(No Model.) 2 Sheets—Sheet 1.

R. L. HUNTER & H. B. HIGGINS.

TELEPHONE TRANSMITTER.

No. 572,756. Patented Dec. 8, 1896.

Fig. 1

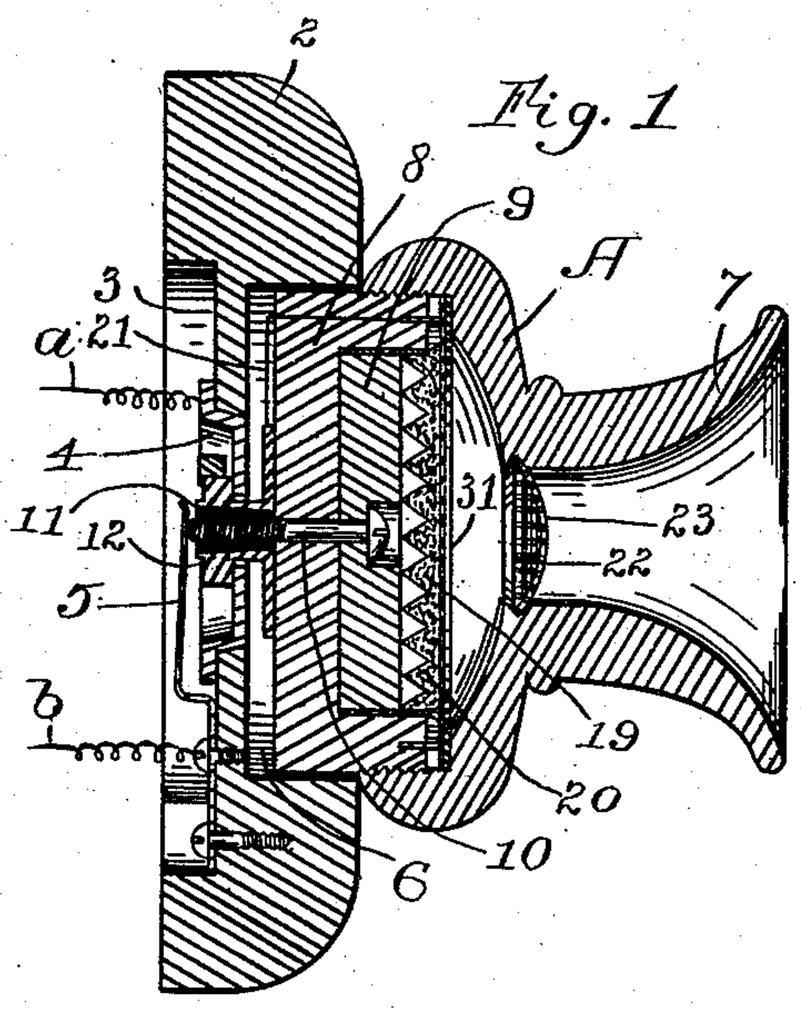


Fig. 2.

