



What's the Answer?

Smashboard Mechanisms

"Should smashboard mechanisms be designed so that, in the event of a power failure, the smashboard will be restored automatically to the Stop position by force of gravity? Or should the board be counterweighted so that it will remain in the exact position which it occupied when the power was cut off?"

Should Be Power Operated in Both Directions

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A smashboard mechanism should not be designed to be restored automatically to the Stop position by force of gravity in the event of a power failure any more than a derail operating mechanism should be designed to open the derail automatically under similar circumstances. Smashboard mechanisms should be operated by power to their normal and reverse positions and should stay in any position at which power is cut off until power is again applied.

Before we were instrumental in getting a smashboard mechanism designed along the principles stated above we adjusted counterweighting so that, in case the smashboard should break loose from its connections, it would assume a position of approximately 30 deg. from the vertical toward the track which it was protecting. This indicated plainly an "out-of-order" condition without any disastrous results.

For those advocating its return to "Stop" position by gravity in case of power failure, I would suggest the simple convincing test of setting up this condition just as their finest passenger train is passing the smashboard location.

I would like to take exception to referring to this apparatus as a "smash signal." It should be called a "smashboard" and its positions designated as "normal" and "reverse" so that it may not in any way be confused with a "signal" or any of the terms used to designate signal positions or indications.

Board Should Not Move After Power Fails

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The advent of automatic interlocking has removed the operator as a witness of the observance of signals, and experience has shown that derails on main lines may be a cause of damage rather than a safety device. In some

To Be Answered in a Later Issue

(1) *How can the lamps in color-light signals be tested quickly and reliably by one man? Is it necessary for him to climb to the signal head and check the filament visually? Must special methods be followed for double-filament lamps?*

(2) *What methods are suitable for laying cable under pavement?*

(3) *What schemes have been worked out for locking signal units such as switch circuit controllers, flashing-light signals, etc., without using padlocks?*

(4) *Where it is necessary to mount signals or other equipment on concrete walls, what are some suitable methods of securing the foundation bolts to the concrete?*

(5) *Where primary battery, exclusively, is used for the line and local control circuits in A. P. B. approach-lighted color-light signaling, is it possible to effect an appreciable saving in battery expense by arranging as many of the circuits as possible to operate on the open-circuit principle, that is, by changing the system from normal-clear to normal danger operation?*

(6) *What are the advantages of approach-lighting automatic signals from headblock to headblock, as compared with approach lighting from opposing signal to opposing signal?*

(7) *What are the advantages in having the lights on a track model in an interlocking tower normally out rather than normally lighted?*

instances, smash signals have been used to furnish a tell-tale in the case of the non-observance of a Stop signal under circumstances which might result in a collision with another train. The smash signal is not a safety device and does not add to the safety of an automatic interlocking—unless it could be argued that their use has a psychological influence to improve obedience to signal indications.

When smash signals are used, the circuits should assure that before a signal is cleared for a route, the smash signals for all conflicting routes are in the Stop position and those for the route in question are clear. A power failure while a route is clear does not introduce any new element of danger to any trains on conflicting routes, and the route previously cleared should be held secure and safe including the smash signals, if the train should fail

