

C. R. ROGERS.  
TELEPHONE TRANSMITTER.  
APPLICATION FILED JAN. 28, 1910.

988,819.

Patented Apr. 4, 1911.

Fig. 1.

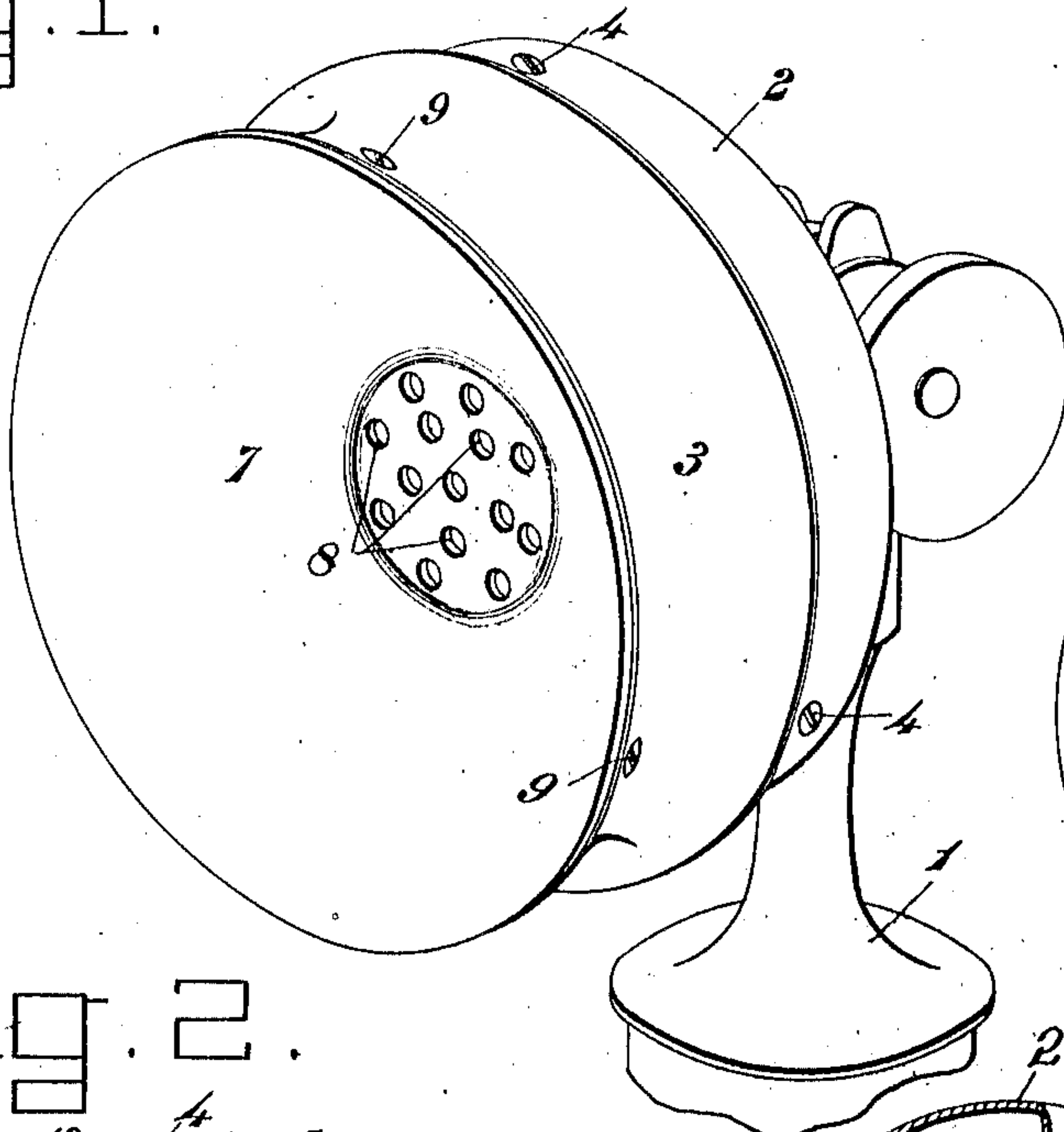


Fig. 4

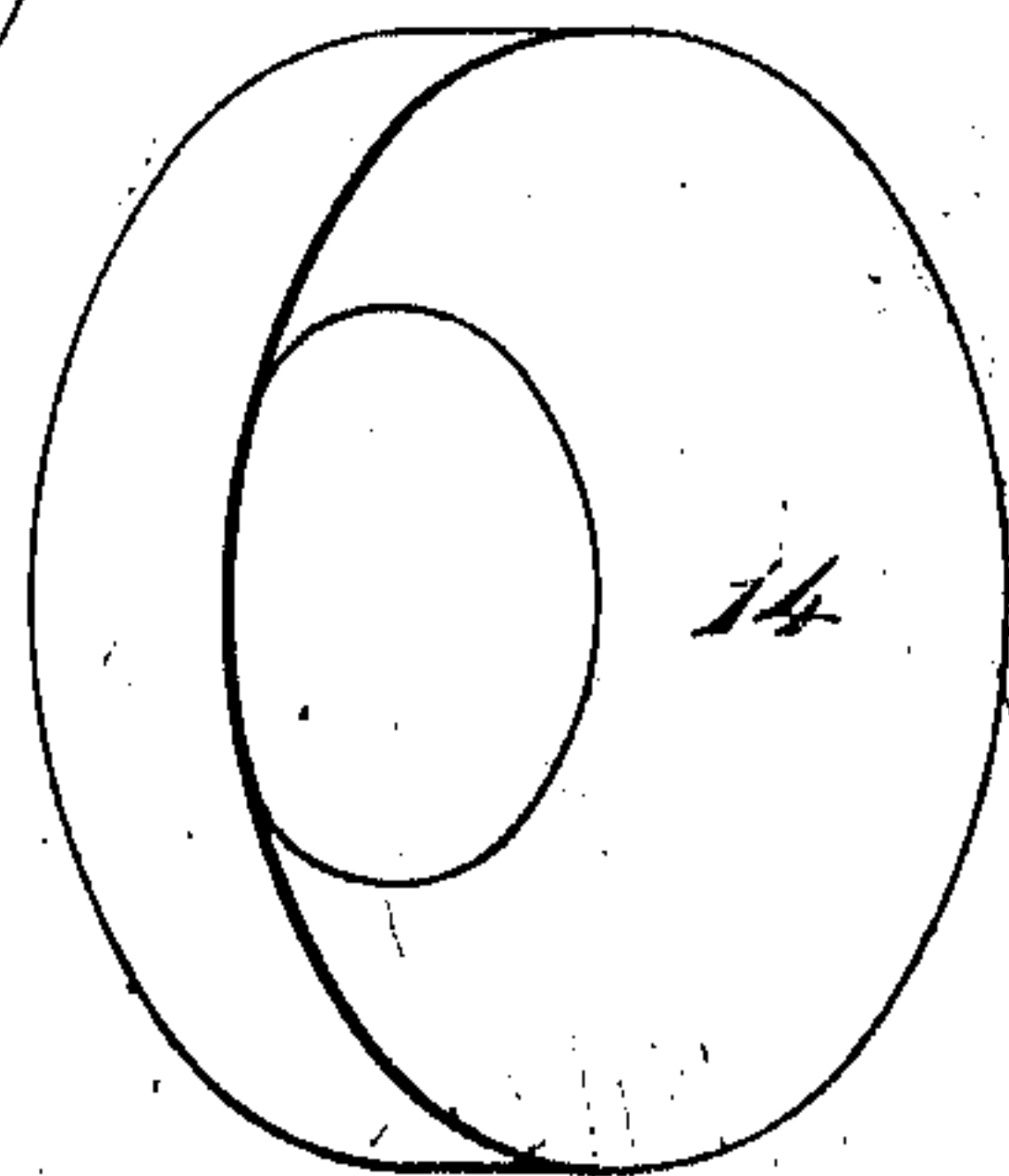


Fig. 2.

