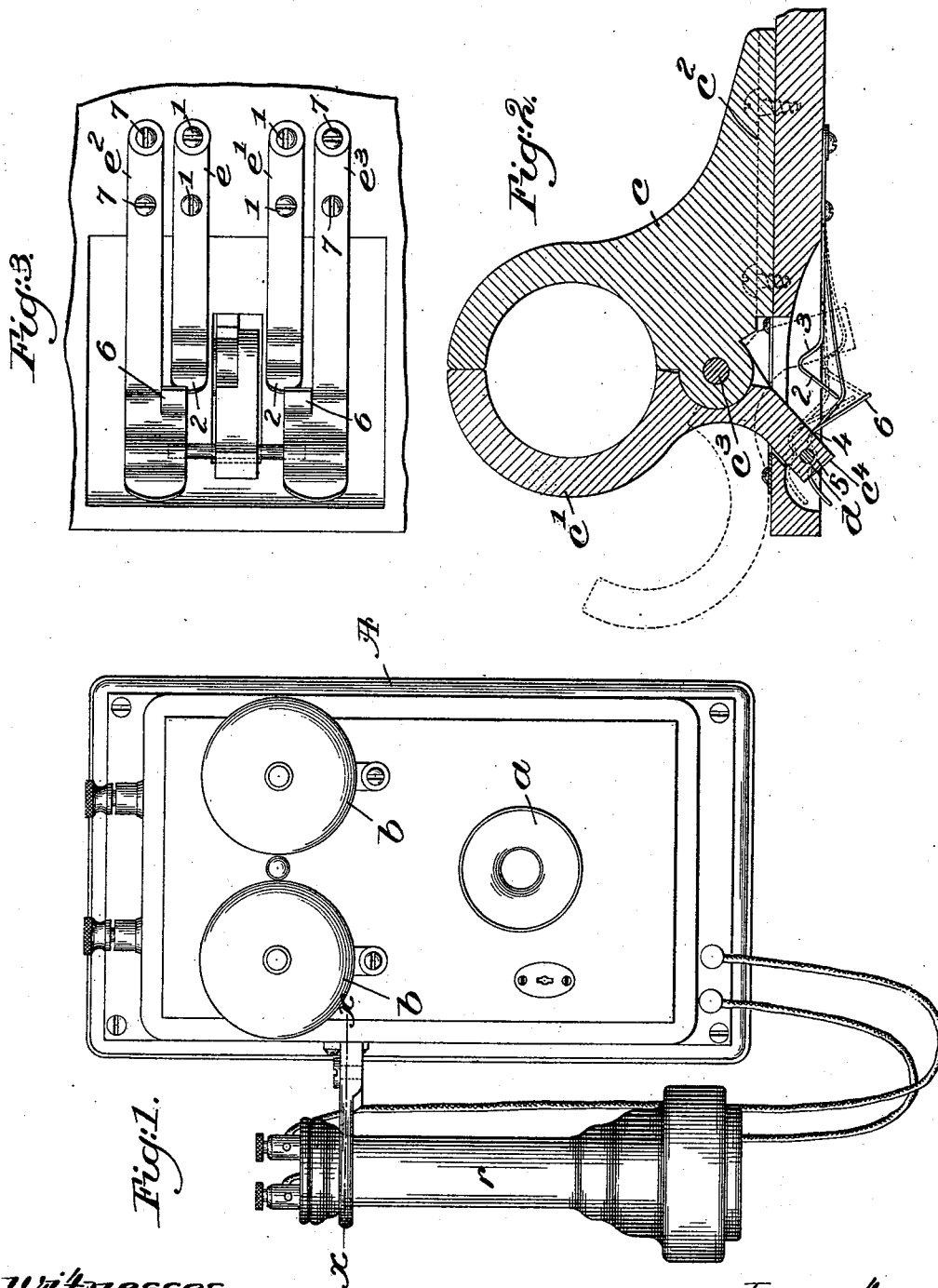


(No Model.)

J. O. ZIEGLER.
TELEPHONE SWITCH.

No. 523,613.

Patented July 24, 1894.



Witnesses.
Fred S. Grumbaf.
Thomas Drummond.

Inventor:
Jacob O. Ziegler,
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Atty.

UNITED STATES PATENT OFFICE.

JACOB OSCAR ZIEGLER, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ALFRED A. ZIEGLER, OF SAME PLACE.

TELEPHONE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 523,613, dated July 24, 1894.

Application filed May 10, 1894. Serial No. 510,729. (No model.)

To all whom it may concern:

Be it known that I, JACOB OSCAR ZIEGLER, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Telephone-Receiver Switches, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates to telephone receiver switches, or combined supports and switches upon which telephone receivers are hung when not in use.

