T. A. WATSON.

Automatic Switch or Cut-Out for Telephones.

No. 209,592. Patented Nov. 5, 1878

Fig. 1.

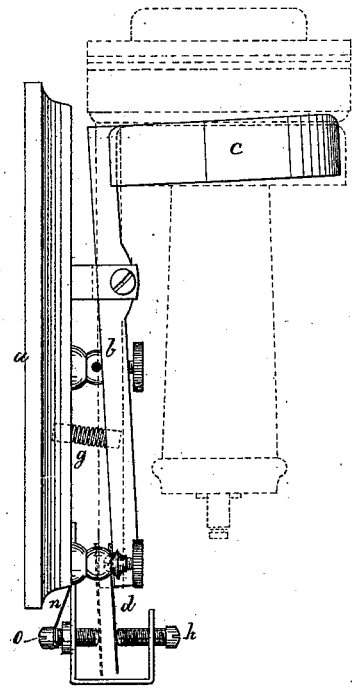


Fig. 2.

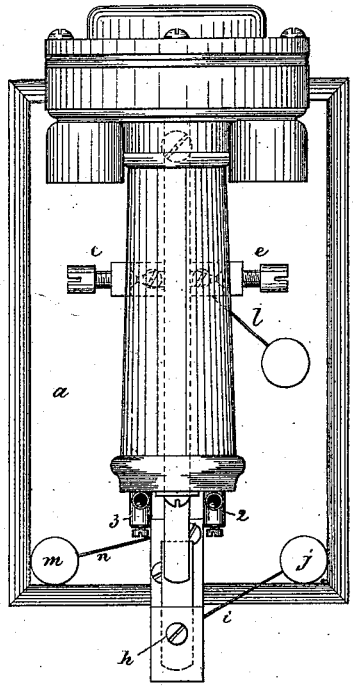


Fig. 3.

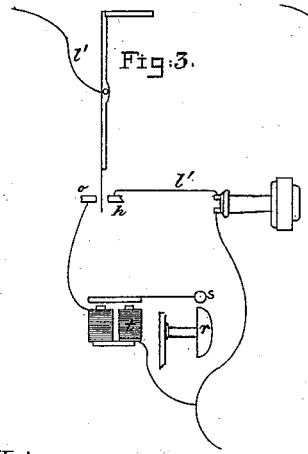
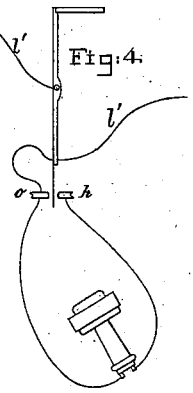


Fig. 4.



Witnesses.

W. J. Pratt.

C. A. Perkins.

Inventor.

Thomas A Watson

UNITED STATES PATENT OFFICE.

THOMAS A. WATSON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO GARDINER G. HUBBARD, TRUSTEE OF THE BELL TELEPHONE COMPANY, OF SAME PLACE.

IMPROVEMENT IN AUTOMATIC SWITCH OR CUT-OUT FOR TELEPHONES.

Specification forming part of Letters Patent No. **209,592**, dated November 5, 1878; application filed September 17, 1877.

To all whom it may concern:

Be it known that I, THOMAS A. WATSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Switch or Cut-Out Mechanism for Telephones, of which the following is a specification:

It is customary in connection with telephones to employ a switch, which may be changed in position to direct the circuit through the telephone, or through an electric or magneto-electric bell, to attract attention.

In this present invention the switch is rendered automatic in its operation, it remaining, when the telephone is not lifted for use, in contact with a screw or metallic point connected in circuit with the bell and ground, and when in use remaining in contact with another screw or metallic point in circuit with the telephone.

Figure 1 represents in side elevation, in full lines, one form of my switch mechanism exemplifying this invention, the telephone being supposed to be in use, and in such figure the dotted lines show the telephone supported and not in use. Fig. 2 represents, in front view, the apparatus shown in Fig. 1, with the telephone not in use. Fig. 3 shows, in diagram, the apparatus in a station when used as a switch; Fig. 4, a diagram when used as a cut-out.

The board *a*, upon which the switch mechanism is attached, may be of any proper shape or size. The telephone-sustainer is, in this instance of the invention, made as a lever, *b*, with arms *c* and a spring, *d*. This lever is supported by the ends of screws *e*, provided with concaved seats to receive the points of a shaft, *f*, extended through the lever. Back of the lever is a spring, *g*, to press the metallic circuit-closing portion *d*—preferably a spring—against the screw or point *h*, connected by a suitable wire, as at *i*, with the screw-cup *j*, with which is also connected a wire, which extends to one of the screw-cups, 2, of the telephone.

The lever *b* is, by the wire *l*, connected with the line-wire. When the weight of the telephone is removed from the lever, or when the telephone is taken up for use, this lever is simultaneously operated to move the portion *d* in contact with the screw *h*, which places the telephone in circuit with the line-wire.

The screw-cup 3 of the telephone is connected by a wire with the ground or the wire leading to the next station. Screw-cup *m* is connected with screw *o*, and is also connected through a bell with the ground or with the wire leading to the next station.

When the telephone is no longer to be employed, it is freed from the hand of the person previously using it, and then its weight, or the act of placing it out of the hand of the user into a convenient position from which to be again taken when to be used, acts to place the portion *d* in contact with the screw *o*, which changes the circuit from the telephone to the bell, to a Morse sounder, or to any other electric call.

In the diagram, Fig. 3, *r* represents the bell, *s* its hammer, and *t* an electro-magnet, there being employed with the bell a suitable voltaic battery or other generator of electricity.

To employ this apparatus as a cut-out, the wires will be arranged as shown in diagram, Fig. 4, wherein the line-wire is represented by the letter *l'*. When the telephone is laid aside the portion *d* will rest against screw *o*, thereby taking the resistance of the telephone out of the line.

By this invention it is obvious that the mere act of taking up the telephone for use and the replacing or dropping it after use automatically changes the switch to place either the telephone or bell in circuit, or operate the circuit-closing portion to place the telephone in circuit or cut it out of the circuit.

Having thus described my invention, I would observe I do not claim to be the first and original inventor of the automatic switch-changer operated by the transfer of the weight of the telephone. In this I believe to have been anticipated by H. L. Roosevelt; but

What I claim is—

A telephone-holder consisting of the com-

bination of a yoke on the end of a lever of the first order, made to tilt by the removal of the telephone, with two stationary points, the one making circuit-connection through the signaling or call instrument, the other through the telephone, substantially as herein shown and set forth.

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

THOMAS A. WATSON.

Witnesses:

G. W. GREGORY,

W. J. PRATT.