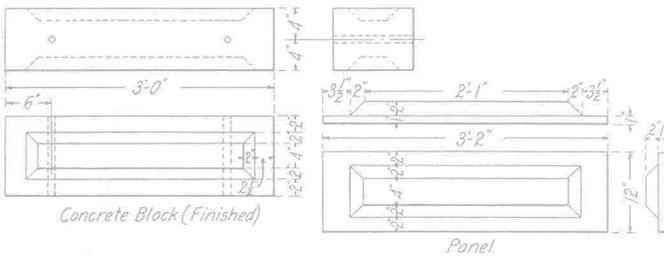
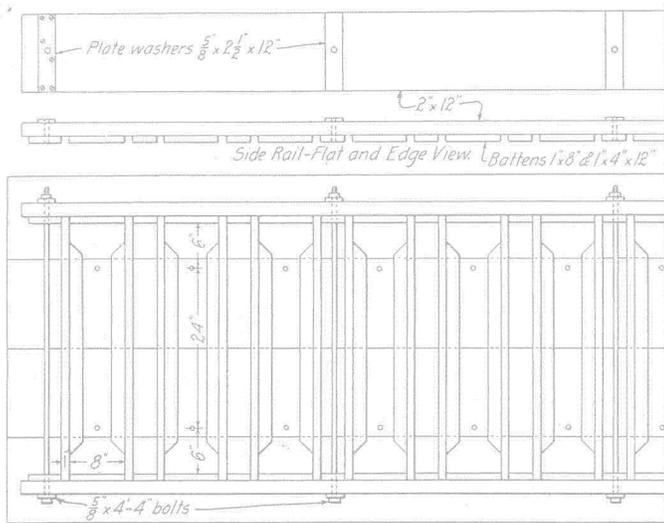


shown in the drawing. For a form to hold 12 piers the side should be 12 ft. long. The plate washers are fastened by 6 counter-sunk wood screws.

The panels are constructed of yellow Georgia pine as shown in the sketch. Lumber should be cleaned with a Jack plane to get a smooth surface. The form should be given two coats of linseed oil, allowing each coat to dry well, and then two coats of Dixon's graphite black paint are applied. The platform should be made of 3 in. lumber well supported with sills and fixed level both ways. Cleats are nailed on the platform at each end of the form and on the sides near each end, thus fixing the location of the form. The complete form is held together by  $\frac{5}{8}$  in. bolts. Having fixed the location of the form,  $\frac{3}{8}$  in. holes are bored in the platform at A, B, C, etc., in which  $\frac{3}{8}$  in. iron rods 1 ft. long are fixed. Pieces of  $\frac{1}{2}$  in. pipe 12 in. long are placed over these rods, serving



Construction of Forms for Pipe Carrier Foundations

in the finished set foundation as a place for hook bolts with which to fasten on the foundation tops.

I find that the best aggregate to use is 4 parts of screening or chat to one part of good cement mixed dry, then wet. It is best to let the forms set for at least 48 hours. To take down the forms remove the  $\frac{5}{8}$  in. bolts and take off the sides, then loosen the panels by light taps with a block of wood. The green piers should be allowed to set and dry for a day or so. The form should be washed as soon as removed and can be filled again at once for another set if a double platform is used.

"Speeding Up Operation," was the subject of the meeting of the New York Railroad Club, which was held in the Engineering Societies Building, New York, on Friday evening, October 20, at 8:00 p. m. A symposium was arranged which covered the consideration of better operating methods and practices and ways in which the present plant and facilities may be utilized to greater advantage. This included the use of signals to facilitate operation, how to get more work out of locomotives and better service from the cars.

