

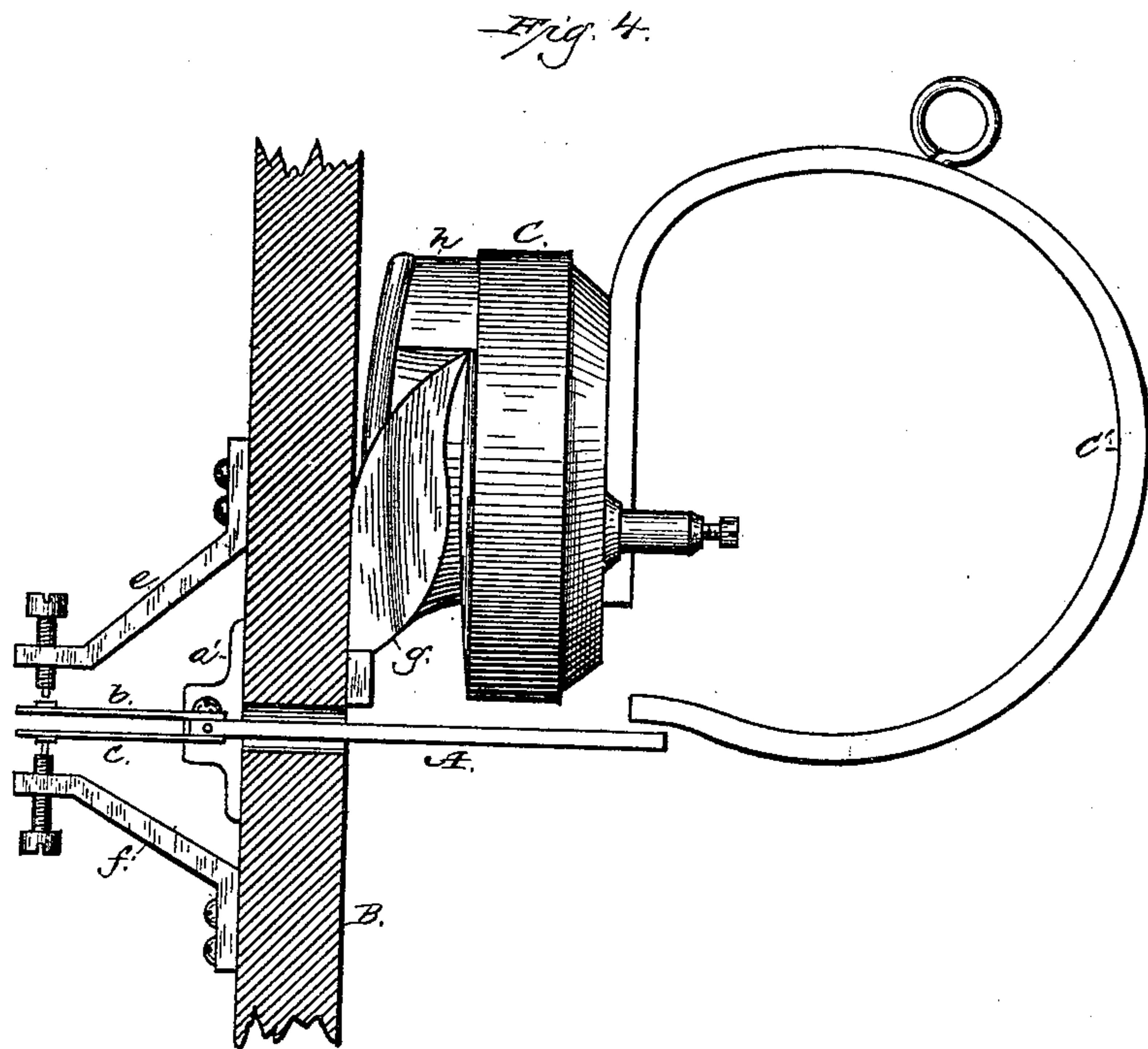
(No Model.)

S. BERGMANN.
TELEPHONE SWITCH.

2 Sheets—Sheet 2.

No. 266,750.

Patented Oct. 31, 1882.



Witnesses:

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UNITED STATES PATENT OFFICE.

SIGMUND BERGMANN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
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TELEPHONE-SWITCH.

SPECIFICATION forming part of Letters Patent No. 266,750, dated October 31, 1882.

