

(No Model.)

2 Sheets—Sheet 1.

J. B. ODELL.

AUTOMATIC SWITCH FOR TELEPHONES.

No. 253,941.

Patented Feb. 21, 1882.

Fig 1.

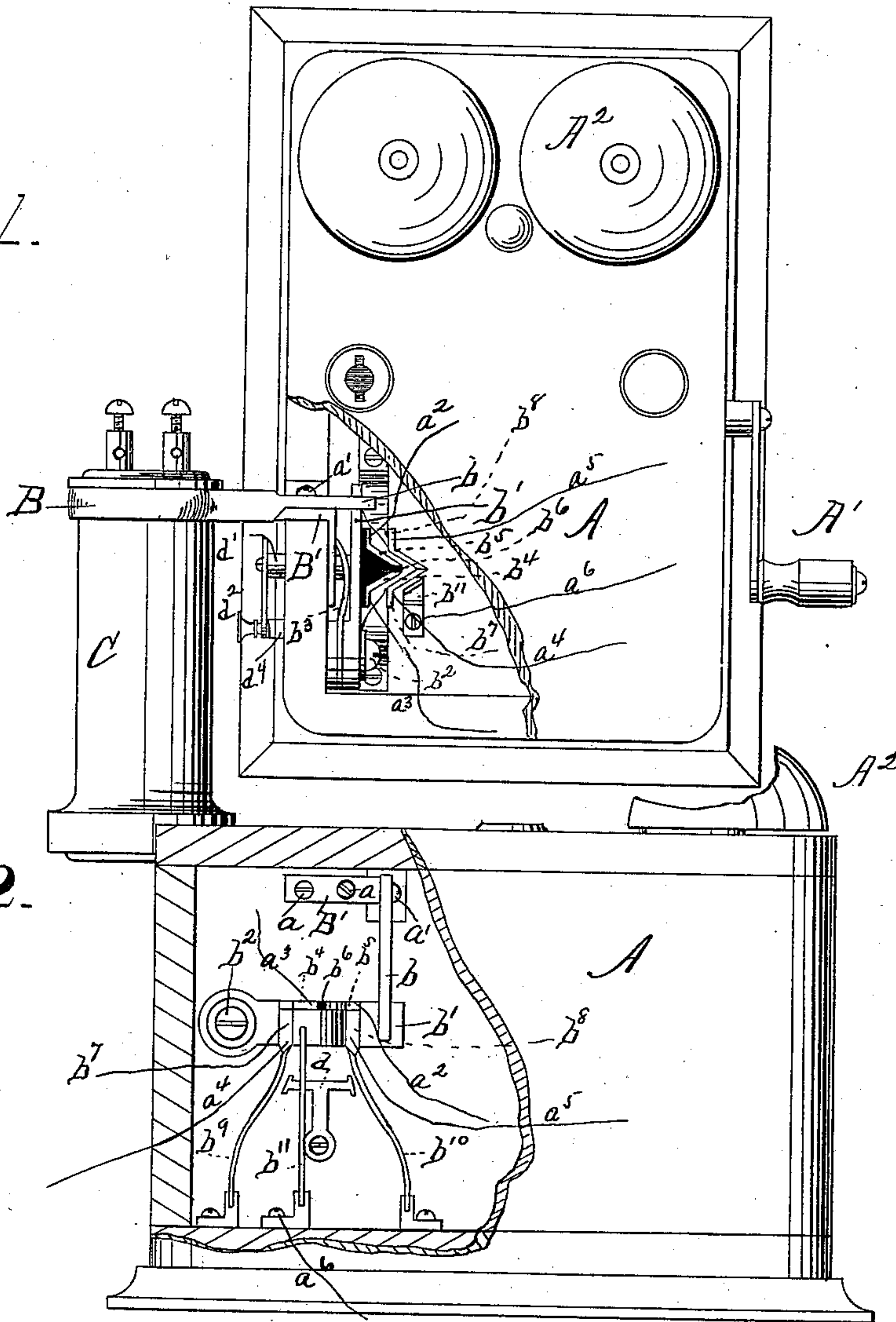


Fig 2.

