

No. 847,842.

PATENTED MAR. 19, 1907.

L. STEINBERGER.
TELEPHONE RECEIVER.
APPLICATION FILED AUG. 4, 1904.

Fig. 1.

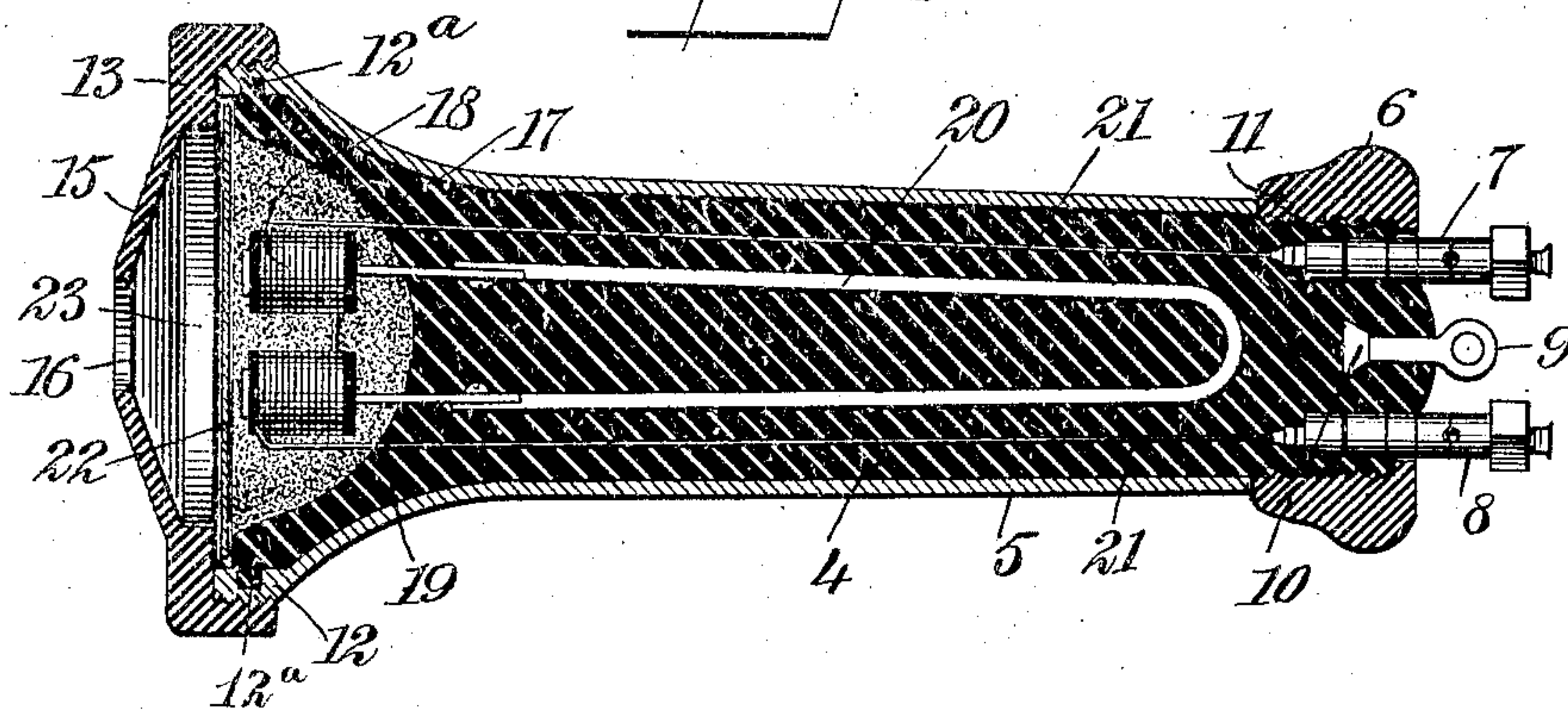


Fig. 2.