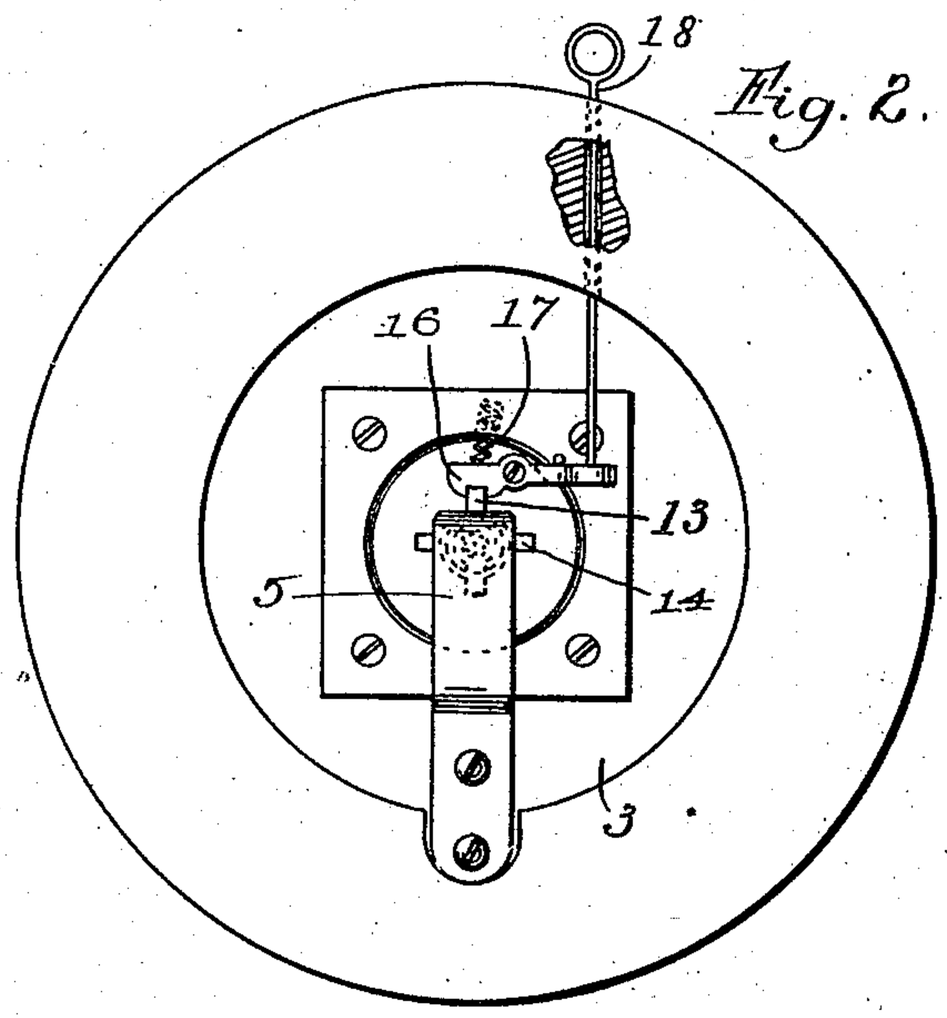


Fig. 3.

