

Letters to the Editor

Automatic Interlocking

TO THE EDITOR:

ST. PAUL, MINN.

In respect to the editorial in the December issue, "Why Not Use the Term Automatic Interlocking?" it seems to me that such a designation for this kind of signaling facility serves the purpose adequately. If it is correct to employ the term "Automatic Signal Protection for Railroad Grade Crossings," what should we call such an installation when just as successfully employed at a junction? I would suggest that a time card showing, for instance, "Findley, A.B.C. Crossing, Interlocked," be changed to read, "Findley, A.B.C. Crossing, Manual Interlocking," or, "Findley, A.B.C. Crossing, Automatic Interlocking" as the case may be.

It does not seem good policy to assume that state commissions withhold authority for installations of "automatic interlocking" for the reason that the application is for the installation of "automatic signal protection for railroad grade crossing." The commissions, I think, are interested in determining the efficiency of the protection proposed, and not what the system is called.

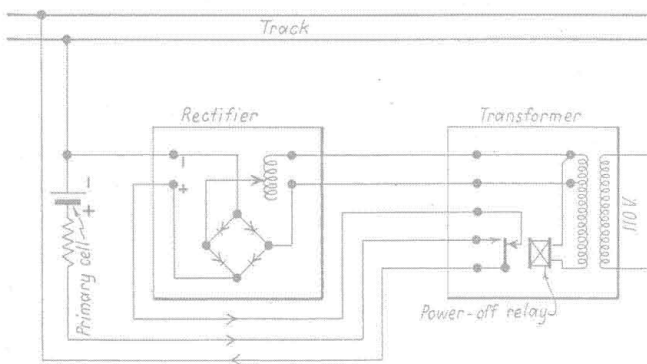
E. J. RELPH,

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Rectifier for Track Circuit Operation

TO THE EDITOR:

Shortly after the advent of the copper-oxide rectifier it occurred to the writer that the rectified wave form of this device would be quite suitable for the operation of d-c. relays. One of these units was accordingly connected to supply a track circuit 2,900 ft. long, using a transformer having a power-off relay. The secondary provided 4 volts a-c. for the rectifier, the connections for primary battery reserve power being as shown in the accompanying sketch. It was found that the track



Copper-oxide rectifier and power-off relay for track circuit power supply

relay operated reliably under all sorts of weather conditions and that no current limiting device, other than the small reactor integral with the instrument was necessary, the high reactance of the circuit as a whole limiting the current when the track was occupied to a value only slightly more than when normal. The rectifier operated cold with plenty of reserve capacity available.

This circuit had previously been operated by an electrolytic rectifier and Edison storage cell under floating charge, the outfit consuming, under normal conditions,

13.6 watts at a power factor of 55.8 per cent. When powered direct from the copper-oxide rectifier, the circuit consumed 8.4 watts at a power factor of 22.6 per cent, a reduction of over 38 per cent in the power required.

While thus far no shunting tests have been made, it is thought that because of the wave form and the fact that the current flow to the track increases only slightly when the track is occupied, that the shunting of the relay is probably more effective with a copper-oxide rectifier than with a battery. The low power factor of this scheme would seem to be an obstacle to its extensive use, but methods of balancing inductance with capacity, now coming into general use, will eliminate this objection.

SIGNAL FOREMAN.

A Factor in the Life of Lamp Bulbs

TO THE EDITOR:

One of the principal subjects of discussion in recent years among those who have to do with railroad signaling, is the life of electric lamps. Most of the discussions seem to deal with the type of filament, voltage to be used, etc. These facts are all worthy of discussion but it seems to me that one important point has been overlooked, either by the designers or the inspectors, namely, lack of free access to the lamp.

The electric lamp is a delicate article and should be treated as such. This being a fact, we should be ready to assist our maintenance force in protecting the lamps and thus eliminate lamp failures. Probably some of the readers have had an experience similar to mine. A campaign of electric lamp cleaning was followed by an epidemic of lamp failures. Even when the lamps were renewed, failures occurred.

After I had had this experience, an investigation developed that a large percentage of the bulbs that had failed were in lamp cases that required the use of a hammer, or equivalent, to gain access to the lamp; not necessarily due to lack of maintenance but to the construction of the lamp cases. This applies not only to old type cases but also to some of the modern signals.

The signal engineers can assist by including this feature in the lamp case specifications. Perhaps this may increase the cost of the case a bit but this expenditure is more than justified by savings made in preventing train delays, overtime and lamps. Why not investigate?

SIGNAL SUPERVISOR.

1927 Index Now Ready

The 1927 index of *Railway Signaling* covering the 12 issues of last year is available for distribution and will be sent without charge to those who request it. Subscribers who bind their copies and others who desire to have this index should send a request to the editor at 105 W. Adams street, Chicago, and a copy will be sent promptly.

An Apology to an Author

The article "Santa Fe Installs Low-Voltage Plant on New Mississippi Bridge" as published on page 457 of the December issue was prepared by D. W. Fuller, assistant signal engineer of the Atchison, Topeka & Santa Fe, with headquarters in Topeka, Kan. The omission of Mr. Fuller's name as author from the heading of this article was due to an unintentional oversight on the part of the editor, and is indeed regretted.