# New Devices

## New Desk-Type Circuit Controller

The General Railway Signal Company has recently developed a desk type circuit controller which simplifies the remote operation of switches. It is a compact unit measuring 12½ in. high by 6¼ in. wide by 12 in. deep and

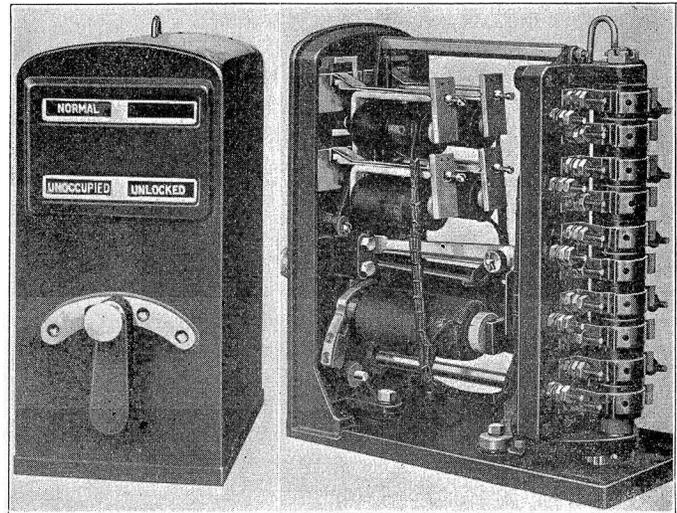


Fig. 1—Single Unit Desk Type Controller  
Fig. 2—Case Removed, Showing Mechanism

comprises a circuit controller with 10 contacts, an electric lock and four indicators, as shown in Figs. 1 and 2. A single unit is all that is required in a station to control

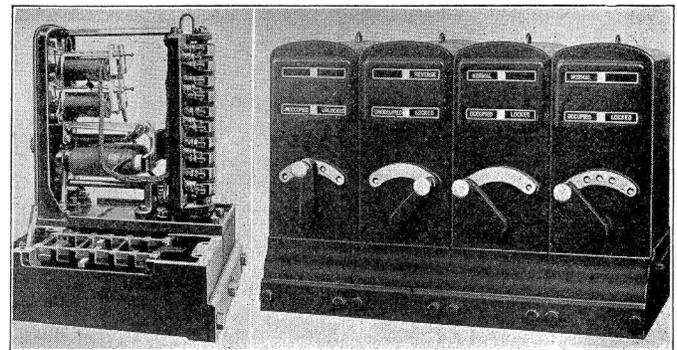


Fig. 3—Bed Cut Away to Show Locking  
Fig. 4—A Set of Four Units on Interlocking Bed

remotely a single switch and the signals which govern over it.

The operation of a single unit used to control a single switch is as follows:

1. With the handle in the central position energy is disconnected from the switch and all signals which govern over it.
2. When the handle is moved to the first position to the right the switch is operated to the reverse position.
3. With the handle in the second position to the right the automatic signal circuits are energized.
4. When the handle is moved to the first position to the left of the center the switch is operated to the normal position.

5. With the handle in the second position to the left the automatic signal circuits are energized.

The four indicators may be used as follows:

The first to indicate when the switch is normal.

The second to indicate when the switch is reversed.

The third to indicate whether the switch is locked or unlocked.

The fourth to indicate whether the track is occupied or unoccupied.

The electric lock is used to check the operation of the switch, to afford detector locking and may be used also to give approach locking if desired.

When it is desired to control a layout consisting of more than one switch, two or more circuit controller units may be used, and if it is necessary to interlock these units a sub-base 4 in. high is furnished with each unit. These bases are bolted together and serve as a locking bed as shown in Fig. 3. A four unit interlocked circuit controller is shown in Fig. 4.

## New Adapter for Electric Signal Lamps

A new type of adapter to be used as a fixture for electric lights in signal lamp bodies has been placed on the market recently by the Culver-Stearns Mfg. Co., Worcester, Mass. As may be noted from the illustration the three legs fixed in the base support a platform with a large hole. The two thumb screws with large plates may be adjusted up or down on the main tube which supports the lamp socket. The large hole in the platform allows sufficient side adjustment in all directions. Having secured the proper adjustment, the bottom thumb screw is tightened, thus fixing the lamp in the proper position. The knurled knob just below the socket is provided to hold the tube while adjusting the device. Bolt holes are provided in the base for securing the device to the bottom of the semaphore lamp body.

