present probably but three or four trips a year may be made.

—

The Oroya railroad is to be open for business during the present month. This Peruvian road is about 200 miles in length and has cost about $250,000 per mile to build, the great expense being due to the mountainous character of the country through which it runs. As a feat of railroad engineering the work is a wonderful one.

—

The management of the Missouri lines of the Burlington has awarded contracts for a system of electric lighting to be used on passenger trains. The St. Louis and Denver trains and the Kansas City and Chicago and the St. Joseph and Chicago flyers will be equipped at once with a system of lights on the storage battery system.—Chicago Tribune.

—

The production of the iron mines of the Lake Superior district for the year 1892 is placed at 9,025,000 tons. During the year there was shipped by lake from Escanaba 4,004,000 tons; from Ashland 2,227,407 tons, and from Two Harbors 1,155,490 tons. The total lake shipments were 8,475,605 tons, as against 6,444,440 tons last year, and 8,063,067 tons in 1890.

—

The franchise for the proposed underground rapid transit route in New York was put up at auction last week and but one bid offered. President Steinway of the Rapid Transit Commission says: "The commission is therefore compelled to devise a plan by elevated structures, which shall provide a sufficient system of rapid transit without too great injury to the streets."

—

The decision of Judge Riner, of Topeka, in the case in the United States circuit court of the Pullman Co. against the Missouri, Kansas & Texas was made public on the 5th instant. The injunction asked for by the Pullman Co. is denied and the restraining order dissolved. This permits the Missouri, Kansas & Texas to use Wagner or any other sleepers for which it may contract.

—

President Austin Corbin of the Long Island Railroad has issued an order which is causing consternation among the employes of his road. The order declares that the heads of the departments are expected to dismiss every employe who is addicted to drink, and that an employe known to go into a place where drink is sold while he is on duty must be promptly dismissed.

—

General Superintendent White, of the railway mail service, has perfected arrangements by which the mails leaving Washington at 10:57 o'clock, a. m., over the Atlantic Coast line, now running through to Jacksonville, Fla., by way of Wilmington, N. C., will run over what is known as the Wilson cut-off by way of Fayetteville, S. C., to Florence, S. C. This change will reduce the distance about 62 miles, which will put northern mail into Charleston, Savannah, Jacksonville and all points on the southeast coast about three hours earlier than the former schedule.

BLOCK SIGNAL SYSTEM OF THE C. & N. P. R. R.

The illustrations herewith show the arrangement of signals used by the Chicago & Northern Pacific Railroad in Chicago, between the Taylor street draw bridge and the Pan Handle crossing. While this system has been in operation for some time, and it has on account of an increase in the number of tracks and the trains to be handled been found necessary to make some changes in the plan of operation, the system as it was originally put in is one of such excellence as to merit a description.

Fig. 1 shows the general plan of the tracks and arrangement of the signals, switches, etc. Semaphores are used exclusively for giving signals except at Robey street, where a special signal is employed. A general view of the double post semaphores used is shown in Fig. 2. This post contains a danger and caution signal for each track, the upper being the danger signal which is painted red, and the lower the caution signal painted green. Besides this difference in color and as an additional safeguard against confusing the two signals the shapes of the blades are different as shown.

It will be noticed in Fig. 1 that some of the switches are marked *B* and the section of track between such switches and the signal next preceding is represented by a dotted line. This indicates that the switches so marked are both locked by the semaphore, and cannot be opened while it is displaying a clear signal. A train standing on the track between the signal and switch will also prevent its being opened.

The special signal No. 22 at Robey street has a peculiar duty to perform. The main tracks just beyond this point pass through a yard where large numbers of cars usually stand close together and it is considered necessary to do switching on the main tracks. The signal as shown in Fig. 3 is placed on a high post where it can be seen from between the cars at any point along the main tracks. In the construction of the signal two cylinders are used, the smaller one, which is painted red, being made to move up and down inside the larger. When in its highest position this smaller cylinder is entirely obscured from view,

