

Ques. Describe a key.

Ans. As shown in fig. 3,050, it consists essentially of a pivoted lever provided with a contact and adjusting screw, and carried on a base having an insulated contact and a spring to keep the lever normally in the open position. A switch is provided to close the circuit when the key is not in use.

Ques. Explain its operation.

Ans. The operating disc is grasped by the 1st, 2nd, and 3rd fingers; depressing the disc causes the two contacts to touch, depressing the disc causes the two contacts to touch,

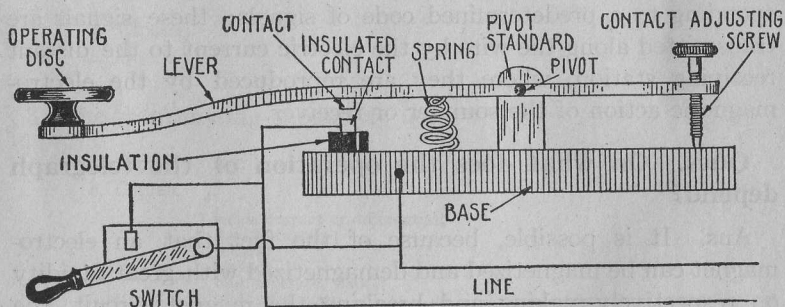


FIG. 3,050.—Elementary key. In actual construction the switch is attached to the base, but is here shown separately, in order that the connections may be more plainly seen.

thus closing the line circuit. When the operator ceases pressing on the disc, the spring forces the contacts apart and breaks the circuit.

Closing the circuit for a short period corresponds to a "dot" and, for a longer period, to a dash. The periods in which the circuit is closed are indicated audibly by the "sounder."

Ques. Describe a sounder.

Ans. As shown in fig. 3,051, it consists essentially of a heavy pivoted lever arranged to vibrate between two stops and held normally against one of these stops by the action of a spring,

there being an electromagnet which when energized acts on an armature attached to the lever causing the latter to move from the upper stop to the lower stop.

Ques. Why is the instrument called a sounder?

Ans. Because, in operation the lever is forced against the stops with considerable rapidity, the blows thus produced, owing to the heavy construction of the lever, being distinctly audible.

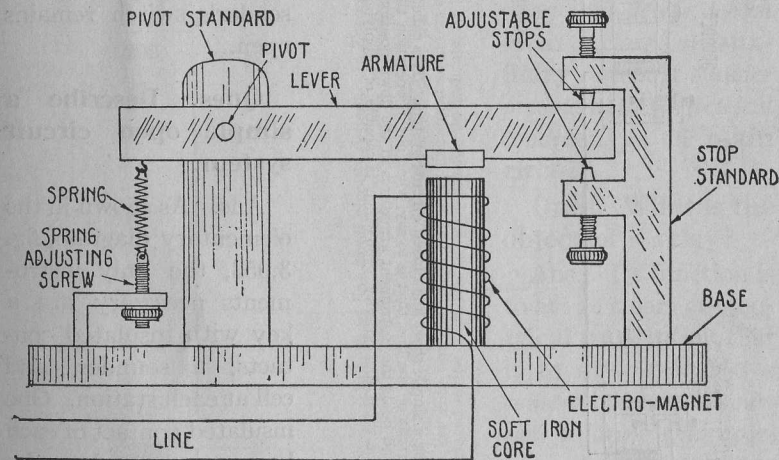


FIG. 3,051.—Elementary sounder showing essential parts.

Ques. Describe a simple short line circuit.

Ans. A simple line having two stations is shown in fig. 3,052. Each station is provided with a key, including a switch, sounder, and one or more cells according to the length of the line, the apparatus being connected in series as shown.

The diagram shows the elementary apparatus for clearness in illustrating the circuit; of course, in actual construction the details are different, for instance the switch forms a part of the key, the standards are double, giving two bearings instead of only one, etc.