

INDUSTRIAL AND LABOR

PUTTING AUTOMATIC SIGNALS ON THE C. R. OF N. J.

Work of Installing the Block System Is Now Nearing Completion—Something About the System and the Way It Is Operated—Work Has Been Resumed at the Pine Brook Mine—Idle Since the First of the Month Because of a Card Dispute. The Board for Today.

The Union Switch and Signal company, of Pittsburg, is installing an automatic block signal system along the line of the Central Railroad of New Jersey, which is now nearing completion. The improvement has involved an enormous expenditure by the railroad company and will afford increased traveling facilities, both as to safety and speed.

Between 1890 and 1895 the Central Railroad of New Jersey installed on its four main tracks between Jersey City and Bound Brook, N. J., an automatic block signal system of the Westinghouse electro-pneumatic type. The signals, 481 in all, are of the semaphore type and are operated under the normal clear method. The installation, on the busiest section of the line, gave such satisfactory results that early in 1900 it was decided to extend the automatic signaling from Bound Brook, N. J., to White Haven, Pa., over some 112 miles of double track.

After a careful investigation of the merits of the various systems of automatic electric signals, a comparative test was conducted, under the supervision of Mr. C. R. Adams, superintendent of telegraph for the Central Railroad of New Jersey, in which the signals of the respective makes were required to operate each home and distant signal once every minute, ten times every twenty-four hours, until the batteries were exhausted. In addition to this, tests were made as to the strength of the operating mechanism, motor efficiency and the counterweighting of the signals. As a result of these tests, believed to be the most exhaustive ever made in connection with a railroad signal, the contract was awarded by Vice-President C. H. Warren to the Union Switch and Signal company, of Pittsburg, Pa., on the strength of the merits of the automatic electric semaphores and of the normal clear method of control by the polarized system of track circuits.

The post of this signal is of iron construction throughout, mounted on concrete foundation, with double light semaphore castings, and wooden arms. The operating mechanism is housed in an iron compartment at the foot of the post. The post is of five-inch iron pipe, and all operating connections are internally mounted to protect them from weather influences.

The "wireless" circuit, which is the novel feature of this installation, is a method of controlling the distant signal without the use of wire lines between the home and distant signals. The control of the distant signal is accomplished by connecting the track battery to perform a double function. In that it not only controls the home signal, in the manner peculiar to all railroad systems, but by reversing the direction in which the current is sent through the rails, it also controls the distant signal. Thus, the battery usually required for the control of the distant signal and the wire lines heretofore required are dispensed with. This method of operating signals, since its introduction by the Union Switch and Signal company, has met with great favor and is in extensive use on the Pennsylvania, the Michigan Central, the Delaware, Lackawanna and Western, roads, and to a lesser extent on others.

It has been found in automatic signaling that much of the trouble from lightning is traceable to the presence of live wires in these circuits. Furthermore, the application of live wires for signal purposes often involved the reconstruction of the telegraph line. It is believed that the wireless system offers almost complete immunity from lightning troubles, and this feature alone makes the system especially attractive to the Central Railroad of New Jersey officials.

The block sections are about one mile in length, except at points where there is a congestion of traffic, where the sections are somewhat shorter. With home and distant signals on each post, traffic can be handled with the utmost confidence. The home signal indicates the condition of the block that is about to be entered; the distant, that of the block in advance. The block signaling will be carried through the interlocking points, where the signals will be controlled both from the tracks and the towers. Present train order signals at stations of importance will be retained; they will control the distant signals of the blocks in which they are located.

This installation of automatic block signals on the Central Railroad of New Jersey is but one of the many improvements that have been recently inaugurated by the road, and if present plans carry, it will be second to none in the matter of modern equipment. It is felt that the block system will increase the traffic capacity of the line at least fifty per cent.

Work Was Resumed. Work was resumed yesterday at the Pine Brook colliery of the Scranton Coal company, which was closed last Oct. 1, while the men were disputing about the admission of workers without union cards. All hands reported for work yesterday morning and there was no friction at all. A number of repairs have been made at the mine since the lockout and the company officials maintain that the mine has been kept in operation to allow this work to be done.

Berwick-Nanticoke Line. A charter has been granted to the Berwick & Nanticoke Electric railway, and the construction of the line between those towns is now a certainty. The road will connect Berwick, Beach Haven, Hells Ferry, Shickelminny and Nanticoke, and will pass through a high farming district. The right of way has been secured along the ground on part of the route, which is twenty miles in length.

At the Nanticoke terminus the road will connect with the Wyoming Valley system, extending to Wilkes-Barre, Scranton and Hazleton. The southern terminus it will connect with the Columbia & Montour system, which already has its lines in operation as far south as Bloomsburg. It will then require the construction of

To Buffalo and Return

\$4 Lackawanna Railroad \$4

Two-Day Excursion

YOU CANNOT afford to miss this opportunity to visit Buffalo and the Pan-American Exposition. The Four Dollar Tickets are good going in the day coaches of any Lackawanna train on October 18, 25 and 30, and for return the following day.

\$6=Five-Day Excursion=\$6

Five-Day Excursion Tickets, sold at Six Dollars, are good going in the day coaches of any Lackawanna train on October 15, 19, 22, 26 and 29, and for return within five days, including day of sale.

\$8=Ten-Day Excursion=\$8

Ten-Day Round Trip Excursion Tickets are on sale every day at Eight Dollars, good for return within ten days, including day of sale.

