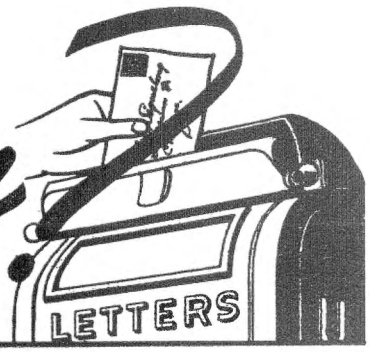
What's the Answer



Emergency Release for Switch Lock

"What are the advantages or disadvantages of providing an emergency release with a seal on an electric switch lock on a hand-throw main-line switch in C.T.C. territory?"

Release Needed

E. W. Anderson
Signal and Telephone Engineer
Nashville, Chattanooga & St. Louis
Nashville, Tenn.

Although presenting the possibility of an unauthorized person opening a main line switch, the use of an emergency release, with a seal, in electric switch locks is imperative where any amount of important switching is done. Failures in electric switch locks are by no means uncommon and, without the emergency release, no use could be made of the switch until the signal maintainer, or other authorized employee, arrived to release the lock.

Saves Train Delays

Philip P. Ash
Assistant Signal Engineer
Louisville & Nashville
Louisville, Ky.

An electric lock on a hand-throw switch in C.T.C. territory is usually located a considerable distance from the signal maintainer's headquarters. If the trainmen are unable to secure an unlock through the normal operation of the electric switch lock controls, serious train delay would perhaps be incurred if the maintainer had to be called and his arrival awaited to release the lock. If an emergency release were not provided, the only way that the electric lock could be released would be to disconnect the lock mechanically. Trainmen do not have the tools and are not sufficiently familiar with the apparatus to make such a disconnection. Furthermore, if a lock were disconnected in this manner, there would be no evidence of this unless the fact is reported to or noticed by the maintainer. For these reasons, I do not believe that it is advisable that trainmen be instructed to disconnect locks in this manner. Therefore, the only solution to prevent delay to trains is to provide an emergency release on the electric switch lock.

Possibly the train may be in the clear on the turnout, and the lock will fail to unlock, in which case if an emergency release is not provided, the train will have to wait in the outlying siding or turnout until a signal maintainer is called to unlock the switch. In some cases, this may mean several hours delay.

As an electric switch lock is usually dependent upon signal control equipment located at the switch, and in other instances is dependent upon line circuits for securing an unlock, a failure of any of this apparatus would tie up train movements.

The design of the emergency release on the electric switch lock should be such that if the emergency release is used, evidence should be provided so that an electric switch lock cannot be left in the release position after the train has left the outlying switch. This can be accomplished by providing the emergency lever for releasing the lock with a trigger arrangement, whereby once the electric switch lock is released, it will hold the signal control circuits open until the maintainer is called to restore the emergency release to normal and seal the emergency release in the normal position.

The emergency release should be used only when absolutely necessary, and must not be used unless authorized by the train controller in charge of the C.T.C. control machine. Our

To Be Answered in a Later Issue

(1) What arrangement, including contacts of two track relays, can be used in connection with switch detector sections to prevent improper operation if the shunt is lost on one track circuit?

(2) Where intermediate freight terminals are located midway in extensive centralized traffic control projects, what are the advantages and disadvantages of excluding these intermediate terminal territories from the C.T.C. territory? What operating rules apply in the limits of the intermediate terminal?

(3) How do you prevent sand and dirt from working into spring switch mechanisms through the packing gland, thus avoiding scoring or wearing the piston rod and the bushings?

(4) What practical means can be used to renew anchor bolts in solid concrete foundations when the bolts are rusted to the point of possible failure above the tops of the foundations?

If you have a question you would like to have someone answer, or if you can answer any of the questions above, please write to the editor.

instructions to the trainmen, governing the use of the emergency release, are as follows:

"Emergency release must not be used unless authorized by the train controller, and to be used only when normal operation of electric switch lock does not unlock the switch.

"To use emergency release, break the wire seal holding the lever marked 'EMERGENCY', and move the lever to the left as far as it will go, and hold it in that position while operating the crank to the left, and proceed as per instructions for operation of electric switch locks. When necessary to use the emergency release, do not attempt to move the lever marked 'EMERGENCY' back to the right.