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INVENTOR—
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by Munday, Everett & Holcock
his Attys.

(No Model.)

2 Sheets—Sheet 2.

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Fig 3.

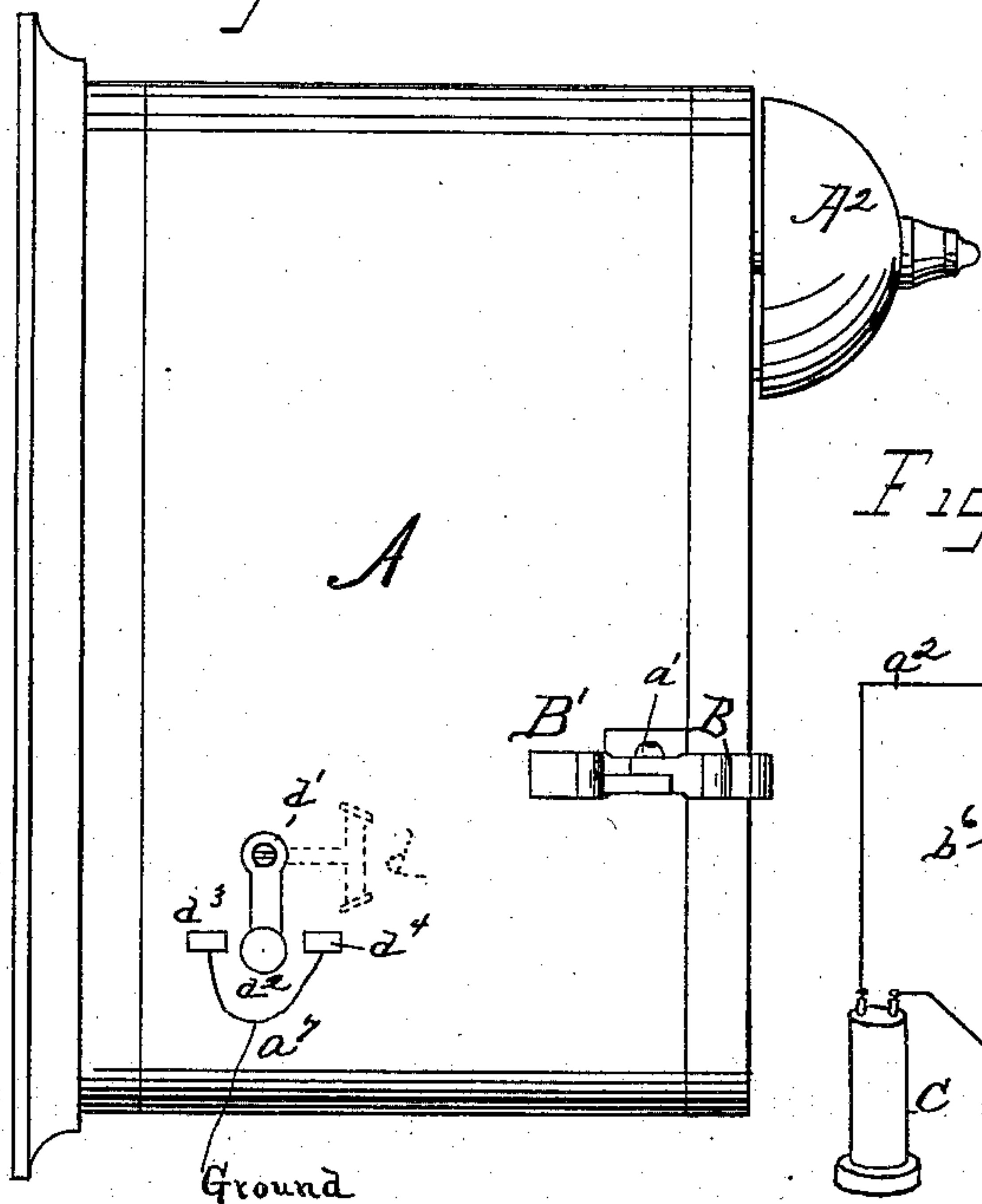


Fig 5.

