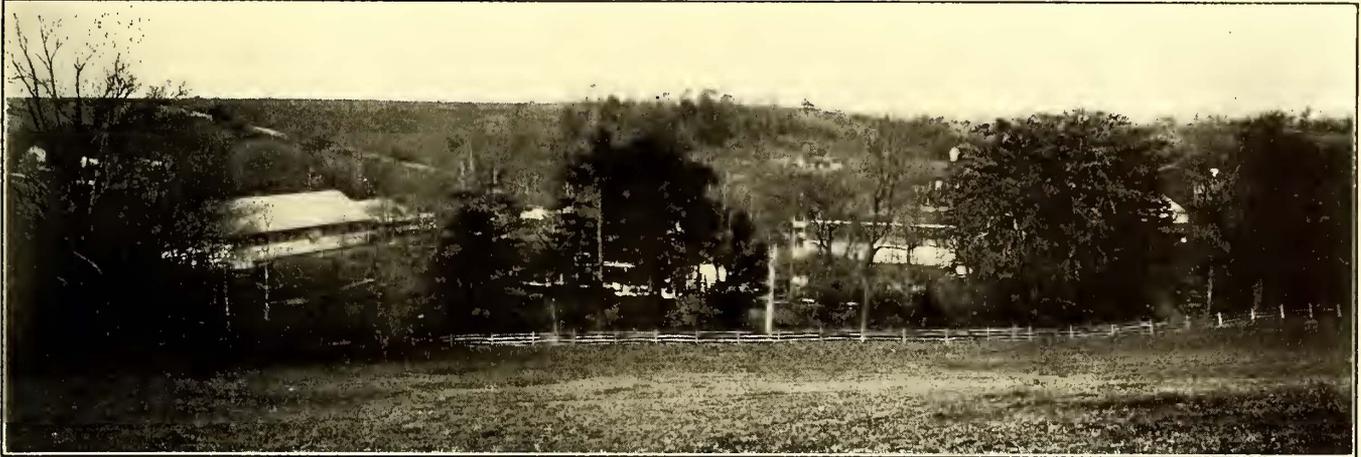
a great manufacturing district, it is worth noting that the grounds are conducted to cater only to the best elements. Gambling and the sale of spirituous liquor in any form are absolutely forbidden, nor is any individual or association permitted to bring quantities of liquor on the grounds. The dancing pavilion is kept closed Saturday and Sunday nights to avoid the presence of roughs. These peace-insuring features are strongly emphasized in the company's advertising, and in the circular letter bidding for excursions

sent early every year to the churches, Sunday schools and other organizations in this district.

The park usually is open from Decoration Day to September, but the glass-enclosed dancing and skating pavilion is kept in operation during October and November, steam heat being provided for the comfort of the patrons. The appearance of the grounds and the general character of the buildings will be noted from the accompanying views. The main building or pavilion is a frame structure used

for two years. At the end of that time, when the present rink was ready, it was found that all the floor needed was a little sandpapering to take off the blackening. The floor is of hard maple, which has shown itself capable of withstanding considerable pounding. Yellow pine should not be used for a rink floor on account of its tendency to splinter.

Another popular indoor feature is the moving picture theater, combined with solo singing. The only charge is

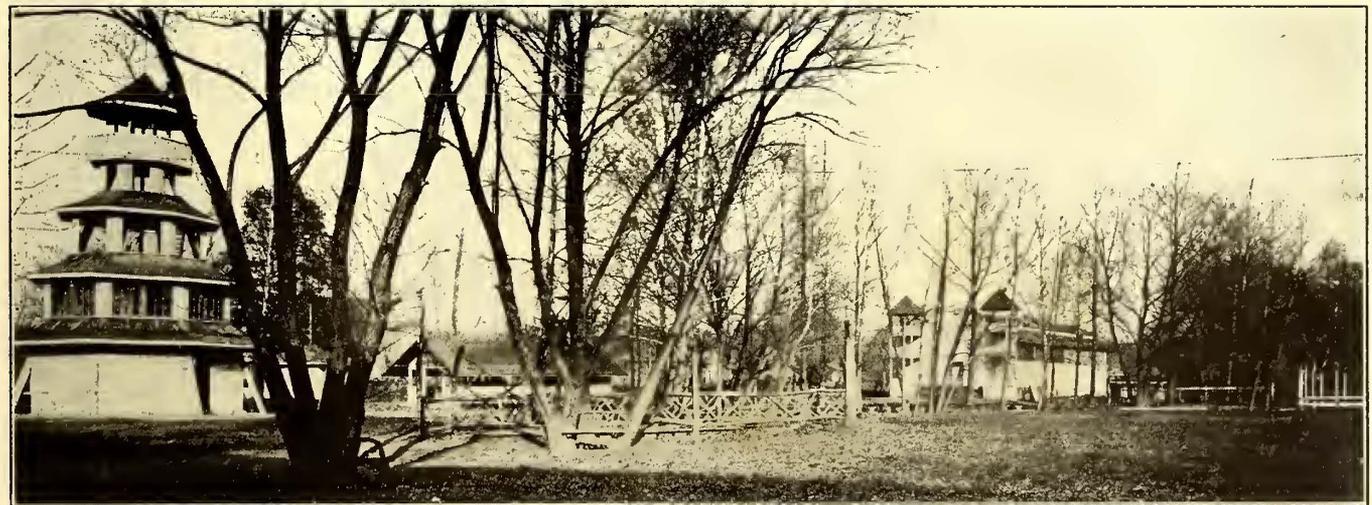


BIRD'S-EYE VIEW OF BUSHKILL PARK ON THE LINE OF THE NORTHAMPTON TRACTION COMPANY

for dancing, roller skating and box ball alleys, furnished by the American Box Ball Company, Indianapolis. The dance hall occupies the upper floor, taking up a space of 60 ft. x 230 ft., and is probably the largest in the United States for the population served. Dancing is free, and one of the most popular pleasures offered.

This company was a pioneer in the roller skating revival, and is still enthusiastic on that subject. A fine rink is maintained on the ground floor of the pavilion, where, for

the nominal one of 5 cents for reserved seats, the rest of the house being entirely free. This performance is given twice a day with reels from the Kinetograph Company, New York. There are also a penny arcade, restaurant and rifle gallery. The children are well looked after by a carousel, pony rides, May-poles, swings, see-saws, sand piles, etc. The menagerie is also an attractive feature, with its goats, deer, rabbits, birds and three large cages of monkeys. The latter are secured from William Bartels,



PAGODA AND OTHER BUILDINGS IN BUSHKILL PARK

10 cents, patrons may skate just as long as they like. Some 400 to 500 pairs of skates are kept on hand. All of these are Winslow's ball-bearing type, which have been found very satisfactory for this rink service.

Some park managers have complained that a drawback about the skating rink is that unless one risks constructing a separate building for the sport, the dance floor is sure to be ruined. This has not been the experience at Bushkill Park, where the present dance floor was used for skating

a New York animal dealer, under an arrangement whereby 50 per cent of the purchase price is returned for every monkey sent back alive. The little simians are very liable to consumption, and it is therefore not advisable to keep them in the open except in warm weather. This rebate arrangement has proved entirely satisfactory, as it relieves the company of caring for the animals the rest of the year.

Naturally boating is a popular pastime here, as there is no lack of water and attractive spots to row to. Steel

boats, made by the Michigan Steel Boat Company, of Detroit, are used exclusively on account of their safety. Drinking water is equally plentiful owing to the presence of a spring of pure cold water in the very heart of the park.

Last, but not least, is the free baseball diamond, which is always engaged weeks ahead. The games held are between uniformed amateurs, such as the local high schools, and a good crowd can always be relied upon to be present when the teams meet.

This company has conclusively proved that a "clean" park, well managed and free from "hurdy-gurdy" and other objectionable features, is sure to meet with success at the hands of the public.

Bushkill Park has some novel features ready for 1908 to please the public which at this time the management does not desire to disclose.

SOME OPERATING FEATURES OF DELLWOOD PARK

The STREET RAILWAY JOURNAL for February 23, 1907, contained an article descriptive of Dellwood Park at Joliet, Ill., which is without doubt the largest and most completely equipped of all the parks operated in connection with an

200,000 and at times there were as many as 20,000 people on the grounds. This attendance, largely from Joliet and surrounding towns, was made up of the best people, as may be judged by the fact that only one arrest was made during the season and this for a minor offense. While at first the attendance was largely confined to Joliet people, during the latter part of the season many patrons were drawn from points distant from Joliet, the attendance being such at the close of the season as to lead the management to believe that the park will be well patronized by residents of Chicago when it becomes better advertised. The time from the city limits of Chicago to the park is one hour, and people of the southwest section of the city are nearer to the park in point of time than they are to several of the popular resorts in the city.

The park company operated practically all of the amusement features, which included a dancing pavilion, an electric theater, laughing gallery, merry-go-round, bowling alley, boats and, during a portion of July, vaudeville. Such features as the photograph gallery, shooting gallery, novelty stands, restaurants and refreshment stands were let out to concessioners on the percentage basis. During the entire season the "Dellwood Band," consisting of twenty-five pieces and permanently employed by the park management, furnished music. Concerts were given every even-



A NIGHT VIEW OF DELLWOOD PARK

electric railway system in the Middle West, representing an expenditure of about \$275,000. It was built and is being operated by the Dellwood Park Company, an organization having close connections with the Chicago & Joliet Electric Railway, and is under the management of J. R. Blackhall, general manager of the railway company. Although the park was open in an incomplete state for a short period during the fall of 1906, the past season, which continued from May 31 to Sept. 31, may be considered its first one. The total attendance during the entire period was about

ing and three afternoons a week. One feature which added to the popularity of the park was the children's playground which was enclosed in a portion of the grove and was fitted up with the old fashioned rope swings, teeterboards, merry wave devices, sand piles and similar contrivances for the amusement of children. No admission fee was charged and a policeman was kept nearby to prevent adults from monopolizing the ground. Although there were at times several hundred children in the playgrounds, there was not an accident during the entire season. In

fact there was not a serious accident in the entire park during the season.

The dancing pavilion was one of the best paying features on the grounds. A charge of 5 cents per dance per couple was made. After each dance the floor was cleared and those wishing to indulge in the succeeding one were re-

quired to deposit a 5-cent ticket at one of the three entrances before being permitted on the floor.

The Joliet Chatauqua Association held its encampment during the first ten days of September in that portion of the park provided especially for this purpose. During this time the International Lyceum Association held its con-

Weather _____

Attractions _____ Dated at _____

	Rate	Number	Amounts	Gross Receipts	15%	20%	25%	30%	Gross Percentage
Theatre	5								
"	10								
"	15								
"	20								
"	25								
"	DH								
Carousel	5								
"	25								
"	DH								
Toboggan	5								
"	25								
"	DH								
Miniature Railway									
Cave of Winds									
House of Trouble									
Laughing Gallery									
Cane Rack									
Shooting Gallery									
Ball Throwing									
Soda Fountain									
Slot Machines									
Cigars									
Candy									
Refreshments									
Photograph Gallery									
Bowling Alley									
Dancing Pavilion									
Jap'n'se Tea Gardens									
Boats									
Grand Totals									

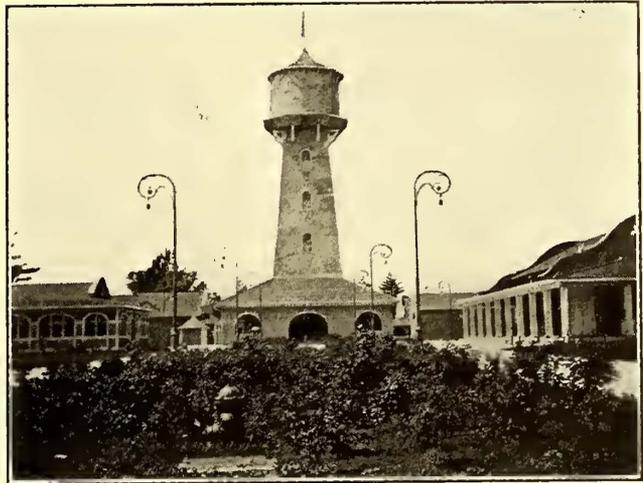
Remarks _____

Cashier _____

Rentals when due to be reported above _____

General Manager _____

FORM OF AMUSMENT REPORT



DELLWOOD PARK TOWER

vention and its members furnished entertainment for the Chatauqua assembly. During the assembly three or four hundred people lived in tents on the grounds. Next year the Chatauqua will be held earlier in the season and it is anticipated the attendance will be larger. Preparations are being made for an encampment of 2000 people. The

DAILY RECEIPTS

ATTRACTION	TICKETS SOLD	RATE	AMOUNT
Scenic Railway			
Laughland			
Merry-go-Round			
Dancing Pavilion			
Electric Theatre			
Vaudeville Theatre			
Boating			
Refreshments			
Pop Corn			
Crack-a-Jack			
Restaurant			
TOTAL			\$

FORM FOR DAILY RECEIPTS

people living on the grounds are usually from the neighboring country districts, and are of a class which would not attend the convention if compelled to live in Joliet, so that no revenue is lost to the car lines by reason of the encampment. The only connection between the park management and the Chatauqua Association is that the management furnishes the grounds free of charge.

During July vaudeville performances were held in the pavilion erected for the Chautauqua meetings. This pavilion was too far away from the other park attractions and as a result the attendance was not large enough to warrant its continuance. It is probable that a theater will be erected near the main amusement avenue within a few years.

As the company has double track lines between the park and Joliet, and between the park and Chicago, no trouble was experienced in providing ample transportation facilities for patrons. On Sundays, holidays and evenings three to five-minute schedule was run out of Joliet. The regular half-hour schedule was maintained between Chicago and Joliet except on Sundays and special days, when the service was doubled. When the service required special cars were

DAILY REPORT OF CONCESSIONS

190

Concessions	Gross Receipts		Per Cent		15 Per Cent		20 Per Cent		25 Per Cent		30 Per Cent		Gross Percentage	
Total														

HEREWITH FIND REMITTANCE FOR \$ _____

AGENT _____

REMARKS:

which played semi-professional teams from Chicago. All the games were well attended and in many instances large delegations of Chicago people followed their team. Thirty-six row boats were maintained on the lake. These were rented for 25 cents an hour, and the fact that there is no

sent out. The park closed at 11 o'clock at night and the majority of the Joliet people usually waited until this time to return to their homes. In anticipation of this the park management kept a number of cars waiting at the park stations.

Dellwood Park Co.
MANAGER'S REMITTANCE SLIP
— 801
DELLWOOD PARK

Feature
..... 190
PARK SUPT'S. RECEIPT

Currency, -
Silver, - -
Gold, - - -
Total,.....

Received above amount,

CASHIER.

Dellwood Park Co.
MANAGER'S REMITTANCE SLIP
— 801
DELLWOOD PARK

Feature
..... 190
CASHIER'S STUB

Currency, -
Silver, - -
Gold, - - -
Total,.....

Cashier:
Herewith find remittance as above.

PARK SUPT.

Dellwood Park Co.
MANAGER'S REMITTANCE SLIP
— 801
DELLWOOD PARK

Feature
..... 190
MANAGER'S STUB

Currency, -
Silver, - -
Gold, - - -
Total,.....

Received package said to contain above amount,

MESSANGER.

Dellwood Park Co.
MANAGER'S REMITTANCE SLIP
— 801
DELLWOOD PARK

Feature
..... 190
MESSANGER'S RECEIPT

Currency, -
Silver, - -
Gold, - - -
Total,.....

Received above amount,

CASHIER.

MANAGER'S REMITTANCE SLIP IN QUADRUPPLICATE

other boating facilities near Joliet was no doubt responsible for the unflagging popularity of boating.

The facilities for picnic parties drew many people from Chicago and distant towns. The picnic grounds were provided with a pavilion, chairs and tables and running water. Coffee could be purchased from the restaurants. Several Sunday schools and societies took advantage of the inducements offered by the picnic grounds and came in large delegations.

To encourage patronage from Chicago a special rate of 20 cents round trip for children and 45 cents round trip for adults was made. The regular fare for adults is 53 cents one way. To societies a chartered car rate of \$25 was made, the car being limited to sixty people. Sunday school picnics were furnished with cars at \$20, with a limit of eighty children to the car.

In a great measure the success of the park was due to the plane on which it was operated. No intoxicating

park. These natural disadvantages were offset by beautiful and artistic buildings, well proportioned, painted in bright colors and beautifully illuminated at night, thus making a veritable fairyland. The park was entirely different from anything the public had ever seen before, and this, supplemented by broad and judicious advertising, made it a success. The fakirs have since built "Luna Parks" and "Fairylands" all over the country, copying most of the faults of the original, even to building on low ground and surrounding the park by a high board fence, but have missed the good points of the first "Luna Park."

In "Dreamland," where there was a fine ocean view and beautiful sandy beach over 400 ft. long, the designers entirely missed the value of these most desirable features, and cut off the view of the ocean with their dance hall and chutes. In this way they sacrificed the one great advantage which they possess over their neighbor and competitor, Luna Park. They seemed to center all their thought and a large part of their funds on an imitation of the electric tower of Pan-American fame.

From what has been said it will be seen that the development of the modern amusement park has been largely accidental—a condition due to the fact that only recently has park design begun to assume the aspect of a legitimate business, but the time is near at hand when its technique will be as well defined and understood as any other business or profession. While there are many minor details that only one who has followed the growth of the amusement park for some time can handle, there are many well-established principles to be followed in building and operating an amusement park which any wide-awake traction manaker can grasp and which will certainly improve his park and increase its receipts.

First, then, we are dealing with the public for the purpose of amusing them when they are looking for fun, instead of transporting them from place to place as a matter of business. Let us see to it then that every visitor to the park has a pleasant time that he will remember and want to repeat, for it is the continued patronage that swells the receipts.

Provide the necessary comforts for the body, including plenty of seats, judiciously placed, and shelter for rainy days, both in the park and at the terminals of the road.

Free attractions should be changed often enough so that the public will not tire of them, remembering that above all things the public is always looking for something new.

The grounds and premises of the park and the concessions should be kept clean and in order that nothing may mar the beauty of the whole effect. Neatly uniformed attendants will greatly add to the attractiveness.

All the attractions of the park and the concessionaires should cater to the better element, that is, the people who have money to spend.

The design and construction of the park itself should never be placed in the hands of amateurs or those who have not made a thorough study of the many special details peculiar to the modern amusement park. It does not follow that a man who can build a chutes or a carrousel knows anything of the art of designing or building a park in its entirety.

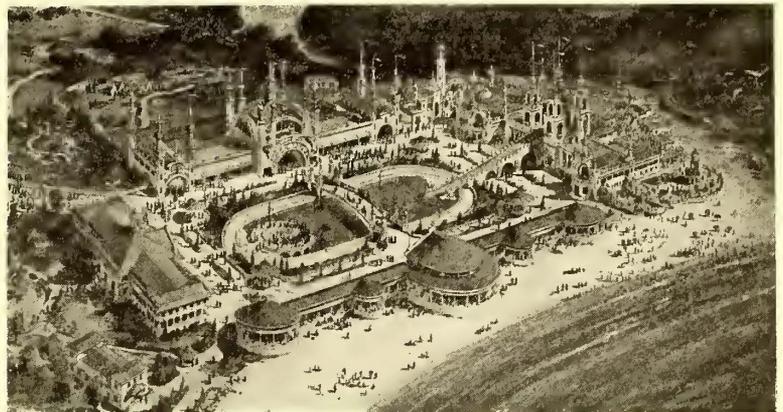
It is needless to say that a swamp is no place to build a park, and no park should be so designed that its fences and buildings shut out the air, allowing only the hot rays

of the sun to beat down on the visitors. Those who have been subjected to this experience are very likely to vow that they will never come to such a hot place again, no matter how good the attractions are.

The success of a park is not due to the number of acres it has covered with unattractive shed-like buildings, painted with streaks of color, each clashing with its neighbor. It is far better to have a small park well designed with properly proportioned buildings than one which depends largely upon its size to impress the public.

Since most of the receipts come from the night visitors, the proper lighting of a park is one of the most important considerations. Lamps of 4 candle-power and 8 candle-power, if used abundantly, will produce better effects than the same amount of power used in larger lamps.

In laying out a park, be sure and make the most of its natural features, for they are the very things that make your park different from its competitors. If one must copy from other parks, he should know whether he is



COURT OF HONOR AT PROPOSED PARK, NEAR NEW HAVEN

copying its successful features or its defects. No amusement park should cover over ten or fifteen acres of ground.

Advertise, advertise and advertise, for herein lies success in park management. A park may be ever so good, but if the public is to appreciate the fact, it must be told, and the fact reiterated in every possible way.

Then there are sure to be the dull days when all the help will stand around with their hands in their pockets and the concessionaires will spend their time in saying unpleasant things about the management. These are the days that should be converted into special occasions for the summer outing of this or that society, lodge or Sunday school. If necessary, contests could be arranged for which the company would offer a few prizes. This plan is worth trying to see if it does not pay.

The accompanying engraving shows a park proposed for Lighthouse Point, New Haven, Conn., and illustrates what can be done in adapting the natural features of a property to the needs of an amusement park. This property consists of seventy acres of rolling land surrounded on three sides by water. The beach front on Long Island Sound is about 600 ft. long, while the rest of the water front is covered with rocks. A large part of the property is covered with fine oak trees forming a beautiful grove to be used for camping. The plans contemplate that the amusement park proper will occupy about twelve acres on the Sound side. The long axis of the Court of Honor lies parallel with the water from which it is separated only by an open colonnade, which not only lets in the breeze,

but also affords a shelter from sun or rain. The chutes are an ornamental feature instead of a disfigurement as is usually the case, and the space under the chutes tower, etc., will be used for bath houses. In this way every part of the structure will be utilized.

Most of the buildings have been designed so that they can be used for several different kinds of shows or attractions, without materially changing their structure; thus providing a change for the public with little expense to the company. The grand stand for the Wild West Show is built over the concession booths, thus saving both space and material, while the isolated booths are made to beautify the whole instead of to detract from them. The beach and the Oriental Gardens afford plenty of space for those who do not care to mingle with the crowd in the Court of Honor or the Midway.

In a park of this design, the element of success is assured, for the comforts of its patrons are well looked after. Comfort, convenience, elegance and pleasure combine to attract its patrons.

VAUDEVILLE IN ELECTRIC RAILWAY PARKS

BY EDWARD P. HULSE.

It is the intention in this article to tell street railway men and amusement park managers who are not themselves showmen a few things in detail about vaudeville in summer resorts. I do not intend this as an "expose" of the business, for there is little to be said along that line, the providing of amusement having moved up to a grade where it is among the solid and legitimate professions. But there are some facts to be drawn from a long experience that may prove useful and instructive to those in control of summer parks who may not have been able to give enough attention to all the details to know just when and where they get the best return for their money and how best to please their patrons.

Almost all electric railways own or run to a public amusement ground, and the majority of these have summer theaters. Generally, the chief attraction on the grounds is the theater. This branch of the summer park industry, as it may be called, has grown with such amazing rapidity during the last few years that even the most alert road manager finds difficulty in keeping pace with its developments and its possibilities as a money maker.

The statement was attributed to the singed cat: "I feel better than I look;" and anyone who has had much to do with the business of providing vaudeville for his summer parks, although he won't be a bit worse off for his experience, will certainly have accumulated quite a lot of it, and he will know just where he got it and exactly what marks and impressions it left.

It is comparatively but a short time since a few enterprising park managers began the experiment of occasionally engaging a few vaudeville features as a special attraction for big days at their resorts or to bolster up lagging business. This was only done as a novelty, and without any idea of providing it as a regular attraction. The results were so immediate and gratifying as to command more attention, and vaudeville soon came to be one of the regular features at most parks and in many of them the most important one. The demand for acts suitable for outdoor performances on the primitive platform stages increased so rapidly that it exceeded the available supply at first.

As a rule, vaudeville is appreciated in almost any park, no matter where situated, whether it be in the mining

districts or in large cities. A frequent mistake of a manager who decides that vaudeville does not go is in forming that opinion too hastily and before he has given sufficient thought and observation to the kind of amusement that his patrons would prefer. Sometimes he arrives at this conclusion too early in the life of his park, and without "trying out" the tastes of his audience thoroughly. Vaudeville is of many kinds and many grades and covers a very wide range of acts calculated to amuse or interest.

A few weeks of minstrel performances or musical comedy productions, given during the course of a season, say ten or twelve weeks long, might also be appreciated by the patrons of most parks. But then again, to play a musical comedy for one week and change back to vaudeville sometimes has the same effect as changing the policy of a regular winter theater, and the story has often been told that it is disastrous. There can be no comparison between the amount of entertainment furnished by a minstrel show or musical comedy as against vaudeville, for if the vaudeville show is properly put together, with careful blending of the acts given, it far overshadows the other forms, unless the musical comedy company be a thoroughly organized one and the rôles in the hands of competent people.

The musical comedy organization, to use a big word for it, that is familiarly seen on the stage of a summer theater is made up mostly of near-actors who are getting their first chance at speaking a part, and whose previous experience has been in carrying a spear or bowing low, upper left, and mouthing: "M'lud, the carriage waits." In other words, while the summer musical comedy company may have no more people along with it than the usual vaudeville bill, there is a better chance for the agency to charge the street railway management a "special price" for that week while really paying the individual members less, and getting a much larger percentage in the aggregate. Too frequently a couple of the actors get the only "salaries" paid and the rest get the "wages" that ambitious longers for experience are willing to accept. A couple of leading parts will "make the show" and carry the banner and the rest will pad out the program with several changes of name and costume.

With vaudeville it is different. Each individual on the bill is there because he can do some one thing, and do it well, and he has to "make good." He is getting all the attention from the audience while he is occupying the stage, and he has to give a good account of himself while using up his eighteen or twenty minutes or he won't get much farther around the circuit. A vaudeville bill comes nearer being an "all-star aggregation" than the more pretentious summer musical comedy company with a pirated plot and imitation stage business, and there is every reason why it should please the park patrons more, as a regular thing.

An audience's applause and observation by the manager of the intentness of their faces are the signs that mark on his barometer the kind of amusement that wins their approval. He should make this his constant study. He can make more in the end by seeing the show himself through several performances than by sitting in the box office or poking around in back of the curtain.