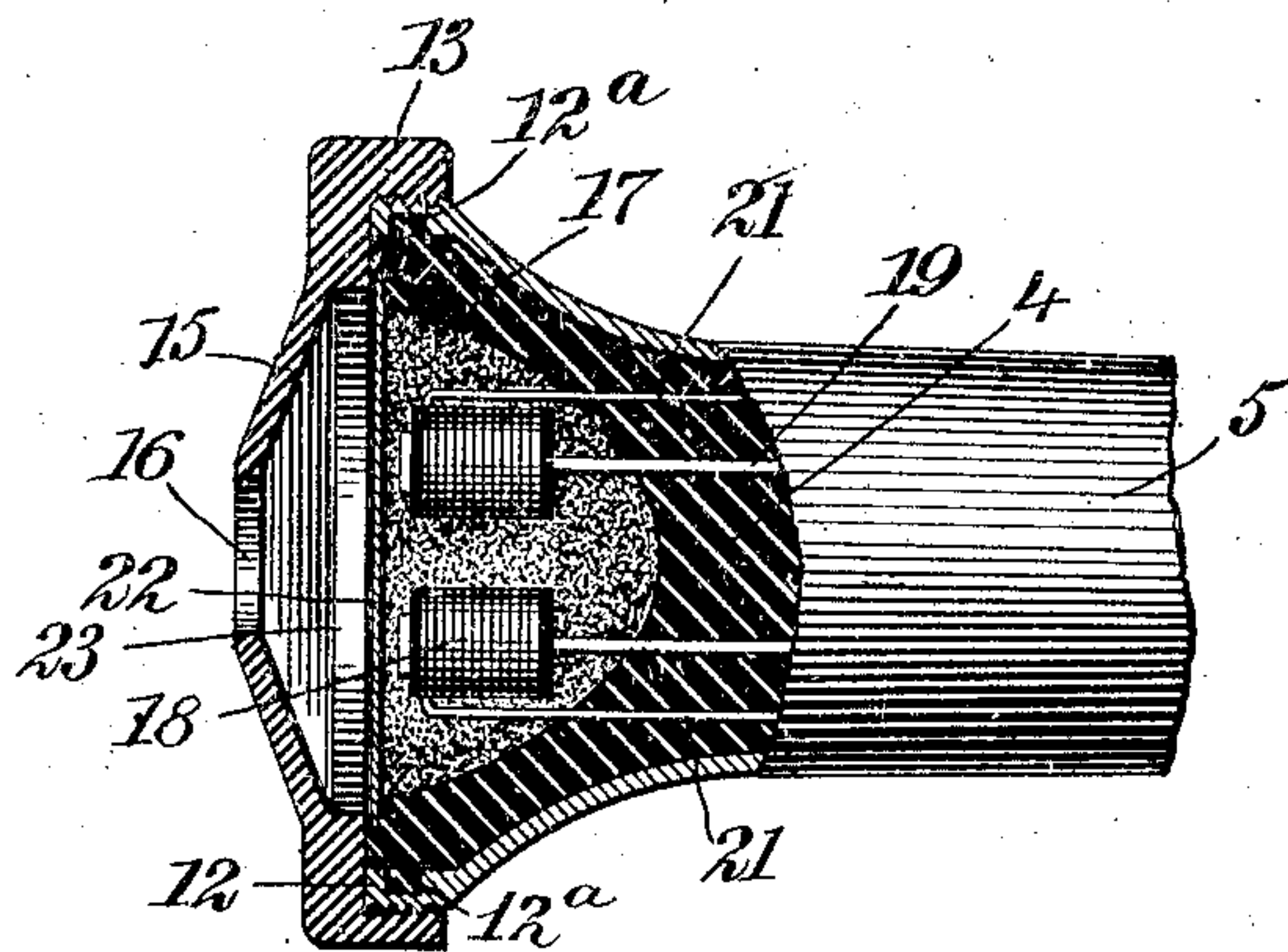
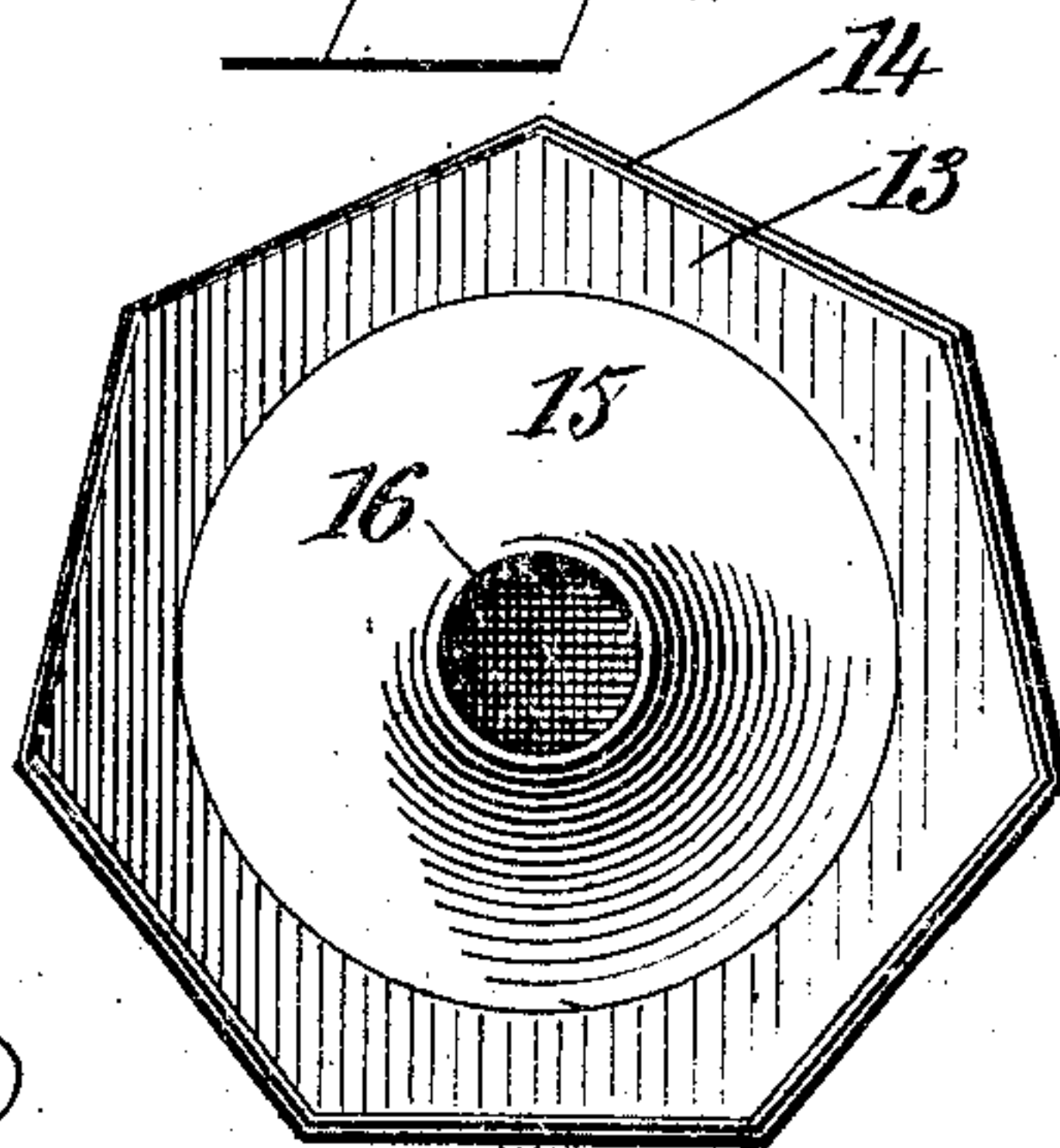


