(No Model.)

R. G. SWEENY.

ELECTRICAL SWITCH.

No. 346,515. Patented Aug. 3, 1886.

Fig. 1.

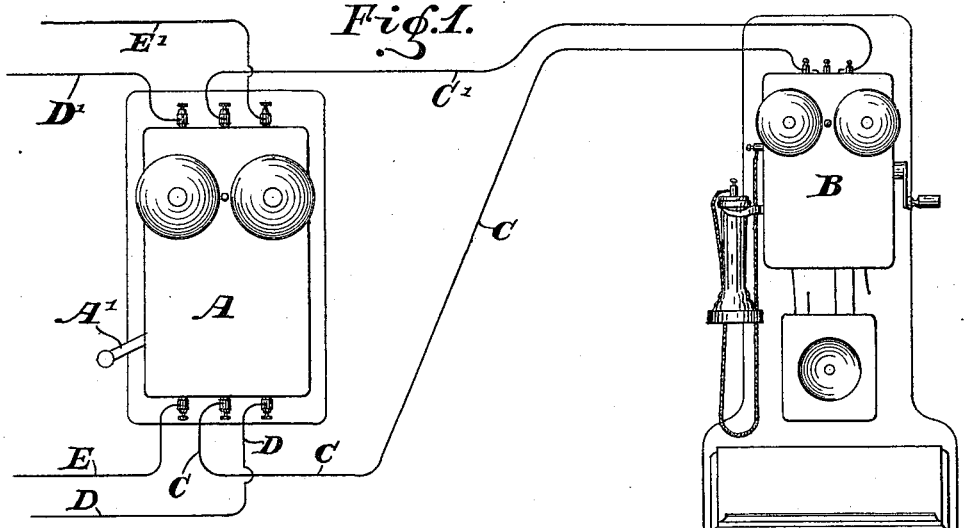


Fig. 2.

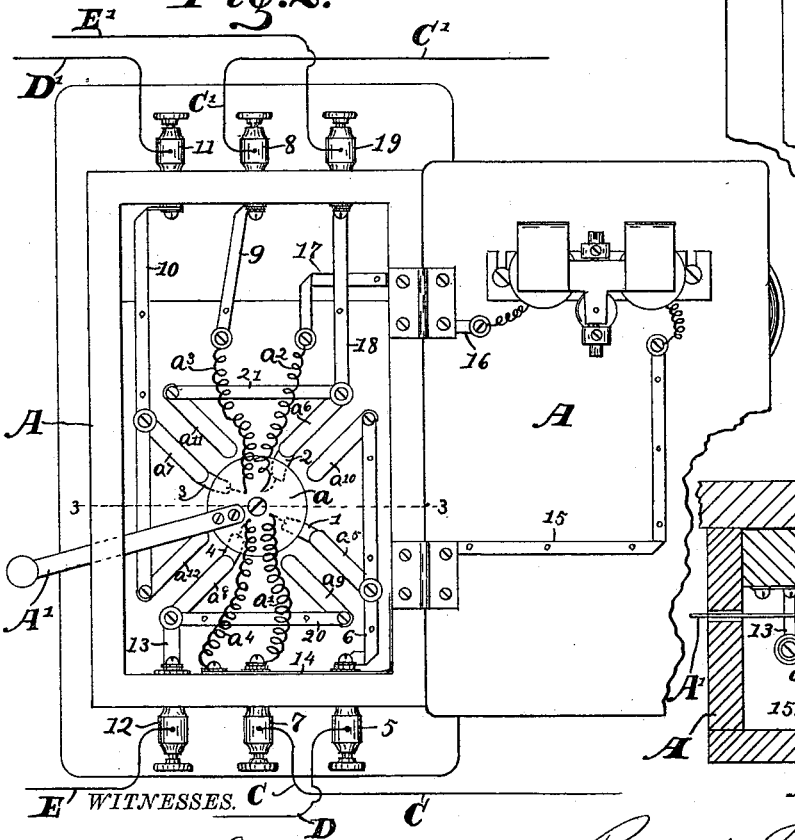
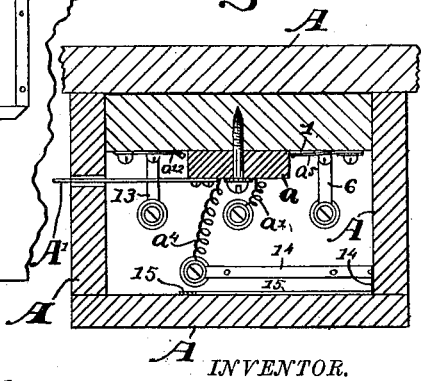


Fig. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ROBERT G. SWEENY, OF TERRE HAUTE, INDIANA.

ELECTRICAL SWITCH.

SPECIFICATION forming part of Letters Patent No. 346,515, dated August 3, 1886.

Application filed March 19, 1886. Serial No. 195,777. (No model.)

To all whom it may concern:

Be it known that I, ROBERT G. SWEENY, of the city of Terre Haute, county of Vigo, and State of Indiana, have invented certain new and useful Improvements in Electrical Switches, of which the following is a specification.