Then again, when a musical comedy is being played for one week, the extra advertising of this change in the usual program entails more expense. Lithograph paper must be used and hung, adding to the cost and work, and when vaudeville is again put on there is a noticeable falling off in the attendance unless the same attention is again given to the publicity end to apprise patrons of the second change and the re-establishment of the customary kind of attrac-

tion. One week of minstrel show or opera therefore involves a double cost on the advertising end, and when the agency has to be paid also a "special price" the receipts-less-expenditures may hardly justify the novelty for that week.

What has been said against musical comedy applies only to the sporadic company introduced for one week into a season of vaudeville and carrying no more members than go with the usual daily bill; and the objection to it is not so much that the audience would not appreciate it if it were really good as that it involves additional publicity for two weeks and generally costs more than a week of the average vaudeville. There are some places where experience has shown vaudeville to be a failure, and where musical comedy is the only thing to which patrons will respond. These theaters have their own stock companies, carefully made up, and with twenty to thirty people on the payroll. Just what it is that causes vaudeville to fall flat in these localities is hard to determine. It isn't always that the population drawn from is used to the high-class winter attractions of a large city, for some of these places draw their entire patronage over electric lines that reach only small cities or towns. It cannot be due to the dramatic and musical education of the population as a whole, for their other opportunities for seeing good shows and hearing the better grade of music are entirely lacking except at the end of a long steam ride. Yet year after year the only attraction that will win the support of these people is a really meritorious production of musical comedy.

As an illustration of this, Whalom Park had its own stock company for fully ten years, and it has been the biggest kind of a success. The Fitchburg & Leominster Street Railway controls it, and its patronage comes out of Fitchburg, Leominster, Lunenburg and Gardner, all in Massachusetts. The mention of these places, all far from Boston and Worcester, shows that it isn't the big winter theaters that have educated the people to respond best to a really fine musical comedy. Canobie Lake Park, in the little village of Salem, N. H., probably named from the better known city in Massachusetts, had a stock company giving musical comedies and operas that are well known and also such extravaganzas as "Jack and the Beanstalk" and "Cinderella and the Prince." The New Hampshire Electric Railways, a high-speed interurban line, brought the entire audience from cities ten to fifteen miles distant—such shoe manufacturing and cotton mill centers as Lowell, Lawrence and Haverhill, Mass., and Nashua and Manchester, N. H.—and surely the quality in the population that made this class of attraction pay was not its dramatic and musical education. Ponce de Leon Park, in Atlanta, Ga., is on a circuit with summer theaters in other southern cities that all season long frequently give good musical comedies and some of the well-known, old-time plays.

In some of these theaters, where this peculiar quality in the population drawn from seems to require something other than vaudeville, year after year the same old round

of non-royalty plays is seen. "Pinafore," "Chimes of Normandy," "Pirates of Penzance," "Fra Diavolo," "Bohemian Girl," follow each other in succession—maybe not with their proper names, but with the familiar old plots and the same stage business and under a new headpiece; and they seem to draw the crowds and win the ardent applause of an audience that would disregard the best of vaudeville bills composed all of head-liners.

But vaudeville, bright and attractive, will always lead in public favor for the summer park as found the country over. This summer will be no exception; but the season is a short one, and if it is to be a paying one and add to the park's reputation for the benefit of following years the man in charge must learn exactly what class of vaudeville his patrons care for, perhaps going on the principle applied to one other commodity of which it is said that "all is good—some better."

It is very often noted that acts of a certain style are light



A FINE TYPE OF INCLOSED SUMMER THEATER, AT CELORON PARK, LAKE CHAUTAUQUA, OWNED BY THE JAMESTOWN STREET RAILWAY

in certain parts. For instance, a talking act (English) would go very well in a closed theater—not meaning by this one that is entirely roofed in, but one where the stage is inclosed, so as to throw the voice over the auditorium—and where they have an audience that understands English. In a district where foreigners compose the greater part of the population, an act like this would positively be a failure. Neither does it do as a platform performance, as the voice is lost, and therefore the manager does not get the benefit of the act, even though it may have been a big success on one of the larger circuits of theaters.

The man connected with the electric line who has the parks under his control should be familiar with the vaudeville business to the extent of being able to tell, when a list of acts comes under his eye, what their grade is, what they do, about what they get and what the public thinks of each act. Some men seem to assimilate this information easily. They follow the business closely enough to read the dramatic papers, learn what circuits acts are billed on, how they stand on the program and how popular they are.

They see a good deal of vaudeville in the winter months and learn all they can about the business by observation and conversation. They get the programs of all the summer circuits and find out what other parks are giving their patrons for the same money that their own road is putting into it, and in many other ways they are able to judge when they are getting about what they are supposed to be paying for.

It is hard for any agent booking these shows from a large central city to tell exactly what kind of acts are required to make this part of the park manager's business successful. It requires the attention of the manager himself to the likes and dislikes of his audience. In the vaudeville world there are certain acts wholly unsuited to certain sections. In parts of the country where there are many foreigners—for instance, the large French-Canadian population that is filling up the mill towns of New England; the coal mining population in certain West Virginia towns; the parts of Pennsylvania where half the words are of German origin; the Poles and Slavs of steel mill towns in Ohio; the Scandinavians of the northern central states—rapid-fire talking acts, straight musical acts, monologues filled with slang and idiomatic English, character sketches, etc., are to be avoided the same as a high-class singer who counts upon technique. In these sections rough comedy, tumbling and gymnastic feats, hoop rolling, barrel jumping, mysterious acts and others to please the eye are the ones to program.

Sometimes a monologist speaking in the language of a majority of the audience makes the biggest kind of a hit, and an animal act is always safe. A word of caution here, parenthetically: Before performing dogs, monkeys or seals are engaged it is a good thing to see where they can be most effectively housed. Lack of this precaution will create an emergency when they are unloaded suddenly at your stage door, and you will have to give up a dressing room to keep them; and in succeeding weeks all performers who have to use the same room will be able to tell you something about your previous attractions for that season.

In illustration of the unfitness of acts to certain localities, it may be said that sketches do not seem to go in New England; the Jew comedian is a failure in the South, because the character is not well enough known there to have the points of his stage business and make-up and accent recognized and appreciated, and it is lost; the coster singer would die flat among an audience that had never heard of Great Britain.

As to what style of act will go best, the selection must be guided entirely by the wants of each locality and to what it is accustomed. This can be arrived at just as a head waiter in a large restaurant who knows his customers and their tastes can satisfy by suggesting certain dishes. It is a matter for the park manager himself more than for the booking agent. In each contract there is a cancellation clause through which an act can be shipped back and one more appropriate put in its place, if it fails to suit; though this is bad business, after the program has been published. It is better for the manager to use his blue pencil, guided by his knowledge of the vaudeville business, when a list is first submitted to him, and to make sure that the agency supplying him knows just the limitations that mark out what is not appropriate for his stage.

Simply because an act is a big hit in one section can be taken as no criterion, for every city and town furnishing the audience for a summer theater has its tastes, the same as the large cities in the winter circuits, where each

manager is permitted to select his own acts, and does so with an exact knowledge of just what he wants. This is even easier in the smaller cities, where the theater-goers are brought into daily contact with each other and have a chance to exchange their views on acts, whereas in the larger cities the inhabitants are in a sense strangers to each other and do not digest the program in the same manner. The make-up of a show must be gone about in the same way that a baker prepares a cake, that he knows, by a certain recipe, will turn out palatable. The make-up all depends upon the section of the country and its requirements being considered.

It is difficult, for this very reason, to give an illustration of what would constitute good variety in the bill. Where there is an inclosed stage for the performance to be given on, the bill should contain, say, a feature act (composed of one or more persons), a comedy sketch team, a dancing team, a monologist or singer and an acrobatic act to open or close each show. This would give the audience a good variety, and it would be easy for the manager to get the opinion of his patrons as to what class and style of acts they care for. Another good test program might be composed of a sketch team, a single singer or soubrette, a musical act with two members, a monologue or eccentric and a comedy acrobatic or animal act.

Comedy and sensational acts are always made the foundation of summer shows.

At a park where there is no stage other than a platform, there should be no talking or singing acts, but the entertainment should be confined strictly to acrobatic (straight and comedy) and sensational acts. Too much stress can hardly be laid on the comedy part of the program, as it is this part that puts the audience in good humor after the show to go and look around the resort in search of other amusement. All programs should have enough comedy, but not too much; it is for the manager to know just how much is enough, and to have that much on his bill. The booking agent cannot help you much here.

In advising the booking agent as to the putting together of a vaudeville show the manager of the park ought to be something of a showman. Even with the best of intentions in the booking office his acts may come to him listed in a way that will kill his whole bill and leave his audience cold. For instance, two dancing acts should not come together; nor should a coon shouter (white) be put on before or after a colored act. Two teams doing comedy sketches should not follow each other. The feature act should not be put in the early part of the program, but should come next to the closing performance. The place for an acrobatic or sleight-of-hand act, such as magic, juggling or acrobatic tumbling, should, as a general rule, be at the closing or opening of the program.

The piano player is a very important part of a vaudeville show, for a good series of acts, with the best of talent engaged, can be reduced to nothing by a poor piano player. He always adds another number to the program by his overture, and if his accompaniments are good the singing act is going to be more of a hit. He can spoil any musical act, and if he has had a quarrel with any member of the company at the Monday morning rehearsal he will be strongly tempted to "rag" the accompaniment, and satisfy his personal "grouch" at the expense of the park and the audience. It is easy to tell when this common state of affairs exists: even those actors most indifferent to any lagging or speeding up of tempo by the piano player will give in to the

extent of dropping an angry glance into the orchestra when they are tripped. The park manager who is "on the job" will be able to see when his interests are suffering. The piano player can add immensely to any comedy act or sketch by his incidentals and "trap" work.

The manager who knows something of the vaudeville business will be able to tell when any single act or team is "cutting." The act may call for a bit of heavy work or a difficult fall, and if the weather is warm and the allurements of the park have already tired the performer he may fake through. Performers getting ready to change their act, and cover the winter circuit with something new the next season, will take frequent opportunity during the summer to "try out" jokes and bits of stage business to see how the applause goes and where the laugh comes in best. Sometimes, though not often, they will "ring in" their whole new act for a rehearsal at your expense. The piano player traveling with them, and who generally acts as a sort of manager, may permit it under certain circumstances. He is supposed to make a weekly report to the agency after each opening Monday as to how the acts are going, and if he is not conscientious or if the park manager is not able to

special pianos, and if the piano player cannot transpose there is going to be trouble.

As a rule, international pitch is the best to adopt, being in general use throughout the winter circuit. All reed, wind and string instruments can adapt themselves to this pitch, and the musical concerns to-day, in making such instruments as xylophones, marimbaphones, staff bells, etc., all turn them out at this pitch. At the same time, a high soprano might prefer the more brilliant tone of the concert pitch. This is also true, say, of a violin or 'cello soloist. The first thing he will do on arriving at the park will be to try the pitch of the piano with that of his instrument, and if he prefers concert pitch (as most high-class soloists do) and your piano is at international, he is going to wrinkle his forehead and genius will be very much disturbed. If the piano player can transpose without too much labor, he is going to do much toward pleasing the performer and assisting to a better number.

The permanent piano player, in addition to his musical duties, can also act as a business manager for the summer theater, so far as the show is concerned. The large agencies, that can assure performers of work for ten to fourteen



A WELL-BALANCED SUMMER VAUDEVILLE BILL

add his suggestions or to make a report direct he may have some "citrus limoneum" on his bill without being able to recognize it.

Very frequently the piano player is made a permanent part of the theater force, and stays there all summer long. In this way he can be of material assistance to a manager in making the vaudeville performances at the park a success. There are many places where such piano players with theatrical experience are engaged from season to season, and oftentimes they become a part of the park management which is practically indispensable. If the "professor" can read and also transpose with facility, so much the better.

The necessity for this latter accomplishment is caused by the different pitch of pianos. Some are tuned to what is known as international pitch and some to concert pitch, the difference being that concert pitch is, say, a semitone higher than international. Most pianos come from the factory tuned to the latter pitch, but tuners have their own forks or pitch-pipes and, unless you specify what pitch you want the piano tuned to, you won't know just what is being done to it. This is a very important matter. I know places where two pianos have to be kept handy for wheeling onto the stage to accommodate different performers. Artists cannot be expected to carry music written for

weeks in summer, make up their bills far enough ahead to be able to send managers the program at least five to ten days in advance. The manner of billing the show for advertising purposes is fully explained, the order of program is given and the scene that will be required. The press notices for the reading columns and photos for display also come far enough ahead, and, where the contract calls for it, the billboard paper, the dasher signs and tack cards, and the fliers, or hand-bills, are sent early enough to be put out effectively. All that is necessary, in some cases, for proper advertising is to adhere to the instructions from the agency. The salary list is sent to the auditor or treasurer of the company on the opening day of the show for that week or the amount is specified as a whole.

The manager of the park should review at least the first performance each week to find out if there are any objectionable parts in the program or whether an entire act is unsuited to the audience, and to notify the act to remove the objectionable part or, if the whole act is bad, to cancel the act. Generally each contract allows of such cancellation. For instance, if you are drawing your audience from a population of a certain nationality, and an act should burlesque that type of citizen too offensively, you would act with judgment if you got it off your stage as speedily as

possible. If the character is only a light burlesque and there is nothing offensive, it might be the strongest sort of a drawing card, especially if some of the predominating language is worked in. Double entendres and doubtful jokes should meet with the manager's disapproval and should be cut.

If an act goes well, the manager should bear it in mind and give it a return the following season, that is, if it is really strong enough to warrant it. He should always remember that it is the public and not himself that he is trying to please and attract to his park, and when a performer or group of performers become favorites they should be re-engaged. It is not policy to play an act for a return date the same season, especially in a small town, for if an act appeals strongly enough it is always witnessed more than once during the week by the devotees, and unless the same performers can return with an entire change the act suffers. Then again, after a date has been played as a return, a similar act that might follow, and would otherwise be a strong favorite, fails by comparison.

A great many parks have found it a good idea, where it sometimes seems hard to draw the public to them, to give what is termed a free act, such as a trapeze or other acrobatic stunt, a high-wire bicycle or balance walking performance or even a balloon ascension. This will tend to draw the people to the park, and after the free act is over will help to fill the theater; as there is always a certain percentage of people who object to paying to see a show, but a large number of those that see a free show will buy admission tickets to the theater.

It is a great mistake for park managers to try and book independently. In the first place, they do not know until their rehearsal is over on the opening day of each week whether they have a show or not. And until the trunks of the performers are actually back of the stage they cannot tell how much telegraphing they will have to do to make up a complete bill with the accustomed number of acts. It is the shortest cut known to heart disease. They positively cannot depend upon a great many of the acts when booking independently. Performers can hardly be blamed for canceling an engagement for one week's work made long before the season starts, especially when they get an offer from an agency working a circuit of many theaters that will assure them ten to fourteen weeks in the dull season. A great many of the troubles of a park manager hinge around the non-appearance of acts booked and advertised to appear, and when he has an agency to depend on he is more certain of satisfaction for the grievance than he would be with only an irresponsible performer to hunt down and punish. All this trouble is done away with by booking through a circuit where special attention is paid to providing parks with entertainers.

It is also a positive fact that acts booking direct with the manager very often demand and receive more salary than they would get if they were booked through a circuit with the agency commission added. A booking agent having a circuit of parks in the locality of any particular park can offer an act several weeks' work, insuring such an act against loss of time, and also cutting down on the cost of the transportation as he can give the exact amount of transportation that it will cost to travel from one park to the next one, thus being able to figure closer and save the park a considerable sum every season on this item alone.

On one circuit of twenty-one summer parks, nineteen of them last season never had to change their program, not having a disappointment or cancellation. When an

agency big enough to book the year around provides the performers for a summer circuit, it is able to insist on the same service that the winter houses get, even if the act is working for the summer at a reduced salary. Such an agency is able therefore to give the summer circuit the same acts that the big city houses get in the cold season, and can provide, with more certainty, a good, evenly balanced entertainment every week, educating patrons up to the fact that they can always depend on seeing a good show free from annoying disappointments, clean and up to date.

A manager booking independently for his park has, as said before, little recourse when an individual act disappoints him. Vaudeville performers belong to one or the other of two organizations—the Comedy Club and the White Rats. But their purpose and objects do not necessarily comprise straightening out tangles between performer and park manager such as arise from the failure of an act to appear. They are both protective organizations, the Comedy Club with a small membership and the White Rats with perhaps a broader one. If a performer "pirates" another's act, that difficulty may be taken to the organization, or if the player has difficulty with a manager that his contract covers there may be some point on which the organization would take action. But the summer park manager's best assurance, when he is booking directly, is to see the express wagon bringing the engaged performers' trunks from the station and to have the people actually on the stage for a Monday morning "run through" with the piano. Until that hour comes he will feel a tightness in his chest.

There is no set price for the cost of a show; it may run all the way from \$250 to \$1,000 a week depending on the size of the patronage and the class of attraction demanded. As a rule, a park in the East will pay from \$250 to \$300 a week for four to five acts, with very often a piano player included, and quite a few go up to \$500 weekly for their vaudeville attractions. There are seldom more than five acts, not counting the overture, and as they run from eighteen to twenty minutes each, this makes the usual afternoon and evening performance in summer about an hour and a half long, giving a park audience a chance to see the other features of the resort while there.

Taking in the country over, most of the summer theaters are roofed. In New England the major portion of the theaters are open to the air. Throughout New York, Pennsylvania, and Ohio, at least, the theaters are covered. This is so in the South also. By covering a theater as well as inclosing it a means is provided of holding up car traffic, on rainy or cold nights, as the people know they will be protected from the elements. Some of these inclosed auditoriums are very well constructed, and a number are exceedingly handsome and attractive. Jamestown, N. Y., East Liverpool, Columbus and Toledo, Ohio, have summer theaters that might even be placed on Broadway with credit.

In the sudden development of the summer vaudeville business innumerable park booking agencies sprung into existence all over the country. This condition was made possible by the fact that the old established vaudeville agencies, whose business was confined to the booking of regular vaudeville theaters that were open from September until June and were closed during the summer months, failed to realize the extent and importance of the summer park business. During June, July and August the agent expected that his business would dwindle to practically nothing, and laid his plans accordingly. The inevitable result of this condition of affairs was that the manager of a summer park found himself besieged with offers from

innumerable agents to supply him with talent, and the experience of some parks in the past has been such as to cast odium on the term "booking agent." Some managers found themselves bound by contract to pay big prices for worthless material, the "talent" engaged being without merit or drawing power.

These conditions have continued to exist to a greater or less extent up to the present day, and the big agencies are just beginning to realize that they have been neglecting or ignoring a most important and lucrative branch of their business. The same process of elimination that has been going on in the big theatrical promoting companies has lately been forced through the centers of supply for summer vaudeville, and it would appear that, perhaps, better things are in store for park managers this season. The big agencies are awakening from their lethargy and are apparently putting forth efforts to be in a position to supply suitable outdoor talent.

It is quite certain that a number of names perennially familiar before the snow was off the ground each season will no longer be heard from, and that some of the heavy-weights in the theatrical ring will go after the business this year, very much to the benefit of the park manager, it may again be said. This action on the part of the big fellows will cause quite an awakening this summer, and a general scramble for business and a readjustment of some circuits along new lines may be expected. When the large concerns that handle the winter business begin to crowd in for some of the profits in this branch of the business it can only result in the establishing of wholesome competition which will work a wonderful change for the park manager and place him in a better position than he has ever been so far as securing vaudeville talent is concerned.

Among the big ones who are already announcing their intentions, the United Booking Offices, in New York, have organized a park department with Jules Delmar, who has had long experience in just this line of work, in charge. The U. B. O., it will be remembered, books exclusively for more than 200 vaudeville theaters, including Keith, Proctor, Williams and Hammerstein houses.

William Morris, the big independent, with offices in New York and Chicago, has started such a special department under the control of William Josh Daly, himself an agent of years of experience.

The New York Vaudeville Company, Harry Kaufman, manager, is strongly in the summer field.

The southern circuit of parks will not show much change, the Wells-Dunne-Harlan, New York, management having given so much satisfaction.

Walter Plimmer, New York, will add to his New England circuit, and take on some new parks in the Eastern states.

The Prudential Vaudeville Exchange, of New York, under the management of W. S. Cleveland, is reported to have up to date contracted to supply ninety-one state and county fairs during 1908. The acts which this agency handles cover the entire field of vaudeville.

J. W. Gorman, of Boston, will, as heretofore, cater especially to the New England parks. He has for years satisfactorily supplied many of the prominent parks in that territory.

J. J. Flynn, of Boston, is another in the New England field.

The Des Moines City Railway Company, of Des Moines, has announced that it will probably establish a health resort on its Fort Des Moines line, where an artesian well was recently struck.

THE NATIONAL AMUSEMENT PARK ASSOCIATION

Street railway men throughout the country have observed, with no small degree of interest, the announcement that the proprietors and managers of outdoor parks have recently formed an association. This new organization, known as the National Amusement Park Association, is not a trust, but is an exchange for ideas, where its members may meet and discuss subjects of vital interest to themselves, securing information as to the booking of acts and the general conditions surrounding park enterprises throughout the country. Indeed, its purposes are best told in the following words taken from its constitution:

The object of the association shall be to secure unity of action, to promote a more friendly intercourse among its members, to adjust differences between them, to diffuse reliable commercial intelligence, to foster business and protect it against unjust or unlawful exactions, to reform abuses, collect statistics and generally to advance the interests of the owners and managers of places of amusement on the North American continent.

Recently, in New York City, a permanent body of officials was elected, the members being: President, James R. Pratt, United Railways & Electric Company, Baltimore, Md.; vice-president, A. S. McSwigan, Kennywood Park, Pittsburg, Pa., and secretary and treasurer, C. H. Oberheide, White City, Trenton, N. J. These are the directors: Len B. Sloss, Luna Park, Scranton, Pa.; J. J. Weaver, Lagoon Park, Cincinnati, Ohio; A. J. Voyer, Altro Park, Albany, N. Y.; A. J. Pizzini, Jr., Idlewood Park, Richmond, Va., and J. J. Higgins, Wonderland Park, Boston, Mass., with Francis B. Lee, counsellor at law, Trenton, N. J., as corporation agent. The New York office of the company is in the St. James Building, Twenty-sixth Street and Broadway.

The need of effective organization among amusement park people has been apparent for a long time, and has become absolutely imperative. Out-of-door parks are a necessity, as is shown by the fact that hundreds are scattered over the country and that \$180,000,000 capital is invested in such enterprises. The close relation that exists between the parks and the street railways, involving matters of cheap, safe and speedy transportation, construction of rural lines outside the city and commuting zones, handling of crowds at entrances, the preservation of good order on cars and at gates, street-car advertising and the establishment of traffic managers' departments, are subjects that are naturally suggested by the community of park and railway interests. In fact, it is fundamentally true that, while the street railways could live without parks, upon the other hand the very existence of the parks depends upon the street railways.

How dependent the parks are upon street railways may be shown in the matter of the refusal or neglect of street railway companies to provide decent park service. Absolute cars, breakdowns, failure to move the park patrons promptly and cheaply will sound the deathknell of the best-managed park in the world. Otherwise the willingness of trolley transportation corporations to do their duty to the public, to the parks and to themselves is a prime factor in the success of those most interested.

The National Amusement Park Association has a wide field for its endeavors. It is the intention of its officers, and particularly of its statistical committee, composed of Messrs. Sloss, McSwigan and Oberheide, also of the directorate, that hitherto unavailable information shall be collected from its members, later to be compiled in card-catalogues and be available for those wishing either general or special information relating to parks. Statistical sheets, containing

forty questions, have been sent to all members of the association. These questions relate to the location, topography and sanitation of each park, method of control and general financial condition, character of population in zone of patronage, transportation, advertising, provision for care and comfort of women and children, excise and Sunday opening, pass-issuing and solicitation for patronage. These are questions concerning the type and cost of attractions most pleasing to patrons, the attractions being scientifically classified under the general divisions of aerial, aquatic, surface races, winter sports, special devices, theatre, music, amphitheatre, shows, parades and carnivals. The theatrical queries deal with light opera, vaudeville, price of admission, physical conditions of house and stage, while inquiries concerning bands relate to percentage or flat price basis of employment. The subject of concessions and character of restaurants, whether American, European or Oriental, are treated at length, as is the matter of fire insurance and season attendance. These statistical sheets are said to be among the most complete ever prepared in this country.

There are a number of extremely interesting lines of work that will be pursued by the association. The organization recognizes that the principle of pleasing the public is based upon furnishing rest and recreation from which a third "R"—revenue—will result. The association will be guided by the idea that parks, to be successful, aside from the element of obtaining the best transportation, must be free from rowdyism and vulgarity, that women and children must be cared for, that good attractions must be offered and that an atmosphere of freedom without license or vulgarity must be prevalent. Such were the conditions existing at the Trenton White City, which Mr. Oberheide successfully managed last summer, and which he, as one of the leading spirits of the new association, believes to be the very life of any park—big or little.

Another very important matter that will be a feature of the association will be the securing of bands, vaudeville acts and other attractions for the members of the association. The primary idea will be that a bureau of information will be established where attractions may be booked and from which names of players and the character of their acts may be sent by circular or by a magazine to all association members. It is not the plan that the association shall control performers, but rather assist them in securing dates and in other ways proving materially helpful to employers and employed.

The association will also take up matters relating to general advertising, the status of the park in the municipality in which it is located, regarding details of tax assessment, the personnel of the local magistracy and constabulary, disposal of sewage, the obtaining of pure water, adornment of grounds, the establishment of an employment bureau and of providing a nurse or competent caretaker for children and the protection of women.

The program of the association is broad, but inasmuch as the organization will not interfere in questions of purely local management, however, offering suggestions upon mooted questions, if desired, it is not too broad to be of great value. There is an opportunity for the growth of the association, which indicates that the organization will become a tremendous power in the outdoor amusement world and wield an important influence in street railway circles, so far as street railways have business relations with parks, whether owned by such common carriers or otherwise.

Mr. Oberheide and his fellow officials are devoting much time to preliminary matters and will have the association thoroughly effective before summer.

CLOSING OF THE CHICAGO WATER CHUTES PARK

The Chicago Water Chutes Park has been closed due to the expiration of the lease of the ground on which the park is located. The ground is owned by the Chicago Union Traction Company, and it will probably be utilized as a building space when the system is reconstructed. The park, which was operated by the Chicago Water Chute Company, was established in 1894 and was moved to its present location in 1896. It was probably the first one established along the lines of what is now generally known as an amusement park. The paid daily admissions at times ran as high as 28,000 to 30,000, although the park would not hold more than 10,000 or 12,000 people at one time. It was a money-maker from the start, and during its twelve years of existence paid more than 500 per cent in dividends, notwithstanding the fact that amusement devices were changed every few years. For this reason, probably an account of its operation may be of interest.

