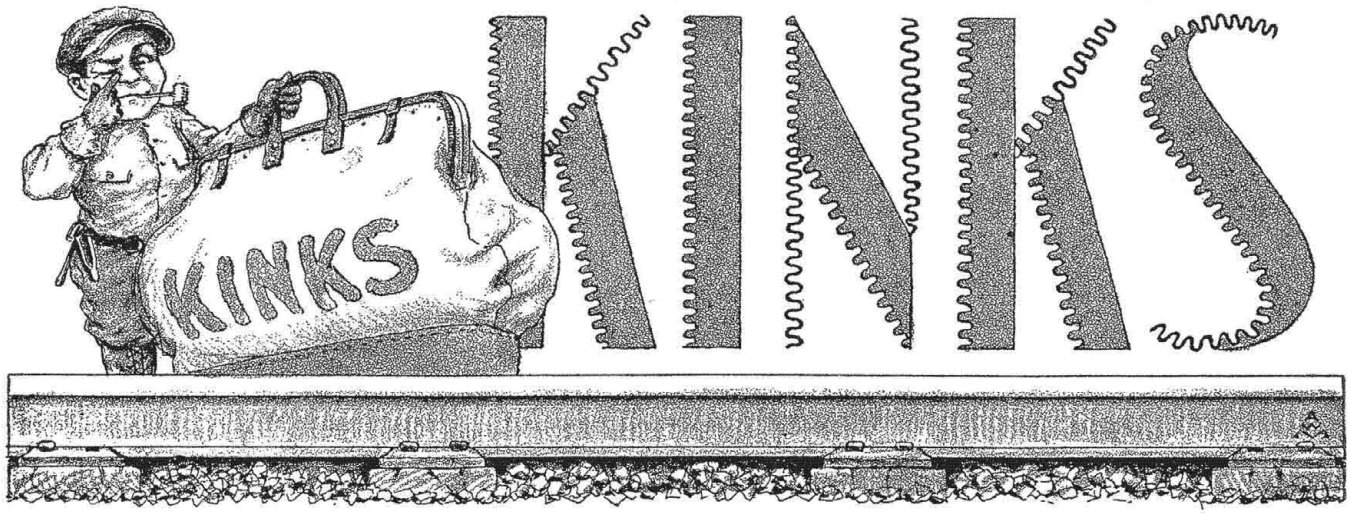
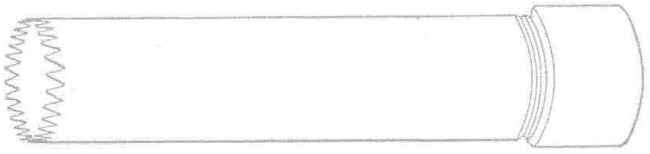


Emergency Drill for Concrete or Brick

By an "Old Timer"

SIGNALMEN do not always have a drill of the desired size when confronted with the necessity of drilling a hole through a brick or concrete wall, and to meet the emergency a drill can be made from a piece of pipe. The pipe is first cut to the desired length. Small teeth are then cut in one end with a hack saw,



A drill that can be made from an old piece of pipe

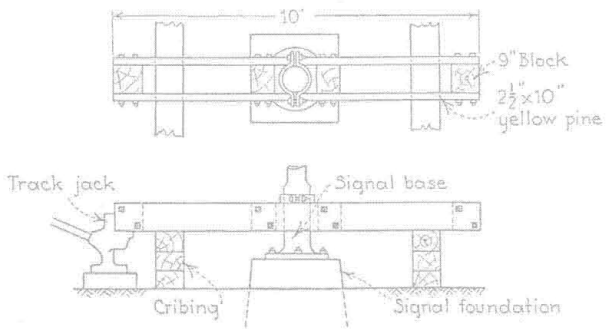
and the other end is fitted with an ordinary pipe cap or coupling. Such a drill can be used for one or two holes, and by sawing another set of teeth can be used repeatedly.

How to Raise a Signal and Foundation with a Track Jack

By F. A. Tegeler

Signal Supervisor, Chicago, Burlington & Quincy, McCook, Neb.

BY means of the scheme illustrated in the sketch, signals can be raised as much as 2 ft. 6 in. using a track jack and two or three men to assist in placing the cribbing under the yellow pine stringer. It is necessary, of course, to attach guys to the top of the signal mast while raising the signal and foundation. The two 10-ft.



