

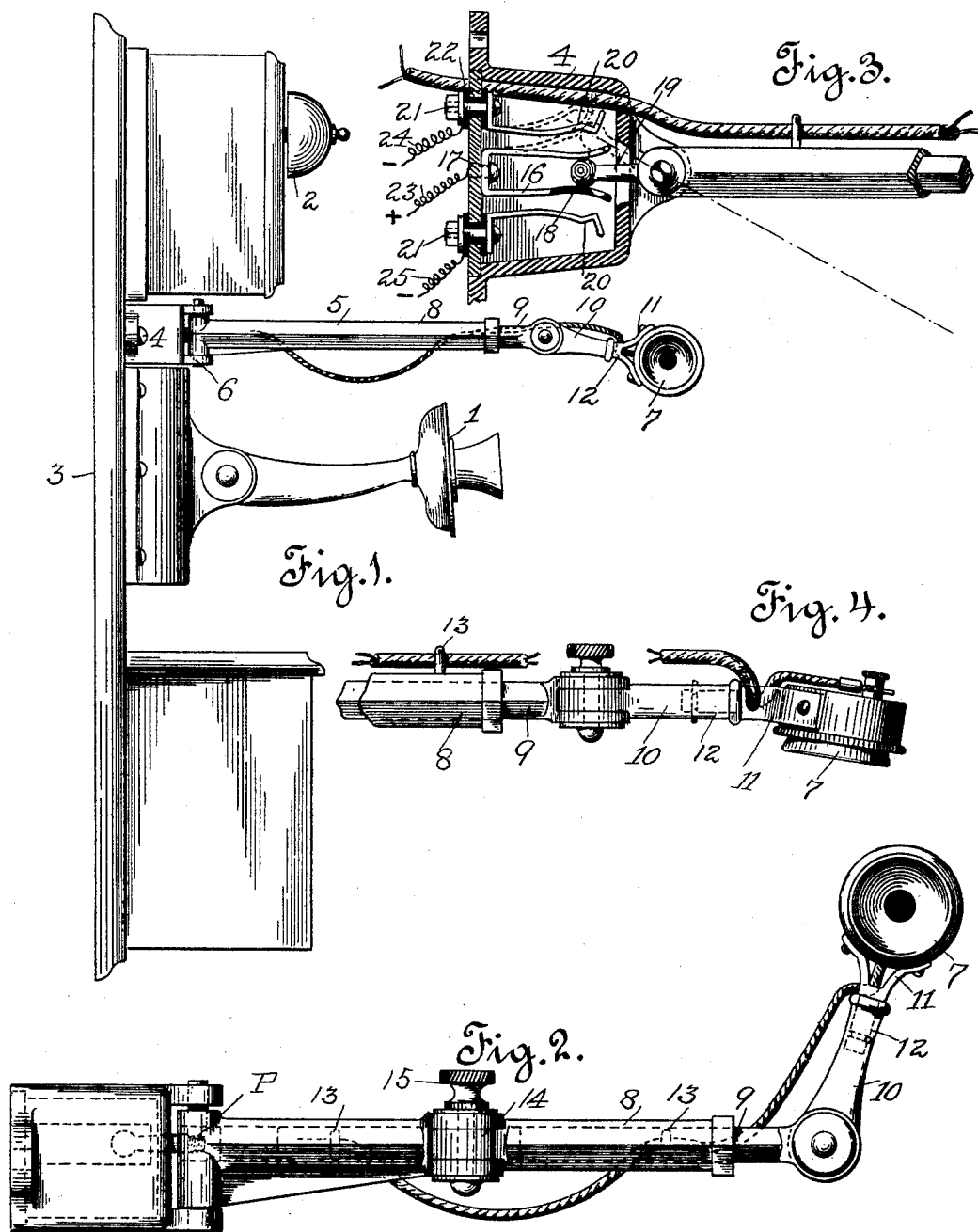
(No Model.)

2 Sheets—Sheet 1.

S. C. HOUGHTON.
TELEPHONE ATTACHMENT.

No. 586,793.

Patented July 20, 1897.



Witnesses.

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C. S. Madison

Inventor.

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(No Model.)

2 Sheets—Sheet 2.

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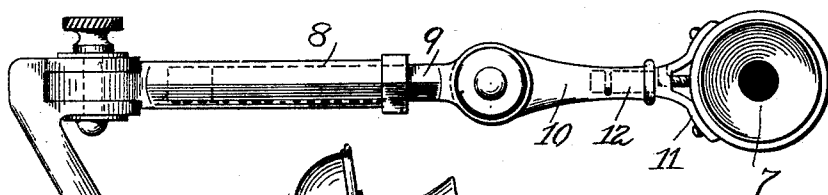


Fig. 5.

