

IN THE FIELD OF ELECTRICITY

Steady Advances of Trolley Lines Into the Domain of the Locomotive.

LINES IN OPERATION AND PROJECTED Lively Competition for the Local Passenger Traffic Formerly Monopolized by Steam Roads—Current Notes.

The steady progress of trolley lines in covering the field of local passenger traffic formerly monopolized by steam roads is beginning to attract the attention of investors in railroad securities. The United States Investor of recent weeks has been in a situation, declaring that Wall Street operators are closely watching "electrical road construction in cities and suburbs and wondering if the credit side of the account of several systems will show as big a surplus a few years hence as at present. The development of trolley lines designed to meet the demand for frequent service between cities and suburbs is a matter of general knowledge, but the extension of such lines beyond municipal boundaries is much more marked in the crowded east than in the west. What has been done and what is projected is detailed by the Investor as follows: The fact is that such a boom in the extension of the trolley lines is in progress that it has become a serious menace to what is generally called local traffic. Such systems as the New York, New Haven & Hartford, the Philadelphia & Reading, the Baltimore & Ohio and even some of the Vanderbilt lines and the Pennsylvania itself have already been affected to a certain extent, and will be considerably more so. In the case of the New York, New Haven & Hartford the state of affairs is very interesting. Here is a line which has had almost an absolute monopoly of the local business between the metropolis and the principal points in Connecticut, Rhode Island and Massachusetts. It has furnished the only means of transportation east and west by rail through one of the most thickly settled portions of the United States and it is unnecessary to refer to the enormous earnings which it has enjoyed. Slowly but surely, however, the trolley system has gone into the territory and at present a gap of but a few miles remains in a chain of such roads between New York and Boston. Companies formed within the last few months will probably close these gaps within the next year. Extending out of Boston the electric lines have gone further and further, until the passenger car travel not ten or fifteen miles, but fifty or sixty miles if he desires. In the south country such towns as Greenville, New Haven, Norwalk and Greenwich are connected in the same manner, while the railroad builders are moving steadily northeast from Manhattan Island.

Leading Steam Roads Paralyzed.

From Long Branch, on the Jersey coast, the electrical builders have gone southward beyond Asbury park, taking in every town of consequence reached by the Pennsylvania and Reading roads, and the plans now under way will complete the system to Atlantic City, crossing the several inlets by a series of steam ferries. Within the last two years an electric line has been built from Atlantic City to Longport and a local road has been completed to Cape May. With the Asbury Park systems connected another chain of trolley lines will parallel both of the systems referred to. The situation between Philadelphia and Washington is also very interesting to the student of railroads and trolley lines. Companies have actually been formed to carry out plans which will bridge the 225 miles of distance between these cities, and already a good start has been made. One can board a trolley car at Philadelphia and not leave it until it reaches Wilmington, Del., thirty miles south. Another line operates from Wilmington, south to Newark, Del. A company has been formed of local capitalists to build from this point to the Susquehanna river, where it will meet an electric road which reaches from Baltimore to Belair and Havre de Grace, a distance of thirty-five miles. Several years ago the Baltimore & Washington Boulevard Electric company was formed of Baltimore and Washington parties, but through the influence of the Pennsylvania and the Baltimore & Ohio companies, this scheme was abandoned for the time being, after the road had been graded half way to Baltimore and the rails laid to a distance of ten miles east of Washington. From Baltimore to Ellicott City, a ten-mile branch of the local railway system is in operation and but twenty miles are required to link the two cities. Several banking firms in Cleveland, O., have formed a syndicate to carry out this project, including a branch to Annapolis, Md., and it is understood that contracts will probably be let within the next three months.

Further south the cities of Richmond and Petersburg, Va., will also be connected by trolley within a few weeks, the line running parallel to the Seaboard Air line, the Atlantic Coast line and the Norfolk & Western. Between Fort Worth and Dallas, Texas, a distance of thirty-two miles, another electric line will soon be in operation. But the activity of the trolley builders has been most pronounced, perhaps, in New York state, where literally a network of electric lines is being extended as far east as Syracuse and west to Lake Erie. The road between Buffalo and Niagara Falls, operated by the power of the cataract, is well known. The parties interested in this line are now promoting another from Buffalo to Rochester, a distance of sixty-eight miles, while the Rochester Railway company, which has recently extended its line toodus on Lake Ontario, a distance of thirty-two miles, has planned another to Canandaigua and Penn Yan through the heart of one of the most prosperous sections of the state. Syracuse and Buffalo parties are interested in a plan to promote the connection of Syracuse with Rochester with the idea that it will eventually be a portion of a through route from Syracuse to Buffalo. Nearly every one of these lines runs within five or six miles of the New York central and West Shore systems, both Vanderbilt properties. An Ohio syndicate has planned a scheme to connect Buffalo and Cleveland with a 100-mile road on which cars will be operated at the rate of fifty miles an hour.

Economy of Operation.