The park was located on 7½ acres of ground at Jackson Boulevard and Kedgie Avenue, in the western portion of the city. It was surrounded by a better-class residence and church district. A Catholic church was located within a stone's throw and the spires of about fifteen churches could be seen from the top of the chutes. Because of its location, it was necessary to operate the park on a high moral plane and it was also considered advisable to do so from a business standpoint. At any rate, intoxicating liquors were not sold, dancing was not permitted and questionable or fake games and those embodying the idea of chance were kept out. As an evidence of the park's reputation, it may be mentioned that at one time park advertisements were carried in the calendars of twenty-seven churches.

Amusement devices were depended upon almost entirely to draw the people, and together with the admission fee of ten cents, to sustain the park. Music was supplied by good bands, but high-priced ones were never featured. People attracted by good music alone, it was believed, were of a class from whom gate receipts only would be obtained. Special open-air acts, likewise, were never featured for the same reason. The park made a feature of riding devices and particularly amusement devices with action, or those that required action on the part of the patronizer. A theater was opened for a time, but with indifferent success. The amusement devices were the best obtainable. Because of the limited space in the park to provide room for new ones, it was necessary to tear out the older devices as soon as their novelty had worn off. At its close, all the amusement features had been in but two or three years. Of the devices, those of the coaster type proved the best paying ones. The Katzenjammer Castle probably returned the greatest amount, considering the investment. On one Fourth of July, between 7:30 p. m. and 10:30 p. m. this device took in \$429.00 and the patronage on this occasion was limited to the ability of the ticket seller. Two "loop-the-loop" devices operated for three years gave good returns, but at the end of that time the receipts began to fall off. The loops were installed largely as an advertisement. They were not expected to be money-makers, and the management was very agreeably surprised at the manner in which they were patronized. They were finally taken out to make room for newer attractions.

During the entire history of the park, there was not a serious accident in the operation of the amusement devices. In all, less than \$1,000 was paid for damages, and this was largely for injury to clothes by paint, pinched fingers and similar complaints. This excellent record was due partly

to the manner in which the riding devices were constructed and partly to the care exercised in their operation. Journal boxes, axles, wheels and other parts of cars and structures subject to heavy stresses were built of crucible steel or the best phosphor bronze. Stresses were carefully computed beforehand and a liberal factor of safety was used in designing the apparatus and inspectors were kept on hand to note the condition of the cars, track and other apparatus. While the loop-the-loops were operated, two inspectors spent two hours in examining the structure and cars every

THE EQUIPMENT OF PLEASURE RESORTS

It has been customary in the park issues of the *STREET RAILWAY JOURNAL* to publish notes of some of the novel attractions designed especially for street railway parks to be brought out during the coming year. To this end the accompanying information of new entertainments and allied industries, obtained in large part from the manufacturers themselves and giving their claims, has been compiled:



VIEW OF CHICAGO WATER CHUTES PARK

day previous to their being put into service, and while running, an inspector underneath examined the wheels and boxes for defects and heating every time a car passed.

At Norumbega Park, in Massachusetts, last season, the receipts for reserved seats in the steel-covered theater were 50.10 per cent of the total capacity of the theater for the entire season. The entire capacity was sold six nights; 90 per cent thirteen nights; 80 per cent twelve nights; 60 per cent twenty-five nights; less than 50 per cent of capacity, twenty-two nights; 75 per cent of capacity, twelve nights. Performances were given ninety-nine nights. The total attendance at the park was practically 400,000. There was not an accident, and there were only five arrests. The receipts per capita averaged about 22 cents gross. The park was open for a season of sixteen weeks and four days, including seventeen Sundays. The average weekly attendance was 23,878. During the season, the animals, in addition to hay, grain, vegetables, fruit, bread and miscellaneous feed, were fed 11,924 lbs. of beef. Out of a total of 111 days, there were 36 fair, 21 partly cloudy, 39 cloudy, 20 rain, and 5 showery. Although Sunday amusements are prohibited by law, the Sunday patronage totaled 53,226.

MOVING PICTURES.

Of the inexpensive amusements there is none more popular than the moving pictures. They can be readily given either in the open or in an auditorium, and best of all, the bill can be changed frequently. Again, the subjects are unlimited. They can be mixed to suit a motley crowd, a sparring match being made to follow an illustrated sentimental song, with a jocular piece later. In view of the recent disaster at Boyertown it may not be amiss to say a word here about the fire hazard. Moving picture machines can hardly be considered as dangerous since devices are provided to prevent the film from taking fire. The chief danger from fire is possibility of panic and for this plenty of exits is the only safeguard. It makes little difference whether the show is a moving picture one or a drama. Attention might be called, however, to recent improvements taken to prevent fires by the Nicholas Power Company, of New York, makers of the Power's Cameragraph. One of these is called the "New York Approved" equipment. The magazines in this machine are square, and are made of the heaviest grade of Russia iron, mounted on malleable-iron castings. The magazine valves are designed to provide fireproof construction and reduce friction on the

film to a minimum. The shutter does not open until after the film has attained a proper exhibiting speed. When the movement of the film ceases the shutter closes instantly by gravity and cuts the light off the film. The film shields, two in number, are provided to protect the loops of film between the intermittent sprocket and the top and bottom sprockets. The upper film shield extends upward almost into contact with the upper film magazine and affords complete protection for the upper loop of film. The lower film shield is hinged upon the baseboard of the mechanism and is held normally in contact with the film gate, or door, of the mechanism, thus shielding entirely from the rays of the lamp all of the film between the film gate and the lower magazine. The lamp house is of exceptional height so as to accommodate extra long carbons, and has a hinged top or hood, which may be raised to afford convenient access to the upper carbon and carbon holder. The rheostat is non-adjustable and cannot be over-loaded by cutting out coils; it is enclosed within a cover of heavy perforated Russia iron.

The O. T. Crawford's Film Exchange Company, of St. Louis, Mo., announces that this season it has inaugurated a system whereby it will supply parks with films of the latest subjects at a special rate that will bring them well within the reach of all.

THE ELECTRIC FOUNTAIN.

The electric fountain with its many changes in water designs and its myriads of colored electric lamps holds its



ELECTRIC FOUNTAIN AT KANSAS CITY

own as an attraction. Since the building of the first fountain, at Washington Park, below Philadelphia, eleven years ago, C. A. Dunlap, the inventor, who now is president of Electric Park, Newark, has made many very important improvements, and has simplified the construction and the operation to such an extent that a fountain giving exactly

the same results as the original one can now be erected for about one quarter the cost of the Washington Park fountain. The fountains can be had as low as five hundred dollars. They are particularly suited to conservatories, lawns, and the centers of large flower beds where the surroundings are dark, being automatic in their action and needing no



HUMAN ROULETTE WHEEL

water supply or drain. A view is presented herewith of a fountain long in service in Kansas City.

HUMAN ROULETTE WHEEL.

An amusement attraction that meets the demand of the hilarious element that goes wild over such things as Coney Island's tickler, the great divide and the rattan slide which shoots out of its hopper an endless stream of people is the human roulette. Of this attraction it can truthfully be said there was nothing more popular in its way at Coney Island last year. The device is made by the Amusement Company of America, of New York. It consists of a rotating platform 18 ft. in diameter, provided with sloping connections with the main floor. The sides of the floor 11 ft. from the wheel also have an incline to prevent the passengers from being injured. While the table is being loaded with its human freight it is stationary, but when all are aboard it is revolved with increasing speed for a fixed time, such of the human freight as cannot maintain a position on it being scattered willy-nilly head foremost, sidewise or feet foremost. The tangle of human beings and the comical efforts of individuals to regain their lost seats and win out in the ride against the wheel, keep a crowd of onlookers closely packed about the rails in a constant gale of laughter. In fact, it is a device that people will pay an admission to watch. The roulette finally attains a high speed, and then, unless one has struck the dead center and allows himself to be spun around like a top, it is absolutely impossible to stay on. Slow speed runs are given exclusively for women, who are certain to be scooted off, but not with such abandoned effect.

The roulette wheel at Steeplechase Park, Coney Island, according to Mr. Tillyou, the proprietor of the resort, took in more than \$53,000 up to the time the park burned out on July 28. Atlantic City put one in and the crowds were so great that it became necessary to raise the price from:

10 cents to 25 cents. Paragon Park, Massachusetts, does a select business drawn from Boston, but its wheel also met with great success. Another wheel, placed in Hillside Park, Newark, N. J., put in late in the season did a good business from the start. One advantage is that the device is comparatively inexpensive to install and operate.

NEW FORMS OF OLD AMUSEMENTS.

There are several amusement attractions whose popularity never wanes. Among them are the carousel, the scenic railway, the roller coaster and the chutes. The carousel and the scenic railway are susceptible to yearly modification, whereas the coaster and the chutes are more bound by convention. Still there are inherent in all of them virtues that in a way negate the necessity for change. By some it was thought several years ago that the gamut of variation had been run in the merry-go-round, but those who had come to this opinion were put to shame by the Rounders at Coney Island, in which figures of chickens were substituted for the lions and horses of former years. In the scenic railway the opportunity is afforded of changing each year at slight expense the subject of your cave. This year the scenes may be based on Dante's Inferno; next year a peaceful village in the Alps may be the subject, or a setting may be taken from the Land of the Midnight Sun. It is as a rule a construction company that must be turned to for these things, although in the case of the merry-go-round there are manufacturers that confine themselves to one line. Such a company, for instance, is the Cincinnati Merry-go-Round Company. On the other hand, there are several builders who make any number of attractions. Among them are the T. M. Horton Company, Ingersoll Construction Company, Breinig Construction Company, Twentieth Century Construction Company and the Folks Amusement Company. The Horton Company builds and operates Figure Eight toboggan slides, carousels and Ferris wheels. The Ingersoll Construction Company, for the most part builds Figure Eight roller coasters and scenic railways. The Breinig Construction Company builds Figure Eight coasters, scenic railways, shoot the chutes, and a new riding device which has made a great hit, known as "The Jollier." The Twentieth Century Company builds scenic railways, Figure Eight coasters, scenic rivers, chutes, etc. The Folks Amusement Company builds what is known as the Mystic chute, a combination of the Venetian canal and chute ideas.

AIR SHIPS.

Another sensation of the air is offered in Captain Baldwin with his California Arrow. This is an airship which has taken many prizes. The original machine had an interesting history, and for this reason a brief review of the events in which it and its successors have figured may prove of interest. Five weeks after the silk for the original Arrow was hung up to dry at San José, Cal., the completed airship was shipped to Oakland, where, on Aug. 2, 1904, at 6 a. m. four flights were made, as a result of which many letters were received asking that the Arrow compete for the \$100,000 prize offered in St. Louis. Roy Knabenshue made the trip for Captain Baldwin, piloting the machine over St. Louis and landing across the Mississippi River in Illinois. In all the Arrow made six flights in St. Louis and won the honors. The following Christmas in California, the airship made a fifteen-mile return trip against a 10 to 14-m. p. h. breeze. Feb. 12, when the Arrow was but seven months old, it made the trip from Los Angeles to the Raymond Hotel, Pasadena, in thirty minutes. The

airship was then taken to the Portland Exposition, where, during the exposition, out of twenty-five starts, with Lincoln Beachy in command, it made twenty-three return flights. During the San Francisco disaster Captain Baldwin had all his airships destroyed, but immediately constructed a new outfit. During 1906, fifty-three starts were made, out of which the machine returned thirty-one times to the exact starting point. During 1907 the airship made ninety-one trips. At the balloon races held in St. Louis, Oct. 21, Captain Baldwin made five flights, returning each time to the starting point. He entered two airships, one for the exhibitions, and one for the race.

MENAGERIES.

People in the larger cities are not likely to be attracted by an animal exhibit, but the case is different in the town that shuts down for a holiday when a circus performance is on. There animals are a novelty and a permanent exhibit, though small, is likely to prove a good drawing card, especially because of its educational value. Such companies as the Old Colony Street Railway Company, Milford & Uxbridge, Connecticut Company, operating all the electric railways in Connecticut controlled by the New York, New Haven & Hartford Railroad, the Kingston Consolidated Railway Company, of Kingston, N. Y., the Omaha & Council Bluff Street Railway Company, the San Antonio Traction Company, to mention just a few that have been supplied by Wm. Bartels, of New York, have found that animals attract and hold attention. Mr. Bartels makes a specialty of monkeys, but is prepared to furnish anything in the animal line from white mice to elephants. His plan with monkeys and birds is to take them back at the end of a season for 50 per cent of the original price. On other animals the same general rebate scheme is in vogue, but it varies according to the animals wanted. Monkeys especially are liable to consumption, and by agreeing to take the animals back at the end of the season the park management is relieved of the worry and expense incident to their care during the winter. Indirectly animals are a source considerable profit to such vendors as the peanut man, for the children are always anxious to feed the beasts. Mr. Bartels further is prepared to furnish expert attendants where it is so desired.

BAND CONCERTS.

Music lovers are everywhere, and it is almost needless to dwell upon the value of the band as a drawing card. Even where other attractions are multifarious, as at Luna Park, Coney Island, and Dreamland, concerts are given. At Brighton Beach and Manhattan, thousands of people attend the concerts. At Willow Grove Park, Philadelphia, the case is the same. In the last three places the concerts are practically the principal feature. The manager of the small park remote from a large city frequently is confronted with a serious problem in determining on a band best suited to meet his requirements. The great band organizations are of course out of the question as far as he is concerned. Another question is the repertoire. His people must be given what they want. Of the traveling bands which cater especially to the park, one of the best known is the Texas 5,000,000 Club Concert Band, which has been selected as the official band for the coming diamond jubilee to be held in Texas in 1911. This organization has been equipped by the Lone Star State, and sent by it en tour as the representative of the state, to be judged on its merits alone. It is composed of forty professional musicians and has a very large library of music. It is under the direction

of W. T. Cox. A special feature offered by the organization as an extra attraction is the famous Dixie Quartette, in which is featured song hits of the day and Southern melodies.

BALLOON ASCENSIONS.

The spectacular feats offered by balloonists are as various as the products of a certain Pittsburg food "foundry" famed over all the world. Ed. R. Hutchison, of Elmira, has succeeded in introducing a novel feature through the element of competition. Mr. Hutchison and Miss Retta Danzelle, who, on the posters, is referred to as the queen of the clouds, offer a double parachute race which affords a spectacle that has caused audiences to go wild with excitement. Not less striking is the feat of Mr. Hutchison himself, in which the aeronaut is incased in the inner tissue of the balloon to prevent him from being injured and the outer part is exploded in mid-air. After dropping three or four hundred feet the parachute opens and the descent is made. Mr. Hutchison varies his performance by making a triple parachute leap in which red, white and blue parachutes are used.

ROLLER SKATING.

Inquiry among the leading manufacturers of roller skates, such as Barney & Berry, of Springfield, Mass., the Union Hardware Company of Torrington, Conn., and the Richardson Ball Bearing Skate Company, of Chicago, indicate that the popularity of this sport continues as strong as it has been during the last few years. Roller skating is particularly adapted to street railway parks because very few attendants are required and the rink can be made of large size without involving the large investment in ground which would be necessary in a city. A number of companies have followed with success the plan of using for rinks the halls which were previously devoted to dancing. This can usually be done without sacrificing any features which would interfere with the return of the hall to its original purpose, if for any reason that should later seem desirable.

AUTOMATIC PHOTOGRAPHING MACHINES.

Among the automatic devices one of the most popular is a picture machine, exhibited for the first time at the Actors' Fair, in New York, last spring, and with a season of profit to its credit at Luna Park, Coney Island. This machine automatically takes, makes and delivers a direct positive photograph on celluloid in less than a minute. No skill is required to operate the device. The picture is a stamp black and white likeness and perfect in detail. The exposure is almost instantaneous—about a second and a half. When the picture is delivered from the machine it is complete. At the Actors' Fair a record of 60 pictures an hour for six hours were made. The machine is encased in a handsome oak cabinet 5 ft. high. It is made by the Photo Machinery Company, of New York.

BOX BALL.

There is no need of dilating upon the popularity of bowling. It is one of the oldest of sports, and is as popular with the ladies as with the men. It is true that for a time it did not seem to grow in favor, but that was not the fault of the game, but rather was due to the limitations imposed by the facilities for following it. The last few years have witnessed a marked change in the housing of alleys, and consequently this form of athletics has been given the needed impetus. In fact, in the larger cities, buildings have in some instances been built which are devoted entirely to the game. At all the seashore resorts it is a decided favorite.

From the standpoint of the amusement park the greatest drawback of the regulation game is the expense involved in maintaining the alleys. The initial expense could be borne in many cases, but the later charges are often prohibitive, for alleys deteriorate rapidly when not in use. As an inexpensive substitute for the regulation game there has recently come rapidly into public favor box ball. In this game the alleys themselves are portable and the pins are reset by the player by means of a lever, thus doing away with the pin boys. The balls return of their own accord by gravity. Wherever the game has been installed it has proved exceedingly popular. Two instances of installations of the American Box Ball Company, of Indianapolis, furnish criteria. At Euclid Beach Park, in 1906, the company installed fourteen 42-ft. alleys, and in 1907 received an order for fourteen more, thus doubling the equipment. When it came to the question of amusements for England's first White City, of which an extended description appears elsewhere in this issue, box ball was decided upon, and has fully proved its value as a drawing card. Nine 42-ft. alleys were installed in this instance, although bowling is not as popular in England as it is here.

CONTRACTORS.

Among the contractors who are making a specialty of the park business this year are the Colonial Sign & Insulator Company, of Akron, Ohio, manufacturers of electric signs of vitrified porcelain; Clarence E. Runey Printing Company, of Cincinnati, Ohio, which supplies programs, announcements and display bills; Eugene E. Stern, who designs and builds all of the various popular attractions; the Botanical Decorating Company, of Chicago, whose specialty is decorations, Japanese lanterns, festoons, etc.; Cagny Bros., of New York, who are actively in the market with their miniature railway; White & Langever, of Fort Worth, Tex., who have a marine illusion known as "Steamboat Tours of the World;" the American Seating Company, which makes settees, and Wm. H. Oesterle, of New York, who supplies attractions of various kinds.

BALTIMORE COMPANY PRAISED

President William A. House of the United Railways & Electric Company, of Baltimore, has received several letters of congratulation as a result of his frank avowal of the purpose of the company to deal openly with the public. Mr. House declared that the best asset a public service corporation can have is the good will of the people in general. One of the letters which he received was from Capt. F. M. Colston, of the banking house of Wilson, Colston & Company, in which the writer referred to Mr. House's statement. The letter, in part, was as follows:

"For some little time past I have intended telling you what I have told a great many people, in the course of meeting with them, both in business and social life, and that is, as a Baltimorean, I am proud of the service and management of your street railways system, and I believe that every honest observer of conditions in other cities will agree with me. I mention particularly the two cities of New York and Chicago. In New York the service has been going from bad to worse. The cars are unpainted, unclean, and the conductors (largely foreigners) are themselves dirty and ill kept, and generally rude and unobliging. The conditions in Chicago are even worse. For several years past it has been a pleasure to me to return to Baltimore after trips to other cities, to enjoy the really fine service afforded by your street railways system."

GASOLINE-ELECTRIC MOTOR CAR FOR DELAWARE & HUDSON RAILROAD

A test run was made Jan. 15 of the new gasoline-electric car designed and built by the General Electric Company for the Delaware & Hudson Railroad. The car differs radically from the earlier gasoline-electric car built by the same company some two years ago and described in these columns.

The car body is of the combination type, and comprises one ordinary passenger compartment, a smoking room, baggage room, engine room, toilet and observation compartment. The car is single-ended, having the controlling apparatus situated in the engine room. The principal dimensions are as follows:

- Length over all, 50 ft.
- Length of engine room, 9 ft. 6 ins.
- Length of baggage room, 5 ft. 8 ins.
- Length of smoker, 7 ft. 11 ins.
- Length of passenger compartment, 18 ft. 6 ins.
- Width over all, 8 ft. 8 ins.
- Height over all, 12 ft. 10½ ins.
- Seating capacity, 44.
- Total weight of car and trucks fully equipped, 31 tons.

This car was designed throughout with special reference to the service required, the main object in view being to secure the maximum carrying capacity, with a minimum

The seats are handsomely upholstered in green leather. The interior is lighted with individual lamps, there being one light for each seat in addition to those in the vestibule, toilet and engine room, while a head-light is also provided. The steps are arranged in such a manner that the bottom one folds up automatically as the vestibule door is closed. The car body was built by the Wason Manufacturing Company, Springfield, Mass., in accordance with the designs of the General Electric Company.

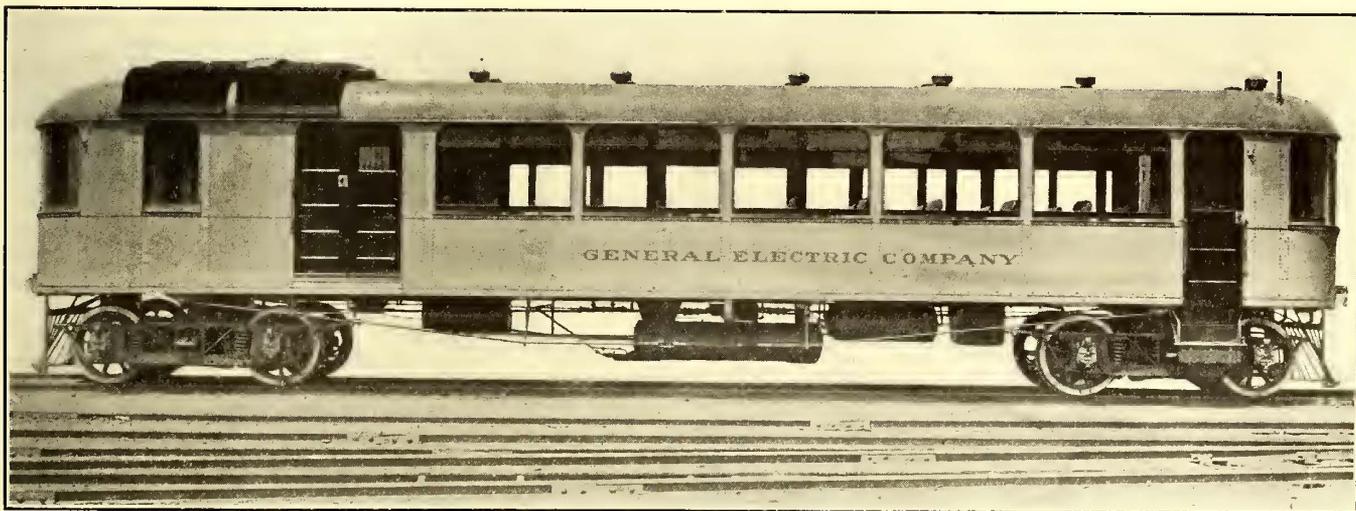
GENERAL SCHEME OF OPERATION.

The gasoline engine is direct-coupled to a 90-kw, direct-current generator, which furnishes current at a variable potential. This current is fed to the motors through the medium of the control system by which the voltage of the generator may be governed according to the requirements. The two motors are of the GE-72-A type, each rated at 60 hp.

ENGINE.

The engine was designed and built by the General Electric Company with special reference to the requirements peculiar to gasoline electric cars. Very special attention has been paid to the simplification of the engine; the number of parts and weight have been reduced to a minimum.

When running at 550 r. p. m. the engine develops 100



SIDE VIEW OF GASOLINE-ELECTRIC MOTOR CAR

weight, and at the same time to have a car of great strength. The shape of the ends is parabolic in order to reduce the air resistance to a minimum when traveling at high speed. The general shape of the car will be seen by reference to the illustration. The frame work of the roof and sides is made of T irons bent to the required shape and braced diagonally. The exterior of the car is of steel plate, while the interior is finished with selected Mexican mahogany. No wood is used in the engine compartment. The floors of the passenger and baggage compartments consist of two layers of wood with paper between, armored on the under side with steel plates. The roof, which is fire-proof, is of a plain oval shape; the monitor construction was not employed, as it would have added needlessly to the weight. Special attention has been paid to ventilation; 12 ventilators of the globe suction pattern are furnished in the roof. The under framing is of a very rigid construction; the center sills consist of 6-in. "I" beams, and the outside sills are 6-in. channels, and these are braced diagonally to lend greater rigidity.

horse-power and has a greater capacity at increased speeds. There are eight cylinders, each of which is 8 ins. in diameter and has a stroke of 7 ins. The cylinders are placed at 90 degs. to one another, or at an angle of 45 degs. with the vertical. Each cylinder is composed of one piece, being a casting of very soft, fine grain cast iron. Each casting is self-contained and includes the water jacket. It is worthy of note that special attention was paid to provide an extra large cooling surface around the valves to eliminate any excessive temperature at the valve seats. There is one admission and one exhaust valve for each cylinder, which are arranged in such a manner as to permit the inspection of both valves by the removal of two nuts. The pistons are of the trunk type; they are made of cast iron and are rendered gas tight in the cylinders by the provision of three split piston rings. The connecting rods, which are made of chrome nickel steel, are connected to the pistons by means of hollow pins shrunk into the body of the connecting rods. The crank shaft is made in one forging of 40 carbon steel; it is a four-throw crank having

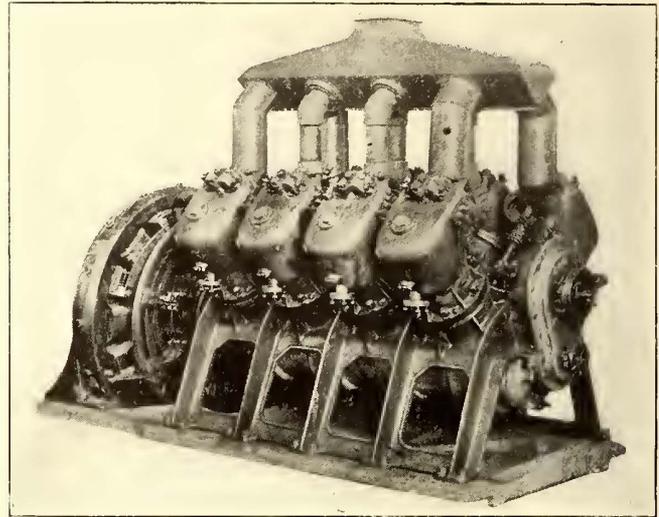
an angle of 180 degs. All of the crank pins lie in the same plane, the two center pins occupying the same angular position while the two outside crank pins are set at 180 degs. to the center crank pins. This arrangement of cranks, with cylinders set at 90 degs. to one another, gives a very satisfactory system for balancing purposes. Two connecting rods are coupled to each crank pin.

