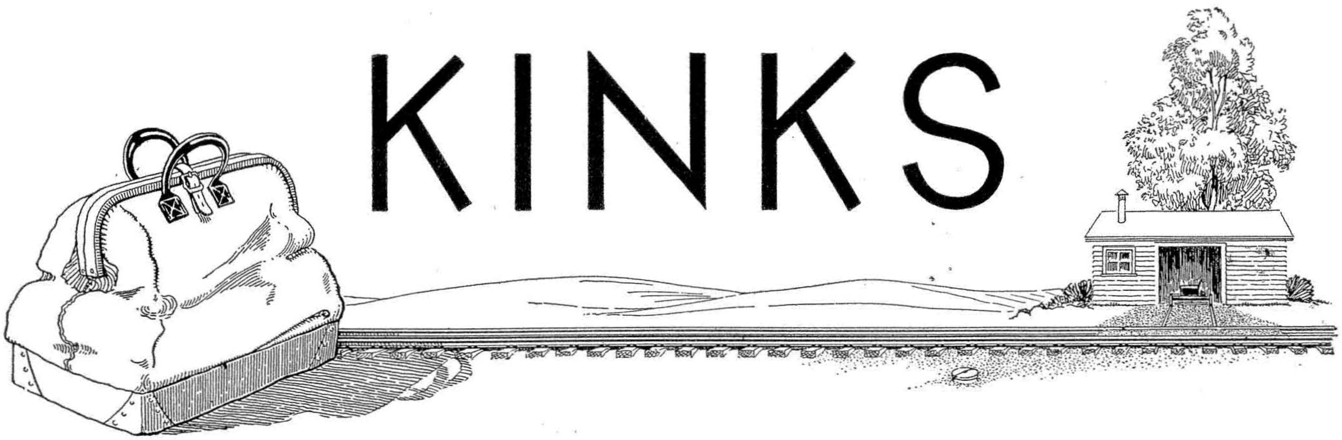
KINKS

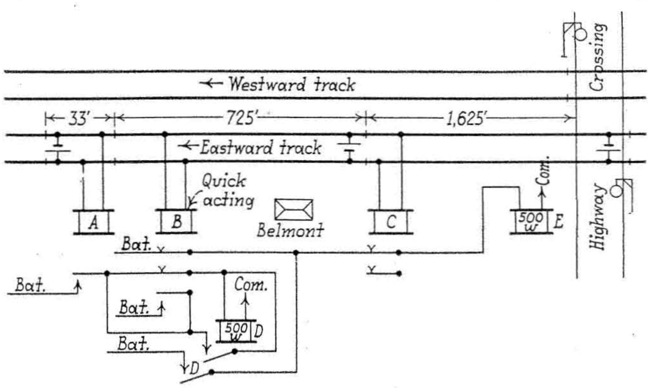


[Contributions published in this department are paid for on a regular basis at a rate of $3 to $10, depending on the usefulness of the idea, the illustrations, and the length of the article.]

Speed Control of Crossing Signals

By R. S. Spink
Southern Pacific Company, San Jose, Cal.

THE more rigid requirements of state and municipal authorities regarding highway crossing protection emphasize the need for better control circuits to meet varied requirements. A combination of circuits recently developed and installed at Belmont, Cal., very successfully



An eastbound train, slowing down to stop at Belmont, does not start the wigwag until it enters track circuit C. A high-speed through train starts the wigwag when it enters track circuit B

handles a situation in which local passenger trains stop for station work within the normal control limits of a crossing wigwag signal, while through trains pass over the circuit at a permissible speed of 60 miles per hour. Obviously, the ringing time would, with the ordinary crossing-bell circuit, be widely different for the two classes of train movements.

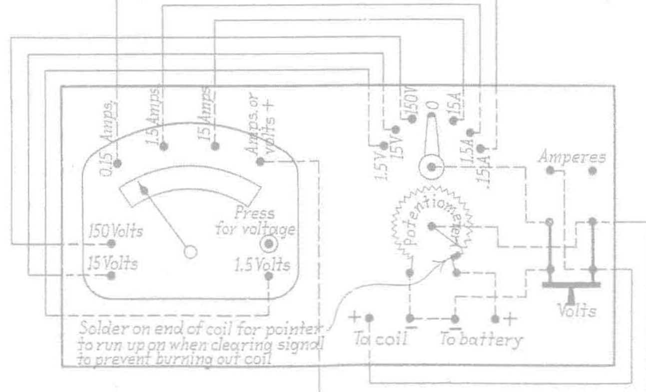
In the accompanying plan, track circuit *A* is 33 ft. long—one rail length—and *A* is an ordinary 4-ohm neutral track relay. Track circuit *B* is cut in or out of the wigwag control circuit, according to whether the speed of the train is above or below 30 miles per hour, respectively. Relay *B* is quick-acting. With an east-bound train traveling over track circuits *A* and *B* at a speed above 30 miles an hour, relay *B* will drop before relay *A* does, and the wigwags will operate from the time the train enters track circuit *B,* 2,350 ft. from the crossing. If the train movement is under 30 miles an hour, relay *A* will drop before *B* drops, thus energizing the 500-ohm stick relay *D,* which, in turn, holds the wigwag control relay *E* energized until the train enters track circuit *C,* and the wigwags will, therefore, then remain clear until the train has entered the 1,625-ft. approach section. Eastbound trains stop at Belmont station with the engine west of track circuit *C.*

It is, therefore, apparent that a train slowing down and stopping at the station will not operate the wigwags needlessly while standing, but, on leaving the station, will give ample warning, as the signals will operate through a distance of 1,625 ft. On the other hand, as shown, a high-speed movement will operate the wigwags from a point 2,350 ft. away. We have found it possible to secure the critical adjustment of relays *A* and *B* which is necessary for the operation of this circuit, by adjusting the quick-acting relay to the desired speed.

Simple, Portable Test Set

By E. H. Hahn
Assistant Signal Supervisor, Atchison, Topeka & Santa Fe, Marceline, Mo.

MUCH has been said about test sets in the past, but it seems to me that most of these sets have been too complicated for the average maintainer, and after all he is the man who must be educated to do the testing. If a test set is simple enough for a signal maintainer to make, there is a fair probability that he will know how to use



This useful test set can be mounted in a box 6½ in. wide by 9 in. long by 2 in. deep

it. The diagram shows a test set which can be mounted on a panel 6½ in. by 9 in. and can be placed in a box 2 in. deep—a box not much larger than the meter alone. The double-pole knife switch is shown in position for a