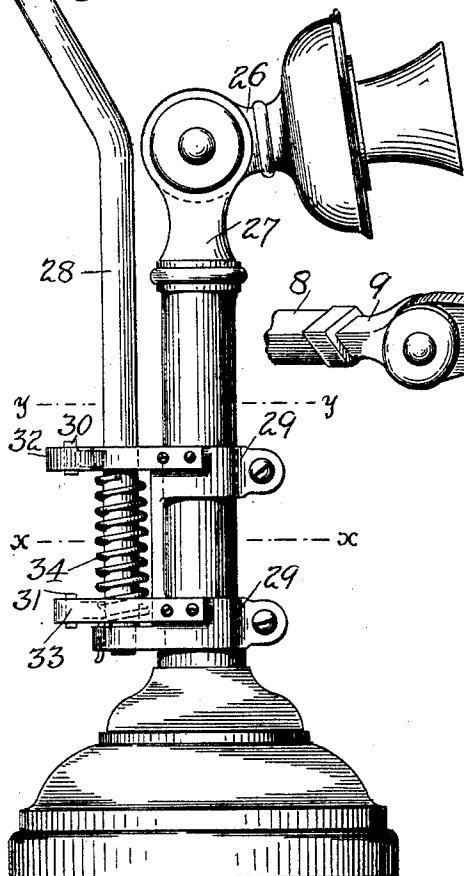


Fig. 6.

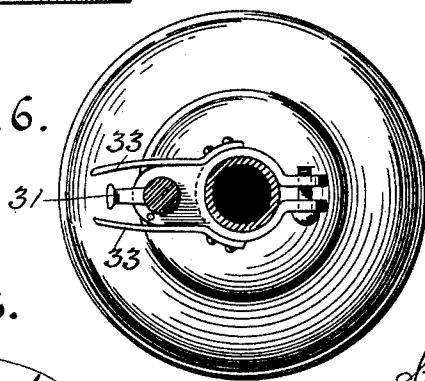


Fig. 8.

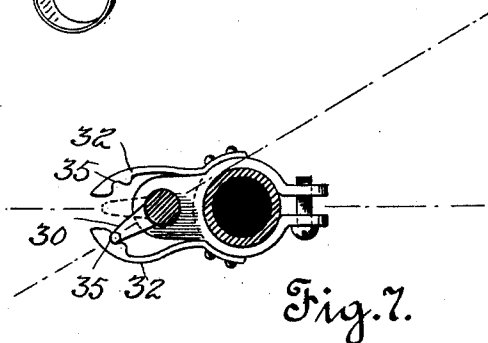


Fig. 7.

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UNITED STATES PATENT OFFICE.

STEPHEN C. HOUGHTON, OF SAN FRANCISCO, CALIFORNIA.

TELEPHONE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 586,793, dated July 20, 1897.

Application filed June 15, 1897. Serial No. 640,874. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN C. HOUGHTON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Telephone Attachments; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to telephone-supports, and particularly to adjustable and movable supports, in connection with novel means for controlling electrical connections by adjusting said supports.

In the drawings, Figure 1 is a side view of a telephone-station. Fig. 2 is a side view of a modified form of arm for supporting the receiver. Fig. 3 is a detail plan view, partly in section, of the pivoted support and the contacts controlled thereby. Fig. 4 is a plan view of part of Fig. 1, showing the receiver. Fig. 5 is a side view showing the invention applied to a portable instrument. Fig. 6 is a plan of a section on line *xx* of Fig. 5. Fig. 7 is a plan of a section on line *yy* of Fig. 5. Fig. 8 is a perspective view showing how the device may be adapted for use with an ordinary hand-receiver.

In Fig. 1 the transmitter 1, the signal 2, and the supporting-board 3 are represented as of ordinary form. Above the transmitter-support a bracket 4 is attached to the board 3, and an arm 5 is pivotally supported in ears 6 of this bracket. The arm extends forwardly over the transmitter, and it carries at its outer end the receiver 7. The arm can swing in a horizontal plane, and it comprises telescopic sections 8 9 and a section 10, pivoted to the section 9 so as to swing in a vertical plane. The receiver is connected to the section 10 of the arm by a bracket 11, the shank 12 of which (dotted lines, Fig. 4) is swiveled in a socket in the arm-section 10 by a pin-and-groove connection. From this construction and arrangement of the supporting-arm and swiveled connecting-bracket the receiver has a universal adjustment and may be moved to suit different persons. Thus it may be moved to either the right or left from over the transmitter, which is its normal position. It may be moved up or down, and by turning it in its swiveled socket it may be reversed to

fit against either ear or to stand at any desired inclination. It may also be drawn outwardly from or moved inwardly toward the transmitter by adjusting the telescopic sections.

In Fig. 2 I show an arm provided with an additional joint at 14 by forming a fork on one section of the arm and pivoting the other section thereto, a binding-screw 15 being used to hold the sections in any desired angular position. This form of support is also telescopic. The circuit-wires extend along the supporting-arm through the eyes 13 and through the swiveled bracket. The normal position of the receiver device is at right angles to the board 3 and over the transmitter. It is held in this position by a U-shaped spring 16, held by a screw 17 within the bracket 4, the sides of the spring being slightly flared and embracing a spherical knob 18 on a short arm 19, extending from the end of the receiver-supporting arm, in rear of the pivot thereof.

