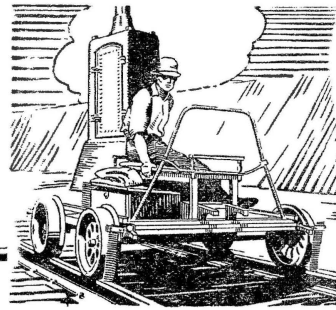


KINKS

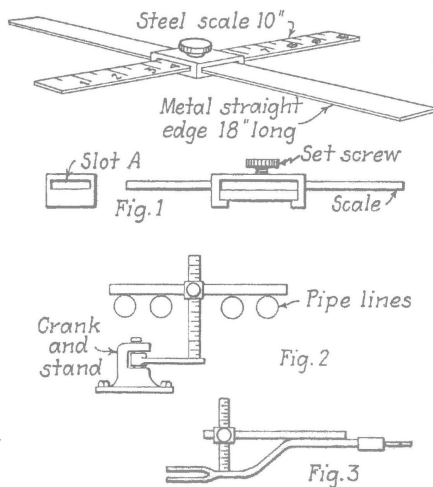


Contributions Published in This Department are Paid For at a Rate of \$2 to \$8 Each, Depending Upon Their Usefulness, Illustrations, Length, etc. A Subscription to Railway Signaling Will Be Given to Contributors at Their Option in Payment for Kinks Used.

Measuring the Set in Cranks and Jaws

By A. Gemmell
Ansonia, Conn.

IN APPLYING set to solid jaws and mechanical interlocking cranks, the blacksmith of a signal gang frequently has difficulty in making accurate measurements. The ordinary method of measuring with a steel square or strip of wood and a rule is comparatively slow and often inaccurate. For these reasons I have designed a spe-



Details and method of using the gage

cial gage, which is of assistance in performing this work, and which can be easily made.

The accompanying diagrams show how the gage can be made and utilized. In Fig. 1, the slot "A" in the movable piece requires the most particular fitting. However, an open slot can readily be cut with a hack saw. This saves considerable effort, because the slots must be very narrow to fit a thin steel scale properly. The slide piece will be weakened somewhat unless a slot is used. A piece of the slide should be cut out in order that the scale can be easily read.

Figure 2 shows the gage laid across pipe lines for measuring the clearance above a crank and stand. Figure 3 illustrates use of the gage in measuring the set in a solid jaw.

Repeating Reverse Signal Indication

By John F. Herbert
Southern Pacific, Los Angeles, Cal.

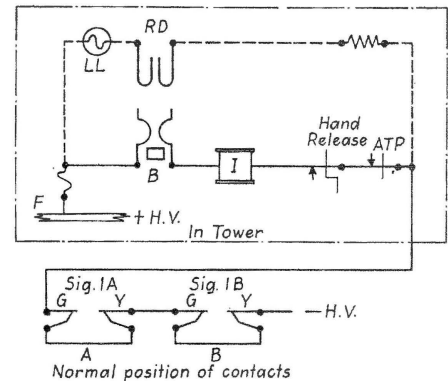
THE PROBLEM of repeating the indication of a searchlight signal to the control lever, for the benefit of the leverman, deserves serious consideration. The fact that the lever has been reversed is not proof that the signal has changed from the stop to the proceed indication. In some instances if the leverman knows in advance that a signal has not cleared, he can save several minutes delay to important trains by being ready to flag, having already examined the switches, etc. In many cases this can be done before the train has stopped if the necessary information is available at the time the movement is authorized.

Since there is only one set of contacts available in the searchlight signal, these contacts are generally used for purposes other than reverse indication circuits. Reverse lever signal indications should be governed by the unit itself and not by the relay which controls it, for the home relay may be energized and the signal displaying the most restrictive indication, because of the lamp being burned out or some other local cause.

The writer has designed an indication circuit which is now in service on a G.R.S. Model-2 unit-lever machine with searchlight signals. By the use of a light in the lever, the following information is received at a glance: Whether the signal cleared, whether the proper route is set, and whether the signal is restored automatically to the most re-

strictive indication when the train passes it. This information is available with no additional relays or change in the outside circuits. Of course, the normal indications are provided in the usual manner.

Referring to the accompanying figure, it will be seen that this circuit in no way affects the reverse movement of the lever. Neither does it affect the normal movement of the lever except to lock or release it at position "B." At all other positions the indication coil is de-energized. Therefore, by bridging the hand release contacts and the approach locking relay ATP, as shown by the dotted line, a circuit is made from



Circuit for repeating proceed aspect of searchlight signal for benefit of leverman

the fuse "F" to the lamp through the controller contacts "RD," thence to the indication contacts in each signal mechanism controlled by the lever, and then to the negative battery.

The lever light is normally dark. When the signal lever is reversed to position "D" the light is illuminated and continues to burn until the lever reaches position "R," and until the home relay is energized and the signal armature starts to rotate to change the color of the light beam. The time required for the signal to clear after the lever has been reversed is less than a second so that, if the signal clears immediately,

there is just a flash in the lever light. If the signal does not clear, the light will continue to burn.