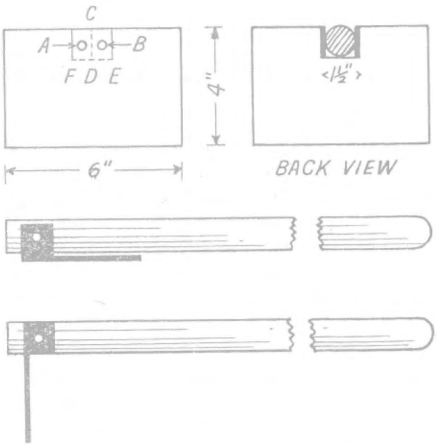
"NOTE—The use of the emergency release will cause the signals to be set at 'Stop', and they will remain at 'Stop' until a signal maintainer is called to reset the emergency lever. It will also cause a track light to show on the train controller's machine."

KINKS

Snow Scraper

J. H. CRAIG
Atchison, Kan.

THE accompanying sketch shows how to make a handy device for scraping snow out from under switch rods. A



Construction of scraper

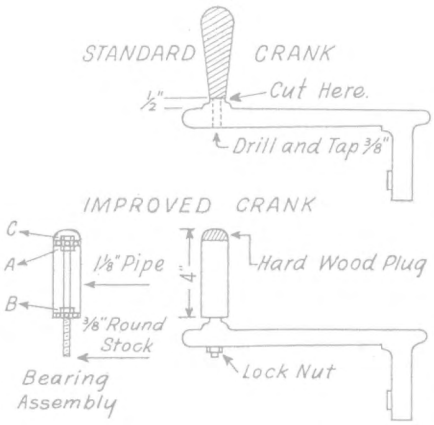
piece of sheet metal is cut to 4 in. by 6 in., and ¼-in. holes are drilled at "A" and "B." Then the metal is cut on the dotted lines C to D, D to F and D to E. The two wings CDE and CDF are bent out at right angles with the original metal.

A ¼-in. hole is drilled through a discarded broom handle, and a bolt is used to pass through the two holes in the metal and that in the stick. The bolt should fit loosely, so that the metal scraper will swing back and forth easily. When pushed under the switch rods, the scraper folds against the handle as indicated in the sketch. As the scraper is pulled out, the weight of the metal causes it to fall down into the position shown in the lower sketch, so that snow will be pulled out.

Improved Hand Crank

JAMES WARD
Toronto Terminal Railway, Toronto, Ont.

WHEN testing and adjusting the switches on electric interlockings, the maintainers have occasion to crank the machines by hand. On a large plant such work may constitute a



Details of new handle

large part of every-day duties, and the standard one-piece cranks which are ordinarily provided are not suitable to work with continuously, simply because the handle is a fixed part of the one-piece crank. The work of cranking switch machines is much easier if a crank with a handle on a shaft is provided, especially if ball bearings are used. I have made such a crank as shown in the accompanying sketch.

First, the old solid handle is cut off the crank as indicated, and a ⅜-in. hole is drilled and tapped. I used two 1 3/16-in. SKF ball races, but other sizes of approximately the same dimension could be used. A piece of 1⅛-in. pipe was cut to the length desired. After heating the pipe, the ends were spread with a ball peen hammer to the approximate size of the bearings. The bottom bearing was then pressed into place and the pipe was allowed to cool.

The nuts "A" and "B" were set at the required distance apart on a ⅜-in. shaft. The pipe was heated and the upper bearing was pressed into place against nut "A." The securing nut "C" was then tightened down on the core of the top bearing, thus completing the bearing assembly.

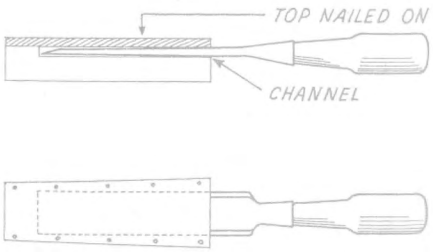
A short hard-wood plug, fitted into the top of the pipe, serves to prevent dirt from entering the bearings.

Chisel Shield

J. H. HOFFMAN
Delaware, Lackawanna & Western,
Avoca, N.Y.

IF a wood chisel is carried in a bag with other tools, some form of a guard or shield should be used, not only to prevent damage to the keen edge of the tool but also prevent cutting one's fingers on such edges.

My suggestion is to select a piece of soft wood at least a ½ in. thick, 1 in. wider than the width of the blade, and about half the length of the blade. Using the chisel to be shielded, a channel is cut down into the flat side of the block lengthwise to within about 1 in. from the end. The depth of the channel should be approximately the thickness of the chisel. Then a thin wooden cover is fitted over the block and nailed in



Shield applied to chisel

place, this cover being sufficiently tight, that, when the shield is slipped over the chisel, the shield will not slip off. By tapering the shape of the shield and smoothing the corners, a more finished appearance is secured.