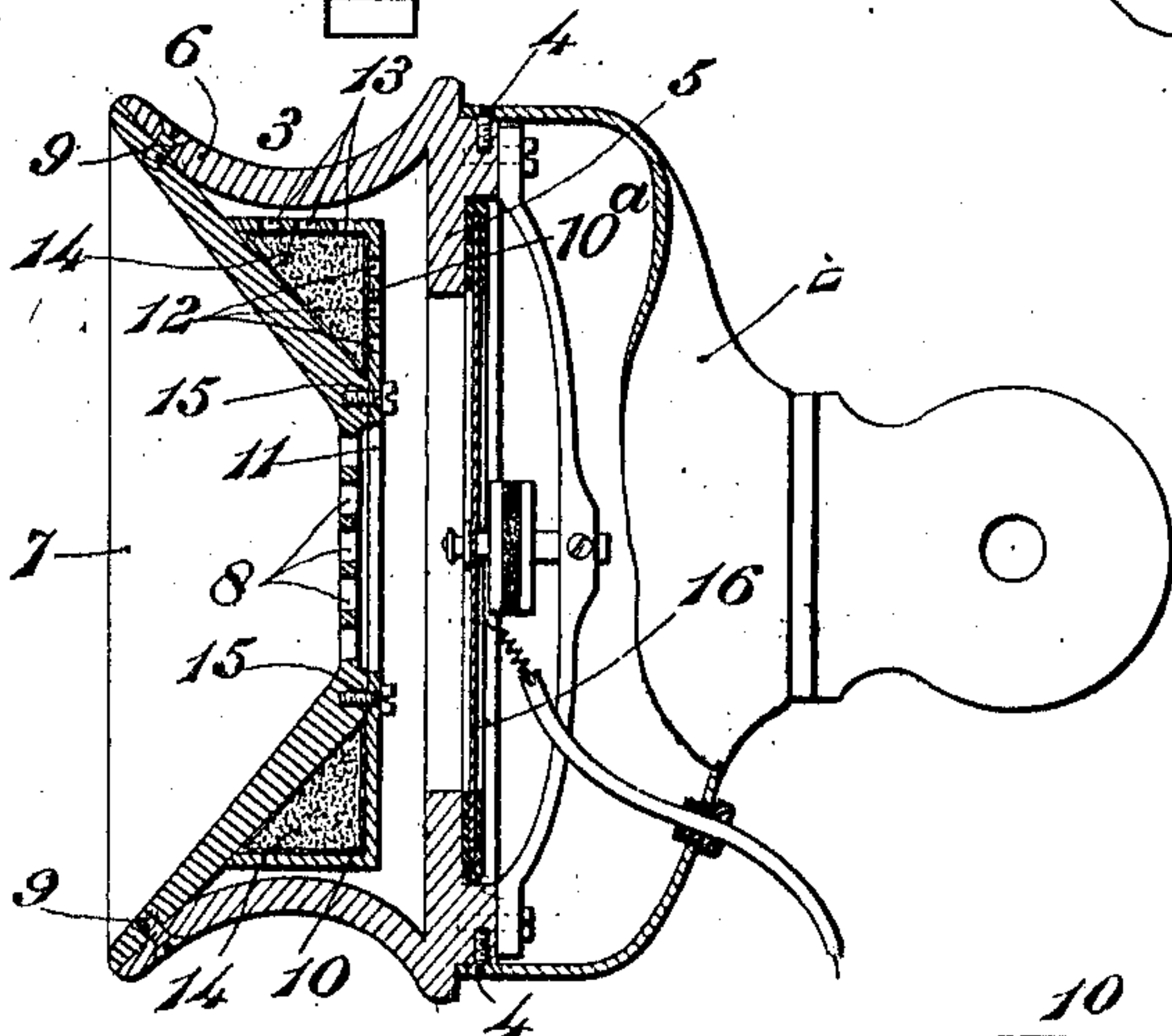


Fig. 5