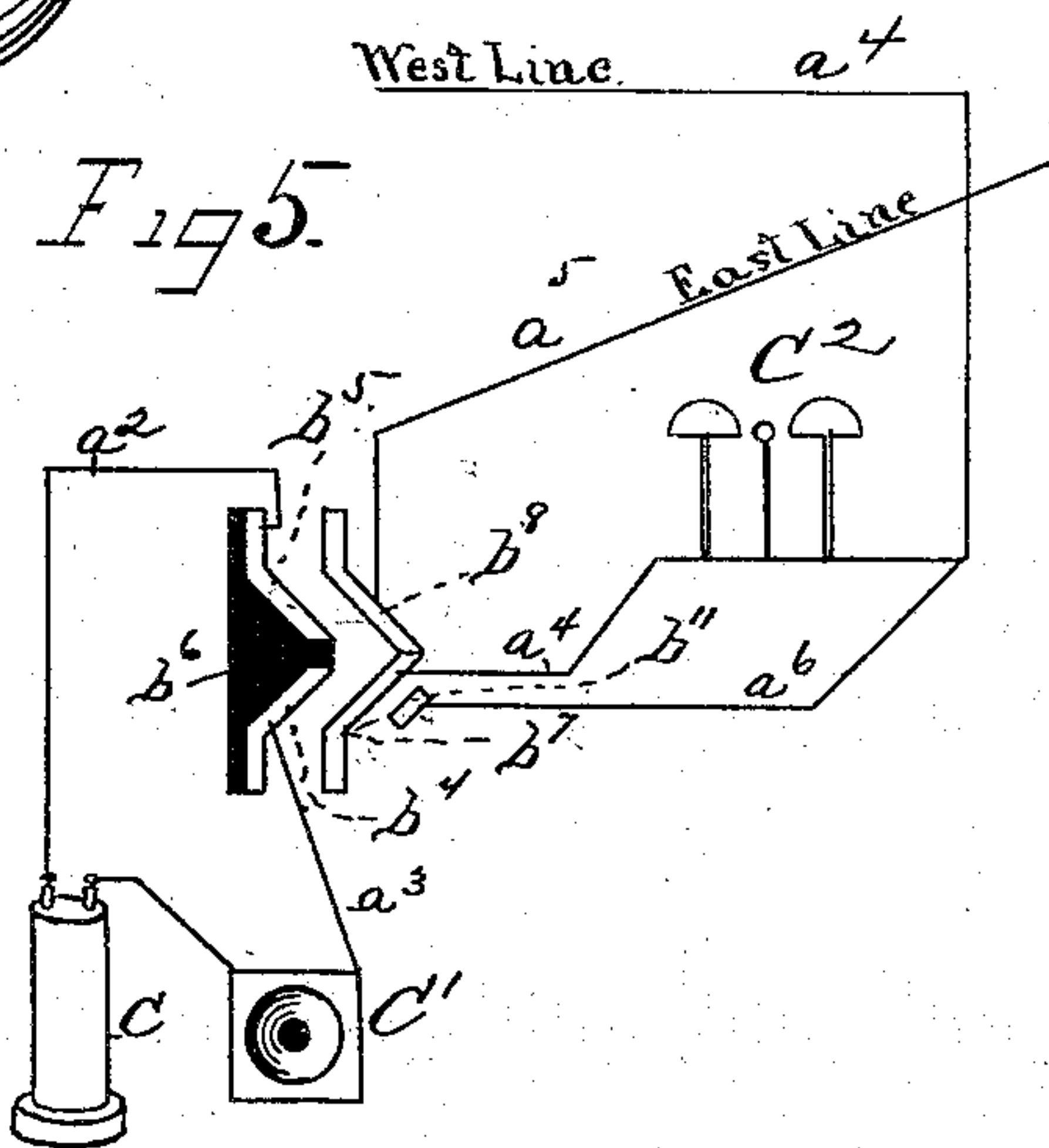