Adjustable Adapter for Signal Lamps

A special reduction adapter can be furnished for applying the single contact bayonet base lamp to the standard screw socket.

## Dry Battery in Steel Case

The National Carbon Company, Inc., has recently announced the production of a new type of construction for dry cells, consisting of a steel container, a four cell power, 6-volt battery. It is claimed for this construction that the battery can withstand rough usage and that it will not be so liable to be affected by heat or dampness, while short circuits or loose connections between individual cells will be eliminated to a great degree. A woven fabric handle provides an easy way of carrying the battery. The materials used in lithographing the exterior of the container are said to be such as to provide an insulating surface.

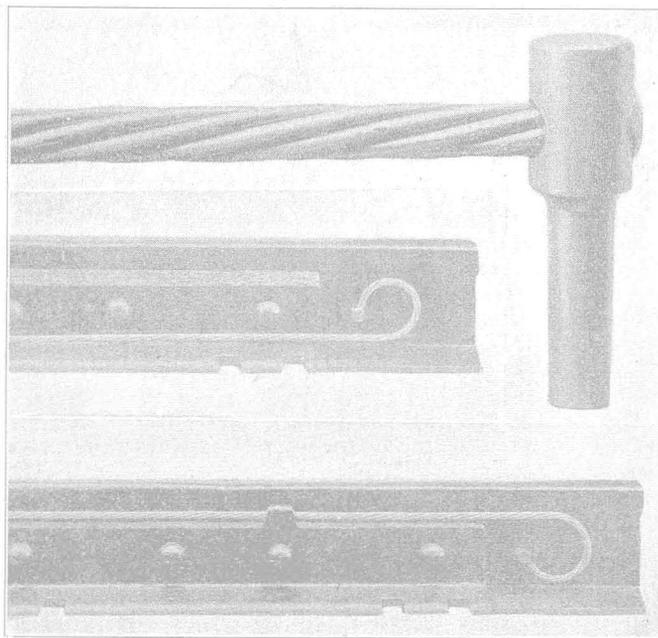


Dry Battery in Steel Case

## A Stranded Signal Bond

A stranded steel bond especially developed for bonding steam roads for track circuits has been developed by the American Steel & Wire Company, Chicago. The conductor is made up of seven No. 12, B. W. G. galvanized steel wires, which is equivalent to three No. 8, B. W. G. wires.

The terminal stud is turned of solid steel to the same taper as a standard  $\frac{3}{8}$ -in. pin, and tinned. The rail drilling for the terminal is  $\frac{3}{8}$  in. in diameter. The strand is brought straight through the terminal and electrically welded thereto. It is claimed that this construction will



Bond Applied Just Above or Along Angle Bar

allow a better mechanical and electrical contact with the rail than that made with the ordinary channel pin and straight wire, due to the fact that the extra contact between the wire and the channel pin is eliminated. Another advantage claimed is that as soon as one or two strands are broken the damage can be noted and the bond replaced before the entire bond becomes open circuited.

## Combined Insulating and Friction Tape

A new kind of tape which combines in one product the properties of both rubber and friction tape is being marketed by the Diamond Holfast Rubber Company, Atlanta, Ga. The new product is sold under the trade name of "2 Plex" Diamond Holfast Insulating Tape.

The body of the tape is cotton, saturated and finished with black compound. On one side is placed the insulating compound layer. This insulating compound is red in color and of tough, closely adhering, elastic texture, but which does not stick to the fingers. The manufacturers claim that the tape takes the place of both friction and rubber tape otherwise required and is suitable for general use. The tape is made  $\frac{3}{4}$  in. wide and put up in half pound rolls, wrapped in tinfoil for preservation.

The Signal Section, A. R. A., will hold the stated November meeting in the Hotel McAlpin, New York, Tuesday and Wednesday, November 21 and 22. Meetings will be in the ball room, the morning session being held from 10:00 a. m. to 12:30 p. m. and the afternoon sessions from 2:00 p. m. to 5:00 p. m.