Application filed July 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND BERGMANN, of New York city, in the county and State of New York, have invented a certain new and useful Improvement in Telephone-Switches, of which the following is a specification.

The object I have in view is to produce simple and efficient means for operating telephone-switches, without depending upon the weight of either the receiver or transmitter to move the switch in one direction against the tension of a spring moving it in the other direction, as heretofore, and which means will be certain in action, not liable to get out of order, and exceedingly convenient in use.

The invention consists principally in utilizing the power of a permanent magnet, which is brought into action when the telephone-receiver (or transmitter) is placed in the position it is intended to occupy when not in use, and which permanent magnet acts to move the switch in one direction against the weight of the parts or the tension of a spring, by which the switch is moved in the other direction.

The invention consists, further, in the preferred means employed by me in this connection, as fully hereinafter explained.

In the accompanying drawings, forming a part hereof, Figure 1 is a side elevation and partial vertical section of the switch, it being moved to throw in the call; Fig. 2, a view of the switch from the contact-points, it being in the opposite position; Fig. 3, a top view of the permanent magnet and contact-springs forming the switch-lever, and Fig. 4 a view similar to Fig. 1 of a modified form of the switch.

The switch-lever A is a horseshoe-magnet having three contact-springs, *a b c*, projecting from its yoke. This permanent-magnet lever is preferably pivoted near its yoke in a horizontal position upon a plate, *a'*, secured to the rear side of the door B of a telephone-box, and has its ends or poles projecting through an opening in said door to the front side of the door.

The springs *a* and *b* make contact with adjustable screw-contacts carried by arms *d e* above such springs, the weight of the permanent magnet throwing such springs against the screws. The spring *c* makes contact with

a screw-contact carried by an arm, *f*, below it when the permanent magnet is raised at its poles.

C represents a telephone-receiver, which, when not in use, is held by fingers *g*, secured upon the door B, and receiving the flange formed by the flaring mouth-piece of the instrument. The receiver is provided with a ring, D, of soft iron, secured thereto, (shown in section in the drawings,) which ring is brought close to the poles of the permanent magnet, when the receiver is placed in the fingers, and, being attracted by such permanent magnet, the magnet itself is raised, working the switch and throwing in the call. The horseshoe-magnet with both poles acting on the iron ring is more powerful than a simple straight polarized bar would be. The use of a ring of iron upon the receiver has the advantage that the switch will be thrown, no matter in what position the receiver is placed in the fingers. This ring may be put upon the receiver or transmitter, whichever is the movable instrument, or, if both are movable, upon either or both.

The same connections are made with the plate *a'* and the arms *d e f* that are made with the corresponding parts of the gravity-switch heretofore employed, so that the effect of placing the receiver in the fingers or removing it therefrom is to cut out the receiver and throw in the call, or the reverse. Those connections are as follows: Wire 1 is connected with the secondary of the induction-coil, the receiver, and the earth; wire 2 is connected with the primary of the induction-coil and the battery; wire 3 is connected with the bell and earth; wire 4 is connected with line, and wire 5 is connected with the transmitter and battery.

Instead of using a polarized switch-lever, an iron lever may be used and the permanent magnet be placed upon the instrument. This may be the projecting permanent magnet of the receiver or a special permanent magnet secured to the receiver or transmitter.

Means will be provided to assure the placing the instrument in the holding-fingers in the proper position to bring the permanent magnet carried thereby into the proper relation with the iron switch-lever. This modification

is shown in Fig. 4. The lever A is of soft iron, and is attracted by the permanent magnet *h* of the pony-crown receiver. A part of the space back of the flaring mouth-piece of the receiver is filled up, as shown at *h*, so that the receiver will always have a definite position in the fingers *g*.

What I claim is—

1. The combination, with a telephone-receiver (or transmitter) and a supporting device thereof, of a switch and contacts, and a permanent magnet and armature moving such switch, and brought into action by the attaching of such instrument to such supporting device, substantially as set forth.

2. In a telephone-switch, the combination, with a polarized switch-lever, of the movable instrument having an iron ring carried thereby, substantially as and for the purpose set forth.

3. In a telephone-switch, the combination, with a movable instrument provided with an armature, of a pivoted horseshoe-magnet provided with contacts and acting as the switch-lever, substantially as set forth.

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Witnesses:

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