On each side of the U-shaped spring a contact-spring 20 is located, being held within the bracket by a bolt 21, insulated from the bracket by the ferrule 22. Circuit-wires 23, 24, and 25 connect with the U-shaped spring and contact-springs, respectively. In using the instrument the receiver-supporting arm is swung aside, which causes the short arm 19 and knob to move laterally, as shown in dotted lines, Fig. 3, thus moving one side of the U-shaped spring into engagement with the contact-spring and closing the bell-circuit to give the signal at the central office. The user at the same time adjusts the receiver to his ear by manipulating the telescopic, jointed, and swiveled parts, and he is then ready to send or receive the message.

The U-shaped spring not only serves as a means for returning the pivoted arm to normal position over the transmitter, but it exerts sufficient tension on the arm to hold the receiver against the ear. Further, by moving the arm aside into a certain position the spring will hold it there, its pressure being then exerted in the longitudinal line of the support and its fulcrum to keep the line open without requiring the user to hold the arm by hand. A hole may be formed in the spring to receive the spherical knob.

By the jointed arm of Fig. 2 the receiver

may be set so as to stand normally to one side of the vertical plane passing longitudinally through the transmitter, so as to be in position for use, and in this case the same U-shaped form of spring is used to hold the parts in this normal position, and in order to close the bell-circuit it would only be necessary to move the arm a little farther to one side to make the U-shaped spring engage the contact-spring.

Fig. 5 shows the invention applied to a portable instrument, the transmitter being carried in an arm 26, pivoted to the stand 27, while the receiver-supporting arm is jointed to and carried by a rock-shaft or standard 28, journaled in brackets 29 on the stand 27 and having lateral extensions 30 31, working between spring-plates 32 33, supported from the brackets 29. The rock-shaft or standard is returned to and maintained in normal position with the receiver-arm centrally over the transmitter by a spring 34, coiled about the rock-shaft, engaging the same at one end and being held by the bracket 29 at its other end. The spring-plates 32 have notches 35 to receive the end of the lateral extension 30 of the rock-shaft for holding said shaft with its receiving-arm in its adjusted position laterally of the transmitter. The circuit connections for the signal are made with the other set of spring-plates 33, with which the arm 31 contacts.

In Fig. 8 I show means whereby the invention may be used as an attachment for instruments as now put up. In this case the receiver-supporting arm would have the same telescopic and jointed features above described, and the receiver would be hung upon its hook, as at the present time. The receiver-supporting arm would be attached to the instrument as above described; but its free end would carry a cross-bar or bracket 37, pivoted in a fork thereof and having a pair of hooks 38. In using this attachment the ordinary hand-receiver would be taken down from its hook and placed horizontally in the hooks 38, with its open end either to the right or left, as desired, and then the arm would be adjusted to bring the receiver properly against the ear. The bell-circuit in this instance would be closed automatically simply by taking the hand-receiver off of its spring-hook for placing it in the hooks 38.

In all the forms described it will be noticed that the receiver is reversible and is carried by a bracket movably connected with the main supporting-arm.

From the above it will be seen that the receiver is capable of a universal adjustment, and the supporting-arm, while adapted to hold the receiver rigidly in position for use, has sufficient flexibility to permit the free and complete adjustment of the receiver.

I claim—

1. In combination with a support for a telephone-receiver movable laterally in two directions and having a swiveled section for supporting and reversing said receiver, duplicate electrical contacts, and means carried by said support for making either of said contacts by adjusting said arm in the appropriate lateral direction.

2. In a telephone, a supporting-bracket, a receiver-support connected adjustably thereto, a two-branch contact, two adjacent spring-contacts, and a projection from the receiver-support adapted by the adjustment of the latter to cause one of said branches to make contact with the adjacent spring.

3. In combination in a telephone, a transmitter, a receiver, a receiver-supporting arm movably supported, a projection carried by said arm and contact-springs on each side of said projection, substantially as described.

4. In combination with a pivoted laterally-adjustable telephone-support, a projection forming one arm of a lever of which said support is the other arm, and a two-branched spring embracing said projection and holding it in normal position, and arranged so that a sufficient lateral adjustment of the support in either direction will lock said support by producing a dead-line of resistance to the spring-pressure through the fulcrum of said lever.

5. In combination with an adjustable pivoted telephone-support having a projection forming one arm of a lever of which said support is the other arm, a spring bearing upon said projection and holding it in normal position, and an elastic electrical contact adjacent to said spring; whereby a sufficient lateral adjustment of the support will lock said spring and contact by producing a dead-line of resistance through the fulcrum of said lever, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 21st day of May, 1897.

STEPHEN C. HOUGHTON.

Witnesses:

M. R. SEELY,
H. J. LANG.