Each cylinder is fastened to the engine base by means of six bolts. The engine base proper is made of one casting of Parson's manganese bronze, the form of which is clearly shown in the illustration. The crank casing, which is made oil tight, is of aluminum. All of the valves, both admission and exhaust, are actuated by one cam shaft which is driven from the main engine shaft by two gear wheels with the customary 2 to 1 reduction. This cam shaft is entirely enclosed in a circular tunnel which runs the entire length of the engine base; the tunnel is formed in the main casting. The fact that the valve rods are all operated from this one shaft has greatly simplified the design of the engine. There are two carburetors of the float feed type. The ignition system is of the high-tension type; a separate coil is provided for each cylinder. These coils are energized by means of a small accumulator. The sparking at the correct instant in each cylinder is effected by means of a roller commutator.

Considerable difficulty has been experienced in starting gasoline engines of this size heretofore, but in the present instance a special breech-block mechanism has been provided which fires a charge of black powder into one of the cylinders, and this has proved a most effectual way of overcoming these difficulties. The cooling system for the cylinders operates on a thermo-siphon principal. The radiator, which is situated on the roof of the car, is divided into four separate nests of radiating tubes; these, being of the

the most simple cooling arrangement possible, as it entirely eliminates the necessity of using pumps or cooling fans, and it has the further advantage of being easily drained and of being filled from the side of the car.

It is of interest to follow the course taken by the gasoline from the storage tank to the carburetor. The gasoline is stored beneath the car in a large steel tank having a capacity of 90 gals., and is raised to a small auxiliary tank in the cab by means of a diaphragm pump. The gasoline is filtered in transit from the tank to the pump. The auxiliary tank is provided with a float to register the height of the gasoline, and a glass tube, somewhat similar to a



SIDE VIEW OF ENGINE

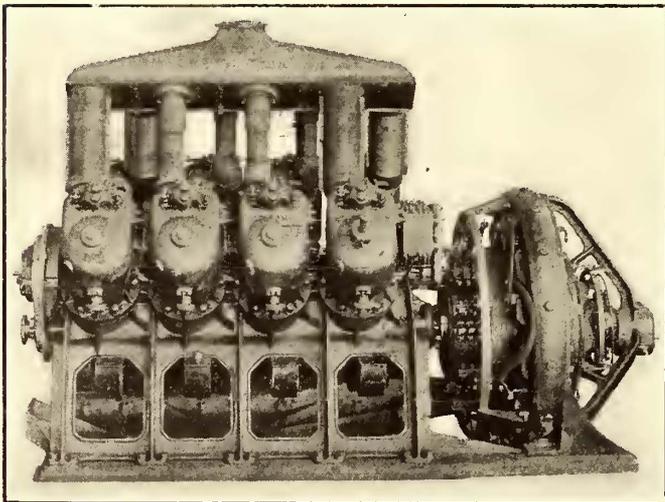
sight feed lubricator, is provided so that the operator can see if the diaphragm pump is working. The gasoline is fed by gravity to the carburetor.

The oiling system has been very carefully designed. Forced lubrication is used, and for this purpose there is a nest of pumps operated from the main shaft. One pump is provided for each of the main bearings and another oils the cams and cam mechanisms, the duty of this latter pump being to keep the cam shaft tunnel filled with oil; the oil on leaving the tunnel flows over the reduction gears and thence to the crank chamber. All of the oil used for lubricating purposes similarly flows to the crank chamber from which it can be drained. The big ends of the connecting rods are lubricated by scoops which dip into the oil in the bottom of the crank chamber, the oil being forced to the crank pin as the crank shaft revolves.

GENERATOR.

The generator is a General Electric, 90-kw, 8-pole, separately excited unit, which has been specially designed with a view to procuring the lightest possible machine for the necessary output, and at the same time keeping the temperature rise to within a reasonable figure. It is provided with commutating poles, which, in conjunction with the potential type of control, gives a great flexibility of current output.

The advantage of this arrangement will be readily appreciated when it is pointed out that at starting the field excitation is weak, and that large currents are required to give the necessary starting torque. The normal pressure when running at 550 r. p. m. is 250 volts, at which time the current will amount to 360 amps., but at starting a



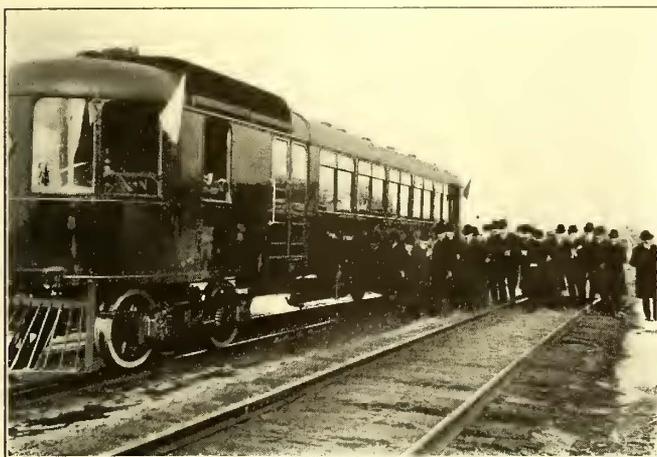
END VIEW OF ENGINE

spiral-finn pattern, give a maximum cooling area per unit-length.

The total cooling surface amounts to approximately 1300 sq. ft. Each pair of engine cylinders is connected to one nest of tubes and the four nests are in turn connected by means of three copper pipes. The water jackets are connected to the radiator by means of pipes running vertically from the engine; these pipes pass through the roof and the circuit is completed by means of other pipes leading from the radiator to the cylinder jackets. This system forms

current of 800 amps. can be secured at a corresponding decrease in voltage. It would be impossible to commutate so large a current in a machine with so great a kilowatt capacity per pound without the use of commutating poles.

The total weight of the generator, including exciter, is only 2740 lbs., while a standard machine of this output weighs 8800 lbs. As is only natural in a machine where the weight has been so materially reduced, the temperature rise is higher and the efficiency lower than in standard apparatus of the same output. The higher temperatures are fully provided for by the type of insulation employed; there is no paper or muslin used anywhere in the machine. The armature coils are insulated with mica, the interpole coils with asbestos and the field coils are wound with enamelled wire. The armature leads to the commutator are riveted as well as soldered, although the precaution has been taken to use pure tin for soldering, which has a melt-



CAR ON TRIAL TRIP

ing point of over 200 degs. C. Air ducts of ample dimensions are provided to insure a large volume of air being circulated through the core. The efficiency is 88 per cent, being only about 3 per cent lower than a standard machine having a temperature rise of 35 degs. C.

The exciter is a 3-kw, 70-volt, shunt-wound machine, with its armature mounted directly on the armature shaft of the main generator and its field yoke supported by the bearing brackets, enabling it to fit under the back ends of the generator armature windings. The illustration of the engine, generator and exciter assembled shows far better than a written description the neatness and compactness of this generating set.

CONTROL SYSTEM.

The speed of the motors is governed by a potential control, the generator being separately excited and the terminal voltage of the motors being varied by means of a rheostat in series with the exciting circuit. The simplest explanation of the controlling system is arrived at by considering the circuits separately. The armature circuit of the main generator comprises the armature—fuse—two contactors in series, reverser, and the two motors. The motors are connected in series or in parallel, according to the position of the controller handle, and they are grounded to the truck framework, while the solenoid coils for operating the contactors are energized by a storage battery floating across the field circuit. The reverser is operated as usual by a separate reverser handle on the controller.

The current from the exciter passes around the field of

the main generator and through the rheostat; the function of the controller is to cut in and out this rheostat as occasion demands.

A storage battery which floats on the exciter circuit is used for supplying the lighting circuits and its charging and discharging is controlled by means of a reverse current relay which permits the lights being supplied directly from the exciting circuit or from the storage battery according to the voltage of the exciter circuit. A Tirrill regulator is employed for regulating the voltage on the lighting circuit. These arrangements enable the car lights being used when the engine is at rest.

The master controller, which has some unique features, is of type C-44, and gives seven steps with the two motors connected in series and eight steps with the two motors connected in parallel. It is provided with four handles, three of which are mounted one above the other on concentric shafts. The function of the top handle is to advance and retard the ignition of the engine, the second controls the throttle of the engine, while the third handle controls the generator field resistances and the contactors, which establish the circuit for the motors, besides transposing the motor connections from series to parallel. The fourth handle operates the reversing switch and controls the direction of rotation of the motors.

The car is heated by passing part of the exhaust gases through pipes suitably located in the car body.

BRAKES AND TRUCKS.

The car is provided with a straight air brake equipment and the air is supplied by means of a compressor which is direct connected to the engine. The working pressure is 60 lbs. per sq. in. and this is kept constant in the storage tank by a mechanical governor. Hand brakes are also provided.

The trucks were constructed by the American Locomotive Company. They are of the swing bolster type, and have wheels 36 ins. in diameter. One motor is mounted on each truck. The journals are of the MCB standard pattern.

The interior of these cars can be designed to suit any requirements or service. Cars of this type are available for use as private cars, with sleeping and dining accommodation, as inspection cars, wrecking cars, and baggage cars, etc., etc.

TRIAL TRIP.

On its trial trip the car received its passengers in the nearly completed new Union Station at Schenectady. The route selected made a circuit of about seventy-eight miles in length, including Albany, Cohoes and Mechanicsville. It contained its full capacity of passengers. A total of twenty-three stops were made in addition to many unrecorded slowdowns due to signals and other yard restrictions, the average length of a stop being slightly less than one minute. The engine, however, ran continuously during the trip.

The speed of the car varied from 23 m. p. h. on a 1.3 per cent up grade to 56 m. p. h. on a $\frac{1}{4}$ per cent down grade, except where traffic conditions and road regulations required lower speeds. Where traffic conditions permitted, a speed of 50 m. p. h. was recorded on level track and from Albany to Mechanicsville a speed of 47 m. p. h. was sustained on a steadily rising grade. The eight-cylinder gas engine developed at times 150 hp. and the 60-hp motors were under such perfect control of the operator that the acceleration was noticeably smooth and free from jerks.

THE PROMOTION OF TRAFFIC*

The question of traffic, and its promotion, is an important one to the interurban railways, and has been the subject of reports from committees at the meeting of the American Street and Interurban Railway Association conventions, both in Columbus and the more recent one at Atlantic City last October. Traffic is the means by which the interurban and street railways receive the revenue to operate and keep up their equipment and pay dividends to their stockholders, and may be said to cover all the business done by a railway.

Street car lines have grown until they have become railways, handling passengers, freight and express in competition with the older and longer steam railroads. The steam roads long ago conceded to their electric rivals the local business but still dispute the long haul. The local business rightfully belongs to the electric railway, and with the proper kind of service it will always have it. The advantage of being taken from the center of one town and landed in the center of another is offered by no other means of interurban transportation. The rates of fare should not be lower than the steam road to obtain and hold this travel, except for the round trip. The accommodation, which includes the advantage of being landed "up town" besides the frequency of service appeals to the traveler and secures him with anything like reasonable and comfortable service.

People living in the rural districts can board the cars near their homes and get off in front of the courthouse at the county seat in less time and cheaper than they can hitch up. However, while this business belongs to the electric railways, it must not be conceded that any kind of accommodations for local business will suffice. The local business should be fostered, for it is a valuable asset and should be accommodated with comfortable waiting sheds at all stopping points in the rural district, frequent service, clean cars, fast time and warm cars in the winter.

Changes in schedules should be avoided as much as possible. People living in the country become accustomed to a regular time for their car. Then there is a change and it takes some time to get them used to the new order of things. No matter how well you advertise the change before it goes into effect, there will be a loss of business for a while. After it does go into effect, there may be complaints about the service not being as satisfactory as formerly, and the result is that some of your former patrons may use some other means of transportation for a time, although not quite as handy as the trolley. They will come back gradually, but a regular schedule the year round can be handled much better by the electric lines than the steam roads, because the short days do not necessitate running trains later in the morning or earlier in the evening, as the electric cars run every hour.

The development of the country along electric lines for suburban residences should be encouraged. Commuters' rates should be reasonably low and the service such as to encourage the every-day travel. Secret societies, lodges, theatrical parties, basketball, football and baseball do much toward increasing the revenue. Along our line the members of the various I. O. O. F. lodges are now making trips every week or ten days to some other town, putting on the work and contesting for a prize which will be awarded the latter part of February. They never go in less than car loads and return early at night, always before the time arrives for shutting down the power. Any suggestions

for rates for theaters, parks, etc., would probably be out of place here, as those matters are governed entirely by the local situation and conditions, and I only intend to touch upon the subject of promotion of traffic as a general proposition.

The commercial business of the electric lines is constantly increasing. When I say this, I do so with regard to our line, which handles baggage on every car and checks 150 lbs. free with every ticket costing over \$.20. We are handicapped on interline business, however, by the different ways baggage is handled. Some lines still charge \$.25 a piece for baggage and only have two or three cars during the day that baggage can be hauled on. This service is no inducement to the traveling man. Other lines charge a different rate per hundred because their rate of fare is lower. The baggage matter should be uniform and the line which charges \$.25 a piece for baggage should accept its prorate of the revenue received when it takes baggage from a line that charges excess.

Then the question of handling 150 lbs. of baggage free came up after the legislature of Ohio passed the two-cent bill for steam roads, making their rates the same as that on the Western Ohio. At first we seriously considered the advisability of making the change, but we are more than pleased with the result since we adopted the baggage rate in effect on steam roads. Our rates of fare and baggage rates are the same as our steam road competitors, yet our baggage receipts from excess baggage are larger than ever and we are hauling the one-trunk passengers going on a visit that we did not get before. It is just as important to deliver a piece of baggage at its destination as it is the passenger. Records by checking and receiving agents, as well as conductors, are a great help in tracing lost baggage. Employees handling baggage ought to be impressed with the importance of its prompt forwarding and sure delivery.

Last season we ventured into the excursion business on a much larger scale than usual, having for several years sold excursion boat tickets from connecting points as far south as Dayton on the Dayton & Troy. There is a great future for the summer boat business, judging from our experience last summer. On two different occasions we joined the Detroit & Cleveland and Cleveland & Buffalo boat lines in a cheap excursion to Niagara Falls. We had one just before the steam lines had theirs and one immediately afterward. We made the same rate as the steam roads and had two car loads the first time and three the last, every passenger on the first one being a living advertisement of the excellent service. We had nearly a carload from one town on our line where they took the car at 4 o'clock a. m. and made 131 miles to reach the boat. In both instances the excursion party was landed in Toledo by 9 o'clock in the morning, before the heat of the day, making a cool, clean and pleasant trip.

We consider the success of the Niagara Falls excursions the very best kind of advertisement for our lines, and in addition to the advertisement we made a nice profit on the business. Excursions of this kind, where they can be run, help in the work of educating the public to the use of electric lines. We run several excursions each season to Cleveland, issuing an exchange order on the Nickel Plate road good at Mortimer. I am a believer in the most liberal form of advertising. For our Niagara Falls business we occupied half pages in the daily papers along the line, using a large cut of the *City of Erie*, one of the Cleveland and Buffalo steamers, and large display type; we also got out bills in two colors. We reserved berths upon application. After the excursionists returned, we took the pains

*Abstract of paper by Chas. F. Price, general passenger agent of the Western Ohio Railway Company, at the Dayton meeting of the Central Electric Railway Association, Jan. 23, 1908.

to inquire how the trip was enjoyed and did not have a complaint from a single one of the several hundred persons. Everyone in the two parties was a talking advertisement for our service, and hereafter we can be relieved of the expense of a large amount of advertising we were compelled to do last season to induce the public to try the electric way for business which had heretofore been monopolized entirely by the steam roads. We have also stimulated travel by getting business men in the towns along our lines to run "Shopping Excursions," which have proved very satisfactory revenue getters.

The roads which constitute the Lima Route, the Toledo Urban and Interurban, the Western Ohio and the Dayton & Troy, have in effect, what we term "week end" rates to Dayton, Toledo and Springfield, from all stations on the Western Ohio, and from Dayton, Springfield and Toledo to all points on the Western Ohio. These rates are a fare and a third for the round trip, good going every Saturday and Sunday and returning including Monday following date of sale. Prior to putting these rates into effect, we had a one-fare for the round trip, good going and returning on Sundays only, but we tried the experiment of increasing the rate and making a more liberal time limit. Not only did our revenue increase, but more tickets are sold than under the former arrangement. We also check baggage on these tickets.

For the long haul a reduction, if only a slight one, will bring additional business, provided the road giving it is prepared to offer the passenger an easy, comfortable ride, free from delays. The time need not be as fast as the steam line, but the equipment should be such that he can enjoy just as easy a trip. The keeping of the trains on time is an important item in local as well as in limited service. The time should be fast, but with enough leeway to enable the cars to make the time should they be held up from any unavoidable cause. A schedule so fast that cars cannot be kept reasonably on time should be changed.

Party rates are a means of developing a considerable amount of business. Some lines give a rate for ten or more passengers going on regular cars; others have twenty-five the minimum number to secure reduced rates. Our line has always withheld making any reduced rates except to parties of fifty or over, which includes special car service if desired. Granting a reduced rate of fare to a small number of passengers is unwise because the people usually go anyhow. If the party lacks in numbers, my observation has been that the revenue to the company amounts to more. I think an electric railway with hourly service should value that as an inducement, together with the fact that parties can return home earlier at night, and nearer to their homes than by the steam road. The argument is all in favor of the electric lines; then why disturb your rate except for an unusual number?

The long haul business will never be successfully handled until cars for this business are run in trains, and the time is not far distant when all of the through business will be so handled. The great drawback to the present manner of doing through business over foreign lines is that the motor cars, like the steam engines of the other railroads, have to be at their own shops each day for inspection. This sometimes necessitates changing cars and results in unsatisfactory service. Trailers would obviate this annoyance, and the time is approaching when motor cars will haul trains of several cars from as many different points to junction points, where they will be transferred to as many destinations, several hundred miles from the starting point. When this is accomplished, it will be common for

passengers to go to and from Buffalo, Cleveland, Toledo, Detroit, Dayton, Columbus, Cincinnati, Indianapolis, Chicago, Louisville, St. Louis, and intermediate points. The public does not patronize the electric lines because of their greater love for them but because of the convenience.

Agents and conductors should be courteous, patient and considerate. If an excited individual rushes up to the ticket window and asks what time the eleven o'clock train goes, the agent should not give way to his feelings, but should tell him. When cars are late, they should keep those waiting informed. The men should be posted on the time of the steam roads, the location of hotels at the different towns and other things about which the traveling public requires knowledge. Our line supplies conductors with a schedule giving the time of every connecting steam road at every station, so that he is prepared to answer the frequent questions of that nature. This schedule contains the time of our competing steam roads also. The traveling public should have any information it desires and you will make a friend out of the traveler sooner than by the conductor or agent telling him "I don't know."

The public is entitled to every confidence in reference to the matters which concern it, some of which have been mentioned above. The closer this relationship between the public and railways is drawn the more considerate the former will be. The public should be made to feel that its patronage is appreciated and sought and the more this can be infused through courteous and painstaking employees the better will be the showing in receipts.

For the information of the traveling public, we have placed in our ticket offices large bulletin boards with a blackboard in the center, and rows of boxes on each side for the time folders and advertising matter of our own and other electric lines. On the blackboard we make announcements of excursions, attractions and other matters of interest to the public. We find this way, and the hanging of bills in our cars, the best way to reach our regular patrons, but for any extra occasion we use the newspaper liberally.

Electric lines can do a good business in handling theatrical companies, and that class of business is increasing each year. We are probably better equipped to handle it than some roads, because we do a heavy freight business and have freight motors and trailers which we press in use for handling the scenery and baggage whenever occasion demands.

In interline or through business it is not justifiable to make a rate much below the steam road, the frequency of the service being worth something. On the "Lima Route," we meet the steam road rate between Toledo and Dayton and from all stations to either of these places. The Lake Shore Electric Railway has put in a thirty-day rate of \$1.50 from Toledo to Cleveland. This is considerably below the steam road rate and the result will be interesting to traffic officials.

More interline business could be obtained, even though the electric mileage is much longer in some instances, if the rate was made to meet the steam road or short line, and the revenue prorated per rate where there is a different rate per mile, than by the roads holding out for their local fares. The sooner electric lines get out of the rut of doing business on street car line methods and follow the steam road plan, which is the result of years of experience, the more they will add to their revenue. The recent movement to organize a traffic association among the electric railway traffic officials should solve this question in a manner satisfactory to all.

In advertising, too wide a circulation cannot be given

time cards, maps, etc. Anything with the name of your road on is a good advertisement and a promoter of traffic. During the past two years the roads constituting the "Lima Route" have several times covered the states of Ohio, Indiana and Michigan with advertising matter, placing large time cards, maps, etc. in every depot and hotel and other public places. It is true that all of the matter put out does not stay permanently, but some of it does, and that which does not stay remains long enough to do some good. We have absolute knowledge that a great deal of business has been brought to our lines through the means mentioned. The public needs to be educated to use the electric railways. True, they have been in operation for a number of years, but so have the steam roads, and they advertise more and more each year.

Not all, however, depends on the advertising matter put out. Your road ought to give better service than it advertises and never give poorer. The service should always keep ahead of the patronage. The Lake Shore and Pennsylvania railroads did not wait to see if their New York-Chicago limited would pay by first putting ordinary trains in the service and then the luxurious trains they have now. They built the trains first, put them into service and offered them to the public for their approval. The result was that when one of the lines recently announced an intention of lengthening the time, the public raised such a clamor that the railroad abandoned the idea. Why? Because the public had been educated to use the luxurious, high-speed train. So it is with the electric railway. People have become educated to the advantages of its local service and attention must now be turned to the proper development of the through business.

SIGNAL SYSTEMS FOR ELECTRIC RAILWAYS *

The development of our electric railways for interurban service has been so wonderfully rapid as to cause astonishment not only at home but abroad as well. Such prestige as this deserves to be carefully safeguarded, and in pursuance of such a course is it not wise and timely to take a careful inventory of every single feature which is a part of your operating system? What an added satisfaction it would be to you to know that you have taken advantage of every available means in providing for the safe and efficient handling of the lives and property entrusted to your care.

There are accidents occurring on the electric railways in the Central West as well as other parts of the country costing hundreds of lives and thousands of dollars that could have been averted by expending \$1 per month per station for insurance against such a happening by adopting a signal system. I cannot consistently advocate an automatic block signal, for on many of the single-track lines the traffic is so heavy that such a system is wholly impracticable, if not an impossibility, because it is not sufficiently flexible to meet the conditions. On the other hand, on lines where the traffic is light and conditions possibly favorable to such a system, the revenues are not such as to make adoption possible, for it must be borne in mind that only about 20 per cent of the electric roads in the United States are dividend earners. This very fact has been an incentive to inventors to perfect a signal for interurban lines of sufficient flexibility to permit its successful use on the heavy traffic line, and sufficiently low in cost to bring it within the reach of all.

From the train dispatchers' standpoint let us consider

the conditions that obtain on the steam road and compare them with the electric railway. The dispatcher on the electric railway usually has a great many more trains under his watchful care than has the dispatcher on the steam railroad and issues about twice or three times as many orders. They are more brief, to be sure, but every one has the same stamp of importance to it. The dispatcher on the steam railroad has a means of getting in touch with the train crew at practically every switch on his line by instructing the telegraph operator to throw a semaphore signal against the train and then issuing the orders through the medium mentioned. The dispatcher on the electric railway has no such advantage and should have just as reliable a means of getting in touch with his trains, for schedules are disarranged here as on the steam road and traffic fluctuates to an even greater extent. To be sure the road has a telephone which enables the train crew to communicate with the dispatcher, but what a one-sided arrangement! The dispatcher should, by all means, have as great or greater power to stop any train in his district and issue such instructions to them as conditions may necessitate.

The movement of neither people nor cars is regular on interurban lines and some little mishap on the line may cause the dispatcher's best built castle to be quickly shattered and it must be as quickly rebuilt. The method of having reporting stations is not adequate to the needs on such occasions, therefore the dispatcher should have a means of throwing a semaphore signal to danger at any selected point.

Experience has shown that the greatest danger of collisions between opposing trains is due to the motorman overrunning his orders, that is to say, running beyond the siding which the dispatcher has named as the meeting point for the two trains. Man is not infallible and it is not a reflection on the railroad official that his men frequently overrun their meeting point, for very often it is the most reliable man in the service who thus errs; however, it is a reflection on the railroad official who does not provide a means to avert such occurrences when the consequences of forgetfulness are brought to his attention almost daily.

It can be consistently held that a signal system is an essential safeguard in handling trains by telegraph or telephone dispatching system. It should be within the power and the duty of the dispatcher to set the signal to danger at the siding at which the trains are to meet the moment he fixes a meeting point other than the regular meeting point provided for on the time table. Then, when the motorman forgets his order, as he will frequently, and the conductor fails to check him, as he will frequently, your dispatchers' signal stands at danger at the meeting point, a preventative against accident and a monument to your wisdom.

The first car to arrive at the meeting point finds the signal set in a horizontal position, indicating danger. The conductor or motorman quickly communicates with the dispatcher by telephone as follows: "Stanley and Thompson at No. 3, or Troy," the dispatcher in turn reminding them of their order to meet a certain train at that point and further instructing them as to restoring the signal to clear or otherwise.

Here is provided a means of enforcing obedience to your dispatchers' orders. The American Railway Association Rules require the placing of the "middle order" in the hands of the operator at the meeting point when practicable as a means of reminding the crews and enforcing obedience to orders. This, of course, is not possible with a telephone dispatching system with no operators at the meeting points,

*Abstract of paper by Chauncey P. Button at the Dayton meeting of the Central Electric Railway Association, Jan. 23, 1908.

but by having your dispatcher place the signal at danger at the meeting point, you are taking a step in advance of the American Railway Association.