Bear in mind that all the above tickets are good on all trains in both directions.

All Lackawanna trains land you at the foot of Main street Buffalo. Electric cars run direct from the station to the Exposition grounds or hotels.

For further information, call on or telephone the local ticket agent at Lackawanna avenue passenger station. Telephone, 265-3.

D. L. and W. Board for Today. Following is the make-up of the D. L. & W. board for today:

WEDNESDAY, OCTOBER 16. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

THURSDAY, OCTOBER 17. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

Work was resumed yesterday at the Pine Brook colliery of the Scranton Coal company, which was closed last Oct. 1, while the men were disputing about the admission of workers without union cards.

At the Nanticoke terminus the road will connect with the Wyoming Valley system, extending to Wilkes-Barre, Scranton and Hazleton.

less than twenty miles of road to connect with the Schuylkill valley system. The officers are: President, C. W. Miller; treasurer, E. E. Walker; secretary, C. C. Peacock; Bloomsburg officers, C. M. Cleveland, Alameda, C. H. Campbell, Brier Creek, E. E. Miller, E. W. Miller, C. C. Peacock and E. E. Walker.

THE BOARD FOR TODAY. Following is the make-up of the D. L. & W. board for today:

WEDNESDAY, OCTOBER 16. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

THURSDAY, OCTOBER 17. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

Work was resumed yesterday at the Pine Brook colliery of the Scranton Coal company, which was closed last Oct. 1, while the men were disputing about the admission of workers without union cards.

THE BOARD FOR TODAY. Following is the make-up of the D. L. & W. board for today:

WEDNESDAY, OCTOBER 16. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

THURSDAY, OCTOBER 17. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

Work was resumed yesterday at the Pine Brook colliery of the Scranton Coal company, which was closed last Oct. 1, while the men were disputing about the admission of workers without union cards.

At the Nanticoke terminus the road will connect with the Wyoming Valley system, extending to Wilkes-Barre, Scranton and Hazleton.

THE BOARD FOR TODAY. Following is the make-up of the D. L. & W. board for today:

WEDNESDAY, OCTOBER 16. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

THURSDAY, OCTOBER 17. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

Work was resumed yesterday at the Pine Brook colliery of the Scranton Coal company, which was closed last Oct. 1, while the men were disputing about the admission of workers without union cards.

At the Nanticoke terminus the road will connect with the Wyoming Valley system, extending to Wilkes-Barre, Scranton and Hazleton.

THE BOARD FOR TODAY. Following is the make-up of the D. L. & W. board for today:

WEDNESDAY, OCTOBER 16. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

THURSDAY, OCTOBER 17. Will take last 8:15 a. m. train to Philadelphia, Pa., via the Delaware, Lackawanna and Western.

Work was resumed yesterday at the Pine Brook colliery of the Scranton Coal company, which was closed last Oct. 1, while the men were disputing about the admission of workers without union cards.

At the Nanticoke terminus the road will connect with the Wyoming Valley system, extending to Wilkes-Barre, Scranton and Hazleton.

EDUCATIONAL. Free Tuition. By a recent act of the legislature, free tuition is now granted at the Literary Institute and State Normal School, Bloomsburg, Pa.

BINGHAMTON TRAINING SCHOOL. For Nurses, Bookbinders and Book Makers. Binghamton, N. Y.

CHESTNUT HILL ACADEMY. A boarding school for boys in the elevated and beautiful open country north of Philadelphia.

SCRANTON CORRESPONDENCE SCHOOLS. T. J. Foster, President. Scranton, Pa.

E. Robinson's Sons Lager Beer Brewery. Manufacturers of OLD STOCK PILSNER. 485 to 455 N. Ninth Street, SCRANTON, PA.

Allis-Chalmers Co. Successors to Machine Business of Dickson Manufacturing Co., Scranton and Wilkes-Barre, Pa.

HOTEL JEFFERSON NEW YORK. 100-101-103 East 12th Street.

HOTEL ALBERT NEW YORK. 111th St. & University Pl. Only one block from Broadway.

Every Woman. MARRIAGE WHISKY SPRAY. A certain remedy for all matrimonial troubles.

RAILROAD TIME TABLES. Delaware, Lackawanna and Western. Table with columns for Train, Stop, and Time.

RAILROAD TIME TABLES. Lehigh Valley Railroad. Table with columns for Train, Stop, and Time.

RAILROAD TIME TABLES. PENNSYLVANIA RAILROAD. Table with columns for Train, Stop, and Time.

RAILROAD TIME TABLES. New York, Ontario and Western. Table with columns for Train, Stop, and Time.

RAILROAD TIME TABLES. New Jersey Central. Table with columns for Train, Stop, and Time.

RAILROAD TIME TABLES. Erie Railroad, Wyoming Division. Table with columns for Train, Stop, and Time.

BOWLING AT GREEN RIDGE. Lively Match Between Two Teams of the Wheelmen.

MARRIED IN HOLY CROSS. George Hogan and Miss Mary Gordon United for Life.

NEW YORK, ONTARIO AND WESTERN. RAILROAD TIME TABLES.

NEW JERSEY CENTRAL. RAILROAD TIME TABLES.

ERIE RAILROAD, WYOMING DIVISION. RAILROAD TIME TABLES.

DELAWARE, LACKAWANNA AND WESTERN. RAILROAD TIME TABLES.