Should the operator, in authorizing a movement, fail to have the switches properly set, the lever light continuing to burn would indicate the improper lever combination. In case of fuse or polar-relay or lever-lamp failure in the signal circuit, the light will not flash when the lever is reversed. By restoring the lever to the normal indicating position, the operator can determine whether the fuse or lamp has failed. If the lever indicates and can be restored to the full normal position, the fuse is o.k. and the failure is in the lamp. If the lever does not indicate when restored to position "B," the failure will be found elsewhere.

Where several trains are moving over the same route and the signal lever is not restored between trains in case of non-stick signals, the actual function of the signal is indicated by the lever light as the signal changes its aspects as the movements progress.

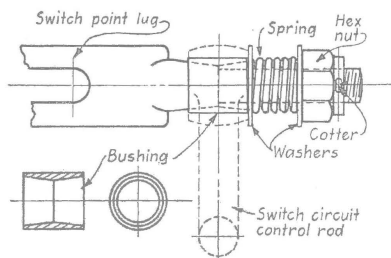
Reclaiming Worn Switch-Point Lugs

By C. A. Williams

Assistant Engineer, Atlantic Coast Line, Wilmington, N.C.

ON THE Atlantic Coast Line, we have recently adopted a method for salvaging switch-point lugs. The diagram illustrates the point connection for a switch circuit controller having a self-adjusting bronze bushing and spring, to compensate for wear and eliminating lost motion.

Whenever the threads become stripped on the switch-point lug, it is removed, dressed down from 1 in. to $\frac{7}{8}$ in. diameter, rethreaded and re-



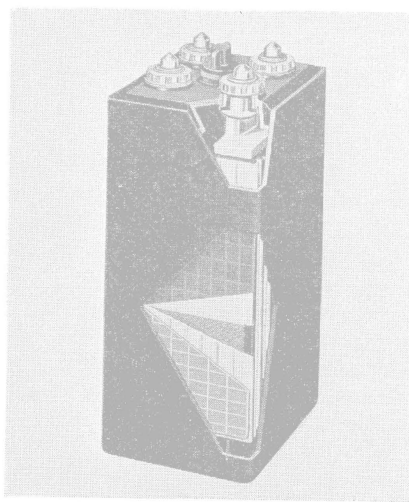
The bronze bushing compensates for wear and is reversible

placed in service again. This work can be accomplished on the ground by construction forces or in the maintainer's tool house. It is anticipated a considerable saving in maintenance. that this type of lug fitting will effect a considerable saving in maintenance.

New Devices

Heavy Duty Battery

AN IMPROVED battery, suitable for heavy-duty purposes, of the Kathode Glassklad type, has been developed by the Gould Storage Battery Corporation, Depew, N.Y. In the new battery, laminated spun-glass mats of high porosity are placed in intimate contact with both sides of each positive plate. The mats are held in place by a perforated hard-rubber envelope, which is formed over the plate and mats. This type of construction is intended to minimize the shedding of



Gould Glassklad storage cell

active material caused by charging and vibration, and also provides a porous structure which permits large volumes of electrolyte immediately adjacent to the active material, as required by high discharge rates. This type of construction has so effectively reduced loss of active material that sediment space has been further reduced to $1\frac{1}{4}$ in. The space was $1\frac{3}{4}$ in. in the RVPX cells, which are now displaced by the type KMD cells.

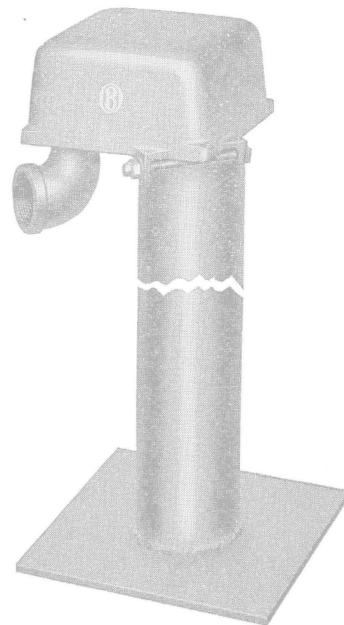
Reduction of sediment space has permitted dropping of the element in the jar to provide a larger electrolyte chamber at the top of the cell, and to include a greater distance from the top edges of the plates to the underside of the cross bar, resulting in increased insulating space. The porosity of the envelope which encloses the positive plate has been increased by a new arrangement of the perforations.

Durapor separators have replaced the ribbed wood separators used in the older type cells. These separators are a combination of silica-gel and finely divided particles of rubber.

They are not porous and so prevent bridging from positive to negative plates. The manufacturer states that the particles of silica-gel in the separators are capable of absorbing hundreds of times their weight of acid, and thus function as a means of electrolyte transfer.

Junction Box Pothead

THE OHIO BRASS Company has announced a new junction box type of pothead which is designed to maintain permanently dry connections. The base and 3-in. riser tube are the same as now furnished with the O-B



O-B junction box pothead

duplex pothead, the point of difference being the top or junction box portion. The upper portion accommodates underground cable and up to nine connections. Provision is made for conduit connections from the junction box to the switch circuit controller.

The malleable iron employed in the protecting box and cover is made impervious to weathering by a thick coat of hot-dip galvanizing. The cover is designed to keep out water, yet give drainage for condensation and, at the same time, provide easy access to the wires. In the event of flood conditions, air is trapped in the bell-shaped cover and keeps all vital portions dry, as in a "diving bell." The riser and broad base plate are electrically welded into one piece. The base is large to prevent heaving as a result of winter weather.