Prior to my invention, switches of this class have usually been of a construction commonly known as automatic or gravity switches, *i. e.*, switches in which the receiver is suspended upon a hook which drops under the weight of the receiver, and cuts out the transmitter and receiver. The size and weight of the receiver is, of course, limited, and consequently the power or force available for moving the switch member is also limited, so much so, that it is frequently found inadequate for a proper operation of the switch. To obviate this difficulty, and also to provide, as I believe, a more conveniently operated device, I have developed the switch forming the subject matter of this invention, and in which the movable member is manually moved, by the operator, instead of automatically, by the weight of the receiver. By this means any requisite force necessary is available for moving the switch, which latter may be so constructed as to insure perfection and certainty of operation.

Other features of my invention will be hereinafter described and pointed out in the claims.

In the drawings, Figure 1 is a face view of a telephone box containing the usual transmitter, magneto devices and receiver, equipped with one form of switch embodying my invention; Fig. 2 a horizontal section taken on the line *x-x* and on an enlarged scale; and Fig. 3, a view of Fig. 2 looking from the bottom of the shunt.

In the drawings, which illustrate the preferred construction, the box *A*, contains the usual transmitter *a*, receiver *r*, the magneto with its bells *b, b*, and also the usual interior

switches and electrical connections, common to telephonic apparatus at the present time.

Referring particularly to Fig. 2, my improved switch, as therein shown, comprises the fixed and movable members *c, c'*, semi-circular in shape and adapted when closed together, as in full lines, to completely, or substantially so, embrace the receiver to sustain the same in its position Fig. 1. The fixed member, as herein shown, has a base *c²*, screwed or otherwise secured to the box *A*, the member *c'*, being hinged to the fixed member at *c³*, and provided with a tail piece *c⁴*. This tail piece *c⁴*, as shown, carries centrally a switch pin *d* which co-operates with the four contact springs *e, e', e², e³*, shown best in Fig. 3.

The inner springs *e, e'*, as herein shown, are secured only at their rear ends, 1, 1, and at their opposite ends are bent to present the angular portions 2, 2, back of which are auxiliary bends, 3, 3. The springs *e², e³*, are shown as longer than the springs *e, e'*, and also secured only at their rear ends, at 7, 7, and at their outer ends said springs are likewise bent at an angle, to form lateral bends 4, which, however, have shallow grooves 5 in their crowns, see dotted lines Fig. 2. The springs *e², e³*, are made wider at their front ends, the widened portions terminating in the inclined fingers 6, 6, as shown.

The springs referred to are connected in the line in usual manner, so that when the pin *d* is in its full line position the transmitter and receiver are cut out, but when said pin is in its dotted position said transmitter and receiver are put in circuit.

The operation of my improved switch is as follows, viz: With the receiver hanging from and in the closed hook members Figs. 1 and 2, if it is desired to speak through the transmitter, the receiver is drawn bodily toward the operator, as though the movable member *c'* were not present, using such force as is necessary to turn back the member *c'* to release the receiver, such removal turning the movable member *c'* back into its dotted position, and causing the pin *d* in the tail *c⁴*, to be moved from its full also to its dotted position. The pin *d* in its movement, first depresses the springs *e², e³*, until it has moved

out of the depressions 5, 5, and thereafter permits said springs to gradually move to their dotted positions, until said pin engages the angular ends 2 of the springs e , e' , and depresses the latter until it springs behind the auxiliary bends 3, where it remains locked against movement.

After the conversation is finished, the operator, with the hand, places the receiver in the hook portion of the fixed member c , and, with his thumb or with his other hand, moves the member c' up to it, thereby embracing and securely holding said receiver, such movement carrying the pin d back again into contact with the springs e^2 , e^3 , and locked in the depressions 5, 5, therein.

With my improved hook and switch, the receiver is securely held suspended by and between the two members of the device, accidental movement of the switch by the operator, when ringing the magneto, or otherwise, is prevented by locking the pin d in both of its extreme positions by the grooves 5 and auxiliary bends 3; bright, and, therefore, good contacts are assured by the rubbing of the pin upon the springs as it is moved from one to another of its positions; and the contact springs may be made as stiff as necessary to insure perfect contacts, and still leave the switch easily operated by hand, and is in no way dependent for its operation upon the weight of the receiver.

The weight of the receiver is carried by the switch members in the line of the axis of the movable member.

This invention is not limited to the exact construction shown as an illustration of it,

for said construction may be varied without departing from the scope of the invention as claimed.

I claim—

1. The herein described telephone switch, the same consisting of fixed and movable members adapted to embrace and together sustain a receiver, said movable member being pivoted to swing about a vertical axis, into one or another position, and contact springs co-operating with said movable member, substantially as described.

2. The herein described telephone switch, the same consisting of fixed and movable members adapted co-operatively to embrace a receiver, said movable member being pivoted to swing about a vertical axis, into one or another position, co-operating contact springs, and means to lock said movable switch member in its extreme positions, substantially as described.

3. The herein described telephone switch, the same consisting of fixed and movable members c , c' , the latter hinged at c^3 , said members together embracing and sustaining the receiver, the tail piece provided with the pin d , the springs e , e' , e^2 and e^3 , and the depressions 5, and auxiliary bends 3, all to operate and lock said movable member, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB OSCAR ZIEGLER.

Witnesses:

FREDERICK L. EMERY,
EMMA J. BENNETT.