INSULATION OF RAILS

"How do you insulate the rails for the installation of track circuits on steel-deck bridges, where the track is laid directly atop the bridge structure without wood ties?"

Used Trap Circuits
By H. L. Folley
Engineer Telegraph, Telephone & Signals
Chicago & Illinois Midland
Springfield, Ill.

On the Chicago & Illinois Midland, we believe that many failures would be caused by employees working on steel-deck bridges if we attempted to install track circuits. Consequently, we install conventional trap circuits, a typical example of which is shown in the accompanying plan, to compensate for the dead sections.

For fire prevention, the C. & I.M. has installed metal decking on all pletistle bridges. A 4-in. gap is maintained in the metal to insulate the rails. We have found that bridge employees lay tools and equipment, such as power drills, power wrenches, lining bars, etc., across the insulating gaps in the decking, thereby causing track circuit interruptions. We have attempted to control this condition, but find that non-signal employees continue to create conditions causing failures. In my opinion, similar conditions would obtain on track-circuited steel-deck bridges. Even though it would be necessary to span the insulation at two or more points to cause a failure, I believe such failures would occur.

G.E.O. Construction
By E. BoucHET
Superintendent Signals & Interlocking
Union, East Pittsburgh, Pa.

The accompanying drawing shows how we insulate rails on steel-flooring bridges and, while the system may be expensive, we find it is very satisfac-

COMMUNICATIONS TROUBLE

"What is the most unusual and interesting case of communications trouble you have experienced in recent months?"

On Printer Circuits
By H. M. Robertson
Equipmentman, Telegraph Department
Union Pacific, North Platte, Neb.

Recently we were experiencing considerable trouble with our North Platte-Grand Island and North Platte-Omaha printer circuits and, also, some annoyance on our Morse wires, due to ground currents. As our rectifiers are wired common ground, and we did not have enough wires, it was impossible to work these circuits full metallic. Thus, we tried a stunt that worked out very well, and helped all the circuits concerned. It kept them all in operation, whereas there have been times when things were just tied up due to these conditions. We had a simplex lying dead at the time to Omaha, so we patched from our ground jack to this wire and had Grand Island and Omaha do the same. I placed a milliammeter in the patch at North Platte, which sometimes read as much as 110 mills positive or negative difference in the grounds, but it smoothed it out enough that we experienced no more difficult from this cause.

Moose Tangled in Line
By W. G. Benston
Assistant Supt. of Communications
Alaska Railroad, Anchorage, Alaska

During the month of February which, in Alaska, presents unusually heavy
We have considerable maintenance problems, among which is that of combating the moose. The following incident actually occurred at Mile 176:

Our maintenance lineman, H. D. Benston, stationed at Willow, was notified of a break in the Commercial south of Willow, approximately eight miles. Mr. Benston started on his gas car for the scene of trouble, running ahead of train No. 25 at approximately 4:30 to 5:00 p.m., which is heavy dusk. He located the scene of the trouble and, as a marker, placed his snow shoes alongside the track, continuing on to Houston to clear No. 25. This was due to the fact that there was no opportunity to set his gas car off, because of a four to five-foot bank of snow along the track. He then returned in darkness, located his snowshoes, and walked out toward the line. He found the break, spliced in a piece of wire and started for the pole to complete the splice, as was the customary procedure, but the wire pulled back again. Mr. Benston thought the wire was caught on a bush and pulled again, but the wire pulled back again. So, he walked back toward the source of apparent trouble and found a big moose tangled in the wire. He had his dog, a MacKenzie River Husky named Mike, with him, so he "siced" the dog on the moose. The moose chased the dog, the dog ran for Mr. Benston, and he had to run up the pole. Moose and dog were both tan­

By C. E. Pinkston
Signal Supervisor
Louisville & Nashville
Nashville, Tenn.

Sand and Sealing Compound

Moisture is kept out of battery boxes by filling the cable entrance with sand after the cable is in place, up to about 2 in. of the surface, then covering the sand with about one inch of Victolac. For the past five or six months, we have been sealing cable entrances in battery boxes and foundations with Dux-Seal, furnished by Johns-Manville Company, and the latter method is proving very satisfactory. It is doing a good job of sealing and is easy to apply or remove.

Battery Box Moisture

"How do you keep moisture out of signal battery boxes on the ground in bringing underground cables into the boxes?"

Further Explanation

By N. L. Altland
Communications Engineer
Atlantic Coast Line
Savannah, Ga.

Testing Lightning Arresters

"What procedures do you use in the field or in the shop to test lightning arresters to determine whether they are defective?"

Can Use Higher Voltage

By S. M. Day
Principal Assistant Engineer
General Railway Signal Company
Rochester, N. Y.

To clear a signal, the armature of a code-responsive track relay must continu­

If you have an idea you think would be of interest and help to others in the field, please write to the editor.