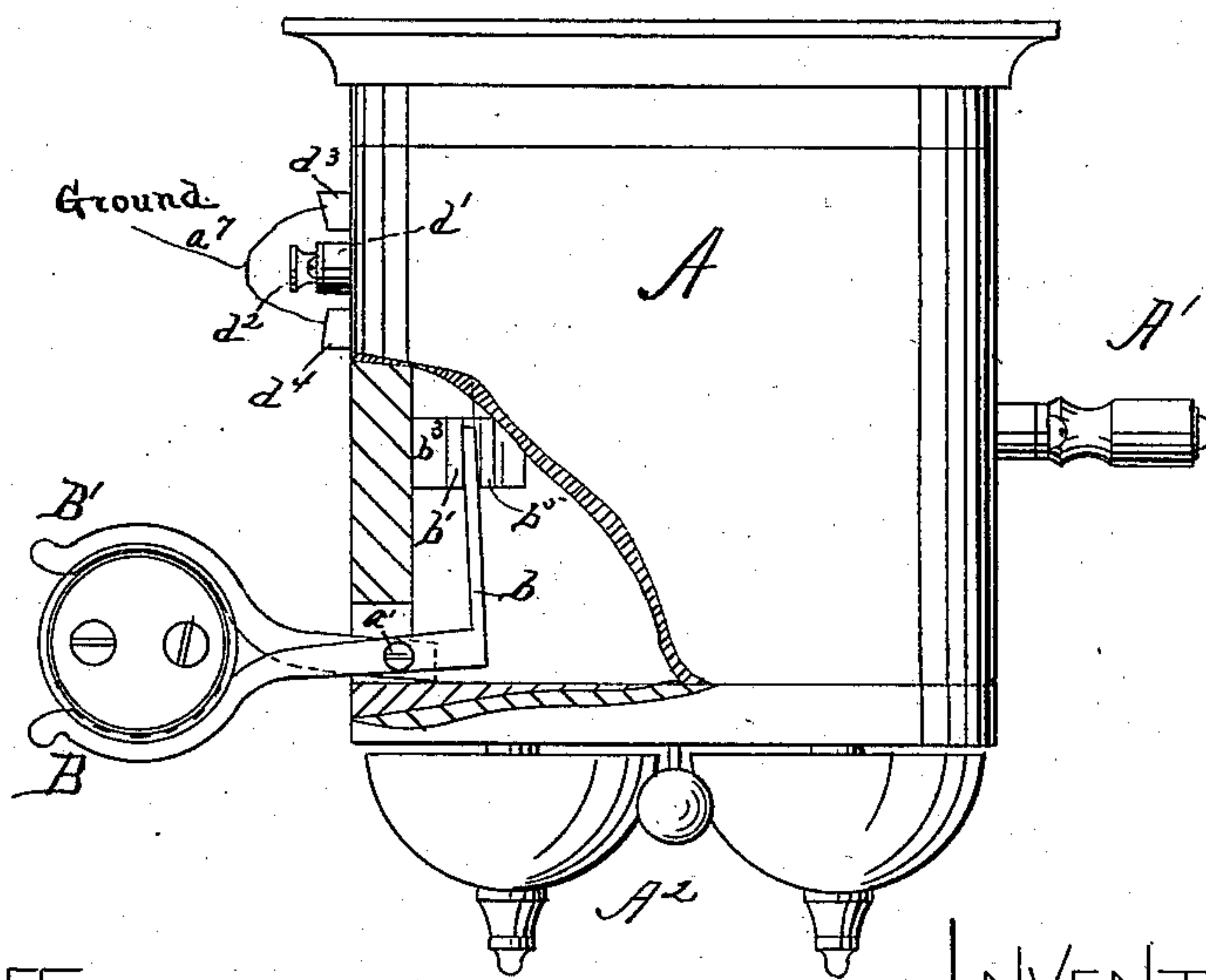