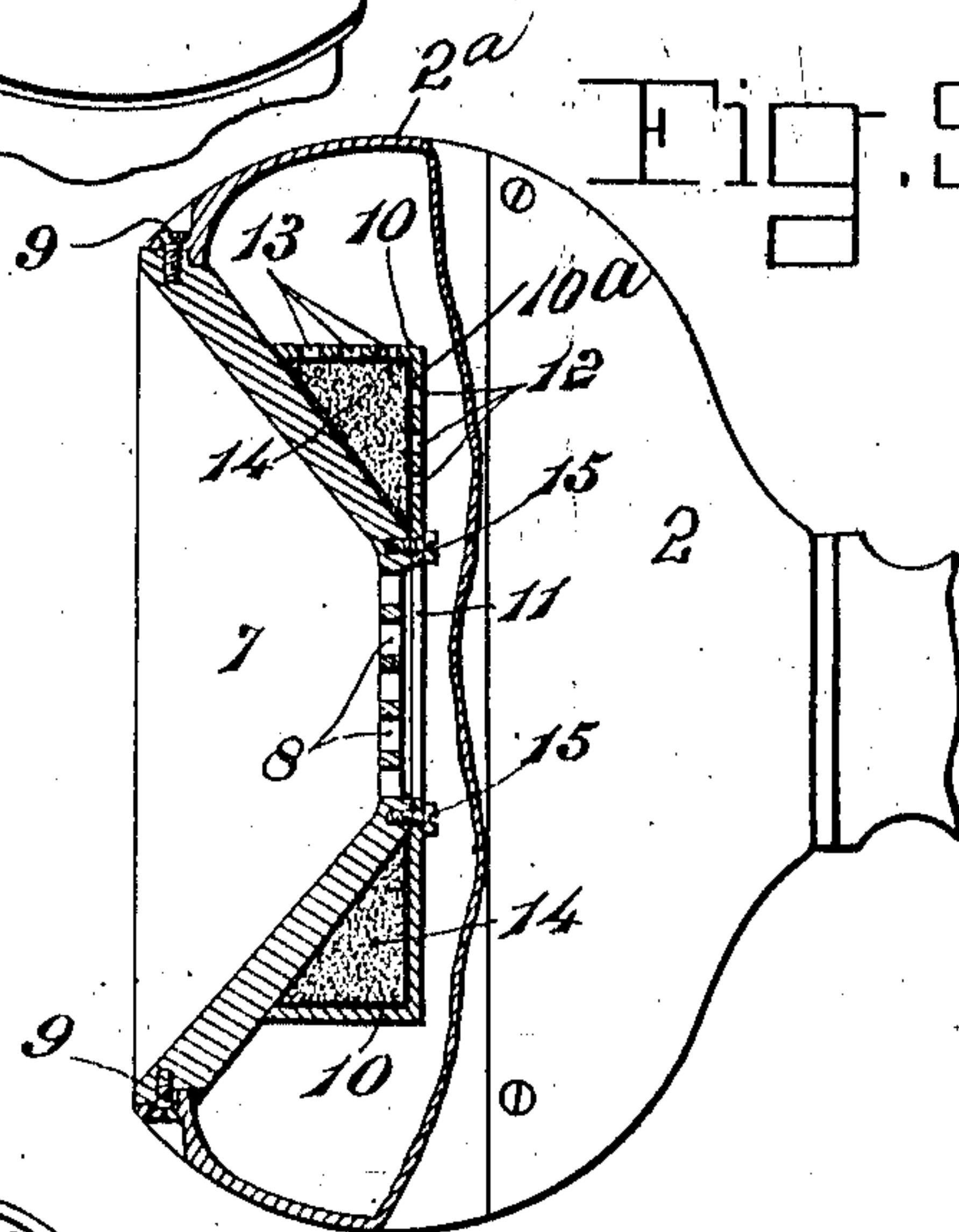


Fig. 3.

