

3-in. channels are then placed on the foundation with their bolts loosened. The pipe carrier sides are then put in place and locked in position by tightening the bolts that pass through the channel irons. The design of the pipe carrier sides is of such a nature as to provide a small grooved portion for the edge of the channels to grip, while a vertical slot in them insures a uniform grip on all sides as the bolts are tightened. Pipe carrier sides can be added, removed, or adjusted by merely loosening the bolts in the channel irons, and after adjustment or changes have been made they are again securely clamped in place by a few turns of a wrench in tightening up the bolts.

Stranded Boot-Leg Developed

THE American Steel & Wire Company has recently placed on the market an improved type of signal bond. The illustrations herewith show this bond in detail and one shows the bolt end of the bond only, with the connector and insulated wire assembled. Figure 1 shows the single-conductor bond with seven wires, while Fig. 2 shows the double-conductor bond with seven wires in each conductor, each wire being half the size of the wires in the single-conductor bond, so that both types of bonds are of equal conductivity.

The conductors in all cases are welded both to the terminal and bolt head, which it is claimed, insures

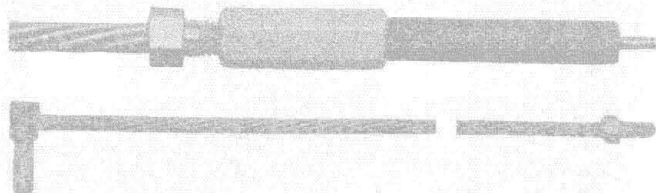


Fig. 1—Stranded Single-Conductor Boot-Leg with Welded Terminals

a perfect mechanical and electrical connection. This development makes it possible to use a stranded rail connection with satisfaction.

Only a small number of parts are required for the mechanical connector. This consists of one brass hexagonal nut and one conical inner sleeve. The

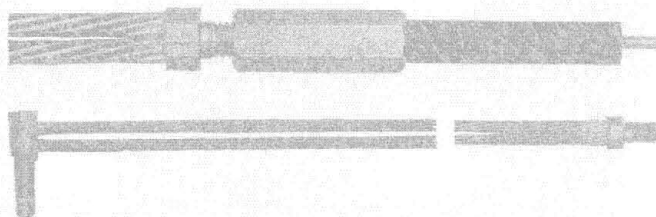


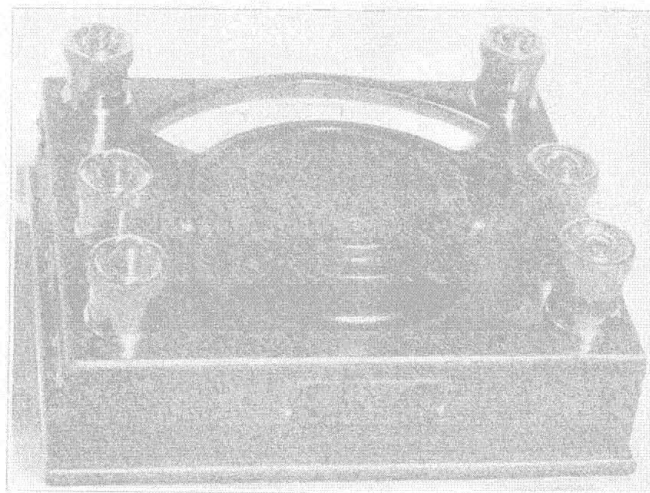
Fig. 2—Double-Conductor Stranded Boot-Leg with Similar Terminals

grip exerted on the wire with this connector exceeds the strength of the wire for all ordinary sizes used for track circuit connections. It is recommended that a hard grease be used for covering the bolt and brass nut after the bond has been installed.

Hoyt A-C. Train Control Meter

A METER to test train control track circuits, where an alternating current is super-imposed on a direct current must operate on a-c. only and must not be affected by d-c. Such a meter has been designed by the Hoyt Electrical Instrument Works,

according to the Burton-Rogers Company, Boston, Mass., distributors of Hoyt meters. The new a-c. volt-ammeter is compact, readily portable, rugged and is said to be accurate at all temperatures. A soft iron magnetic repulsion movement with a sensitivity of 10 ohms per volt is employed in this new meter. This value of sensitivity has been found sufficient for



Hoyt A-C. Volt-Ammeter for Measuring A-C. Train Control Current in a D-C. Track Circuit

the purpose of measuring a-c. train control current. A transformer is housed inside the base of the meter, which has five windings connected to binding posts on top of the meter base, giving five ranges as follows:

0- 5 volts	0- 5 amp.
0- 15 volts	0-15 amp.
0-150 volts	

This meter has been tested on several continuous train control systems which are using d-c. track circuits for signal control and it has been reported to be entirely immune to the direct current.

D. T. & I. Interlocking Machine Nickel-Plated When Rebuilt

WHEN overhauling its 16-lever mechanical interlocking plant at Delray, Mich., recently, the Detroit, Toledo & Ironton found the equipment in such a poor condition that it was decided to tear down the tower and completely rebuild it. This mechanical installation protects the D. T. & I. crossing of the Detroit United Railway, the Detroit Street Railway and the Michigan Central. An interchange track with the latter road is located also within the interlocking limits. A swinging drawbridge which spans the Rouge river is within the limits of the Delray plant and is thus protected by the interlocking signals. A new building, conforming to D. T. & I. frame building specifications, was constructed and all mechanical fittings were repaired and nickel-plated. The building is painted gray, trimmed with white. All the interior woodwork except the floor, banister and steps is painted white, the balance being varnished.

While the removal and reinstallation of the equipment was handled by railroad forces, the overhauling and nickel-plating of the levers and locking bed of the machine was done in the Fordson plant. Where the pipe lead-ins pass under the tracks, a special housing of concrete walls and steel covers was provided.