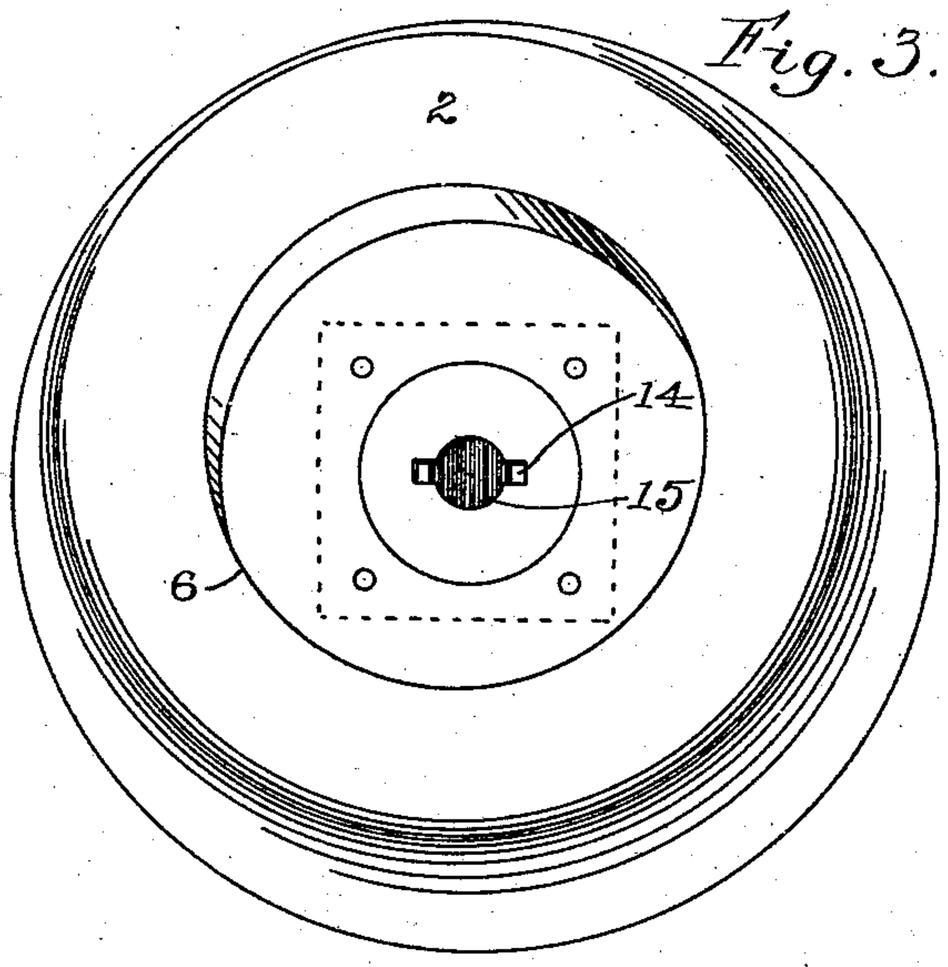
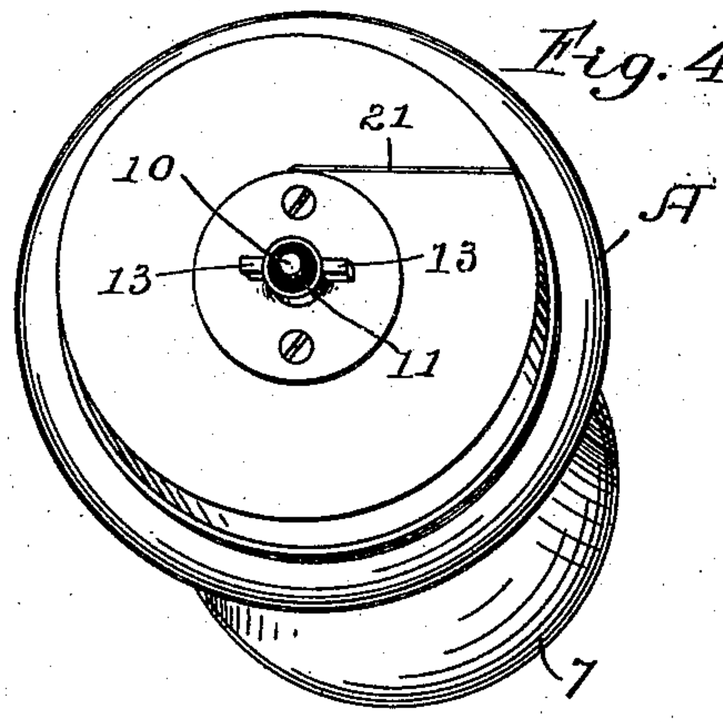


Fig. 4.



Witnesses:

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(No Model.) 2 Sheets—Sheet 2.

R. L. HUNTER & H. B. HIGGINS.

TELEPHONE TRANSMITTER.

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Fig. 6.