The above are only a few of the projects which are not only under consideration, but are being carried out, and, as already stated, are in direct competition with steam roads. One does not have to go far to find the reasons for the millions of money which are being invested in these enterprises. The economy in operating a single motor car or a train of two or three, over five or six cars hauled by a steam locomotive, is apparent. In the first place, they can be stopped and started much more quickly and with far less expense. With the electrical equipment now provided a speed of sixty miles an hour can be maintained without difficulty and with safety, the only requirement being a well-ballasted roadbed laid with heavy rails and cars large enough to remain on the track. As a rule, however, cars hauling as many as the average steam railroad coach are considered the best adapted for this suburban service and are being used in place of the familiar street car. Another important advantage is the

comparative cheapness with which a roadbed for a trolley line can be constructed. The great expense of grading a steam road to a low level through a hilly country is one of the problems which engineers have to contend with. As the average electric motor can propel a car up a grade twice as steep as would "stall" a steam locomotive, the former road can be built uphill and downhill and consequently in much straighter lines than the others, as in many instances the engineer finds that it is necessary to make an extensive curve in order to avoid a costly cut or more expensive tunnel. While a trolley train of two or three cars requires only the conductor and motorman, passenger train service on a steam road requires a fireman, an engineer, a brakeman, the conductor and at least one, if not two, trainmen, consequently the expenses of electrical road operations are less than half that upon its rival.

These are some of the facts which have led railroad investors to thinking and especially those who are watching the prospects of returns from railroad securities. An examination of the reports of many of the systems mentioned would show a surprisingly large percentage of revenue from freight might be called town-to-town traffic, the sale of tickets between villages ranging from ten to thirty miles apart.

Stops are only made at places of several hundred population and these are only served by what are termed local, or secondary, trains, as it would be absurd to attempt to stop the fast express trains where time is such an object. In the case of the trolley car, however, but a small delay ensues in making stops, even a cross-towns and it is only natural that the farmer, for instance, who is doing business in the city and can board the trolley car, reaching a point a mile from his home, will prefer it to the railway train which lands him at the village five miles away, from which he must drive to reach his destination. While it cannot be expected that the electric lines will be formidable competitors in traffic between places fifty and 100 miles apart there is no doubt that they are in many localities gradually and surely being substituted for the steam lines for local business. Although the mileage built within the last two or three years, has been so large as to be almost incredible, contract after contract is being let for extensions and new roads in all sections of the country and apparently the promoters of the many legitimate projects have no difficulty in securing unlimited capital. Under these circumstances the lines of steam railways which have electricity for a rival will bear watching from year to year.

Current Notes.

Electricity is being used for the first time this season in the Maine logging camps, not to disintegrate the logs, but to haul them away after that purpose has been accomplished. In an experiment in canal towing about to be tried in London the canal barges will be drawn by an electrically propelled cable, instead of the usual rope and towed by an overhead trolley also.

It is announced from New York that the electric storage battery has finally been perfected, and that omnibuses are being rapidly equipped with batteries. Technical journals have been full of the latest news of Edison's new accumulator and predict wonderful results from its early application.

George Westinghouse, the well known industrialist, holds the view that the gas engine or gas turbine, which he has recently patented, will be the engine of the future and will produce a revolution in our present methods of transportation. He says, "already we have extended, admit, however, at such a radical departure from the old way as to suggest that we may, by discarding many of our old ideas and methods, have a veritable revolution in the prevailing practice."

Mr. Berk reports to the Cologne Electrical club that the cost of securing speeds of 120 to 130 miles per hour will prevent any construction for some time. The tests of the Wannsee show a saving of 20 per cent in operating expenses, as compared with steam, and that the trains attain full speed in three minutes, as against three minutes for steam locomotives. For strategic reasons electric operation is at a disadvantage, compared with steam operation, as in case of war the service could be interrupted more easily than the independent units were used, as in the case of steam roads. For this reason electric will not be permitted on trunk lines, although it could be employed with advantage on city and suburban lines.

Hoodoo Thirteen.

Philadelphia Record: "If I owned a hotel," said a clerk in one of the leading hotels the other evening, as a guest left the office, after positively refusing to be located in a "hot" room. "I'd settle that thirteen superstition. I wouldn't skip a thirteen room in the house; I would skip them altogether. The idea isn't correct, but for some houses now avoid the nuisance by numbering what would otherwise be the thirteen rooms, twelve and a half, or by passing over from twelve to fourteen. But I'd copy the idea. These superstitions people distress me." "Here," suddenly continued the clerk, as a person on the other side of the counter seemed minded to close the hotel register, "what are you doing that for? Do you want to 'quer' this hotel? If you closed that book we wouldn't have any business for the rest of the day, and maybe the 'hoodoo' would follow us for a week. That's right, laugh; but I have been in this business long enough to know what I am talking about." "What was that you said about superstitions?" asked the man on the other side of the counter.

Driving a Cork Out.

At a prominent social club in New York the other night a man won a bet of \$10 by driving a cork out of a bottle. There were several who wanted to wager large sums that the man who had bet would not be able to do it, but he did it. He took a rubber band and fastened it to the neck of the bottle. He proposed to grip it firmly in the left hand and strike with the palm of the right smartly, when he caught bottom, holding the bottle in a horizontal position. He then struck the cork with a mallet and to the surprise of all the cork flew out. Anybody can do it he says.

