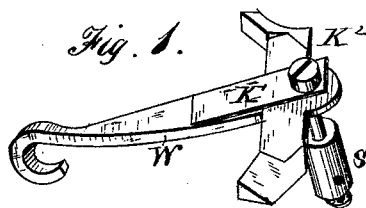
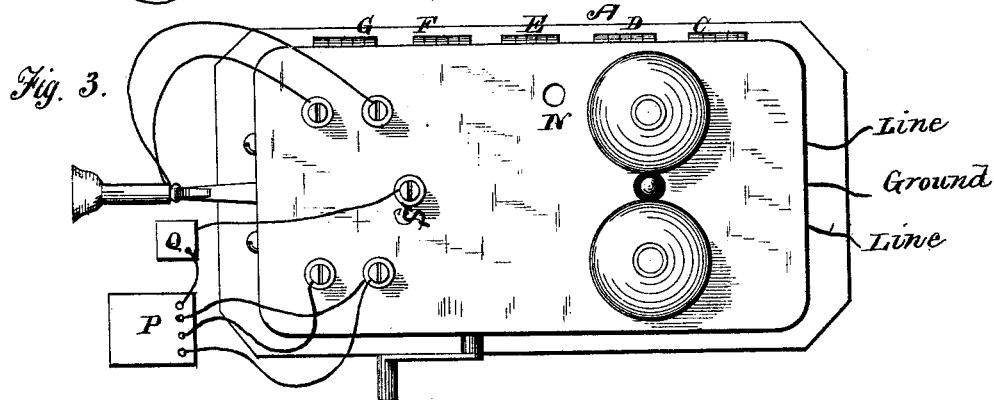
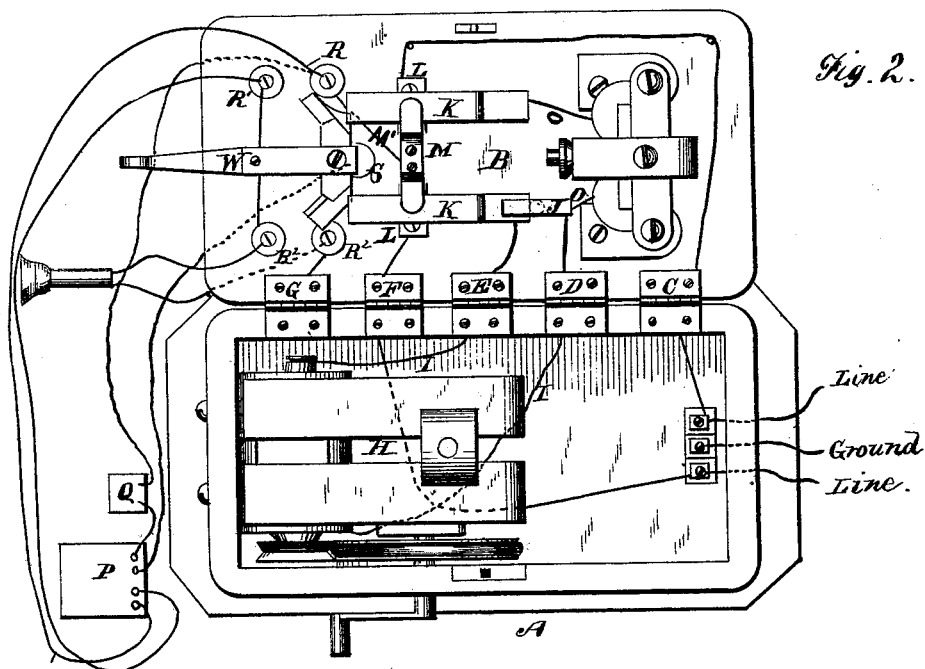


A. E. BRIGGS.
Telephone and Microphone Switches.
No. 218,702. Patented Aug. 19, 1879.



Attest,
W. H. H. Knight
W. H. Young.

Inventor,
Arthur C. Briggs
by Art. C. C. C. C.
his atty.

UNITED STATES PATENT OFFICE.