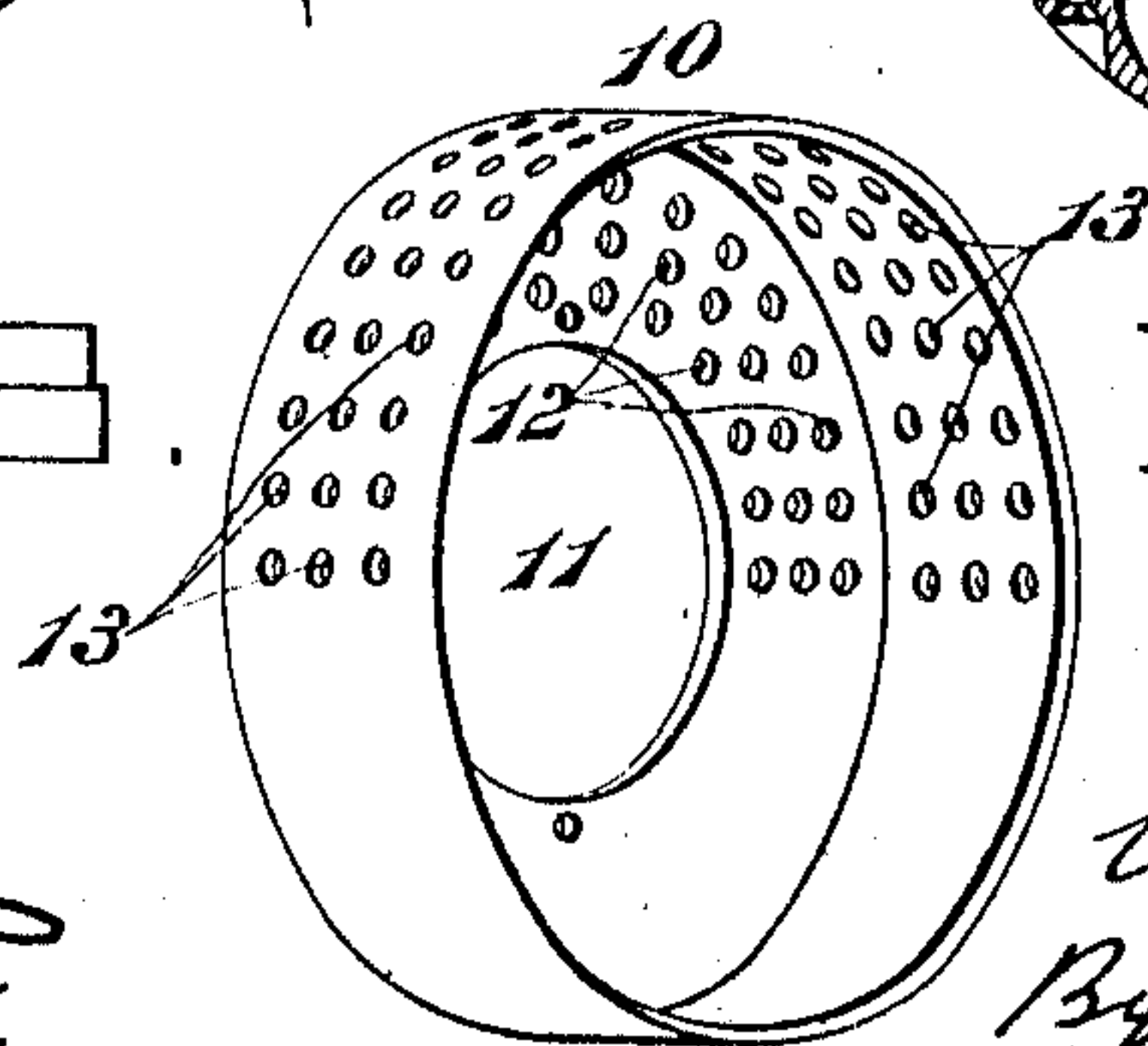
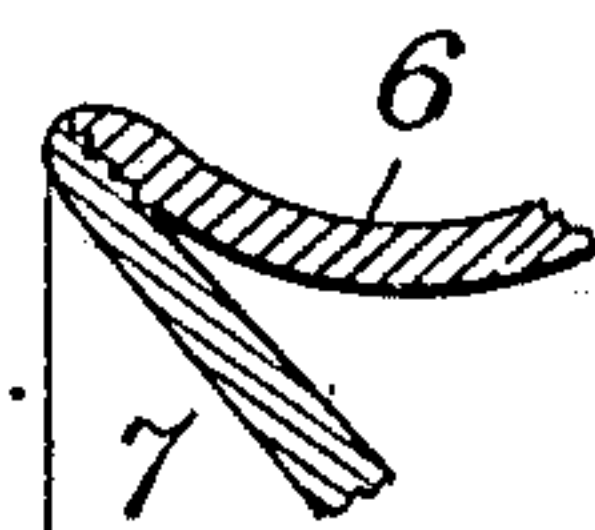


Fig. 6.



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# UNITED STATES PATENT OFFICE.

CHARLES RUSSELL ROGERS, OF WAVERLY, NEW YORK.

TELEPHONE-TRANSMITTER.

988,819.

Specification of Letters Patent.