A telephone dispatching system with a reliable signal under the control of the dispatcher is the best, safest and quickest means of dispatching trains. Comparative to the actual need, but little thought has been given to this branch of the service, but during the past year, the Central Electric Railway Association, aided by the electric railway papers, has stimulated thought upon the subject. Indeed it was the well-known need of an adjunct to your telephone dispatching system, together with the encouragement and active interest of the members of this association, that caused this signal to be perfected to meet your practical requirements.

About two months ago an electric railway in the state of Illinois suffered a head-on collision which caused the death of seventeen persons and injury of many more. The damage claims filed thus far amount to \$219,000. It might be timely to say the Telegraph Signal Company's signaling apparatus for preventing head-on collisions could have been rented and operated for the \$219,000 on that particular line in Illinois for 1500 years. There is a fact worth noting.

That I have the proper signal to meet the requirements thoroughly is the natural claim which you expect of me and I earnestly hope I may be able to convince you accordingly.

To throw a signal to danger at some point on the line the dispatcher simply turns a two-point switch to connect with a 200-volt circuit, this being brought from the trolley line if desirable and reduced by resistance coils from 500 or 600 volts. He then inserts a plug in hole No. 3 for instance, throws the two-point switch, and a few seconds later semaphore No. 3 on the line is released and gravitates to danger. Immediately following this the device records the number of the semaphore that has operated by cutting the exact number of holes in the tape corresponding with the number of semaphore that has operated. The response is given, not by the operation of the master machine in the dispatchers' office or the line machine at the distant station or the releasing trip at the distant station, but by the semaphore actually gravitating to the full danger point, this in turn causing the device to record the fact by wire automatically.

As it is physically impossible for the main office to get the indication until the semaphore blade has reached the full danger point, danger of false indication is eliminated and if other than the desired signal has operated from any error in dispatcher inserting the plug, no deceptive response is given for only the number of the particular signal which has operated is received and no other.

This signal is operated from central energy, requiring no dependence on a local battery along the line. Oil or electric lights as desired may be used on semaphores. We require one bare, galvanized-iron line wire. You can have an unlimited number of signals on a circuit, fifty if you like. The signals have been in use quite a few months on the Indiana Union Traction Company's line, Anderson to Wabash, and that they have satisfactorily acquitted themselves I think can be vouched for by the president of your association, Mr. H. A. Nicholl.

The Western Ohio Railway Company has adopted the system of carrying two red flags on the rear of trains, instead of the green flags heretofore used. At night two red lights will be used. This is the system adopted by the Central Electric Railway Association, but the Western Ohio for some reason has held to the old idea until the present time.

ANNUAL CONVENTION OF THE INDIANA ENGINEERING SOCIETY

The twenty-eighth annual convention of the Indiana Engineering Society was held in Indianapolis, Jan. 16, 17 and 18. Reports and papers were presented on a wide variety of subjects, including a committee report and three papers on electric railways read Thursday, Jan. 17. The report of the committee on electric railroads, which was offered by the chairman, Robert P. Woods, was mainly a summary of electric railway progress in Indiana and included the data in the following paragraph:

On Jan. 1, 1908, there were thirty separate systems in operation with a total mileage, exclusive of city street car lines, of 1539. The smallest, the French Lick & West Baden Railway, is but 1.09 miles long, while the largest, the Terre Haute, Indianapolis & Eastern Traction Company, has 351.40 miles of road. During the last four years 835 miles of lines have been built, of which 286.71 miles were constructed during 1907. There are now eleven interurban lines entering Indianapolis. During the year a total of 99,242½ passenger-car round trips were made by them. Probably more than five and a half million people were carried. The express and freight business is showing a marked increase. Probably 12 or 15 per cent of the general gross earnings of interurbans is in this class of service.

The committee also referred briefly to recent work in heavy electric traction elsewhere, and mentioned the increasing demand for reliable scientific data on matters pertaining to the technical side of electric railway operation. It recognized that such tests would involve considerable expense, but the theme was a worthy one, and the committee hoped the subject would be taken in hand by the Federal and state governments in co-operation with technical universities, traction companies and the electric railway associations.

J. P. Moore, of Indianapolis, read a paper entitled "The 1200-volt Direct-current Type of Interurban Railway." This related entirely to the Indianapolis & Louisville Traction Company, whose system was fully described in the *STREET RAILWAY JOURNAL* of Jan. 4, 1908. Chas Heron, of Indianapolis, offered an interesting paper on "Types of Traction Cars." As this paper contains numerous formulas and curve sheets, its publication must be deferred until a later issue.

CITY TRACK CONSTRUCTION FOR INTERURBAN CARS.

A paper entitled "Track Construction in Streets for Interurban Service" was presented by T. B. McMath, of Indianapolis. The writer said that instead of an arbitrary tie spacing of 2-ft. centers, he would suggest a specification to make the space between the ties the same throughout to secure a roadbed of more uniform supporting qualities. Mr. McMath considers the T-rail the best shape for heavy interurban cars on city tracks. For streets paved with brick, any section deep enough to provide a sand cushion under the brick is satisfactory. The 80-lb. standard section with a depth of 5 ins. can be successfully used, also the high T-rails. Many of the old high T-sections, however, are not adapted for heavy loads, due to weakness in the web, as they were designed for lighter loading. If used, the bending of the web throws a crushing strain on the paving, which is forced to give way. The 7-in. T used in Indianapolis was especially designed with a web stiff enough to support the load, the 9-in. girder section having failed utterly in this respect.

The rail requirements are of sufficient width of head to protect paving from the wheels, sufficient height to permit

paving and a base wide enough to sustain and distribute the load. The web should be thick enough to resist the bending moment of the wheel load when applied at the extreme edge of the head. Clay or loam requires heavy ballast. A good foundation can be made by putting in a layer of stone or gravel ballast, laying the track and tamping with ballast, and then filling with concrete to the height required by the paving. Concrete makes the best foundation and ballast, but to be useful it must be over 1 ft. thick under the ties. A cheap natural cement can be used with safety and keep the expense within reach. The subgrade should be excavated to a depth of 6 ins. below the bottom of the ties. The track should be laid on this subgrade and raised up to grade, and lined on blocking.

The concrete should be in the proportion of 1-2½-7 with natural cement, tamped specially under the ties and base of the rail and levelled at the proper grade for the brick surface. This construction makes a rigid road bed and if proper time be given for setting, will give a first-class road bed and is preferable to any type of concrete beam.

The reconstruction of streets having tracks on which traffic must be maintained during construction can be accomplished by the use of dry concrete as a foundation. Excavate and lower the track until a depth of 6 to 8 ins. below grade is attained. Then mix cement, sand and gravel in the proportions of 1-2-6, using no water. Throw the mixture in the track and raise track and tamp ties to grade the same as if ballast were used. Tamp until ties are solid under passing cars. When the track has been properly surfaced on the dry concrete, line up the track and finish concreting with wet concrete. Some five years' experience with this type of work has shown that work so done will hold to surface and line as well as if laid on wet concrete without traffic. Excavations made show that the concrete has set, perhaps not 100 per cent of the strength of properly wetted concrete, yet if liberality has been shown in the amount of cement used, such dry concrete will be ample.

The feature accomplished is that the track is in operating condition all the time and at the end of six months an expert could hardly tell upon excavating whether or not the concrete had all been given the same mix. Portland cement gives better results than natural cement, but the cheapness of the latter allows a liberality in its use which is necessary when dry mixing is done.

The writer has excavated gravel from a bank with a half yard orange-peel excavator, thrown the cement on top of the bucket of gravel, dumped the bucket in his No. 2 Drake mixer, which discharged the mix directly into the ballast cars. The extra cost of 100 yds. of mixed material is \$67.00 above the cost of ordinary ballast. In this case the dry concrete cost about \$1 per cubic yard ready to spread and tamp. However, gravel-pit conditions did not permit this kind of work for more than three weeks, after which it was impossible to reach the mixer directly with the excavator and a second handling was necessary.

ORGANIZATION OF TRAFFIC ASSOCIATION IN THE CENTRAL WEST

Pursuant to a call by H. A. Nicholl, president of the Central Electric Railway Association, the traffic managers of Ohio, Indiana and Michigan met at Dayton, Jan. 22, to organize an electric railway traffic association as an affiliated organization of the Central Electric Railway Association. The meeting was held at the Phillips House in Dayton, and representatives of the traffic departments of twenty-two interurban electric railway companies were present. The meeting was called to order by F. D. Norviel,

of the Indiana Union Traction Company, who stated briefly the objects of the proposed association. J. H. Crall, of the Terre Haute, Indianapolis & Eastern Traction Company, was then elected temporary chairman, and R. A. Crume, auditor and purchasing agent of the Dayton & Troy Electric Railway Company was elected secretary of the meeting. A committee consisting of A. G. Kelly, C. G. Lohman, F. D. Norveil, W. S. Whitney, and G. F. Price, was appointed to draw up a constitution and by-laws for the afternoon meeting. The meeting then adjourned for lunch.

At the meeting on Wednesday afternoon the committee on constitution and by-laws presented its report. After considerable discussion of the proposed constitution the committee was instructed to confer with a committee of the Central Electric Railway Association, consisting of F. J. J. Sloat, C. N. Wilcoxon, F. D. Carpenter, R. T. Gunn and J. F. Starkey, and to report back at the meeting to be held Thursday morning. The principal point to be considered by the joint meeting was the question of methods and the division of expenses of the work to be conducted jointly by the two associations in compiling and publishing tariffs. Up to the time of going to press the committee had not reported and further action on the adoption of the constitution and the election of officers had been deferred until the report was received.

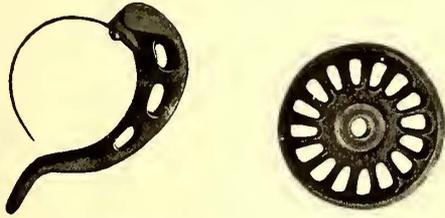
A report of the meeting of the Central Electric Railway Association which was held at the Phillips House, Dayton, on Jan. 23, will appear in the next issue of this paper. Two papers presented at the meeting are published this week.

NEW TRAMWAY LAW PROPOSED FOR NEW ZEALAND

New Zealand proposes more completely to control the working of its tramway lines. To this end it is proposed to amend the present statistics by a new measure. The amendment provides that every driver of an electric tram must have a certificate issued by a board of examiners to be appointed by the minister. Power is also given to the Minister to authorize any proper person to inspect a tramway, whether in course of construction or open for traffic, and the rolling stock in use or to be used, and if such person reports that any alterations are necessary to insure the safety of the public or the employees, or to meet the reasonable requirements of the traffic, the Minister may order them to be made accordingly. If the order is not completed within the specified time, the promoters of the tramway will be liable to a fine not exceeding £20 a day. No tramway is to be opened for traffic until the Minister has intimated to the promoters that he has received from an engineer appointed under the Public Works Act a certificate that the undertaking is safe and fit for traffic. The maximum penalty for a breach of this provision is £20 a day. Power is given to the Governor (which is the Government in this case) by Order-in-Council to make regulations providing for the inspection and licensing of tram cars, prescribing the maximum number of passengers that may be carried on any carriage on any particular route or grade, prescribing the maximum distance at which carriages may follow one another, and the limit of speed on any particular route or grade, appointing stopping places providing for the use of signs indicating by day and by night the destination and route, providing for a fine not exceeding £20 for a breach of any regulation so made, and providing for such other matters as the Minister thinks fit to secure the safe working of the tramway. Further, the Minister is given power to inquire into any accident and to suspend the driver or cancel his certificate. The power of licensing cars is transferred from the local authority to the Minister.

NEW SLEET SCRAPERS AND SLEET WHEELS

Two devices for freeing wires from sleet that have met with success are illustrated herewith. One is a scraper to be fastened to the regular trolley wheel by means of a spring. It can be attached in a moment, and as readily removed after it has served the purpose. It locks the wheel and effectively scrapes all sleet and ice from the wire. It is simple and inexpensive, and is preferred for use where only an occasional sleet storm may be expected. The other



SLEET SCRAPER AND SLEET WHEEL

is a wheel which takes the place of the regular wheel, and is intended for those sections where sleet storms are of frequent occurrence. If the storm comes during the night, one of these wheels on the car that makes the first morning trip is sufficient to clean the wire for the day's traffic. During heavy storms cars equipped with wheels should be run every fifteen or twenty minutes. Both devices are made by the R. D. Nuttall Company, of Pittsburg, Pa. The scrapers are made in two sizes, 4 ins. and 6 ins. The wheels are made 4 ins. in diameter, 1½ ins. through hubs, and 5½ ins. in diameter, 1½, 2 and 3 ins. through hubs.

PLANNING FOR THE OPENING OF THE COLUMBUS, DELAWARE & MARION RAILWAY

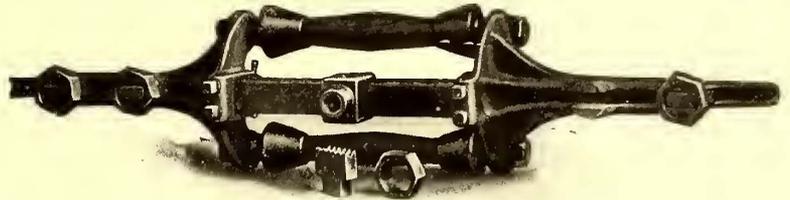
General Manager, George Whysall, of the Columbus, Delaware & Marion Railway Company, states that the officials have not given up the idea of being able to operate the line of the Columbus, Marion & Bucyrus Railway between Marion and Bucyrus by April 1, although weather conditions have not been at all inviting for construction work for some time past. There are two short stretches of grading, aggregating less than a mile, yet to do. The rails are down and the overhead work completed for a distance of nine miles, approximately half the distance between the two towns. The road will be ballasted with crushed stone, which will perhaps be secured from one of the largest crushing plants in the country. This plant is located close to the line and connected with it by a spur approximately 1500 ft. in length. This will make the work convenient and the construction men may always be sure of the quality of the ballast.

The Columbus, Marion & Bucyrus line will be supplied with power from the Columbus, Delaware & Marion Railway Company's power house at Stratford, connecting with the present transmission line carrying 20,000 volts at Marion, where the sub-station will be located. This sub-station will be operated in connection with the one now operated by the Columbus, Delaware & Marion, and a second sub-station will be located at a point eleven miles from Marion. Inasmuch as the Columbus, Delaware & Marion is using 600-volt D. C. current on the trolley, the Columbus, Marion & Bucyrus will do likewise.

The business of the Columbus, Delaware & Marion continues to show an increase from month to month, under the new operating organization.

A NEW SECTION INSULATOR

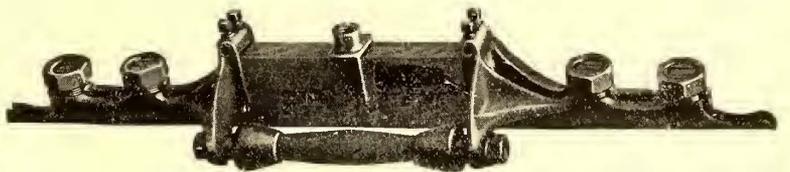
A new type of section insulator has recently been put on the market by the Ohio Brass Company, of Mansfield, Ohio, and is shown in the accompanying illustrations. Great mechanical strength is claimed from the fact that the direct pull exerted by the trolley wires is borne by two wood break strain insulators, one on each side of the suspension bar and runner piece as shown in Fig. 1. These wood break strains are similar in construction to the manu-



SECTION INSULATOR WITH TWO WOOD BREAK STRAIN INSULATORS

facturer's regular wood break strain insulator, that is, the malleable iron cap-castings are compressed over the ends of the wood member by hydraulic pressure, which distributes the stresses evenly throughout the entire piece. The malleable iron cap-castings of the wood breaks are provided with internally threaded lugs, and are fastened to the end-castings of the section insulator by machine bolts which pass through holes in the end-castings and engage the threads in the lugs. Lock washers prevent these bolts from being loosened by vibration. Since each of the wood breaks has an approximate ultimate strength in tension of 7000 lbs., it is possible to break the largest sizes of trolley wire without injury to the insulator. The wood breaks being situated in the same plane with the trolley wire they are subjected to no bending moment, being subjected to direct tension stress only.

The suspension bar and runner piece are of hard wood and are separate as seen in Fig. 2. The ends of the suspension bar, which is 1½ ins. x 1 1/16 ins. x 9¼ ins., fit into



INSULATOR WITH SUSPENSION BAR AND RUNNER PIECES OF HARD WOOD

recesses in the faces of the end-castings, and a top suspension is provided for attachment to a hanger with a 5/8-in. threaded lug. The runner bar is of the same dimensions as the suspension bar, the under edge being rounded to fit the groove of the trolley wheel. It is driven tightly into the recesses in the end-castings beneath the suspension bar and is further held in place by cotter pins as shown in Fig. 1. This runner bar may be easily renewed.

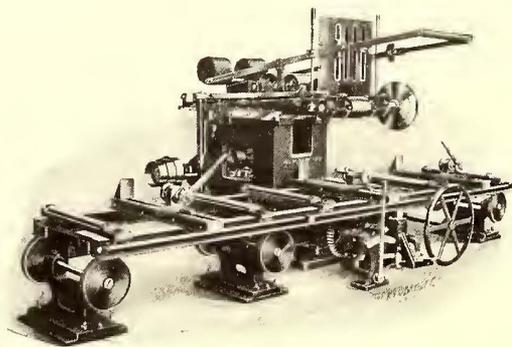
By inspection of the illustrations it will be noted that the end-castings terminate in long grooved ears for the reception of the wires. These ears are each provided on the upper edge with two threaded lugs, 1¼ ins. in diameter, the lugs being bifurcated. A wedge with a grooved and serrated edge, shown in detail in Fig. 1, fits into the bifurcations of each of the lugs and is clamped down upon the trolley wire by nuts which fit the lugs. About midway between the lugs there is a projection or lump in the bottom of the groove in the ear, so that when the wedges are clamped down the wire is given a crimp, rendering it

impossible for the wire to pull away. The grooves in the ears will take round, figure 8 and grooved wires.

At the tops of the end-castings $\frac{3}{8}$ -in. holes are drilled for feeder wire fastenings, and clamping bolts are provided. The length of the section insulator is $19\frac{1}{8}$ ins. over all.

A NEW AUTOMATIC CAR GAINER

A new improved automatic car gaining machine, specially designed for use in car and bridge construction, or wherever heavy gaining is required, is being made by the J. A. Fay & Egan Company, of Cincinnati, Ohio. It is substantially built, and has a capacity for timbers up to



AN IMPROVED GAINING MACHINE

20 ins. thick and 24 ins. wide. The frame is a heavy-cored casting with a broad, substantial base, supporting the working parts without vibration. The gaining arbor and head are supported on a large and powerful automatic ram, that is gibbed to the top of the column in planed ways. The machine has a horizontal travel of 26 ins. The arbor frame is gibbed to the front of the ram, and has a vertical adjustment of 21 ins. to suit various thicknesses of stock and depths of gain. To facilitate this adjustment, the arbor frame is counterbalanced. The expansion gaining head is 16 ins. in diameter, and will cut gains up to 5 ins. deep. The construction of the heads is such that it will make a perfectly clean cut whether feeding forward or backward. The head furnished regularly with the machine will expand to gain from $1\frac{1}{2}$ ins. to 3 ins., but special heads may be obtained which will gain up to 9 ins. wide. The feed is driven by heavy-cut gears actuated by miter friction. The gears are mounted on shafts running in separate self-oiling bearings. After the outward stroke, the ram returns automatically, or may be stopped at the end of the forward stroke and set to another gain on the return stroke. There are three speeds to the ram drive, viz., 15 ins., $22\frac{1}{2}$ ins. and 30 ins. per minute. The timber carriage is made of steel I-beams and has automatic friction feed, under constant control of the operator. For accurate adjustments, the carriage is operated by the hand wheel shown in the illustration. The carriage is provided with adjustable stops for regulating the distance to the carriage and, as regularly furnished, is 14 ins. long, but may be made any desired length. The vertical boring attachment is supported by brackets on the main column, and has an adjustment across the carriage of 18 ins. and a vertical stroke of 18 ins. The tight and loose pulleys for this attachment are $10 \times 4\frac{1}{2}$ in. face, and should make 750 revolutions per minute.

THE MUKDEN TRAMWAY

Extensions are proposed to the Mukden Tramway by the owners, the China-Japan Horse Railroad Trading Company, Ltd. This company has about $2\frac{1}{2}$ miles of track which is operated by horses, although the rails are heavy

enough for electric or steam traction. It is proposed to build a 5-mile extension, which will bring all parts of the city and suburbs into direct rail communication with the four lines of railroad which meet at the junction now controlled by the South Manchurian Railway. The local manager is Kyohei Kakehi.

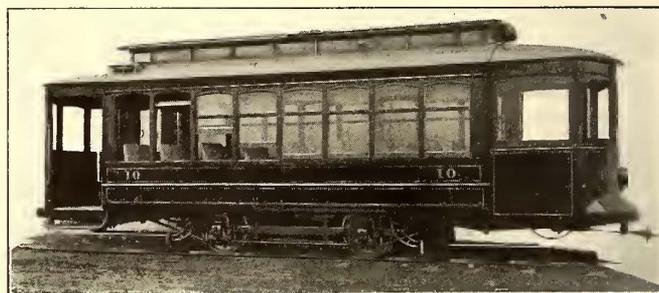
NEW FORM OF VESTIBULE HEATER

The Twin City Rapid Transit Company has ordered 100 heater equipments of a novel type from the Peter Smith Heater Company, of Detroit, Mich. This heater was made up especially to meet conditions in the Twin City cars, and will be known by the manufacturers hereafter as their Type C heater. The heater is designed to be placed in the car vestibule and not to be too high to obstruct the view of the passengers. Consequently its height has been kept down to 44 ins. and its diameter to $20\frac{1}{2}$ ins., yet it has ample capacity to easily heat city or interurban cars up to 40 ft. inside measurement. This heater is of the magazine type and has capacity enough to run 18 hours without re-coaling.

SEMI-CONVERTIBLE CARS FOR CLINTON, IOWA

The American Car Company has just completed a number of Brill semi-convertible cars for the Clinton Street Railway Company, generally similar to those furnished by the same builders when the lines in Clinton were operated by the State Electric Company. The Clinton Street Railway Company assumed control about two years ago and practically replaced the old system with a new one. Twenty-foot semi-convertible cars are standard in Clinton, although the American Car Company has supplied cars of the regular open type.

The platforms of the new cars are panelled around and closed on one side and the 21-E truck, on which the cars are mounted, has an unusually long wheel base—8 ft. The seats, which are of Brill make, are all transverse. Some



SEMI-CONVERTIBLE CAR FOR CLINTON

of the dimensions are as follows: Length over end panels, 20 ft. 8 ins.; over crown pieces, 31 ft. 8 ins.; width over sills including sheathing, 8 ft. $5\frac{1}{2}$ ins.; height from floor to ceiling, 8 ft. 5 ins.; from under side of sills over trolley board, 9 ft. $2\frac{5}{8}$ ins.; size of side sills, $4\frac{3}{4}$ ins. \times 7 ins.; end sills, $3\frac{1}{2}$ ins. \times $6\frac{5}{8}$ ins.

The system over which this new rolling stock will be operated comprises 16 miles of track, the greater portion of which is on Second Street, connecting Clinton proper with Lyons, formerly a separately incorporated town, but now part of Clinton. The two towns have a combined population of about 25,000. There is a spur on the Second Street line which reaches Eagle Point park, operated by the railway company. A crosstown line on Sixth Avenue serves the western portion of Clinton and the Iowa & Illinois Railway Company enters Clinton over these same tracks.

FINANCIAL INTELLIGENCE

WALL STREET, Jan. 21, 1908.

The Stock and Money Markets

There has been a further universal relaxation in the money markets of the entire world, and this has constituted the chief factor in financial circles during the past week. Practically all of the business done in call loans on the New York Stock Exchange has been at or under 3 per cent, while accommodations on time have been freely offered at 5 per cent for all dates, with some exceptional transactions reported as low as 4½ per cent for four months. Moreover, borrowers were not at all disposed to pay even the comparatively low figures quoted and lenders are generally inclined to make concessions. Whereas Wall Street only a few weeks ago was in dire distress because of the inability to borrow funds either on call or on time at any figure, is now threatened with an over supply of money and the banks in many instances are experiencing difficulty in finding employment for their surplus funds. This condition of affairs has of course been brought about largely through the enormous return flow of currency from interior points, and which was reflected in a most remarkable gain in actual cash by the local banks, as shown by their statement of last week. The exhibit disclosed a combined increase in specie and legal tenders of over \$26,000,000, of which \$16,500,000 was added to the surplus reserve, raising the amount held in excess of legal requirements to over \$22,635,475. From present indications the surplus reserves of the New York banks will continue to expand in practically an unprecedented manner, consequently the prospect is that still greater monetary ease will develop before long.

An advancing tendency in the foreign exchange market has led to some talk of possible gold exports in the early future, in which event some of the current ease in the local money market would in all probability be lost. However, gold exportations are rather a remote possibility, especially as discounts in all the European markets are now on a declining scale. Apart from the further heavy gain in cash and surplus reserves, the principal development of the week has been the wholesale retirement of Clearing House certificates. During the height of the recent panic the amount of such certificates outstanding approximated about \$75,000,000. Now, however, only about one-quarter of this amount is out, and bank officials express the belief that within a fortnight at the latest they will have all disappeared. In response to these several encouraging forces the stock market during the fore part of the week took on increased strength and prices advanced more or less sharply. The rapid rise, however, induced a great deal of profit-taking on the part of those who had purchased stocks at materially lower levels and this selling, together with some extensive bearish operations among professionals, brought about quite a pronounced reaction, which by many close observers was looked upon as a very good thing for the market as a whole, as in their judgment the general list had been moving up too rapidly. The stock of the American Smelting Company was one of the greatest sufferers in the general recession and special pressure was directed against it. However, pretty much all classes of securities were inclined to run off under the influence of the selling referred to, and while there was not much in the way of actual liquidation, the market was rather weak in contrast with the pronounced strength which has lately characterized it.

The local traction stocks held up somewhat better than the general run of railway and industrial shares, chiefly by reason of special causes affecting these companies individually and collectively. The Interborough Company now reports a larger traffic than ever before in its history, which is explained in considerable measure by the opening and successful operation of the East River Tunnel. The Brooklyn Rapid Transit likewise reports traffic fully up to what it was before the opening of the tunnel, which is accepted as conclusive proof that this company is bound to benefit vastly from this source in the long run. As has been the case for some little time, this class of securities still finds much favor among investors.

