when there is water in the holes, to prevent the hot sulphur from exploding. If the holes are wet, they should be wiped dry and a small quantity of kerosene should be poured into the hole to prevent the sulphur from blowing out.

Track-Model Lights

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

Prefers to Have Lamps Lighted Only When Track Is Occupied

R. B. Elsworth
Assistant Signal Engineer, New York Central, Albany, N. Y.

The indicating lights of an illuminated track diagram are in the majority of cases arranged to be lighted only when the track is occupied. While this practice is theoretically opposed to one of the fundamental principles of signaling, that is, the closed-circuit principle, this point is not important because safety is not involved in this case and because there are certain other advantages which offset the theoretical disadvantage of not having a burned-out light give immediate indication of its condition.

Lights are most conspicuous if they are arranged to light up when a section of track is occupied. The lighting of a light is more quickly observed than the extinguishing of one. Such an arrangement provides for maximum life of bulb and minimum use of electric current, which is an important consideration where primary battery is used. Also, in view of the railroad's interest in the health of its employees, the question of eye strain should be considered. This feature is important on a large diagram and makes it desirable to use the arrangement which will have the least number of lights showing for the greatest proportion of time.

It is desirable that all signal stations on a given district where the operators may be interchanged, should be similarly arranged, as otherwise it is possible that the new or relief operator might be confused at a critical time.

We are acquainted with one large terminal where the station tracks are occupied a large portion of the time and the lights are arranged to be lighted when the tracks are unoccupied. This system was selected on the theory that it would provide less illumination and call attention more quickly to a platform track which was available for use. The advantages, if any, gained by the application of this theory, are offset by the fact that the running tracks leading to the station are unnecessarily illuminated at all times when trains are not moving over them.

A universal standard of lighting the lamps only when tracks are occupied is preferable under all conditions. In selecting the lens and intensity of lights, it is desirable that an arrangement be provided which is as inconspicuous as practicable when the light is not burning and which will be readily noticed when lighted, but will not create an intense glare.

Question of Safety Is Not Involved

C. H. Tillett
Signal Engineer, Canadian National, Toronto, Ont.

The advantage of having the lights on the track model normally dark is in my opinion, merely that the occupied tracks can more readily be noticed by the operator looking at the model. It is much more difficult to discern a dark spot among a multitude of lights than it is to discern a light among a multitude of dark spots. The track model is merely to give information to the person handling the levers and there is no unsafe practice involved in case a lamp burns out and the operator is not given the information he is supposed to have.

J. P. Muller, signal engineer, Boston & Maine, expresses the following opinion: "We feel that the advantages of the normally-out light are as follows: Saving in current and lamps, and in labor in replacing lamps. Also, it is easier to pick out train movements through the plant."

Aluminum Paint

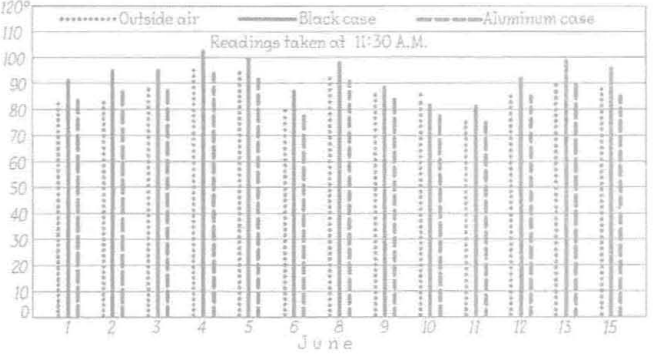
"Will the use of aluminum paint assist materially in reducing summer temperatures inside sheet-metal instrument houses or cases for relays and batteries?"

Tests on Santa Fe

T. S. Stevens
Signal Engineer System, Atchison, Topeka & Santa Fe, Topeka, Kan.

The best answer I can make to this question is to submit a chart showing the relationship between the temperature of the outside air, the temperature inside a case painted black and the temperature inside a case painted aluminum.

Apparently one of the vital questions in connection



Record of temperatures inside two single instrument cases, one of which was painted black and the other aluminum. Chart shows variation of temperatures on different days in month of June

with the use of aluminum paint is the kind of aluminum used and the vehicle. Probably the most conclusive point in favor of aluminum paint is that most of the operating people favor it. It is a fact that from an artistic standpoint it provides a pleasing appearance.

Aluminum Paint Is Effective

A. J. Yarrell
Signal Supervisor, Texas & Pacific, Big Spring, Tex.

I am convinced that the use of aluminum paint assists materially in reducing summer temperatures inside sheet-metal cases. A test made on the road I was with at one time indicated that the temperature was about 15 per cent lower in the cases painted aluminum than it was in the cases painted black. Since dark colors absorb more heat than light colors, it is reasonable to believe that the temperature of metal coated with black paint will be higher than that coated with aluminum paint. We use aluminum paint on all of our signal cases, and