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Application filed January 28, 1910. Serial No. 540,631.

*To all whom it may concern:*

Be it known that I, CHARLES R. ROGERS, a citizen of the United States, residing at Waverly, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Telephone-Transmitters, of which the following is a specification.

My invention relates more particularly to transmitters of the type known as the "solid-back" transmitter, such as is employed in the ordinary "desk" or "wall" telephone. In general, this type of transmitter has been provided with a rubber mouth-piece which is screwed into a cap that is detachably secured to the shell that forms the base or back of the transmitter. This mouth-piece is of much smaller diameter than the back, or base. As these mouth-pieces are constructed of rubber, or glass, they are subject to destruction; and as they are of comparatively small diameter it is necessary to speak directly into them. My invention obviates these disadvantages, for in it the mouth-piece proper, the flaring member that receives the voice, is seated within a casing that protects it against injury; and this mouth-piece is practically as large as the base of the transmitter now in use, thereby providing a large area for the reception of the voice.

The invention embodies further, an improvement in means for antisepticizing transmitters.

The invention will first be described with reference to the accompanying drawing and then more particularly pointed out in the appended claims.

In the drawings—Figure 1 is a perspective view of a portion of a "desk" phone embodying the invention. Fig. 2 is a vertical section taken axially through Fig. 1. Fig. 3 is a perspective view of the receptacle for the antiseptic. Fig. 4 is a perspective view of the antiseptic in the form of a solid. Fig. 5 shows the adaptation of the invention to a transmitter having a base of different form from that shown in Figs. 1 and 2. Fig. 6 illustrates one method of securing the mouth-piece to the member 3.

In the illustrated embodiment of the invention, 1 denotes the upper end of the post or standard of a "desk" telephone, to which

is pivoted the shallow cup-shaped metal shell 2 which forms the usual base or back of the type of transmitter illustrated. Within the open mouth of the base 2 is inserted the axial flange of a hollow member 3 which is secured to the base 2 by means of screws 4. The member 3 is formed with an inwardly projecting radial flange 5 and with an annular axial wall or rim 6, the diameter of the outer end of which is substantially the same as that of the base 2.

7 denotes the mouth-piece proper which is a shell of some light material, preferably rubber. The mouth-piece is dish-like in form, that is, it is a conical shell which converges from its mouth or open end inwardly and is closed at its contracted end by a transverse wall which is perforated as at 8 to permit the passage of the sound waves to the diaphragm. The mouth-piece 7 fits within the rim 6, the open end of the former facing outwardly to receive the voice and its wall adjacent said open end fitting snugly within the rim 6 to which it is secured by screws 9, or by other suitable means, as for example by a screw-thread engagement of the mouth piece 7 with the member 3 as shown in Fig. 6. It will be seen therefore that the larger end of the mouth-piece has a diameter that is substantially as large as the diameter of the base or back of the transmitter now in use.

The convergence of the mouth-piece 7 leaves an annular chamber between its outer surface and the inner surface of the rim 6. Within this chamber is disposed a receptacle 10 for holding an antiseptic. The receptacle shown is in the form of an open-mouthed can, the base of which is provided with a central aperture 11 and with a plurality of perforations 12 which extend over approximately one half of the area of the base. The wall of the receptacle 10, over approximately one half its area, is provided with perforations 13. The antiseptic shown is in the form of an annular ring-like cake 14 which is hollowed out conically to fit around the outer conical surface of the mouth-piece 7. This cake of antiseptic is retained in place by means of the receptacle 10 which fits over the cake and is secured to the mouth-piece by means of screws 15; and the holes 12 and 13 may be covered on the in-



side of the receptacle with a cloth or porous sheet 10<sup>a</sup> retaining any sediment caused by vaporation. The number and area of the holes 12 and 13 may be as desired. The aperture 11 of the receptacle is sufficiently large to include all of the apertures 8 of the mouth-piece; therefore neither the antiseptic nor its receptacle offers any obstruction to the passage of sound waves to the diaphragm. In use the receptacle 10 may be disposed in the chamber formed between the mouth-piece 7 and the rim 6 so that the perforations 12 and 13 of the receptacle may be in either the upper part or lower part of the chamber.