Philadelphia

Although there was no material increase in the volume of business transacted in the local traction issues during the past week, the general tone continued strong and in several instances further substantial gains were recorded. Consolidated Traction, for instance, after selling at 65½, advanced to 69, while United Companies of New Jersey rose from 239 to 240. Philadelphia Company common advanced ½ to 37½ and the preferred advanced a point to 38. Philadelphia Rapid Transit was by far the most active feature of the group, but the price movement was extremely narrow. Opening at 17¾, it advanced to 18, and later, on profit-taking sales the price eased off to 17¾. Philadelphia Traction, however, moved up to 88½, and Union Traction rose from 51 to 51½. American Railways was firm, with transactions at 43 and 43½.

Baltimore

Trading in the Baltimore traction issues was comparatively quiet, but the general trend of prices was toward a higher level. Interest again centered largely in United Railway issues, all of which scored substantial gains. The 4 per cent bonds advanced to 87, and the incomes to 49½. The funding 5s sold at 75¼ and 75. City & Suburban 5s were conspicuously strong, scoring an advance of ¾ to 106¼. Richmond Traction 5s sold at 100¼ and Baltimore City Passenger 5s at 97.

Other Traction Securities

Very little interest was manifested in the Chicago traction issues during the week, but such transactions as were recorded were generally at higher prices. Metropolitan Elevated preferred advanced a point to 48 on reports that the directors of the company would resume dividend payments on the stock in the near future. South Side Elevated sold at 70. The feature of the Boston market was a sharp advance in the price of Boston Elevated to 140, and the highest figure attained by the stock for several months. Massachusetts Electric issues were reactionary, the common declining from 12 to 11, and the preferred from 49½ to 49. West End common advanced 2 points to 82, and the preferred sold at 99. Boston & Worcester preferred was very quiet, but steady, at 59½.

Cleveland Electric stock advanced to 42, buyer sixty days, on the Cleveland Stock Exchange last week, with cash at 40 and 40½ on a few small lots. Northern Ohio Traction & Light has varied from 19½ to 20 through the week, with a number of small lots sold at both figures. Aurora, Elgin & Chicago preferred has remained around 71 for some time, but within the past time a few blocks changed hands at a better figure, some of them going as high as 73. Washington, Baltimore & Annapolis pooling certificates were in good demand most of the week at 10 and one or two points lower.

Security Quotations

The following table shows the present bid quotations for the leading traction stocks, and the active bonds, as compared with last week:

	Jan. 15.	Jan. 22.
American Railways	43	43½
Boston Elevated	129½	136½
Brooklyn Rapid Transit.....	44¾	44¾
Chicago City	a150	a150
Cleveland Electric	—	—
Consolidated Traction of New Jersey.....	64½	68
Detroit United	38½	37
Interborough-Metropolitan	7¾	7¾
Interborough-Metropolitan (preferred)	20	19¾
International Traction (common).....	30	35
International Traction (preferred)	61¾	64¾
Manhattan Railway	123	123
Massachusetts Elec. Cos. (common).....	11½	12
Massachusetts Elec. Cos. (preferred).....	49	47½
Metropolitan Elevated, Chicago (common).....	a17½	17
Metropolitan Elevated, Chicago (preferred).....	45½	46
Metropolitan Street	20	22
North American	53¼	47½
Philadelphia Company (common).....	36½	37½
Philadelphia Rapid Transit.....	18	14¾
Philadelphia Traction	85½	87½
Public Service Corporation certificates.....	54	54
Public Service Corporation, 5 per cent notes.....	85	85

	Jan. 15.	Jan. 22.
South Side Elevated (Chicago).....	68	67
Twin City, Minneapolis (common).....	86½	86½
Union Traction (Philadelphia).....	51¼	49

a Asked.

Metals

The "Iron Age" says that the question uppermost in the minds of furnacemen and steel makers alike is that of the prices for Lake ores for the coming season and it is possible that it may be settled at an early date. It is realized that these prices lie at the base of the whole structure, and there is a strong feeling in favor of maintaining prices. While the majority of sellers of pig iron are adhering to recently established prices, there is a sufficient number of producers who are willing to accept prices \$1.00 to \$1.50 per ton less to establish the market.

Copper metal remains quiet and unchanged at 13¾ @ 14c. for lake, 13½ @ 13¾c. for electrolytic, and 13¾ @ 13½c. for castings.

NEW DIRECTORS OF WASHINGTON RAILWAY & ELECTRIC COMPANY ORGANIZE

Organization was effected by the newly elected directors of the Washington Railway & Electric Company, Saturday, Jan. 18. Notwithstanding the previously expressed expectation that either George Truesdell or William Loeb, Jr., would be made president, the directors re-elected Allan L. McDermott. It was understood, however, that Mr. McDermott's tenure of office will be only temporary on account of his ill health, and in his speech of acceptance he stated his desire that such should be the case. Providing for an active local head of the company in Mr. McDermott's absence the directors created the new position of first vice-president, and elected Clarence F. Norment to fill it. Gen. George H. Harries was made second vice-president, and his duties will continue the same as heretofore. Other officers elected were: H. W. Fuller, general manager; F. J. Whitehead, secretary, and W. F. Ham, treasurer and controller; executive committee, Allan L. McDermott (ex-officio); Clarence F. Norment, George Truesdell, Woodbury Blair and Ward Thoron. As the same directors also represent the various companies subsidiary to the Washington Railway & Electric Company, they also elected the same officers for each of the railway companies, as well as for the Potomac Electric Power Company. There was an exception in the case of the latter company in the selection of E. S. Marlow to be treasurer and L. E. Sinclair to be general superintendent. The directors of the company are: Woodbury Blair, Allan L. McDermott, Clarence F. Norment, George H. Harries, William Loeb, Jr., George Truesdell, and Ward Thoron.

THE QUESTION OF WHAT CONSTITUTES A STREET RAILWAY TO BE SETTLED IN CANADA

Representatives from Ottawa, Montreal, Toronto, Winnipeg, Brantford and other places were present last week at the meeting in Ottawa of the Union of Canadian Municipalities. Among the many subjects discussed at the meeting was the protection of municipal rights in Victoria, Calgary, Winnipeg, Fort William, Port Arthur, Brantford, Hamilton, Toronto, Montreal and other places. Certain amendments to the Railway Act were suggested. The Railway Act provided that a street railway must make terms with any municipality with respect to running rights over any street or highway within the corporate limits of such municipality. The development of electricity, the creation of the suburban electric roads and the changes in the methods of transportation have raised the question whether the term "street railway" in the Railway Act applies to an electric road outside the municipal confines of a city. The executive of the union therefore suggested to the Minister of Railways that it should be made clear in the Railway Act that municipal control over "street" railways should be made applicable to all roads operated by electricity or cable. As a result it has been decided to introduce an amendment to the Railway Act this session which will have an important bearing on such bills as the Hamilton Radial and the Montreal & Southern Counties Railway Companies, now before Parliament.

ANNUAL REPORT OF AMERICAN LIGHT & TRACTION COMPANY

The American Light & Traction Company has issued its annual report for the year ended Dec. 31, 1907. The earnings for the last two years compare as follows:

	1907.	1906.
Earnings on stock of subway companies owned.....	\$2,236,261	\$2,070,507
Miscellaneous earnings, improvements, etc.	226,897	193,228
Gross earnings.....	\$2,463,158	\$2,263,735
Expenses	36,563	48,000
Net earnings.....	*\$2,426,595	\$2,215,735
Dividends	1,242,912	1,173,969
Surplus	\$1,183,683	\$1,040,766
Reconstruction reserve.....	681,000	680,500
Surplus	\$502,683	\$361,266

*After allowing for 6 per cent on the \$14,236,200 preferred stock outstanding, the balance, \$1,572,422, is equal to 23.25 per cent earned on the \$6,760,700 common outstanding.

The profit and loss account compares as follows:

	1907.	1906.	Changes.
Previous surplus.....	\$2,490,144	\$2,128,878	Inc. \$361,266
Year's surplus.....	502,683	361,266	Inc. 141,417
Total profit and loss surplus	\$2,992,827	\$2,490,144	Inc. \$502,683

The condensed balance sheet as of Dec. 31, 1907, compares as follows:

ASSETS.		1907.	1906.
Invested account.....		\$26,671,756	\$26,739,734
Treasury stock.....		I	I
Certificates of indebtedness.....		1,890,777	1,708,183
Earnings received, subway companies.....		3,388,408	2,385,332
Bills received, subway companies.....		2,047,812	1,575,537
Manager's stock contract.....		222,500	227,500
Accounts received.....		95,504	63,560
Interest and dividends.....		41,579	...
Temporary invested.....		220,582	26,156
Cash on hand and in bank.....		621,779	494,456
Total		\$35,200,699	\$33,220,459
LIABILITIES.		1907.	1906.
Preferred stock.....		\$14,236,200	\$14,236,200
Common stock.....		15,000,000	15,000,000
Bills payable.....		*1,260,266	500,000
Reconstruction and reserve.....		1,361,500	680,500
Dividends accrued and payable.....		314,953	289,052
Miscellaneous		34,952	15,563
Undivided earnings.....		2,992,927	2,490,144
Total		\$35,200,699	\$33,220,459

*Collateral trust 6 per cent notes.

President Emerson McMullen calls attention to the increase in gross earnings for the twelve months ended Dec. 31, 1907, which was 8.81 per cent over the gross of 1906, with an increase in net of 9.52 per cent. The dividends charged off during the past twelve months exceed the amount of dividends of corresponding twelve months a year ago 5.87 per cent. The surplus for the twelve months ending Dec. 31 increased 13.62 per cent. The net surplus for the twelve months (after carrying to "reconstruction reserve" the sum of \$681,000) exceeded that of same period last year by \$141,417, an increase of 39.14 per cent. The net earnings for the past twelve months equal \$2,426,595; dividends, \$1,242,912; surplus, \$1,183,683; "reconstruction reserve" account, \$681,000; net surplus for the year, \$502,683. The total undivided earnings to date amount to \$4,354,327, less amount carried to "reserve" account, \$1,361,500, leaves surplus Dec. 31, 1907, \$2,992,827. The net earnings for the last twelve months equal 6 per cent on preferred stock and 23.26 on common stock. Deducting from net earnings, 6 per cent on preferred (\$854,172), and the amount carried to "reserve" (\$681,000) leaves a balance of net earnings equivalent to 13.19 per cent on common stock.

TOLEDO RAILWAYS & LIGHT COMPANY'S REPORT FOR YEAR

The Toledo Railways & Light Company has issued its annual report for the year ended Dec. 31, 1907. The report includes all the property of the Toledo Gas, Electric & Heating Company, purchased on June 1, 1907, and operated since that date. In January, 1907, the company also became the owner of the entire capital stock of the Toledo, Ottawa Beach & Northern Railway, and is now operating that road under contract. In March, 1907, the company purchased the entire capital stock of the Toledo & Western Railroad Company.

The following is a comparative statement of the earnings, etc., of the Toledo Railways & Light Company for the past two years. The figures for the year 1907 include the earnings of the Toledo Gas, Electric & Heating Company for the entire calendar year.

Income account:

	1907.	1906.
Gross receipts.....	\$2,565,200	\$2,047,611
Expenses and taxes.....	1,542,333	1,071,773
Net earnings.....	\$1,022,867	\$975,838
Interest.....	708,166	509,607
Surplus.....	\$314,701	\$466,231
Per cent of capital.....	2.27	3.89

The capital stock of the company has been increased from 120,000 shares to 150,000 shares; 18,750 shares have been issued to stockholders of the Toledo Gas, Electric & Heating Company in payment of that property. The balance, 11,250 shares, are unissued.

The report states that, owing to the financial conditions, the large expenditures for improvements, and the company's inability to market any treasury assets, it was the consensus of opinion of the directors to discontinue for the present the payment of dividends.

The general balance sheet as of Dec. 31, 1907, compares as follows:

ASSETS.		
	1907.	1906.
Road and equipment.....	\$28,319,740	\$23,013,298
Improvements.....	968,368	584,671
Other permanent investments.....	2,733,556	1,185,680
Current assets.....	594,604	698,466
Sinking and special funds.....	3,876	4,373
Expenditures.....	2,219,420	1,860,789
Ticket stock.....	41,057	41,486
Total.....	\$34,880,622	\$27,388,855
LIABILITIES.		
Capital stock.....	\$13,875,000	\$12,000,000
Bonds.....	14,500,000	11,283,000
Deferred payments, real estate.....	99,500	99,500
Real estate sale.....	31,871	31,870
Accrued liabilities.....	393,971	259,240
Current liabilities.....	2,234,400	637,808
Earnings.....	2,362,976	2,047,611
Tickets.....	41,057	41,486
Profit and loss.....	1,341,487	988,339
Total.....	\$34,880,622	\$27,388,855

President Henry A. Everett says:

"We are now supplying the city with 1571 magnetic arc lamps for street lighting, an increase for the year of 195. The city lighting is the new system of magnetic arc lamps which was installed during the year 1907, in accordance with the contract entered into with the City of Toledo in October, 1906, for a period of ten years from Jan. 1, 1907.

"Extensive betterments have been made on the electric, gas, heating and railway plants, so that the capital requirements for 1908 will be small.

"The franchises of this company are being operated under something more than one hundred ordinances of the City of Toledo and proceedings of the Lucas County Commissioners, all favorable in their terms.

"Those relating to gas, electricity, power, light, heating and

the underground conduit system are perpetual, subject only to the ordinary police regulations and to the statutory requirements of the state of Ohio that the prices to be charged shall be regulated at intervals of not exceeding ten years.

"The rights of the company to operate its street railway in certain streets will expire Nov. 9, 1910, but the larger part of the system is being operated under ordinances which expire in 1914, 1915 and 1916, and the demand for transfers from one part of the system to the other makes it practically certain that no considerable change in the present operation or in fares will be made until about 1914.

"The company has now 1829 stockholders of record.

"The net results of the year's operation are unsatisfactory, owing to an unexpected combination of circumstances which will probably never occur again. We look forward to a prosperous year in 1908, not so much from anticipated growth in gross earnings as from a reduction in expenditures for capital account and also operating charges."

At the annual meeting of the stockholders of the company, held Jan. 16, Louis E. Beilstein and Herman S. Swift, of Toledo, and Edward W. Moore and Henry A. Everett, of Cleveland, were re-elected as members of the board of directors. Charles W. Wason, of Cleveland, and Albion E. Lang and John F. Collins, of Toledo, retired and their places were filled by the election of S. D. Carr and Jay K. Secor, of Toledo, and R. B. Van Cortland, of Montreal. In addition, J. F. Demers, of Quebec, and W. E. Hutton, of Cincinnati, were elected to the board. The board organized by the election of the following officers: Henry A. Everett, of Cleveland, president; Louis E. Beilstein, of Toledo, vice-president and general manager; Edward W. Moore, of Cleveland, vice-president; Herman S. Swift, of Toledo, secretary; S. D. Carr, of Toledo, treasurer.

LEHIGH VALLEY TRANSIT REPORT FOR YEAR

The annual meeting of stockholders of the Lehigh Valley Transit Company was held in Allentown Jan. 14. R. P. Stevens was re-elected president, and John C. Dawson, of Brown Bros. & Company, was elected vice-president. The directors were re-elected.

The annual report for the fiscal year ended Nov. 30, 1907, shows gross earnings of \$926,799 by the railway companies and \$104,761 by the electric light properties and from other sources, or a total gross for the year of \$1,031,560. The railway gross increased \$43,954, or 4½ per cent over the previous year. Gross receipts from electric light companies increased about 15 per cent. Operating expenses of the railways were \$631,283, an increase over the previous year of 14 per cent. Operating absorbed about 68 per cent of gross earnings. The company's consolidated mortgage bonds began to draw interest from November, 1906, and the full year's interest of \$81,600 was for the first time included in the charges. The surplus for the year, after payment of all fixed charges and taxes, amounted to \$5,264.

The year was of unusual importance to the company, as it was practically the final period in the rehabilitation of the entire power system. During this time both the old and new power plants had to be operated, which temporarily increased costs and expenses. The entire new system is practically completed and is expected to result in a large reduction in operating expenses. In the item of repairs to cars alone a large saving will be effected. Under the old system, with different power houses scattered along the line and varying voltages, the expense of repairs to motors was especially heavy.

The directors of the company considered the gross earnings good, in view of the severity of the early winter months of 1907 and the easing off of general business in the latter part of the year. The surplus of \$5,264, although small, was also considered satisfactory, in view of the extra cost due to double operation during part of the power transition period, the increase in interest charges, wage advances and the general heavier cost of operation.

President Stevens, who entered the company's service last August, says: "We have the largest and best equipped power system for interurban operation in eastern Pennsylvania, and both service and earnings ought steadily to improve. We have thoroughly revised the company's schedules, so as to give better service at less expense, and have been effecting economies that should enable us to make a good showing this year, even should there be a quieting down of general trade."

MEETING OF EXECUTIVE COMMITTEE OF ENGINEERING ASSOCIATION

President Simmons of the Engineering Association has called a meeting of the executive committee of that association to be held on Thursday, Jan. 30. The meeting will convene in the offices of the main association in the Engineering Societies Building, 29 West Thirty-ninth Street, New York City, at 2 p. m.

ANNUAL REPORT OF THE NORTH AMERICAN COMPANY

The North American Company has issued its annual report for the year ended Dec. 31, 1907. The income account compares as follows:

	1907	1906
Total receipts	\$1,610,965	\$2,773,892
Rent, taxes, etc.....	206,322	99,270
Undivided profits	*\$1,404,643	\$2,674,622
Dividends	1,117,211	1,487,305
Balance	\$287,432	\$1,187,317
Commissions paid		
Surplus for year.....	\$287,432	\$1,187,317

*Equal to 4.7 per cent on the \$29,793,300 capital stock.

The undivided profits account shows as follows:

Dividends paid in 1907.....	\$1,117,211
Decrease in value of assets as readjusted Dec. 31, 1907	2,290,365
Balance as per balance sheet Dec. 31, 1907.....	1,996,614
Total	\$5,494,190
Balance on Dec. 31, 1906.....	3,999,548
Net income for fiscal year ending Dec. 31, 1907.....	1,404,642

The general balance sheet as of Dec. 31, 1907, compares as follows:

ASSETS.		
	1907	1906
Stocks	\$28,548,024	\$31,641,824
Bonds	45,520,833	159,292
Loans	4,047,452	1,603,639
Property and office furniture.....	1	1
Bills and accounts receivable.....	92,879	141,729
Cash	186,170	913,655
Total	\$37,395,361	\$34,460,140
LIABILITIES.		
	1907	1906
Capital stock	\$29,793,300	\$29,791,300
Accounts payable		51,539
Collateral trust notes.....	2,500,000	
Loans	2,810,333	
Accrued interest	21,508	
Dividends		
Funds of construction companies.....	269,975	614,892
Undivided profits	1,996,614	3,999,548
Dividends unclaimed	3,630	2,861
Total	\$37,395,361	\$34,460,140

AFFAIRS IN NEW YORK

Justice Mills, at White Plains, Jan. 18, appointed former District-Attorney Young temporary receiver of the Westchester Electric Railway Company, of Mount Vernon, and former County Clerk Leslie Sutherland temporary receiver of the Yonkers Railway. The appointments were due to the application of the directors, who had set forth that the debts of the companies aggregate about \$5,000,000, and the assets were small. An order to show cause why the two companies should not be dissolved is returnable on March 9.

Directors representing the interests of holders and the trustees of the first consolidated bonds of the Third Avenue Railroad have been elected to the boards of certain subsidiaries of the

Third Avenue, including the Dry Dock, East Broadway, and Battery Railroad, Forty-Second Street, Manhattanville, and St. Nicholas Avenue Railroad, and the Union Railroad. The Central Trust Company is trustee of the mortgage securing the bonds. The elections were in accordance with an agreement with the receivers, and follow the plan of separating the Metropolitan and Third Avenue systems.

At the public hearing held Friday, Jan. 17, by the Public Service Commission for the purpose of hearing suggestions as to the methods that should be pursued to make possible the building of additional subways in this city, it was urged by all speakers that the present Elsberg rapid transit act be amended. Senator Elsberg, one of the authors of the bill, and for whom it was named, was among those who thought the act should be amended. Many speakers were also in favor of securing legislative action to permit of the extension of the city's debt limit so that bonds put out for subway construction would not be included in the total amount of debt. More power for the commission was urged by several who spoke.

DETROIT MAYOR'S SPLEENETIC ADDRESS TO THE COUNCIL

Mayor Thompson, of Detroit, in submitting his annual address to the Council Jan. 15 felt it incumbent upon him to attack the Detroit United Railway Company. This he took occasion to do at the very beginning, making it the first subject to receive his attention. In part, Mayor Thompson said:

When, a year ago I addressed you for the first time as Mayor of our city, I emphasized the fact that the street railway situation was the paramount question before the people. What was stated then, is repeated now: The Detroit United Railway can get no new lease of life in our streets, except upon the fundamental basis of three-cent fares for all the people all the time. Mayors and Aldermen may come and go, but the determination of the people upon this point suffers no change. Of course, there are those, who, for reasons of personal prejudice or pecuniary profit, seek to dupe the people into giving away the valuable rights in the streets, which the street railway company must have in order to live. But the overwhelming majority of the people are too well educated in the merits of this controversy, and too unselfish and patriotic to yield to the pleadings of either the paid advocate or the petty partisan. If any proof is needed of the temper of our people upon this question, in addition to the fate of the "Codd-Hutchins Ordinance," you need only recall the fact that when your honorable body submitted to popular vote the granting of a large number of valuable extensions to the Detroit United Railway—which were sorely needed in some districts—the people, even in the districts to be benefited, overwhelmingly voted to walk rather than give any new concessions to the Detroit United Railway. There has been no time during the past sixteen years, neither under the administration of my three immediate predecessors, nor myself, when this question could not have been settled if the company had granted the reasonable demands of the people. No settlement could be forced during all these years, because the city was bound, at least until Nov. 14, 1909, by existing franchise contracts. As long as the company stood upon its rights and demanded the letter of its bond, a settlement was out of the question until its franchises expire. Then it must settle on our terms.

Settle the street car question before that time? Certainly. At any time. To-night, to-morrow, or next week, if the company chooses. But settle it right. Neither you nor I can settle it any other way, because the people who must pass upon it, finally, will see that it is settled right, when it is settled. It rests entirely upon the Detroit United Railway whether it will now concede three-cent fares for all the people all the time, or will wait to be forced to do so one year hence, when our people, exasperated by delays and oppression, will be in the right mood to drive a hard bargain, not only on the matter of fares, but on the other matters of paving, taxation, service, time-term of franchise, the reserved right of municipal purchase and ownership, and the saving of potential competition for all time by the setting aside, as free territory, of a substantial portion of the downtown terminals for the use of new competing lines.

The so-called "twenty-four second measure" has been argued before Judge Swan and awaits his decision. While the court is considering whether or not it will grant the relief sought, it is our duty to cope with existing dangerous conditions, by passing an ordinance requiring two conductors—one to collect fares and the other to direct the car and guard the safety of passengers alighting from and boarding the car. If the court will not let us provide comfort, we can at least secure safety for our people.

In concluding, the Mayor referred to the decision by the Supreme Court of the state against the attempt by the city to build a street railway line, to be leased at such terms as the city saw fit to fix, and said that the charter of the city should be amended so as to make possible municipal ownership of street railways.

THE WORK OF THE NEW YORK UTILITIES BOARDS FOR THE FIRST SIX MONTHS

In compliance with the statute creating them, the Public Service Commission for the First and Second Districts of New York have transmitted to the Legislature their reports covering the six months from July 1 to Dec. 31.

In the main, the report of the commission for the First District, which includes New York, Kings, Queens and Richmond Counties, embracing Greater New York, is a detail of the work of the commission, as recorded from day to day. The most important recommendation contained in the document is that dealing with the present rapid transit law, in regard to which four important changes are suggested. After a general review of the transit improvements under way and planned, the report states that bonds issued for rapid transit purposes are reckoned as part of the debt in determining the debt limit of the city, although such improvements are not only self-supporting; but revenue earning. The report continues:

Because of the financial condition of the city, and because of the present limitation upon the power of the commission to secure the use of private capital in the construction of rapid transit routes within the City of New York, the commission makes the four following recommendations as to legislation:

(1) A Constitutional amendment exempting from the 10 per cent debt limit bonds for the construction of rapid transit lines, when such rapid transit lines shall be self-supporting.

(2) An amendment to the rapid transit law providing that leases of extensions of rapid transit lines may be made to terminate at the same time as the original lease, this commission having the power, in conjunction with the Board of Estimate and Apportionment, to fix the terms, conditions and compensation and to readjust the same, each twenty or twenty-five years thereafter.

(3) An amendment to the rapid transit law which shall give the local authorities and this commission the power to allow the construction and operation of rapid transit lines by private companies upon the payment of part of the earnings to the city, with a reservation to the city of the privilege to purchase at any time after a period of not more than twenty or twenty-five years and without any payment for the franchise itself, and

(4) An amendment to the rapid transit law making it possible for the local authorities and this commission to let contracts for operation for a longer period than twenty years, or else to make the lease terminable at any time after a certain period of not more than twenty years, with a provision that the equipment shall be purchased at a fair price by the city on the termination of the lease.

The report deals with the method of the commission in following up complaints and holding hearings. All told, 179 hearings were held between July 18 and Dec. 31. As a result, the commission issued 186 orders. Of these, 84 were complaint orders, 46 were orders for hearings, 42 were final orders, and 14 were general orders calling for information.

The general transit inquiry is touched on rather lightly, but the improvements in service growing out of it are given in detail. Then the accident report is transmitted. It shows that the total number of accidents reported by the transportation companies in the six months was 24,209, and that the total number of deaths occurring in connection therewith was 288. The report continues:

"The commission believes that no more important work could be undertaken than the reduction of this death list. Judicial processes in the nature of criminal prosecutions and civil suits for damages, partially because of the length of court calendars and the skill of counsel employed by the companies, have not been adequate, and regulative requirements by public officials are all the more necessary."

According to the report, the gross earnings of the surface, elevated and subway lines for the period were in excess of \$66,000,000.