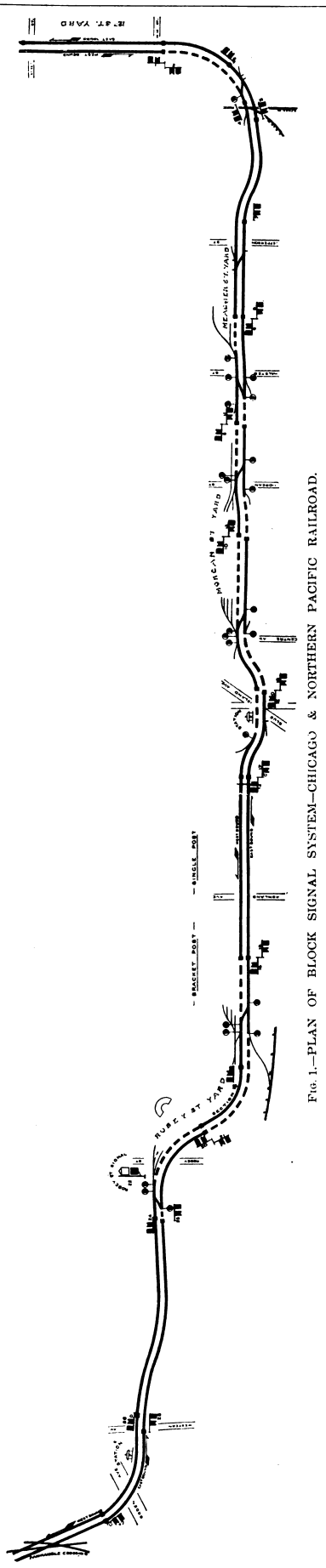

FIG. 1.—PLAN OF BLOCK SIGNAL SYSTEM—CHICAGO & NORTHERN PACIFIC RAILROAD.

but when lowered it is in plain view. A small air whistle is fixed on the post just beneath the signal, and while the red signal is displayed this whistle sounds continuously. A train in coming out on the main track finding signal 18 clear will pass it and in doing so cause the red signal to be displayed and the whistle at No. 22 to sound. This warns the crew of any switch engine working on the main track of the approach of a train and notifies them to clear the track for its passage. If this is done before the train reaches signal No. 21, that

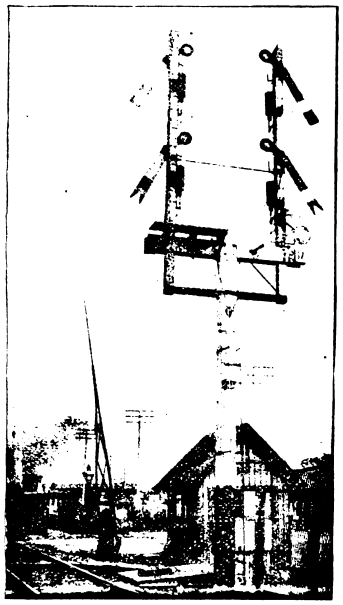

FIG. 2.—DOUBLE POST SEMAPHORES.

signal can be cleared and the train proceed on its way, and if not the train must wait at this signal until the track is cleared, during which time the whistle continues to sound until the last wheel of the train has passed the signal, upon which it ceases and the signal No. 22 is cleared. As the switches in this section are bolt locked it will be impossible to open them until the train has passed beyond signal No. 24 and No. 21 has been thrown to the danger position.

This system of signaling is the Westinghouse electro pneumatic, and was put in by the Union

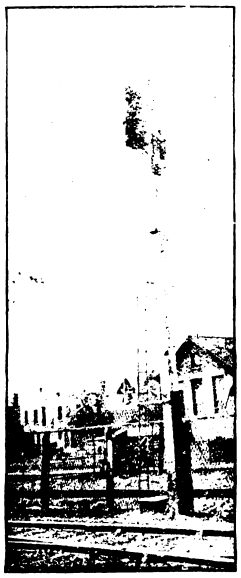

FIG. 3—ROBEY STREET SIGNAL.

Switch & Signal Co., of Swissvale, Penn. The power station from which the supply of air and electricity is drawn is located in the Grand Central station, and in addition to supplying this system serves the interlocking machinery in the depot yards and turns the Taylor street draw-bridge. It was fully illustrated and described in the RAILWAY REVIEW during the past year.