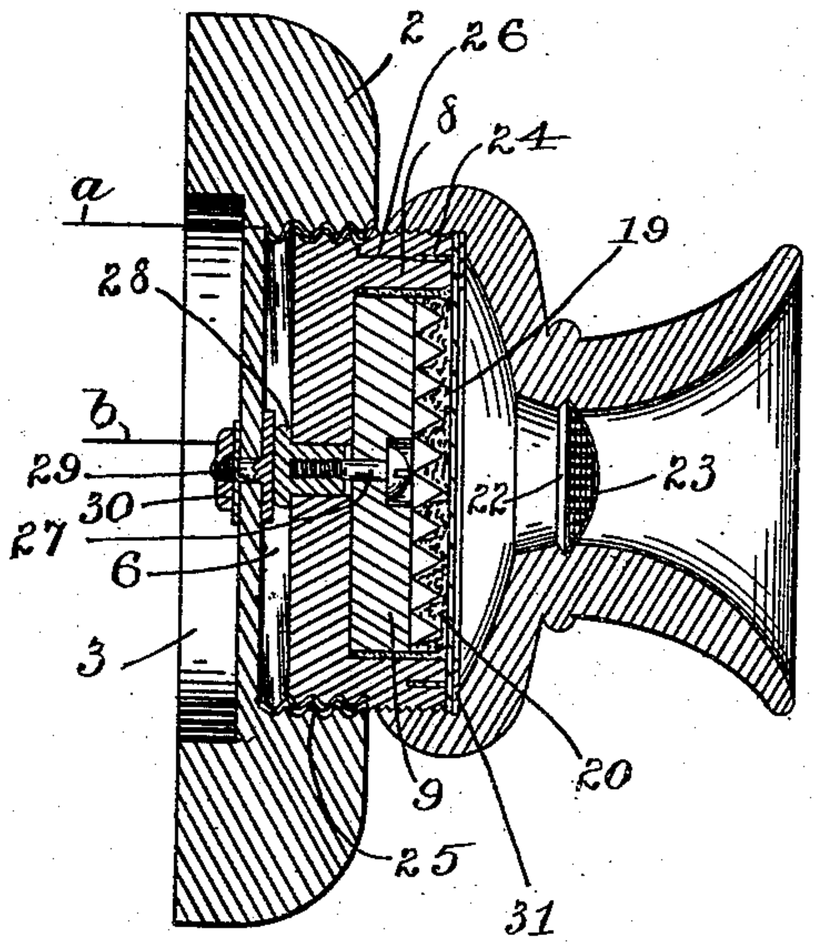
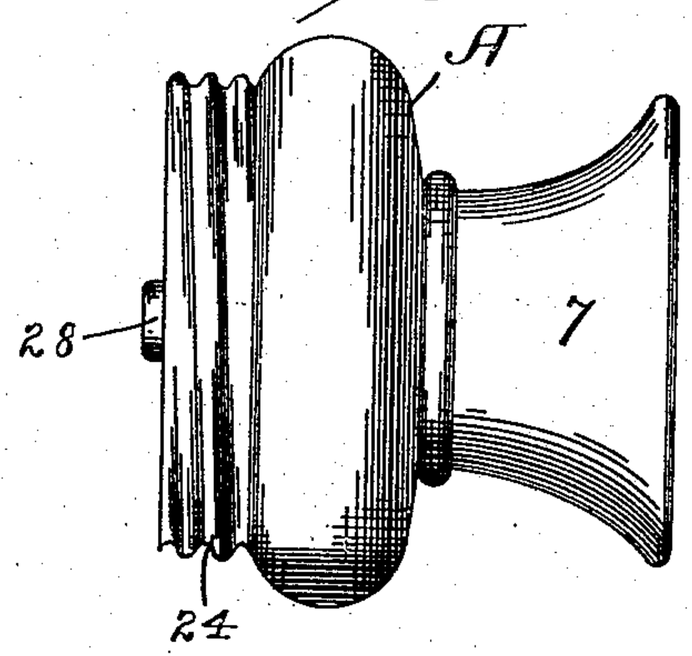


Fig. 5.



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UNITED STATES PATENT OFFICE.

ROBERT L. HUNTER AND HENRY B. HIGGINS, OF MINNEAPOLIS, MINNESOTA.

TELEPHONE-TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 572,756, dated December 8, 1896.

Application filed May 23, 1896. Serial No. 592,771. (No model.)

To all whom it may concern:

Be it known that we, ROBERT L. HUNTER and HENRY B. HIGGINS, of Minneapolis, Hennepin county, Minnesota, have invented certain Improvements in Telephone-Transmitters, of which the following is a specification.

Our invention relates to improvements in telephone-transmitters, its object being to provide an improved form of the same adapted to be instantly detached and removed from its base or support either for the purpose of repairs, of substituting another instrument, or for agitating the carbon dust to secure the greatest efficiency in its operation.

To this end our invention consists in providing a two-part construction of the apparatus, consisting of a base or relatively-fixed part, adapted to be mounted upon any suitable support and provided with line-terminals, and a removable part which constitutes the transmitter proper and is adapted to be detachably secured to or interlocked with the fixed part, being preferably fitted into a socket in said fixed part and when so attached or interlocked having its contacts in electrical connection with the line-terminals.

Our invention further consists in the features of construction hereinafter more particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is an axial section of our improved apparatus shown as a dust-transmitter and illustrating the two-part construction and the various included parts and attachments. Fig. 2 is a plan view of the rear of the base, showing a lock for securing the two parts together after engagement to prevent the detachment of the transmitter by unauthorized persons. Fig. 3 is a perspective view of the base. Fig. 4 is a perspective view of the transmitter. Fig. 5 is a side elevation of a modified form of transmitter, and Fig. 6 is an axial section of the same shown attached to its base.