The following is a comparative table of assets and liabilities from the reports of the street surface, elevated and subway railroads under the jurisdiction of the commission for the year ending June 30, 1907:

Cost of road and equipment.....	\$459,802,018
Permanent investment, cash and other assets.....	164,274,208
<hr/>	
Total assets.....	\$624,076,226
Capital stock issued.....	270,617,350
Funded debt.....	250,977,663
Other liabilities.....	96,081,265
<hr/>	
Total liabilities.....	\$617,676,278
Excess of assets.....	6,399,948

The following is a comparative statement from the reports of the income account for the year ending June 30, 1907, of such companies:

Earnings from operation:	
From passenger transportation.....	\$65,568,031
From freight transportation.....	290,515
From express transportation.....	132,559
From mail transportation.....	60,227
From miscellaneous sources.....	42,443
<hr/>	

Gross earnings from operation.....	\$66,093,776
Operating expenses:	
Maintenance of ways and structures.....	\$4,303,898
Maintenance of equipment.....	5,625,603
Maintenance of power plant.....	6,107,673
Operation of cars.....	15,830,593
General expense.....	6,145,293
<hr/>	

Total operating expense.....	\$37,013,062
Net earnings from operation.....	29,080,713
Income from other sources.....	2,757,281
<hr/>	

Net income..... \$31,837,995

According to the printed report of the State Board of Railroad Commissioners for the year ending June 30, 1906, the total number of passengers carried by all the railroads of the state was 1,630,775,156, of which 105,757,957 were carried by the steam roads and 1,535,017,181 by the street surface, elevated and underground railroads. Of this 1,535,017,181, upwards of 80 per cent, or 1,249,829,568, were carried by the railroads now operated under the jurisdiction of this commission. From the reports filed for the year ending June 30, 1907, it appears that the increase in passengers transported on these roads within the First District over the preceding year is 73,338,898, making a total of 1,323,273,368 passengers transported, daily average of upwards of 3,560,000 persons.

A very large proportion of this daily traffic—conservatively estimated at 60 per cent, or something more than 2,000,000—travels within the limits of four hours, 7.30 to 9.30 in the morning and 5 to 7 at night. At the time the commission came into office these companies were thus carrying passengers to the number of 500,000 an hour—more than 10 per cent of the entire population of the city—during some portions of the day.

The report of the commission for the second district deals for the most part with the steam roads. In regard to the electric railways the commission says it intends to cause annual inspection of each electric railroad within its jurisdiction. In its reference to the electric roads in the summary of the report the commission says: "A summary of the inspections made during the past six months will be published with the report. The inspections made include examination of track, roadbed, bridges, and other permanent structures, power-houses, car barns and repair shops, methods of operation, protection of grade crossings by steam roads, train dispatching, block signals, train rules, running schedules, discipline, sufficiency of service, and maintenance of equipment. The inspections show general improvement in track, roadbed and equipment of the electric roads in this district. Where practicable, derailing devices have been required to be installed at grade crossings of electric and steam lines. The speed of suburban and interurban roads has in recent years added greatly to the danger at highway crossings, and accidents at such crossings have materially increased. Greater consideration must be given in the future to protection of the public at crossings of this character. The part of the report devoted to electric lines also includes consideration in detail of bridges, trestles, structures, guard-rails and braces, power brakes, operation of trailer cars, single truck cars, height of car step, vestibules, the overhead trolley and third-rail systems, and high-potential or alternating-current systems. The commission is giving attention to the advisability of ordering an increase in the equipment of electric cars, especially those in high-speed service, with some form of power brakes. The subject of vestibules is also receiving attention. Some special statistics of electric roads are set forth in the report."

Directors of the American Light & Traction Company have declared the regular quarterly dividend of 1½ per cent on the common and preferred stocks, payable Feb. 1 to stockholders of record Jan. 24.

PENNSYLVANIA'S TWO-CENT LAW DECLARED UNCONSTITUTIONAL

Especially in States where two-cent fare laws on the railroads have been declared, will interest attach to the decision of the Supreme Court of Pennsylvania, handed down on Jan. 20, declaring the two-cent law in that State unconstitutional. The opinion confirms the decision of the Common Pleas Court of Philadelphia, which was handed down last September. It declares that the real question is whether the law transgressed the provisions of the Constitution that the legislative power to alter charters shall be exercised only in such manner that no injustice shall be done to the corporators. Continuing, it says:

"The court below found that the act does injustice to the corporators, in that it reduces the returns from the property to such an extent as to render it unremunerative. The corporation is entitled to make a fair profit on every branch of its business subject to the limitation that its corporate duties must be performed even though at a loss. The conclusion of the court below that the enforcement of the act of 1907 against the complainant would do injustice to the corporators is beyond just criticism."

The two-cent fare law was enacted by the last Legislature. The railroads fought the bill, and after it became a law the Pennsylvania Railroad instituted suit in the Common Pleas Court of Philadelphia restraining the County of Philadelphia from enforcing the law. The railroad contended that the law was unconstitutional in that it was unreasonable and confiscatory. The county took the case to the State Supreme Court.

NEW GOVERNOR OF NEW JERSEY RECOMMENDS PUBLIC UTILITIES COMMISSION

John F. Fort was inaugurated Governor of New Jersey, at Trenton, Tuesday, Jan. 21. In his inaugural address Gov. Fort recommended moderation in dealing with the railroads and other corporations, and called for the creation of a public utilities bill which shall work wisely to the stockholder and the corporate interests. Another subject that received his attention was taxation. In regard to the public service bill, the Governor said:

"A public utilities bill should be enacted that will meet all the demands of the most advanced thought upon governmental regulation of public utility corporations. Such a bill cannot harm such corporations, but will, in my view, strengthen them and their securities in public confidence. Of course, in the doing of these things it (the State) should act wisely and with conservatism, protecting all vested rights of property and the interests of the innocent holders of the securities of existing quasi-public corporations. Regulation, therefore, upon a wise basis, of the operation of these public utilities companies, including the fixing of rates and public charges, upon complaint, and subject to court review, should be intrusted to a proper board, as well as the right to regulate the output of stock and the bonded issues of such corporations.

"If this were done it would inure to the benefit of the people and the companies, for it would fix the value of such securities and act as a guarantee against their depreciation. Under such a law the holders of existing securities would find them protected, and new securities offered would have the confidence of the people, because of the guarantee of the State that they were only issued for extensions or betterments, and upon some basis of the cost of such extensions or betterments. It is difficult to suggest any legislation that would give greater confidence to the public and investors than a wise public utilities bill; and the mere suggestion of its enactment should cause this class of security holders to feel that their holdings were strengthened, and that the State was about to aid the managers of its public utility corporations to conserve their corporate property for the public benefit and for the protection of invested capital.

"There should be but one commission in the State for the regulation of railroads and all public utility companies, and, in case a new act is passed on this subject, it should embrace all the powers conferred upon the Board of Railroad Commissioners under the act approved on May 15, 1907. The act of 1907 is good as far as it goes, but its powers are not sufficiently broad or drastic to compel a compliance with its orders or to reach many matters over which it should have plenary control. The present method of enforcing orders, provided by the act of 1907, which requires proceedings in a court of equity, by a

bill for specific performance, is so absurd as to be almost ludicrous. Any order of the commission should become operative unless court review be commenced by the company affected within a definite number of days, and, in default of proceedings for review or compliance with the order, a penalty should be imposed by the commission; the mere filing of the order for which in the Supreme Court should cause it to operate as a judgment against the property of the defaulting company, with the enforcement of this judgment by an execution out of the Supreme Court, as in the case of any other judgment.

"With this sort of a public utilities bill, with a board of four commissioners, at a reasonable compensation, who should be required to devote all their time to the duties of the office, and three of whom should always be necessary to make any order, good results would be accomplished for the people."

INDIANA DISCUSSION ON THE RIGHT TO MAKE A SPECIAL FARE TO A PARK

The Indiana Railroad Commission has had a close question to decide in the matter of rate discrimination. The Indiana Union Traction Company, which operates a line between Indianapolis and Broad Ripple, was alleged to have discriminated against the citizens of Broad Ripple in the matter of rates and the question was submitted to the commission. The commission sets forth that the fare between Indianapolis and Broad Ripple in each direction is 10 cents. It is set out also that by an agreement with the White City Company the fare from Indianapolis to White City and return is 10 cents, and that the citizens of Broad Ripple in order to obtain advantage of this fare must have their tickets validated in the White City Park, the admission to the park being 10 cents. The commission, however, holds there is no well founded objections to the 10 cents round trip fare from Indianapolis to Broad Ripple Park, the purpose of this rate being to induce a flow of traffic from the city of 235,000 inhabitants to a place of amusement and recreation; the resort is lawful, well conducted and the object is to encourage patronage as it furnishes an additional point for recreation and rest for the residents of congested districts in the city.

LEGISLATION IN OHIO

Hon. Walter Ritchie, of Lima, Ohio, appeared before the Senate Committee on Taxation at Columbus a few days ago and argued against the passage of the Howe bill, which proposes to place a tax upon the franchises of interurban railroads and all other public service corporations. Mr. Ritchie said that such a law would be a death blow to one of the growing forces in the development of the state, and made an extended argument against anything that would retard interurban railway growth in the state.

It is said that the bill introduced in the Senate by Senator Schmidt, of Cuyahoga County, will not only make it easy to secure rights of way in the streets of Cleveland, but that it will wipe out all the "sins of omission and commission" of the low-fare companies in the Forest City, including the financial interest claim against the Mayor. The companies will have a clean slate, if the bill goes through, and the long list of injunction suits will then have no reason for existing. In effect, Mayor Johnson will succeed in legalizing his claim that where a franchise owned by one company expires in a street it can be renewed to another company. This idea, it will be remembered, was given the quietus by a court decision some time ago, and the Mayor was told that his companies would have to seek the consents of property owners and proceed in the same way as if no street railway had ever been operated on the street.

A bill introduced in the General Assembly by Representative Kealy, of Hamilton County, seeks to confer power to regulate the service of street railway companies upon boards of public service. It is claimed that the law giving this authority to boards of public works was repealed with the Rogers 50-year franchise law and that since that time the municipal code statutes have contained nothing regarding it.

The Wertz bill, establishing an initiative and referendum system in municipalities, provides that no ordinance or resolution granting any franchise or right to a public service corporation, and no measure involving the expenditure of money, shall take effect until sixty days after its passage, and in the meantime the measure may be submitted to a vote of the people on petition of 10 per cent of the voters, and if a majority are opposed to the measure it shall not become effective.

PUBLIC UTILITIES BILL INTRODUCED IN MASSACHUSETTS

A public utilities commission similar to that created by the New York Legislature is provided for in a bill introduced in the Massachusetts Legislature Saturday, Jan. 18. It provides that the commission shall have supervision over railroads and street railroads, lying exclusively within the commonwealth. The commission is to consist of five members, appointed by the Governor, with the advice of the Council, and will be vested with the full power of a court in summoning witnesses and demanding evidence. Causes of accidents on any railroad or street railway in which there is loss of life or injury to person or property shall be investigated by the commission. The commission may investigate or make inquiry in a manner to be determined by it as to any act or thing done or omitted to be done by a common carrier subject to its provisions or violation of any provision of law or any order of the commission. Complaints made by persons and forwarded to the commission shall be immediately sent to the person or corporation complained of, with an order that a satisfactory explanation be given in writing. If the charges demand investigation, the commission shall take up the matter at a hearing. Whenever the commission feels that rates, fare or charges of common carriers are unreasonable, it shall determine just rates and shall have the power to fix the same. The commission is to be vested with the power to approve issues of stock and bonds. All common carriers must obey the orders of the commission under penalty of \$5,000 for each violation. It is provided that the act shall take effect July 1, 1908. Power is given to the Governor to appoint and remove any commissioner for inefficiency, neglect of duty or misconduct in office. The commissioner shall have an opportunity to be heard publicly. The term of office shall be five years, but for the first commission the terms shall expire yearly from Feb. 1, 1909, until Feb. 1, 1913. The commission, it is provided, shall exercise all power heretofore conferred upon the board of railroad commissioners, telephone commissioner and the board of gas and electric commissioners.

Several other bills affecting street railway companies have also been filed in the Legislature since the opening of the session Jan. 1, but none have yet been disposed of. One of the first (House No. 25) revives interest in the project of Colonel Butler Ames, now in Congress, for a high-speed interurban electric railroad between Sullivan Square, Boston, and the center of Lowell. One of the difficulties previously encountered by the company was its inability to get from the edge of the Boston Elevated Railway territory to the heart of the traffic center without charging more than a 5-cent fare—the Boston Elevated rate—for that part of the ride. The bill now filed suggests that an attempt is to be made to get over this difficulty by securing legislation authorizing electric railroad companies organized under the laws of Massachusetts to build and operate "elevated or subway structures" longitudinally in the public ways of cities and towns with the approval of the local authorities and the Railroad Commissioners. The company must file plans with the local authorities; these may be altered by the commissioners after thirty days, and if the local authorities neglect to act or refuse a location, the company, after three months, may appeal direct to the commission for a final decision in the matter.

While this bill comes directly from the Ames people, it may prove effective in part at least for the Boston & Eastern Electric Railroad, which in its amended plans proposes entering Post Office Square, Boston, by way of a tunnel under the harbor from East Boston and a subway under the city proper. There is grave doubt whether the Railroad Commissioners have authority to grant any such location without additional legislation, but the Ames bill, with one or two slight interpolations, would cover the rights now questioned for the Boston & Eastern.

Two bills intended to provide band concerts in the Metropolitan Reservations at state expense are of interest to street railway companies, inasmuch as these concerts are no small factor in developing summer business on the beach and park routes. One bill (Senate No. 23) merely authorizes the Metropolitan Park Commission to attend to the matter; the other (House No. 15) is imperative. Both mention \$25,000 to meet the expense.

House No. 75 aims to protect the public from falling electric wires by giving the Massachusetts Highway Commission authority to see that all such conductors of electricity are

placed underground in conduits in all cities and towns of more than 25,000 population, on or before Jan. 1, 1912. In the remaining communities the requirement is to become effective two years later. The penalty named is a fine to be fixed at the discretion of the court.

The plan for a through avenue or boulevard across Cambridge and Somerville to connect the park system north of Boston in developing summer business on the beach and park routes. No. 6, which names as termini Broadway Park, in Somerville, and the Charles River, at or near Cottage Farm. Each time that this plan has been urged, it has provided for a double-track middle reservation for surface cars, which would be equivalent to an important trunk line for the Boston Elevated.

Two bills contemplate reorganization of the Railroad Commission. House No. 41, on petition of James T. Heron, provides that the commissioners shall be elected by the General Court and their expenses paid from the state treasury instead of being met by assessment on the railroad and railway corporations. The other, on petition of E. Moody Boynton, inventor of the bicycle railway, would abolish the commission and create a railroad court, composed of a chief justice and two associate justices, appointed by the Governor, with the consent of his executive council. The salaries mentioned are \$7,500 for the chief justice and \$5,000 for each of the others. The bill provides for three expert assistants, at \$2,500 each, to be appointed by the Governor. At present the chairman of the board receives \$6,000, the two others \$5,000 each, and the assistants are inspectors, whose appointment rests with the board.

The first protest against the movement for higher street railway fares, now becoming general in Massachusetts, was set by the Railroad Commissioners for Jan. 22 at 10:30 a. m. It comes from the people of Stoughton, who object to the action of the Blue Hill Street Railway in raising the fares in their town from five cents to six, without extending fare limits.

NEW TRANSFER SYSTEM IN NEW ORLEANS

The New Orleans Railway & Light Company placed a new system of transfers in effect on Wednesday morning, January 15. By the new arrangement the schedules and routes in force provide for practically universal transfers at all intersecting lines, with the exception that one of the loop lines will not transfer to the other, though all loops will accept transfers from and give them to the terminal lines. Transfers on transfers will not be accepted.

Prior to the inauguration of the system the company posted notices in its cars stating that booklets describing its working could be obtained at the general office on Baronne street. Several thousand of these booklets were in instant demand. The connections of all lines were tabulated in the booklets with the greatest care, to obtain accuracy in minute details and to facilitate ready reference.

When the inauguration of the system was announced the company notified the public that transfers would be issued only on cash fares and at the time of collection. To facilitate this, conductors will distribute transfers while going through their cars for fares and punch them when returning from the rear platform.

The principal transfer-using lines are the Henry Clay, Peters avenue and Village routes. With the launching of the new system motormen will stop at all receiving points, regardless of whether there are cars immediately behind or not. This decision was reached by the car service men among themselves at a recent meeting.

On the evening of January 14 a meeting of the executive committee of the New Orleans Sewerage and Water Board was held, at which President Foster, of the railway company, discussed the congestion of traffic arising from construction work on the streets. Mr. Foster stated that, as a rule, when excavations were made along streets where there are car tracks, vehicle traffic used the track as a roadway. Frequently heavy laden trucks and wagons get stalled, making it impossible to maintain schedules. He suggested that the engineer of the railway company and the superintendent of the board map out the excavation work with the contractors so as to cause the least possible interference with both railway and vehicular traffic. The committee expressed itself in accord with this plan.

THE CLEVELAND SITUATION

Last week the reports of committees in the street railway meetings before the City Council were lost sight of to a large degree, and the Mayor and F. H. Goff took matters into their own hands for a time. The most important question before them was the estimation of the overhead charges, and the two men found themselves far apart, with neither willing to concede on most of the items. Mr. Goff, as the representative of the Cleveland Electric, had fortified himself with opinions from prominent engineers on the subject of percentages and the charges for engineering services. He took this precaution because he felt certain that he and Mayor Johnson would have greater difficulty in settling the question of overhead charges than any other that has yet come up. Mr. Goff's estimate of overhead charges, exclusive of brokerage and interest, was \$2,137,500, while Mayor Johnson's figures were \$401,530.

At a later meeting the two men agreed to refer the question of overhead charges to a committee of experts, to reconcile the difference of something like \$1,700,000 between them. Mr. Goff said he wanted to go over the schedule and agree upon the items to be added, as suggested by the Mayor, and that he would prefer that it be referred to men who have heard the arguments. Mr. Christy and Mr. Andrews were suggested as men who understand these things.

A. B. DuPont made a statement to the effect that the report on the Chicago street railway question was made up behind closed doors and that a valuation of \$50,000,000 was decided upon, and the engineers were under the necessity of preparing figures that would produce this sum. To do so he said that the old cable lines were put in at their original cost or at the value they possessed when they were new and that the City Council accepted the figures. This is the first statement of any importance that he has made regarding the work on that system, in which he aided in making a settlement.

Mr. Goff also referred to the report made by Prof. Bemis and others on the Detroit lines, where the physical property was valued at \$4,000,000, there being 176 miles of track. The Mayor said that this was the first work that Prof. Bemis had undertaken and that he had been called to Detroit just after leaving the Chicago University.

In order to bring the settlement nearer Mr. Goff has conceded that the Corwin avenue ordinance does not extend the franchises of the old company on Woodland avenue and the West Side system to 1910, as has been contended, but that they expire on February 10, 1908, as Mayor Johnson and City Solicitor Baker have argued. Mayor Johnson, in turn, stated that he would not take advantage of the decision of Judge Chapman, which is in his favor, but at the same time does not amount to so much as the contention for the West Side franchises for two years. Under the Chapman decision it was claimed that the Woodland and Scovill avenue cars would not be able to reach the Public Square. Relinquishing the claim, however, gives them rights until 1913 and in some cases until 1914. Mr. Goff made the concession as a waiver and not because he admitted that the company does not have the right to stand for just what has been claimed. The Tayler rule, regarding franchises outside of the city, was also discussed to some extent, but no decision has been arrived at in regard to it. Both men feel that they will be able to come to some conclusion on franchise values, however.

Regarding the paving done by the Cleveland Electric, the Mayor said that, applying a harsh rule, if consents are paid for, then paving should also be paid for. He said he was willing to pay whatever it would cost to acquire the same amount of paving. Robert Hoffman, city engineer and member of the committee on paving valuation, reported the value of the Cleveland Electric paving at \$1,814,659.

LECTURES ON THE ELECTRIFICATION OF STEAM RAILWAYS AT U. OF M.

Edward P. Burch, electric railway engineer, is giving a course of lectures to the senior electrical engineering students at the University of Minnesota on "Electric Traction for Heavy Railway Service." These lectures supplement the regular course in electric railways by Professor Springer, and include the following subjects: "Introduction," "Advantages of Electric Traction," "Characteristics of Steam Locomotives," "Characteristics of Electric Locomotives," "Problems of Electrification," "Load Factor," "Cost of Steam and Water Power," "Power

Plants and Transmission Lines," "Plans of Complete Electrification" and "Data Sheets."

RUMOR OF TERMINAL FOR CINCINNATI

Plans are said to be on foot in Cincinnati to organize a terminal company to build a common entrance to the city for inter-urban lines and a passenger and express station to cost \$500,000. For some time Cincinnatians have been endeavoring to get rid of that part of the Miami & Erie Canal lying within the city or convert it into a parkway of some kind, in order to improve its appearance. Now the idea is to turn the water from this canal into Mill Creek and use the ground for a double-track terminal line to enter the heart of the city. This could be done by the city's purchasing the portion of the canal land within its limits or a purchase or lease of the land by the terminal company.

Of course, these reports are largely speculative, but it is said that the syndicate represented by W. Kelsey Schoepf stands ready to construct the terminal tracks and the interurban station at a cost of \$500,000, if arrangements can be made for the use of this land for the tracks. The Cincinnati Northern Traction lines are but a short distance from the point where the canal crosses the city line, so this would form an entrance for the whole extensive system of this syndicate. Provision would be made for the entrance of all other lines now in operation or any to be constructed in the future, provided they are not direct competitors of the Schoepf lines. The basis suggested for their use in this way is three cents for each passenger for the use of the entrance lines and one cent each for the use of the station. Expressage could be handled on the basis of weight.

EFFECT OF NEW TUNNEL ON BROOKLYN TRAFFIC

Vice-President Calderwood, of the Brooklyn Rapid Transit Company, issued last Saturday the following statement regarding the effect on the Brooklyn Rapid Transit Company of the opening of the new subway extension from the Battery, New York, to Brooklyn, under the East River:

"The receipts of the company have compared very favorably with last year. Thus the gross receipts and operating cost do not appreciably reflect the weight of tunnel service as a transportation factor.

"So far as the traffic is concerned there has, of course, been a change in the nature of the distribution. This, while more definitely ascertainable than the revenue side of the proposition, is somewhat confusing on account of the probable considerable number who are impelled by curiosity to make use of the subway service from Borough Hall.

"We have found a decrease in bridge traffic in the midday. This, I take it, indicated that some shoppers are making use of the subway service. There is also during these hours a considerable falling off in traffic to and from South, Hamilton, Wall and Fulton ferries. On the other hand, our midday traffic in the borough keeps up very well, indicating that we are bringing this traffic to the subway instead of to the bridge and ferries. We anticipated a somewhat similar change in the after dinner and late theater travel, and provided service accordingly. Somewhat to my surprise, while there was a considerable transfer at the Borough Hall in the early evening, travel was not what was anticipated about midnight.

"We have found similar surprises in the effect of redistribution of travel over the surface lines. Some lines which it is believed would be affected, as Gates Avenue, Fulton Street and Putnam Avenue lines, showed increased receipts, while the Graham and Flushing Avenue lines, which do not provide direct service to Borough Hall, seem to be otherwise affected. This is possibly a result of people traveling to and from the Eastern District adopting entirely new routes.

"There has, of course, been something of a decrease in surface traffic on the Brooklyn Bridge, with the result that the cars have been handled with greater regularity and despatch, which, of course, means much for the traveling public.

"At the two elevated stations in Fulton Street additional station force was provided for the sale and collection of tickets, and substitution of chopping boxes provides freer passage to and from the platforms. We think that the arrangements as now made will enable us to handle the business there until the new central Borough Hall station, plans for which are well under way, is constructed."

MEETING OF THE WISCONSIN ELECTRIC AND INTER-URBAN RAILWAY ASSOCIATION

The Wisconsin Electric and Interurban Railway Association met at Milwaukee on Jan. 15 to consider what steps should be taken to best protect the interests of the electric railways in the State in the matter of a uniform system of accounts and reports proposed by the State Railroad Commission, and in the adjustment of rates for public utilities. Only about 15 members were in attendance, and the discussion was informal. The chairman, B. F. Parker, of Green Bay, appointed a committee consisting of Henry D. Smith, of Appleton; B. G. Broad, of Sheboygan, and J. Carson, of Superior, to act with a similar committee of three members of the Northwestern Electrical Association in conferring with the State Railroad Commission before final action is taken on these matters. A committee was also appointed to draft a new constitution under which the Interurban Association and the Northwestern Electrical Association could be combined into one state association, having for members both railway and central station properties.

THE NEW HAVEN ELECTRICAL EQUIPMENT

It was announced last week that the Westinghouse Electric & Manufacturing Company had taken charge of the operation of the single-phase electrical equipment of the New Haven Railroad. The company will take charge of the electrical apparatus for a period, it is said, of six months for the purpose of demonstrating its effectiveness. The plan went into effect Jan. 15.

At the New York office of the Westinghouse company the following statement was confirmed as official:

"The report that the Westinghouse Electric & Manufacturing Company has placed its own men in charge of the operation of the New York, New Haven & Hartford Railroad's electrical equipment on the New York division is true fundamentally. But this must not be taken to mean that the railroad has raised any serious objections to the working of the equipment furnished by this company. The relations of the two companies are entirely harmonious, and it was at the request of the New Haven's executives that our experts were furnished to assist their own employees in overcoming the minor difficulties of operation that have been encountered."

The following statement from the New Haven company was also authorized: "Ever since the installation of the electric service on the New York division of the New Haven system the Westinghouse company has had supervision of its operation and maintenance and will continue such supervision."

ATTEMPT TO DEFRAUD IN WASHINGTON

By the arrest in Washington and New York on Jan. 18, 1908, of three men the police of the two cities believe they have stopped a very clever scheme to defraud the Washington Railway & Electric Company of Washington. This company sells six tickets for a quarter and has its tickets printed by a bank note company, of which one of the men arrested was superintendent of the engraving department. Through this connection he was able to admit one of the others to the bank note company's plant at night, where they abstracted tickets to the value of several thousands of dollars. These tickets were shipped to Washington to the third conspirator who was an ex-conductor and whose business it was to dispose of them, the proceeds being divided among the prisoners.