The object of my said invention is to provide a means whereby a single telephone can be used in connection with either of two lines, and at the same time the signal can be received over either of said lines without reference to which one the telephone is connected with. This object is accomplished by providing a separate switch and bell-box to be located at some convenient point near the regular set of telephone apparatus, and constructing the switch in said box in the manner hereinafter described.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is an elevation of a set of telephone apparatus and my supplemental box, and the wires leading thereto; Fig. 2, a front elevation of the supplemental box with the cover swung open; and Fig. 3, a horizontal sectional view, looking downwardly from the dotted line 3 3 in Fig. 2.

In said drawings, the portions marked A represent my supplemental device; B, the ordinary set of telephone apparatus; C C′, the circuit connecting them; D D′, one main-line circuit, and E E′ a second main-line circuit. All these parts, except the switch and its connection, are or may be of any ordinary and well-known construction, and will not be further described herein, except incidentally, in describing the invention.

The switch in the box A consists of a central hub, *a*, of non-conducting material, having four metallic points, 1, 2, 3, and 4, two of which are connected by means of wires a', a^2, a^3, and a^4, which are connected with said metallic points in said hub, as indicated by dotted line in Fig. 2, with the circuit C C′, and with one of the main-line circuits D D′ or E E′. As will be noticed there are eight contact-springs, a^5 a^6 a^7 a^8 a^9 a^{10} a^{11} a^{12}, running in toward this central hub; and, as will be understood from the following description, the telephone is always in circuit with one of the main lines, while the call-signal bell on the supplemental box is in the circuit with the other main line, and the condition may be reversed at pleasure by moving the switch-handle A′.

I will now describe the circuits. Supposing the main line D D′ to be in circuit with the regular telephone apparatus, the current comes in over the wire D through the binding-post 5, strip 6, and contact-spring a^5 to the point 1, thence by the wire a' through the binding-post 7 to the wire C, thence to the telephone, thence by the wire C′, the binding-post 8, strip 9, and wire a^3 to the point 3, thence by the contact-spring a^7, strip 10, and binding-post 11 to the wire D′ and out. It will be noticed that meanwhile the bell on the cover of this box A is in circuit with the main line E E′, as follows: The current comes in over the wire E through the binding-post 12, strip 13, and contact-spring a^8 to the point 4, thence by the wire a^4 to the strip 14, thence through the hinge of the box to the strip 15, thence to the bell, thence to the strip 16 through the hinge of the box to the strip 17, thence by the wire a^2 to the point 2, thence by the contact-spring a^6 and strip 18 through the binding-post 19, and out over the wire E′. When the switch is reversed, the current comes in over the wire E through the binding-post 12, strips 13 and 20, and contact-spring a^9 to the point 1, thence by the wire a' to the binding-post 7, over the wire C to the telephone, thence by the wire C′ to the binding-post 8, thence by the strip 9 and wire a^3 to the point 3, thence by the contact-spring a^{11} and strips 21 and 18 to the binding-post 19, and out over the wire E′. Meantime the bell on the cover of this box is in circuit with the other main line, as follows: The current comes in over the wire D through the binding-post 5, strip 6, and contact-spring a^{10} to the point 2, thence by the wire a^2 to the strip 17, through the hinge of the box, and strip 16 to the bell, thence by the strip 15 through the hinge of the box, the strip 14, and wire a^4 to to the point 4, thence by the contact-spring a^{12}, strip 10, and binding-post 11 to the wire D′, and out.

The operation of my said invention will be clearly understood by the above description of electrical circuits, which indicates clearly that a single electrical instrument may be used by means of my invention in connection with either of two or more electrical circuits.

I have shown a set of telephone-instruments as the electrical apparatus, and have indicated two circuits or main lines only; but it will be readily understood that telegraph-instruments or any other form of electrical communicating apparatus might be used instead of the telephone apparatus, and that by simply multiplying the contact-points and springs any number of main lines or circuits might be connected thereto instead of two only, as shown, without in any manner departing from my invention.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a set of telephone apparatus, a separate switch and bell-box electrically connected thereto, two or more main-line circuits leading to said switch, each terminating in a contact-spring, and a central pivoted hub having contact-points forming terminals for the circuits through the separate bell and regular set of apparatus, said points being arranged to engage with the points forming the terminals of the main-line circuits, whereby either main line may be connected with the telephone, substantially as set forth.

2. The combination, with an electrical instrument, of a separate switch consisting of a central hub having contact-points, said switch being electrically connected to said instrument, and said contact-points forming the terminals of the connecting-circuit, and two or more main-line circuits terminating in contact-points adapted to engage with the contact-points of said hub, substantially as set forth.

3. The combination of an electrical instrument, line-wires leading therefrom to a switch, said switch consisting of a hub having several contact springs or points arranged around said hub, two of which form terminals for the wires leading from the electrical instrument, and the others of which form the terminals of line-wires, and so arranged when said hub is moved on its pivot to one position that one of said line-wires will be thrown into circuit with the wires leading to the electrical instrument, and when thrown to another position another of said line-wires will be thrown into such circuit, whereby communication may be had by means of said single electrical instrument over either of two or more circuits.

In testimony whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 15th day of February, A. D. 1886.

ROBERT G. SWEENY. [L. S.]

In presence of—

C. BRADFORD,

CHARLES L. THURBER.