Fig 4.



WITNESSES—
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UNITED STATES PATENT OFFICE.

JOHN B. ODELL, OF CHICAGO, ILLINOIS.

AUTOMATIC SWITCH FOR TELEPHONES.

SPECIFICATION forming part of Letters Patent No. 253,941, dated February 21, 1882.

Application filed August 8, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. ODELL, of Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Automatic Switches for Telephones, of which the following is a specification.

The object of my present invention is to provide a cheap and simple automatic switch by means of which the telephone and microphone will be cut out and the ringer put in communication when the telephone is hung up, and the telephone and microphone put in communication and the ringer cut out when the telephone is taken down for use, and by which, also, either one of the line-wires may be cut out when it is desired to speak secretly over the other line-wire; and my invention consists in a couple of yoke-shaped jaws, constituting the telephone-holder, one of which is pivoted to the other and provided with an arm which operates a spring switch-bar to make and break certain circuits when the telephone presses the jaws apart, and certain other circuits when the telephone is removed from the holding-jaws, so as to permit them to spring together.

My invention will be more fully understood by reference to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a front elevation of a device embodying my invention, a portion of the lid of the telephone-box being broken away. Figs. 2 and 3 are side elevations, looking from opposite sides of the box. Fig. 4 is a plan or top view; and Fig. 5, a diagram showing the arrangement of circuits.

In the drawings similar letters of reference indicate like parts.

A represents the telephone-box, and A' the crank of the magneto-electric generator of the ringer, and A² the bell.

B and B' are the yoke-shaped jaws by and between which the telephone is supported when not in use. The jaw B' projects through a notch in the left-hand side of the box, and its end is bent down and secured to the box by screws *a*. The jaw B is pivoted to the jaw B' by the screw or bolt *a'*, and is provided with an arm, *b*, extending horizontally parallel to the side of the box, the end of which arm presses against the upper extremity of the

spring switch-bar *b'*, the lower extremity of which is secured to the side of the box by the screw *b²*.

b³ is a spring inserted between the switch-bar and the box to press the switch-bar out against the arm *b*.

The switch-bar *b'* is provided with two insulated contact points or plates, *b⁴* and *b⁵*, arranged at an angle to each other, so as together to constitute a wedge. The plates *b⁴* and *b⁵* are insulated from the switch-bar and from each other by means of the angular piece of vulcanite *b⁶*, secured to the switch-bar, and these contact-plates are connected with wires *a²* and *a³*, leading to the telephone C and microphone C'.

b⁷ and *b⁸* are two contact-plates connected with the line-wires *a⁴* and *a⁵*, arranged at an angle similar to that of the plates *b⁴* and *b⁵*, and just back of said plates, so that when the switch-bar is allowed to spring out the plates *b⁴* and *b⁵* will make connection with *b⁷* and *b⁸*, respectively, and at the same time cause the contact-plates *b⁷* and *b⁸* to separate at their edges and break the connection between them. The plates *b⁷* and *b⁸* are secured to or form part of two springs, *b⁹* and *b¹⁰*, respectively, which are attached to the back of the telephone-box. When the contact-plate *b⁷* is pressed out so as to break its connection with *b⁸* it makes connection with the contact-strip *b¹¹*, attached to the back of the telephone-box and connected with the wire *a⁶*, which short-circuits or shunts the ringer.

In the diagram, Fig. 5, C² represents the ringer or call-bell mechanism. *d* is a T-shaped contact, secured to the shaft *d'* of the crank *d²*, and is arranged between the spring-strips *b⁹* and *b¹⁰*, so that by oscillating the same to the right or left by turning the crank *d²* it may be brought in contact with either the strips *b⁹* or *b¹⁰*, as desired. The contact-maker *d* is connected with the ground by a wire, *a⁷*, connected with the stops *d³* and *d⁴*, against which the crank *d²* touches when it is turned to the right or left.