The radial flange 5 of the member 3 provides a convenient abutment for the usual diaphragm 16; and the base 2 accommodates as heretofore the usual elements that are associated with the diaphragm.

In Fig. 5 is shown the adaptation of the invention to a form of base that differs from that shown in Figs. 1 and 2. In the form illustrated in Fig. 5, the member 3 is dispensed with and the mouth-piece is inserted within and secured to the detachable section 2<sup>a</sup> of the base or back of the transmitter.

The invention, it will be seen, provides a mouthpiece that is substantially as large as the base of the transmitter now in use; and as it thus gives a larger area for the voice than such smaller mouth-pieces, it accepts the voice more completely rendering it unnecessary to speak directly into the mouth-piece.

As the member 3 or section 2<sup>a</sup> forms a surrounding metal casing for the mouth-piece 7, the latter is protected against injury; and is rendered substantially as durable as the transmitter; and as it is simply inserted in the rim 6, or wall of section 2<sup>a</sup> and held therein by the screws 9, the cutting of screw-threads around the base of the mouth-piece as required in the forms heretofore referred to is eliminated.

The means provided for antisepticizing the transmitter are exceedingly simple, are located inside of the transmitter where the antiseptic is enabled to thoroughly antisepticize the transmitter, the mouth-piece being antisepticized through the perforations 8. Thus protection against the communication of disease germs is secured. As no elongation of the transmitter is required to provide accommodation for the antiseptic means, the distance between the diaphragm and the voice is not increased by the introduction of the antiseptic. The latter being preferably in a solid or cake-like form, the possibility of a liquid antiseptic getting where not desired is thus avoided. It will of course be understood that the shape or form of the antiseptic can be as desired; a powder antiseptic contained in a cloth or other material being a convenient form.

Having described my invention, what I claim, is—

1. In a device of the character described, the combination with a shell forming the base or back, of a member removably secured to said base, and formed with an outstanding rim the diameter of the outer end of which is approximately equal to that of the base, said member having an aperture for the passage of sound waves, and a separable mouth-piece in the form of a conical shell having its contracted end closed by a perforated wall, said mouth-piece being fitted and secured within the rim of said removable member to be surrounded and protected thereby.

2. In a device of the character described the combination with a shell forming the base or back, of a member removably secured to said base and formed with a flange to fit within the base and with an inwardly projecting annular flange adapted to provide an abutment for a diaphragm and formed also with an outstanding axial rim or flange, and a removable mouth-piece formed of a conical shell having its inner end closed by a perforated transverse wall, said mouth-piece fitting within and surrounded by the axial rim of said removable member, the wall of the mouth-piece adjacent its open end fitting against said axial rim near its outer end, and means for securing the mouth-piece to said removable member.

3. In a transmitter, a flange or rim forming a chamber between the diaphragm and mouth-piece and partly inclosing the latter, and an antiseptic in said chamber within said rim.

4. In a transmitter, a wall or rim forming a chamber that communicates with the diaphragm, a mouth-piece located within said wall to leave a space between the two, and an antiseptic disposed within said chamber and on the outer surface of said mouth-piece adjacent its end nearer the diaphragm.

5. In a transmitter, the combination with a base provided with a wall or rim, of a conically shaped shell forming a mouth-piece fitted within said rim, a can-like receptacle secured to the mouth-piece to surround its outer surface adjacent its contracted end, said receptacle having an aperture for the passage of sound waves, and having also apertures for the escape of the antiseptic emanations, and an antiseptic within said receptacle.

6. In a transmitter, a mouth-piece located within the transmitter and formed to leave a space between it and the surrounding wall of the transmitter, a receptacle surrounding a portion of said mouth-piece and located between it and the wall of the transmitter, and an antiseptic confined by said receptacle between it and the outer surface of the

mouth-piece, said receptacle having perforations in its upper part.

7. In a transmitter, a mouth-piece located within the transmitter and formed to leave  
5 a space between it and the surrounding wall of the transmitter, a receptacle surrounding a portion of said mouth-piece and located between it and the wall of the transmitter and provided with perforations, an antiseptic

tic contained within said receptacle, and a 10 porous sheet covering the perforations of the receptacle.

In testimony whereof I affix my signature, in presence of two witnesses.

CHARLES RUSSELL ROGERS.

Witnesses:

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