Method of raising a signal and foundation by means of a track jack

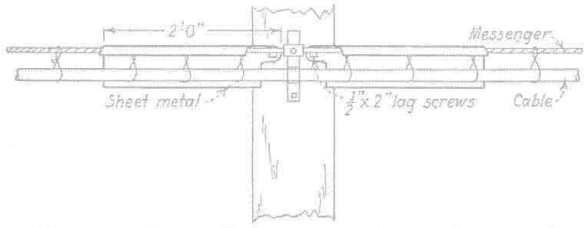
stringers are of 2½-in. by 10-in. yellow pine and these are bolted securely together by means of the 9-in. wood blocks and carriage bolts. A suitable clamp is made from 2½-in. by ¾-in. strap-iron and this is bolted around the signal mast, just above the wooden stringers, by means of one-inch machine bolts. The weight of the signal and foundation is concentrated on the stringer at a point just below the strap-iron clamp, and, hence, it is possible to raise the signal by jacking up each end of the stringer alternately and inserting additional cribbing.

Lead Cable Protection

By H. Fairfield

Signal Maintainer, New York Central, Sandusky, O.

LEAD-COVERED cable, such as used for telegraph and telephone circuits, can be protected at the pole by means of two sheet metal guards shaped as shown in the sketch. These guards must be about two feet long and about 8 inches deep and are fastened to the



Two sheet metal guards for protecting lead-covered cable from lineman's climbers or spikes

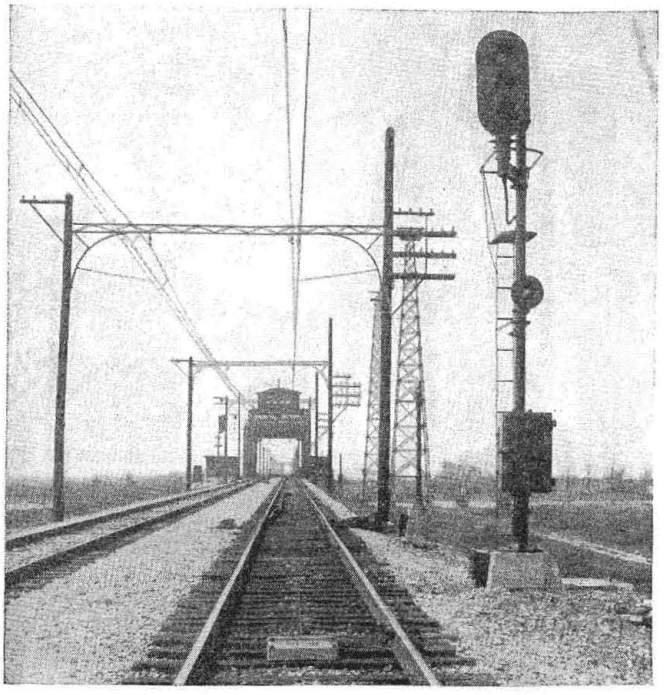
pole by means of ½-in. by 2-in. lag screws. The top of the guard slips over the messenger wire. This serves effectively to keep lineman's spikes from digging into the cable sheath.

Trap Circuit for Drawbridge

By B. L. Smith

Signal Supervisor, Chicago, South Shore & South Bend, Michigan City, Ind.

AT Calumet river drawbridge, just west of Hammond, Ind., the Chicago, South Shore & South Bend installed two trap circuits, one for each track, to control the automatic signaling through the drawbridge. By using trap circuits instead of track circuits, the same results were secured with a saving of about $5,000, the principal item being the elimination of impedance bonds.



Home signal at Calumet river drawbridge

Reference to the circuit sketch, which shows the detailed wiring scheme for the westbound track, disclosed that the trap circuit scheme employs a normally-energized stick relay. As soon as the train passes the westbound home signal, it shunts a one-rail track circuit, which drops the trap circuit stick relay. After the train passes over the bridge, it reaches the second single-rail track circuit at the back-up derail. When this latter track section is occupied, the trap circuit stick relay is again picked up to restore the circuit for a following train.

The trap circuiting is interlocked with the signal levers in the tower controlling the bridge signals. The towerman must restore his signal lever to normal while the train is between the two single-rail track sections, in order that he may clear the home signal for a follow-up move. If he fails to do this, it will be necessary for him to operate the time release. This is necessary, because in the circuit, it will be noted that the trap circuit stick relay secures energy from the signal lever when in the normal position.