ARTHUR E. BRIGGS, OF CINCINNATI, OHIO, ASSIGNOR TO POST & CO.,
OF SAME PLACE.

IMPROVEMENT IN TELEPHONE AND MICROPHONE SWITCHES.

Specification forming part of Letters Patent No. **218,702**, dated August 19, 1879; application filed June 3, 1879.

To all whom it may concern:

Be it known that I, ARTHUR E. BRIGGS, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Telephone and Microphone Switches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of my improved switch. Fig. 2 is a plan view of a telephone-box with the cover open, and with a microphone-connection. Fig. 3 is a view of the box and connections with the cover closed.

Similar letters of reference in the several figures denote the same parts.

My invention is designed to provide a telephone and microphone line with a gravity-switch at each station, by which a communication may be transmitted and received between two stations and the rest of the line cut out of the circuit.

To this end it consists in the means of insuring the electric connections of the switch, and in adapting the points thereof to make the microphone-connection.

In the drawings, A represents the box, and B the cover, hinged to one side by five hinges, C D E F G. H is a magneto-engine secured within the box, having its armature adapted to be revolved within the cylinder by a crank and pulleys, and its poles connected by wires I with a break-spring, J, and a contact-spring, K, on the cover, said wires passing through or joining with the hinges D E.

Two contact-springs, K, are employed, one near each edge of the cover, immediately over metal blocks L L' and under an angular bar, M. One of the blocks L is connected by a wire with the hinge F, and thence to the line, while the opposite block connects with the line-wire passing to the hinge C. Both line-wires are held by binding-posts within the box, in the usual manner.

The break-spring is operated by a push-button, N, and is also connected to the electro-magnets in the opposite side, being connected by a wire, O, to the outer contact-spring K.

The armature of the electro-magnets causes a hammer to sound one or two bells mounted upon the outside of the cover.

P is the microphone, and Q the battery, having their primary wires connected to a binding-post, R, said binding-post being also connected to the angular lever M by a wire, M', on the outside of the cover near one edge, and to the binding-post S, upon the shank of which the T-headed switch W is hung. The secondary wires connect with the binding-post R R', and from the latter a wire extends across the cover to one of two binding-posts, R². The other binding-post is electrically connected to the hinge G, from which the ground-wire extends, and both these binding-posts together carry the telephone.

The signals are made by pushing in the pin N, so as to break the short circuit established through the wires I I, hinges D E, and springs J K, connected with the hinges when the magneto-engine is operated, and throw it onto the line.

The telephone is adapted to be hung upon a hook formed on the lower end of the switch when the line is not in operation to transmit a communication, and thus the head of the switch is held normally out of contact with the springs K. When, however, a communication is to be made or received, the switch is swung either to the right or left, according to the direction in which the message is to be passed, and one of its beveled arms passes under the contact-spring K, lifting it from its connecting-block L. This breaks the connection with the line on that side and establishes it on the other, while at the same time it brings the telephone and microphone lines into circuit. This is due to the fact that the binding-post serves as a medium for transmitting the primary current through the switch and to the spring K, with which it is in contact, and thus the switch itself is made a part of the circuit.

To insure a perfect contact a flat spring, K¹, is attached to the switch at one end, so that its free end shall press outward against the head of the screw K², by which the switch is secured to the shank of its binding-post. The

spring bears firmly against the screw-head with a constant pressure, and thus makes a perfect connection, notwithstanding the switch itself may play more or less upon its pivot.

I do not claim, broadly, a T-headed gravity-switch for telephone-lines, nor its connection with the contact-springs K and angular lever M, as I am aware the same is not new.

Having thus described my invention, I claim as new—

The T-headed gravity-switch hung upon the shank-connection of the post S, to which the

microphone is electrically connected, and provided with a spring, K, bearing against the head of the shank-connection of the post, substantially as described, for the purpose specified.

In testimony of which invention I have hereunto set my hand this 24th day of May, A. D. 1879.

ARTHUR E. BRIGGS.

Witnesses:

E. A. ELLSWORTH,

W. BLACKSTOCK.