In the drawings, 2 represents the base or relatively-fixed part, adapted to be secured to any suitable support and to which the line-wires *a* and *b* are connected. It is preferably provided with a circular socket 3 in its rear wall, in which are secured the various fittings. In the construction shown in Figs. 1 and 2 these consist of a cup-shaped metallic disk 4, which is the terminal of the wire *a*, and the contact-spring 5, extending radially over the disk 4 and constituting the terminal of the wire *b*. The other face of the base is provided with a socket 6 to receive the removable or transmitter part A, which is made up of the mouthpiece 7, screw-threaded upon the block 8, which block is fitted to said socket. The block 8 is socketed to receive the toothed carbon electrode 9, which is secured in the block by means of the screw 10, extending through the insulating-core 11 and arranged in the stud 12 and projecting sufficiently beyond the insulation to make contact with the terminal spring 5 when the parts are connected in normal position. The stud 12 is provided with radiate ears or projections 13, which are passed through corresponding notches 14 in the side walls of the opening 15 in the disk 4, so that when the transmitter is rotated through a small angle they will engage the face of the disk and secure the transmitter to or interlock it with the base. The parts may then be further secured or locked, to prevent tampering by unauthorized persons, by means of a catch 16, having a spring 17, tending to thrust it into engagement with one of the ears 11, which catch is released or disengaged from the ear by means of a key 18.

The carbon diaphragm or disk 19 constitutes the second electrode of the transmitter and includes and holds in place the carbon dust 20 between it and the other electrode, and is connected by means of the wire 21 with the stud 12, which constitutes one terminal or contact, the screw 10, above described, constituting the other terminal or contact.

On the outer face of the diaphragm is arranged the annular ring 31, which is engaged by the mouthpiece when screwed down and thereby clamps the diaphragm. To protect the diaphragm from injury, we provide the mouthpiece with an annular interior groove 22, and spring into this groove from the inside of the mouthpiece a disk of wire-netting 23 of greater diameter than the diametric distance between the bottom of the groove on the opposite sides of the mouthpiece, so that the netting is outwardly arched to withstand an inward thrust, its resiliency firmly seating its edges in the groove.

In the construction shown in Figs. 5 and 6

we provide the block 8 with an exterior screw-threaded collar 24, constituting one of the transmitter terminals or contacts and connected with the diaphragm by the wire 26. The side wall of the socket 6 in the base has a similar screw-threaded lining 25, which constitutes the terminal for the wire *a*. The electrode 9 is secured in place by the screw 27, which enters the plug 28, fitted to the central hole in the block 8, its shoulders bearing upon the rear face of the block, so as to secure the electrode firmly in place. The projecting end of the plug is plane surfaced and constitutes the other transmitter terminal or contact, being adapted to bear upon the flat head of the screw 29, constituting the terminal for the wire *b*, and passing through the partition separating the sockets 3 and 6 and held in place by the nut 30, by means of which the wire *b* is also secured. The screw-threaded connection thus serves as a securing or interlocking means between the two parts, as well as to electrically connect one of the electrodes with one of the line-wires, and also serving to bring into bearing connection the other transmitter contact or terminal with the terminal of the other line-wire.

It is evident from the foregoing description and drawings that while the transmitter is supported firmly upon its base in normal position it can be instantly detached therefrom when necessary for the purpose of repairs or to substitute another transmitter, or to shake the same so as to loosen and rearrange the carbon dust to secure the most efficient working of the apparatus.

While we have shown and described a dust-transmitter, it is evident that other types may be employed, if so desired.

We claim—

1. The combination of the fixed base, its line-terminals, the transmitter, and interlocking means for securing the transmitter to said base and electrically connecting it with said terminals.

2. In combination, the base provided with line-terminals, and with a socket in its outer face, and the transmitter fitted to said socket, and adapted to detachably interlock with said base, and having contacts adapted to engage with said terminals when thus interlocked.

3. In combination, a base having its faces socketed and fitted with line-terminals, the transmitter fitted to the front or outer socket and having contacts adapted to engage said terminals, and the automatic locking device for securing the same therein.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT L. HUNTER.
HENRY B. HIGGINS.

Witnesses:
C. M. WILKINSON,
MINNIE L. THAUWALD.