The operation of my invention is as follows: When the telephone is not in use and pressed between the yoke-shaped jaws of the holder it slightly separates them, causing by means of the arm *b* the different parts to assume the position shown in the drawings, when the circuit

will be in over the east line, a^5 , for example, to contact-plate b^8 , plate b^7 , and out over the wire a^4 through the ringer, thus providing for the ringing of the bell while the telephone and microphone are cut out, as the contact-plates b^4 and b^5 have at this time no connection with b^7 and b^8 . When the telephone is removed from the holder, so that the jaws can be pressed toward each other, the spring b^3 forces the switch-bar b' out, causing the contact-plates b^4 and b^5 to make connection with b^7 and b^8 , respectively, to break connection between b^7 and b^8 , and to make connection between b^7 and b^{11} , when the circuit will be in, for example, over the east line, a^5 , to contact-plates b^8 b^5 , wire a^2 and a^3 , through telephone and microphone, to contact b^4 b^7 b^{11} , through short circuit-wire a^6 to the west main wire, a^4 .

If it is desired to cut out the west main wire, a^4 , so as to have secret communication over the east line, the crank d^2 is turned so as to bring the T-shaped contact d in connection with the spring-strip b^9 , and thus afford a ground through the wire a^7 , and thereby cut out the west line. By swinging the crank d^2 in the opposite direction the east line may be cut out when desired.

When the telephone is not in use and pressed between the yoke-shaped jaws the spring-strips b^9 b^{10} springing towards each other will cause the T-shaped contact-maker d and its crank d^2 to assume the position shown in the drawings, and thus break the connection between d^2 and d^3 or d^4 and put both the line-wires in connection with the ringer, if in using the telephone the operator should by chance have left said crank turned to the right or left, and thus cut out one of the line-wires.

It is to be observed that the distance between the yoke-shaped jaws is somewhat less than the diameter of the telephone, so that when the telephone is pressed between them it causes them to slightly separate, and thereby operate the switch-bar.

In the drawings, the contacts b^4 b^5 b^7 b^8 are shown as consisting of flat plates, and I prefer to make them of such form; but it is obvious that they may be made of other suitable forms,

if preferred. And I have shown a separate spring for actuating the switch-bar. If desired, the switch-bar may be made in the form of a spring and no other spring be used.

I claim—

1. The combination, with the spring switch-bar, provided with two insulated contact-plates, of two movable contact-plates and contact-strip b^{11} , arranged and adapted, substantially as described, so that when said switch-bar is moved to make connection between said insulated and said movable contact-plates the connection between said movable contact-plates will be broken and connection made between one of said movable contact-plates and contact-strip b^{11} , substantially as specified.

2. The combination, with spring switch-bar provided with insulated contact-plates b^4 and b^5 , connected with the local telephonic circuit, of the movable contact-plates b^7 and b^8 , connected with the main-line wires, contact-strip b^{11} , connected with the short circuit for shunting the ringer, and a pair of pivoted yoke-shaped jaws for holding the telephone, one of said jaws being provided with an arm for operating the switch-bar, substantially as specified.

3. The means of cutting out either of the line-wires for the purpose of holding secret communication over the other line-wire, consisting in the combination of pivoted contact-maker d , spring-strips b^9 b^{10} , connected with the line-wires, crank d^2 , and stops d^3 d^4 , connected with the ground, whereby when either of said spring-strips b^9 or b^{10} are in connection with the telephone the other line-wire may be grounded by turning said crank to the right or left until it comes in contact with the stop d^3 or d^4 and whereby when the telephone is not in such connection the contact between said crank and the stop d^3 or d^4 is automatically broken and both lines put in communication with the ringer, substantially as set forth.

JOHN B. ODELL.

Witnesses:

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EDMUND ADCOCK.