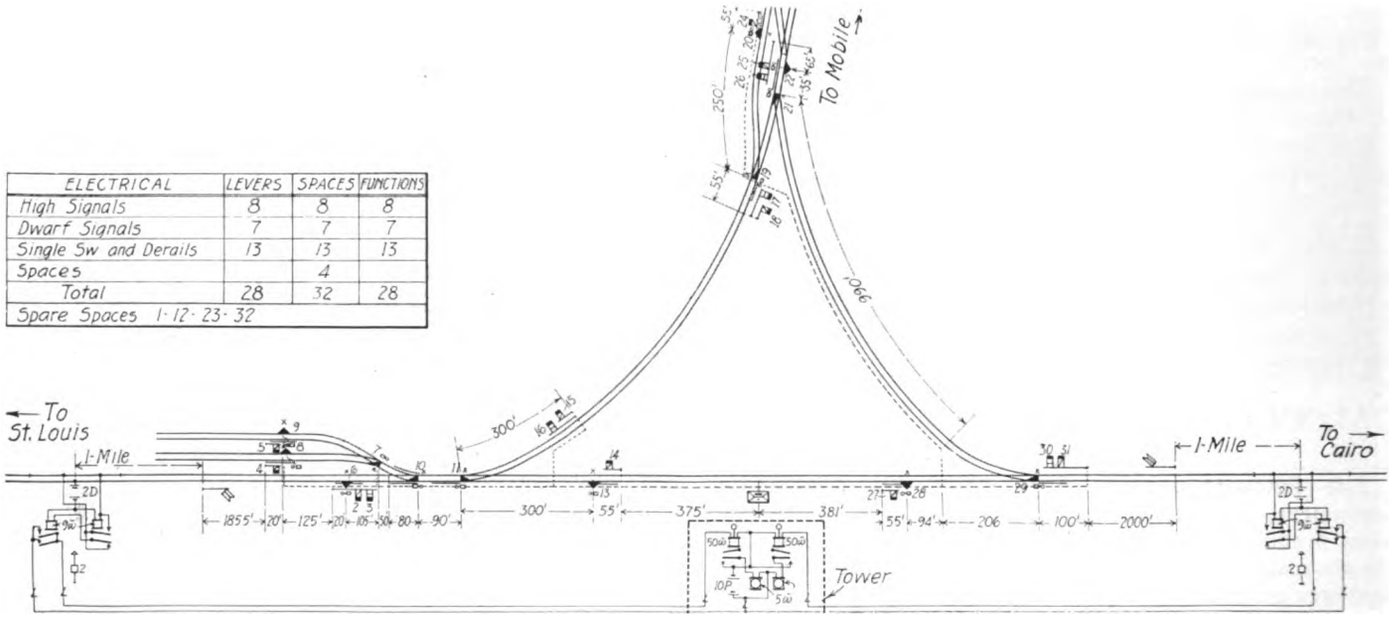
ELECTRIC INTERLOCKING AT DAVIS, ILL.

The Mobile & Ohio has installed an all-electric interlocking plant at Davis, Ill., on its line between Cairo and East St. Louis, which replaces an old mechanical plant washed away by the flood in 1913. About 33 trains pass over the plant every 24 hours; of these 15 are freight and 4 are passenger trains operated by the Mobile & Ohio, and 14 are passenger trains operated by the Illinois Central.

ELECTRICAL	LEVERS	SPACES	FUNCTIONS
High Signals	8	8	8
Dwarf Signals	7	7	7
Single Sw and Derails	13	13	13
Spaces		4	
Total	28	32	28
Spare Spaces 1-12-23-32			



Track and Signal Layout and Annunciator Circuits, Davis, Ill., Interlocking.

The plant was installed under contract by the General Railway Signal Company, and cost approximately $20,000. The interlocker is a model 2, electric machine, with a 32-space frame, containing 28 working levers and 4 spare spaces. The machine operates 8 high signals, 7 dwarf signals, 6 switches and 7 derails.

The high signals are upper-quadrant, two-position, non-automatic, operated by model 2-A, 110-volt, d. c., top-post mechanisms. The upper blades operate from 0 to 90 deg., and the other blades, including the dwarf signals, which are model 3, operate from 0 to 45 deg., except the two distant signals, which are fixed at 45 deg. Night indications are green for clear, yellow for caution and red for stop. Marker lights are used. All signals are electric lighted, and Hall time locks are installed on levers 2 and 27.

Switches and derails are operated by model 2, G. R. S. Co.'s switch machines. Two of the derails are of the Wharton type, the others being Hayes. Detector bars, 52 ft. long, with long motion plates, are used at all track functions. Track circuits were installed at the annunciator starts, located about one mile from the distant signals. The Everett train drop type of annunciator is used, the circuit for which is shown on the diagram reproduced herewith. The model 9 relays at the annunciator starts are housed in cast-iron relay boxes, mounted on iron cable posts.

The power equipment consists of a mercury-arc rectifier and transformer of the General Electric type. This equipment is used to charge a 57-cell set of 60-a. h. chloride accumulator battery. The charging rate is about 7.5 amperes. Room for the power equipment and storage battery is provided in the lower section of the tower. The wires for carrying current to the various functions are located in trunking above ground. The tower wire is in conduit.

The contractor furnished the material and did all the work, with the exception of the tower, which was built complete by the railway forces, with the necessary heating apparatus and shelves for battery. The railroad company also furnished the power, supplies, pole-line material except line wire, insulated rail joints, long ties, special rail braces and concrete material, which amounted to about 15 cu. yd. The work of construction was in charge of A. J. Fehrenbach, under the supervision of C. B. McComb, signal engineer of the Mobile & Ohio. The plant has proved to be a decided improvement over the old one in operation and has helped to cut down delays at this point.

SIMPLE SUBSTITUTE FOR INTERLOCKING.—On a second track job in the South considerable switching of empty and loaded cars was required. The contractor hired a negro as switch tender, and after cautioning him to always have the switch ready for trains, went away. He came back in an hour and found the Ethiopian fast asleep, with his head resting on the rails. He booted him awake. "Dat's all right, boss," exclaimed the negro, "de train couldn't get by me without my knowing it."—"Engineering-Contracting."

SIGNAL TORPEDO.—In order that his railway signal torpedo, No. 1,153,047, may not fail to explode when the locomotive wheels strike it, Frank Dutcher, Versailles, Pa., has substituted a thin metallic foil as the covering material in place of wrappings of other paper, which because of their thickness—necessary to make them waterproof—sometimes form a cushion and prevent explosion. Patent rights in the invention have been acquired by the Central Railway Signal Company, Pittsburgh.—*Railroad Man's Magazine.*

PROBABLY APPLIES ALSO TO SIGNALMEN.—In an action for the death of a section foreman at a crossing which was at the time enveloped in steam and smoke, the Kansas Supreme Court holds that railroad companies in the operation of their roads may rightfully assume that their sectionmen while at work on the track will look out for the approach and passage of trains at all times, and ordinarily such companies owe to their sectionmen no duty to warn them of the approach of trains save when such employes are found to be in a place of danger and it becomes apparent that they will not or cannot protect themselves. Crossing signals are not intended or required for the benefit of sectionmen at work, and the failure to give such signals is not negligence as to such employes. This rule is not changed by the fact that a preceding train going in the opposite direction has left the other track enveloped in steam and smoke. This condition requires added vigilance on the part of the employes to protect themselves.