Information came to the office of the railway company toward the end of November that counterfeit or stolen tickets were being dealt in, and the matter was placed in the hands of Drummond's Detective Agency of New York City. Mr. Drummond's personal investigation speedily convinced him that the tickets were not counterfeit but were genuine and that the source of supply must have been some one in the bank note company. Further work on the case discovered the superintendent of the engraving department as the connecting link between the company and the outsiders. After that the matter was plain sailing.

A search of the house of the engraver is said to have revealed a large number of tickets as well as finely engraved plates and dies.

Independent of the information which the railway company had, the bank note company, through its effective system of checking its work, discovered that something was wrong with

these railway tickets and at once notified the Washington Railway & Electric Company, and thereafter co-operated in every way that lay in its power. Both the railway company and the bank note company are determined that, as far as they can do so, these men shall be punished to the full extent of the law.

INTERNATIONAL ELECTRICAL EXPOSITION AT MARSEILLES

Plans are being completed to open an international electrical exposition at Marseilles, France, on April 19, 1908. The exposition will remain open until Oct. 31, 1908. It is under the sanction and authority of the French Government and the City of Marseilles, and will occupy a large park called the "Rond Point du Prado" at the disposal of the committee. This park, with a superficial area of 60 acres, was, in 1906, the site of the brilliant and successful French Colonial Exhibition, whose buildings will be used for the electrical exposition. Others have also been erected.

The exposition will be devoted entirely to applications of electricity, and will be divided into 17 departments. Exhibits from American manufacturers are especially invited in the departments of traction, mining and lifting. The management propose to give to the section for electric traction a particularly large space, this being amply justified by the fact that Marseilles, as the pioneer of electric traction in France, is now in possession of a street railway system which includes 155 miles of single track, and of which the generating and sub-stations, as well as the car shops, will be visited with interest. Mr. Dabs, general manager of the Marseilles Tramway Company, is one of the commissioners of the exposition. Paul Diény, commissioner for the United States, Park Row Building, New York, will announce the names of the American committee later.

COMPLETING THE TOLEDO, FOSTORIA & FINDLAY

The 16-mile extension of the Toledo, Fostoria & Findlay Railway, from Pemberville to Toledo, has been completed to Toledo city limit, with the exception of a few hundred feet over the overhead structure across the Hocking Valley Railroad, near LeMoyné, and a short stretch under the Lake Shore & Michigan Southern tracks near Toledo. Had it not been for these two grade separations the line would have been in operation several months ago. The work upon these structures is being done by the steam roads and has been much delayed by bad weather. The overhead structure spoken of is approached by earth embankments, instead of by the usual trestle. The steel bridge, upon concrete abutments, being erected by the Hocking Valley road, will be 125 ft. long and span the entire right of way. The subway under the four-tracks of the Lake Shore & Michigan Southern will also be of concrete, with four 24-inch I-beams under each rail. The electric gradients at each of these separations are 4 per cent. At no other point on the line does the grade exceed 1 per cent, and even this figure is approached only in two places and for a short distance.

The track is entirely upon private right of way, except through the village of Wallbridge, a suburb of Toledo, the width being 50 ft. At times, to maintain the line, it was necessary to cut directly through the centers of farms. As a result a 6-mile tangent resulted. The line has heretofore been operated by direct current from Fostoria. With the addition of the new mileage the line is 48 miles long, and to solve the power question the company has erected at Pemberville a 400-kw station, buying the alternating current from the Lake Shore Electric. A 6-mile transmission line has been put in between that point and Woodville; and at the Toledo end, near where the line is paralleled by the Lake Shore Electric, a direct-current feed line from that road supplies current.

The road is well equipped with cars, having ten modern coaches and a number of open cars for summer use. Four new cars recently received from the Niles Car Works are 51 ft. long and equipped with four 93-A motors, geared to 55 miles per hour. The ballast on the line is crushed stone and is obtained from quarries on the line. The quantity used is 1800 yards to the mile. J. E. Reeves, of Canal Dover, Ohio, is the president, and A. J. Krantz, of the same place, secretary and treasurer of the company. F. W. Adams, of Fostoria, Ohio, is vice-president and general manager, in charge of both operation and construction.

WESTINGHOUSE COMMITTEE AGREES ON BOND PLAN WEAR OF TROLLEY WIRES WITH SLIDING CONTACT

The Committee of Creditors of the Westinghouse Electric & Manufacturing Company, which has been working out a plan for the readjustment of the company's debt since shortly after the appointment of receivers last October, made its plan public Monday, Jan. 20. As has already been made known, the consummation of the plan is conditioned upon the payment of \$7,000,000 of new capital into the treasury for stock which, it has been understood, President George Westinghouse and his friends are to take up. It is also provided that the new board of directors shall meet with the approval of the committee, and it is specified that the future election of directors to the satisfaction of the creditors be insured by the creation of a voting trust or similar device. It now remains to secure the assent of the various classes of creditors to the readjustment plan, and to obtain the new capital needed. The committee reserves the power to modify the provisions of the published plan should it be found impracticable. The officers of the Westinghouse Company are said to have expressed their confidence in the acceptance of the reorganization plan, and look for the early discharge of the receivers.

The statement of unsecured debt is as follows:

Convertible sinking fund 5 per cent gold bonds, due Jan. 1, 1931	\$18,500,000
Five per cent gold debenture certificates, due July 1, 1913....	1,969,000
Bills payable	\$9,209,766.21
Accounts payable, about.....	3,952,843.13
Indebtedness of subsidiary companies, subscriptions to stocks or bonds of subsidiary companies and indorsements of notes of subsidiary companies and other obligations, for which provision should be made, about.....	1,368,390.66
Total floating debt, about.....	14,531,000
Total unsecured debt to be provided for, about.....	\$35,000,000

As has been known for a week, the new securities which are to provide for the unsecured debt are to take the form of a twenty-five-year bond issue, bearing 5 per cent interest. These bonds are to be secured by a first mortgage upon the principal manufacturing plants of the company and by the pledge of the greater part of the company's unpledged stocks and bonds of subsidiary and other companies. Although the convertible bonds outstanding are only \$18,500,000, \$20,469,000 of the new issue is to carry the conversion privilege, after Jan. 1, 1910, in order to give the holders of the \$1,969,000 existing debenture certificates the option of exchanging for bonds with or without the conversion feature. The amount of the issue which will be required to take care of the floating debt is estimated at \$14,531,000.

The receivers and the board of directors have approved the plan, which has also been submitted to Kuhn, Loeb & Company as the representatives of large amounts of the collateral trust notes.

The directors of the British Westinghouse Electric & Manufacturing Company have issued a plan for financing that company's needs independently of the American company. An issue of \$1,500,000 prior lien debentures is authorized to be used as follows:

To repay advances from bankers.....	\$500,000
To meet accounts payable now due.....	550,000
To meet additional requirements on account of expansion of business	450,000
Total	\$1,500,000

The new securities were authorized at a meeting of the debenture stockholders on Dec. 18. In order that the whole of this amount might be available for present and future needs, the American companies agree to accept in liquidation of the amounts due them, approximately \$931,870, shares of the Traction & Power Securities Company (an asset of the company) at par.

The eleven months of the present year show a trading profit of \$380,000 and a net profit of approximately \$88,900, after providing for interest on loans and debenture interest. The board states that there has been a considerable improvement in the affairs of the company, and that the directors believe that, barring unfavorable developments in industrial conditions, the position of the company will continue to improve.

In making some changes and repairs in the overhead line construction on the Indianapolis & Cincinnati, near Connersville, Ind., a few short lengths of trolley wire were recently removed after having been in service for more than three years. It is estimated that in that time about 39,000 car movements were made under the wire, each car taking about 40 amperes, at 3300 volts, single-phase alternating current. A bow trolley with aluminum sliding contactor is used outside of Indianapolis. The wire removed showed only slight wear, an almost imperceptible flattening, a little to one side of the center, due to the fact that the pieces taken out were on a curve. The surface in contact with the trolley was fairly smooth with some grooving and occasional small pieces of aluminum embedded in the copper. There were no signs of pitting or burns from arcs. The surface of the wire not in contact with the trolley was covered with dirt collected from construction locomotives and other causes. The loss in weight was trifling, being less than 1 per cent. The sample was secured through the courtesy of Charles L. Henry, president of the Indianapolis & Cincinnati Traction Company.

INCREASE IN CAPITAL IN MONTREAL

The directors of the Montreal Street Railway Company have decided to ask the authorization of the shareholders to issue \$1,000,000 new stock, and a special meeting of the shareholders has been called for Wednesday, Jan. 29, for that purpose. It is proposed to issue the new stock at 125, or at a premium of 25 per cent over the par value, and the stock will be allotted pro rata to shareholders of record at a date to be hereafter decided. It is also announced that the directors have sold in London \$2,300,000 4½ per cent debenture bonds, due in 1922, at 92½, and the shareholders will also be asked at the special meeting to authorize the issue and sale of these bonds. It is the intention of the directors to use the proceeds to extinguish the floating indebtedness of the company, amounting to some \$1,800,000, which, according to the last annual statement, includes \$300,000 of bonds due on March 1, \$1,000,000 notes sold in England last June, and \$500,000 owing the Bank of Montreal. After the paying off of the floating indebtedness there will be a balance of some \$500,000, which will be available for the improvement and extension of the system. The authorized capital of the company is \$18,000,000, of which \$9,000,000 has been issued, so that, including the new issue, the paid-up capital will be \$10,000,000.

CHANGES IN OPERATING DEPARTMENT METHODS IN RHODE ISLAND

The Rhode Island Company, of Providence, R. I., announces a number of changes in the methods of its operating department, deemed advisable owing to the fact that many of the individual car houses are nearly as large at the present time as the divisions were when the system of division superintendents, having jurisdiction over several car houses, was first inaugurated. It is hoped that the change will prove beneficial, as it will enable the superintendent of transportation to take up matters of discipline, etc., direct with the man in charge of the employees at each station.

Foremen of the various car barns of the company will assume immediate charge and supervision of the lines running out of these barns, and the "divisions" and division superintendents are to be abolished. Under this change the third division now in charge of F. H. Brown will be no longer in charge of that official. He will simply attend to his duties as superintendent of the Pawtucket Street Railway. A. F. Searls, now first division superintendent of the Elmwood, Riverpoint and South Providence barns, will take direct charge of the lines that run solely out of the Elmwood barn. Foreman G. R. Jerolman becomes superintendent of the lines operated from the Riverpoint barn. J. M. Rounds becomes superintendent of the South Providence barn. Division No. 2, composed of Cranston, Mount Pleasant and Olneyville lines, is to have three superintendents, as No. 1. B. D. Sweet, formerly in charge of the division, becomes superintendent of the Mount Pleasant service. W. T. Mathewson will succeed to charge of the Olneyville lines, from which B. D. Sweet goes to Mount Pleasant, by preference, and B. M. Taylor

will handle the Cranston lines. J. H. Chamberlain is to have charge of the line leaving the North Main street barn, and James F. Downes will have charge of the Traverse street center. Andrew Potter becomes superintendent of the Riverside territory.

STREET RAILWAY PATENTS

UNITED STATES PATENTS ISSUED JANUARY 14, 1908.

[This department is conducted by Rosenbaum & Stockbridge, patent attorneys, 140 Nassau Street, New York.]

876,387. Brake Setting Apparatus for Railways; John J. McNamee, Norwood, Ohio. App. filed Aug. 5, 1907. An electrical device for operating the brakes in conjunction with a Westinghouse air-brake and which may be readily actuated by an employee, not upon the car, to set the brakes, and may then be readily reset by the engineer or motorman of the train.

876,397. Vestibule-Door and Platform Controlling Mechanism; Frank C. Reynolds, Columbus, Ohio. App. filed March 11, 1907. By the movement of a single lever the trap door provided for closing the space at the top of the car steps may be first swung up against the end of the car and the door may then be swung back against said trap door.

876,419. System of Automatic Block Signaling for Railways; Samuel M. Young, New York, N. Y. App. filed Nov. 1, 1907. A signaling system for a trackway having a plurality of pairs of tracks divided into block sections and having a single source of energy for the signals and controlling mechanism, in which the traffic rails of each section constitute separate conductors for the track circuits and a joint track return for the signaling current.

876,456. Brake Applying Mechanism; James M. Hines, Albany, N. Y. App. filed Oct. 23, 1907. Relates to brake-applying mechanism for four-wheel trucks provided with attachments for automatically taking up the slack in the system due to wear of the brake-shoes, stretching of the brake-rods, etc.

876,489. Electric Railway System; Samuel B. Rappleye and John J. Devine, Philadelphia, Pa. App. filed Nov. 22, 1906. An inverted U-shaped supporting device for the trolley or conductor is attached to the web of the traction rail.

876,492. Trolley Pole Controller; Oscar A. Ross, Chicago, Ill. App. filed Jan. 12, 1906. The pole is mounted on a swiveling support on the roof of the car and has a trip connection with its operating spring so that it drops in case of an undue upward movement.

876,594. Control System; George B. Schley, Norwood, Ohio. App. filed Dec. 31, 1906. A multiple unit train control system having pneumatically operated main controllers operated by a master controller of the engineers' valve type.

876,600. Trolley Guard; Charles W. Sheehan, Lubec, Maine. App. filed Oct. 11, 1907. Yielding guard arms are mounted on each side of the trolley wheel, said arms carrying at their top elastically yielding gates which close over the conductor.

876,659. Electric Railway; Orlando D. Prescott, New York, N. Y. App. filed May 25, 1906. Relates to the construction of a spring mounted shoe for under-side engagement with a third-rail.

876,684. Block Signal Apparatus; Alexander Bevan, Providence, R. I. App. filed March 8, 1907. Adapted for use on single-track trolley roads to warn cars from entering a block from opposite directions. Is applicable to "space" cars or trains on double-track roads. Has circuit-closing devices actuated by the trolley wheel.

876,703. Engineer's Brake Valve; Frank H. Dukessmith, Meadville, Pa. App. filed Dec. 28, 1905. In addition to the usual functions, the engineer's valve controls the engine brakes independently of the train brakes, both as to application and release, and enables the engine brakes to be quickly released in case of a burst hose or emergency application of the brakes.

876,722. Trolley; Joseph H. Kroen, Monaco, Pa. App. filed July 23, 1906. Upwardly projecting guard arms mounted on the trolley harp carry vertically pivoted rollers on either side of the trolley wheel.

876,730. Car Brake Operating Mechanism; Nocklos Rushe, Rankin, Pa. App. filed Oct. 28, 1907. A manually operated brake for freight cars providing mechanism for retaining the brake handle in a fixed position after it has been moved, without the use of a ratchet wheel, pawl, dog or similar device. Uses a gear wheel and reinforced worm.

876,830. Switch Stand and Signaling Device Therefor; Harry C. Odenkirk, Cleveland, Ohio. App. filed Oct. 15, 1906. Relates to means for operating the signaling device.

876,841. Observation-Swing; Winfield S. Ritch, New York, N. Y. App. filed Nov. 9, 1907. Details of a pleasure swing.

876,871. Car Vestibule Door and Trap; Charles E. Griffith, Philadelphia, Pa. App. filed Aug. 20, 1907. The trap is hinged to the car and also has a vertically adjustable hinged connection with the door.

876,876. Automatic Pressure Retaining and Graduating Release Device for Air-Brakes; Even B. Hillman and Louis E. Roberts, Chico, Cal. App. filed Feb. 14, 1907. Provides means whereby the brakes may be applied instantly after having been released, and the second application of the brakes secured with fully as great a pressure as was employed in the last preceding application.

PERSONAL MENTION

Mr. G. E. MILLER has resigned as superintendent of the Union Electric Company, of Dubuque, Ia., to accept the position of general superintendent of the Chattanooga Railways Company, of Chattanooga, Tenn.

MR. ARTHUR H. MANN has been appointed general master mechanic of the Michigan United Railways, with headquarters in Albion, Mich., in charge of the Kalamazoo, Battle Creek and Albion shops of the company.

MR. P. C. DOLAN has been elected president of the Pittsfield Street Railway Company, of Pittsfield, Mass., to succeed the late Mr. Joseph Tucker. Mr. Dolan has for some time been general manager of the company.

THE INTERBOROUGH-METROPOLITAN COMPANY has re-elected six of the retiring directors for a term of three years. Mr. August Belmont, Jr., was elected a director to fill a long-standing vacancy. The directors re-elected are: Messrs. E. Mora Davison, H. M. Fisher, W. Leon Pepperman, Theodore P. Shonts, R. A. C. Smith and George W. Young.

THE INTER-URBAN RAILWAY COMPANY, of Des Moines, Ia., announces that the positions of general freight agent, general passenger agent, superintendent and general roadmaster have been abolished, and the following new positions created, viz.: Traffic manager, in charge of freight, passenger and industrial departments; general agent, in charge of the Des Moines station, and superintendent track and motive power, in charge of track, buildings and equipment. The following appointments have been made to these positions: R. A. Belding, traffic manager; J. F. Johnston, general agent; Geis Botsford, industrial agent; E. B. Beighler, ticket auditor; F. S. Eberhart, superintendent track and motive power.

MR. B. M. BROWN, who, as recently noted in the STREET RAILWAY JOURNAL, has been appointed general superintendent of the Cincinnati Northern Traction Company, began street railroading in 1894 with the Columbus Street Railway, at Columbus, Ohio, as motorman. After two years he was promoted to division foreman, which position he occupied until December, 1902, when he became superintendent of transportation of the Dayton, Springfield & Urbana and the Urbana, Bellefontaine & Northern, with headquarters at Springfield, Ohio. A year and a half later Mr. Brown was transferred to Columbus and became superintendent of the Columbus, London & Springfield and the Columbus, Grove City & Southwestern, occupying this position until August, 1906, when he was again transferred and became superintendent of the Dayton & Western and the Dayton & Northern, now the western district of the Ohio Electric Railway. On Jan. 15, in addition to the last mentioned, he became superintendent of the Cincinnati Northern Traction Company, with headquarters still remaining at Dayton. Previous to entering electric railroading Mr. Brown was in train service on steam roads in the South.

NEWS OF THE WEEK

CONSTRUCTION NOTES

Items in this department are classified geographically by States, with an alphabetical arrangement of cities under each State heading.

For the convenience of readers seeking information on particular subjects, the character of the individual item is indicated as follows:

- * Proposed roads not previously reported.
- o Additional information regarding new roads.
- † Extensions and new equipment for operating roads.

Numerals preceding these signs indicate items referring to:

1. Track and roadway.
2. Cars, trucks and rolling stock equipment.
3. Power stations and sub-stations.
4. Car houses and repair shops.
5. Parks and amusement attractions.

†‡LOS ANGELES, CAL.—Arrangements have been completed by which the yellow cars of the Los Angeles Railway Company will be run into Glendale within a month. These cars will run on an extension of the Eagle Rock line and will enter Glendale by way of the Verdugo road. Turning westward on a private right of way between Third and Fourth Streets the cars will run to Belmont Street. The service on the line is to be half hourly through from Los Angeles.

†LOS ANGELES, CAL.—The Pacific Electric Railway Company is expending about \$40,000 in the installation of interlocking and derailling switches and semaphores at the two railroad crossings on the Long Beach line.

†‡LOS ANGELES, CAL.—The Los Angeles-Pacific Railway Company has started work on a line to Toluca from Santa Monica Avenue.

†‡MONROVIA, CAL.—The Pacific Electric Railway Company has just completed a station in Monrovia at a cost of \$6,000. It is in the modified mission style of architecture, and is built of reinforced cement, with red enameled metal tile roof. Its dimensions are 121 ft. x 26 ft. Besides the business office, there are inclosed and open-air waiting rooms, express and freight storage rooms and a covered loading platform. The interior is finished in oak, with mission style benches. A double roof and solid walls, ten inches thick, insure coolness in summer and warmth in winter.

‡‡RICHMOND, CAL.—The East Shore & Suburban Railway Company has just purchased from the General Electric Company a 500-kw motor generator, complete with switchboards, and three 200-kw transformers, 10,000 to 440 volts.

*RICHMOND, CAL.—The Trustees have passed an ordinance granting to John Nicholl a franchise for an electric street railway.

†‡SAN DIEGO, CAL.—Petitions were filed with the city clerk several days ago by the San Diego Electric Railway Company asking for extensions of time for the completion of the construction of the car lines on First and State, between D and H Streets, to Oct. 1, and of the Old Town line, from Winder, on India, to Congress and Smith Streets, to Oct. 22.

†SAN FRANCISCO, CAL.—The Ocean Shore Railway now extends up the coast from Santa Cruz to the new town of Folger, a distance of twenty miles. From San Francisco end cars are regularly run to the San Pedro Valley, and the work of extending the line is being carried on steadily. While 80 per cent of the work is completed, it is necessary for the company to sell bonds in order to finish in the thorough manner planned. The bonds are being offered to local investors on the installment plan and are being sold rapidly in this manner.

†SAN FRANCISCO, CAL.—As soon as the franchises of the proposed electric system of the Southern Pacific Company are granted, it is announced, the actual work of construction in Alameda will commence. The changing of the motive power from steam to electricity will first start in Alameda, and then the change will be made in Oakland and Berkeley, according to the information furnished. With the changing of the steam system there will also be a change in the manner in which the trains from other points in the county are handled. The electric service is to be extended ultimately as far east as Niles, and all electric trains are to run to the Alameda mole to allow the better handling of the freight and overland passenger trains at the Oakland pier. The plans for the power house to be situated at the estuary shore have been completed, and immediately after the granting of the franchise in Alameda it is said that work will commence on its erection. It is possible that the franchises will be passed at the first meeting.

†SAN JOSE, CAL.—The City Council has given first reading to an ordinance providing for the disfranchisement of the San Jose Railroad Company, which operates five miles of electric car lines within the corporate limits. The road is owned by the Hibernia Savings Bank of San

Francisco. The ordinance empowers the mayor to cash the company's forfeit check and turn the money over to the general fund. The company was given a standard-gage franchise twenty-two months ago.

†DENVER, COL.—Plans have been about completed for the construction of a viaduct at Twenty-third Street, which is to bring the Denver & Interurban Railroad into the city. No definite date has been set for beginning construction work on the viaduct.

oWASHINGTON, D. C.—The application for a permit of the Washington, Spa Spring & Greta Electric Railroad Company to begin work on that line has been approved by Engineer Commissioner Morrow. Before the permit will be granted a deposit of \$500 will be required. The road will be constructed along the lines approved by Commissioner Morrow. The railway will run along the Bladensburg Road, from H Street to the District line and to Spa Spring. B. D. Stevens, of Riverdale, Md., is president of this company.

oACWORTH, GA.—Austin Granville, of New York, has petitioned the Acworth Council for a franchise to run an electric railway through the streets of Acworth. It is proposed to run the electric railway from Acworth to Kennesaw, Lena, Noonday, Elizabeth, thence to Marietta, and north to connect with Allatoona, Bartow, Hugo, Emerson to Cartersville. A part of the track has already been laid and a large amount of the machinery ordered. Work will be pushed forward at once.

oATLANTA, GA.—The Atlanta, Norcross & Gainesville Railroad Company has been organized to construct an electric railway from Atlanta to Gainesville, a distance of about fifty miles. It will be run through Chamblee and Boraville in DeKalb County, Norcross and Buford in Gwinnett County, and thence into Hall County. The capital stock of the line will be \$15,000, with the right reserved of increasing this amount to any the incorporators may decide upon. The incorporators are of Hall County and are H. D. Jaquish, C. C. Sanders, W. B. Smith, J. H. Hunt, R. Smith, A. J. Mundy, H. B. Smith, M. M. Ham, J. W. Bailey, H. H. Dean and L. B. Stevens.

†‡MACON, GA.—It is said that the directors of the Macon Railway & Light Company are contemplating the extension of the Bellevue car line to the rack tracks at Idle Hour Farm.

†‡CAIRO, ILL.—The City Council has granted a franchise to the Cairo Terminal Traction Company to build an interurban road into Cairo. The franchise is for fifty years, and entrance into the city is made over Sycamore Street to Washington Avenue, and down that street to Fourth. The line must be completed to Mound City and Mounds within three years and to Villa Ridge in ten years.

†‡CHICAGO, ILL.—The Chicago & Joliet Railroad has increased the capacity of its Joliet sub-station by the installation of a 500-kw motor generator set, consisting of a three-phase, 2300-volt induction motor and an interpole generator. Partly in anticipation of heavy travel during the coming season between Joliet and Dellwood Park, near Joliet, the capacity of the Lemont and Summit sub-stations will probably be increased by 500-kw and 250-kw machines. Traffic on the Chicago-Joliet line will be increased considerably by the erection of a plant to cost \$5,000,000 by the Corn Products Company. The new plant will be located on the line about four miles from the Chicago terminal.

*CHICAGO, ILL.—The Southern Street Railroad Company, of Chicago, has been incorporated with a capital stock of \$10,000 to operate street railways in Cook County. The incorporators are J. C. Cleary, John A. Early and E. J. Stevens.

oPANA, ILL.—The City Council of Shelbyville has granted a franchise to the Mattoon-Shelbyville-Pana-Hillsboro Traction Company. The franchise extends for twenty years. The Town Council of Tower Hill has also granted a franchise to the company. There now remain only a few towns along the proposed route that have not granted franchises. The president of the company is W. R. Patton, of Charleston, Ill.

oBLOOMINGTON, IND.—The City Council has granted a franchise to the Grand Central Traction Company, which proposes to build an electric railway between Indianapolis and Evansville. It is expected that construction work will begin early in the spring.

*CLINTON, IND.—A mass-meeting of Vermillion County citizens was held in Clinton on the 18th inst. and preliminary steps were taken to organize a company to build an interurban line from Clinton to Danville, Ill. No trouble in securing right of way is predicted, as nearly every farmer along the route proposed has voluntarily agreed to donate land for the road. The Commercial Club of Clinton will endeavor to interest Terre Haute and Danville capitalists in the enterprise. The proposed route is studded with a number of prosperous towns, including Hillsdale, Newport, Cayuga and Perrysville.

†TERRE HAUTE, IND.—Traction service between Terre Haute and Indianapolis by way of Brazil and Greencastle was inaugurated Jan. 20. The distance is seventy-three miles. This line makes connection in Terre Haute with the Paris, Ill., line, thus for the first time linking the three states, Ohio, Indiana and Illinois, by traction service. Only a short gap remains between Paris and Danville, Ill., when Missouri will be added.

oATLANTIC, IOWA.—The Atlantic & Northern Railway Company