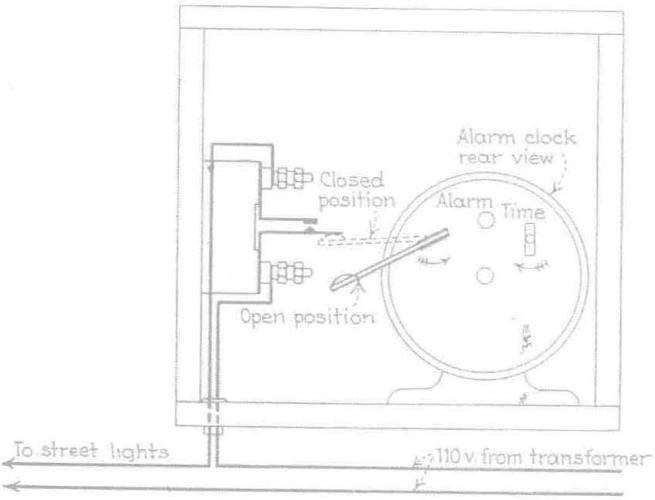
In order to simplify the circuit only the relays and wires for the westbound trap circuit are shown. Corresponding equipment for the eastbound track is similar in every respect.

Time Clock for Grade Crossing Lights

By W. D. Felty

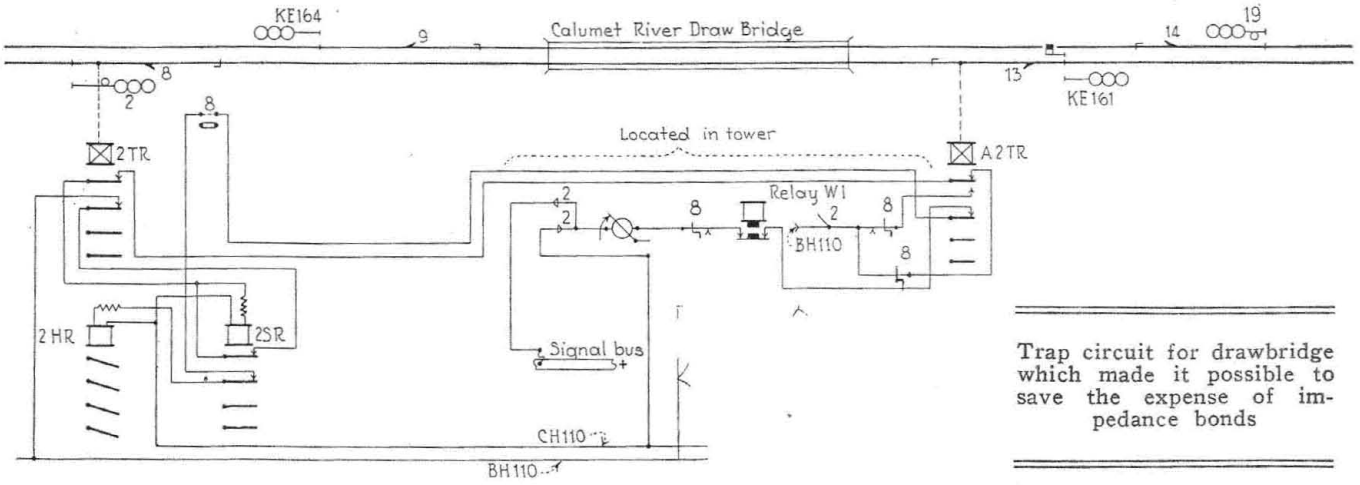
Supervisor of Signals, Norfolk & Western, Portsmouth, Ohio

AN automatic (clock-operated) switch to control the street lighting at a grade crossing in a small town on our railroad was arranged as shown in the sketch. The scheme proved to be inexpensive and has rendered satisfactory service for several years. Two street crossings of the railroad at grade are illuminated at night and the electric current for this purpose was formerly supplied by the local utility company. Several years ago, we constructed a signal transmission line through this town and steps were then taken to furnish current from our signal transmission line to light these crossings. The advantage was a cheaper rate per k.w.h. for current and continuous lighting service throughout the night.



The alarm clock closes the lighting circuit at the desired hour

The only difficulty encountered was to effect a method whereby the lights could be turned on and off without the employment of an attendant. This difficulty was overcome by the use of an alarm clock provided with an extension arm fastened to the winding key of the alarm spring, which operates and engages the lighting contacts and closes the circuit at the time the alarm clock is set to operate. This clock is placed in a special housing, fastened to a signal case, and we have assigned one of our employees to turn the lights off when reporting for duty each day and to wind the clock and set the alarm so that it will operate this device.



Trap circuit for drawbridge which made it possible to save the expense of impedance bonds