RELIGIOUS.

Rev. Mr. Sheldon of Kansas is writing novels which he reads in manuscript to his congregation. Dr. E. B. Burkhalter has recently completed twenty-five years as pastor of the First Presbyterian church of Cedar Rapids, Ia.

Sister Sanghamita, a nun of a Buddhist order, is visiting New York for the purpose of getting funds for a school that she desires to establish in Calcutta for low caste Hindu children.

One of the oldest Methodist churches in the country is Barratt's chapel, Dover, Del. The latest anniversary of the founding of that church was celebrated last Sunday.

The Christian (campbellite) denomination in the United States reports a membership of 1,200,000. It claims, too, the largest percentage of increase of any religious body.

The young people of the First Baptist church of Englewood, N. J., use a megaphone for open-air work and men standing in front of saunas a block away give good attention. Rev. Dr. Cameron Mann, pastor of Grace Episcopal church, Kansas City, has decided to accept the bishopric of North Dakota, to which he was recently elected by the Episcopal general convention. The Congressionalist thinks that with Chinese Minister Wu giving a contribution of \$10 toward the raising of a professorship of a Christian missionary and a Chinaman's gift of \$250 toward a professorship in Columbia university, China does not seem an infinite distance from America after all. Springfield, Mass., on November 19 to organize the new Episcopal diocese of western Massachusetts and appoint a date for the election of a bishop. Among those mentioned as likely to be voted for for bishop are Rev. John C. Brooks, rector of the First Baptist church, this city, a brother of the late Phillips Brooks; Rev. Arthur E. Brown of St. Paul's, Stockbridge; and Rev. Dr. Alexander H. Vinton of All Saints', Worcester.

How to Mark the Ballot

Nebraska will use at this fall's election the original Australian ballot, which replaces the blanket form in vogue for the last five years. The ballot, therefore, cannot be called new, as it is merely a return to the first principles of the Australian system with some modifications, from which the legislators wandered in the session of 1894-5. The kangaroo ballot, as it is known in the land of its inception, is far more simple and convenient than the unsightly blanket form, as reference to the fac simile printed elsewhere will show. It not only facilitates voting, but makes the count much easier and more rapid. By its use the voter may exercise a straight party choice or he may vote a split ticket with but few marks, while under the old plan it was necessary to mark each candidate separately. Five parties, the republican, democratic, people's independent, prohibition and socialist, have a set of candidates on the state ticket. All but the prohibitionists have tickets in the field in Douglas county and Omaha. The five party names, each followed by a large circle, appear at the top of the ballot in the order of their numerical strength. The republican party, having received a higher number of votes at the 1900 election than any other party, heads the list.

The law provides that in the event of fusion between two or more parties, the party names must be bracketed and followed by a single circle, but the supreme court set aside this provision and required that the democratic and people's independent parties be given separate circles at the head of the ballot. Wherever there are two or more offices of the same kind to be filled, as six justices of the peace, for instance, or two regents of the State university, a circle follows each party's set of candidates. This makes it possible to

Sample Ballot—Omaha.

To Vote a Straight Ticket Make a Cross within your Party Circle.

REPUBLICAN DEMOCRAT PEOPLES INDEPENDENT PROHIBITION SOCIALIST For Judge of the Supreme Court: SAMUEL H. SEDGWICK CONRAD HOLLENBECK WALLACE BURTON CLARK J. B. RANDOLPH For Regents of the State University: ELISHA C. CALKINS CARL J. ERNST J. H. BAYSTON FREDERICK G. HAWKBY JAMES M. DILWORTH SUSANNAH M. WALKER WILLIAM SCHRAM BURLA M. WILKIE For Representatives to the 11th Congress—10th Representative District: JOHN W. BATTIN A. J. WILLIAMS GEORGE E. BAIRD GEORGE McBRIDE JOHN POWER C. W. ADAIR DUNCAN M. VINSONHALER JOHN H. GROSSMANN J. P. ROE For County Sheriff: CHARLES UNITT HARRY C. MILLER C. C. CHAMBERS WILLIAM J. HUNTER G. FRED ELSASSER JULIUS HOFFMAN For County Register of Deeds: THOMAS S. CROCKER HARRY P. DEUEL H. STROM EDWIN F. BRAILEY C. F. CROWLEY L. J. BOGAN For County Superintendent of Public Instruction: EDWIN J. BODWELL G. E. HALL J. F. JACKSON PETER A. EDQUIST ELMORE M. ROHRBOUGH H. C. SCHELL For County Surveyor: For County Coroner: For County Commissioners—Second Commissioner's District: FRED BRUNING JAMES P. CONNOLLY LOUIS BERKA SAMUEL I. GORDON F. H. ALEXANDER

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W. R. BENNETT COMPANY Fifteenth and Capitol Avenue. SAMPLE BALLOT To Vote a Straight Ticket Make a Cross within your Party Circle. Includes instructions on how to mark the ballot and a list of candidates for various offices.