Fig. 3.



WITNESSES:

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LOUIS STEINBERGER, OF NEW YORK, N. Y.

TELEPHONE-RECEIVER.

No. 847,842.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed August 4, 1904. Serial No. 219,452.

To all whom it may concern:

Be it known that I, LOUIS STEINBERGER, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Telephone-Receiver, of which the following is a full, clear, and exact description.

My invention relates to telephony, the several objects of my invention being, first, to provide the receiver with a casing of metal; second, to provide telephone-receivers or similar devices in which the magnet and other parts—such as binding-posts, binding-post sockets, and the suspending-hook—are embedded in an insulating material which forms a core that is received in an outer shell or case; third, to provide an efficient, simple, and reliable construction of telephone-receiver possessing certain advantages hereinafter described; fourth, to intensify the sound-waves reproduced by the receiver.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a central section through a receiver of my invention. Fig. 2 is a fragmentary section showing a part of the jacket 5 in elevation, and Fig. 3 is an end elevation showing the receiver as viewed from the left of Fig. 1.

A solid core of insulating material 4 is disposed within the casing 5 and has embedded therein a number of metallic parts. An annular collar 6 is threaded at 11 and mounted directly upon the core 4, which is also threaded. Binding-posts 7 8, together with an eye 9, are embedded directly within the solid core of insulating material 4, the eye 9 being provided with an anchorage 10 to enable it to hold to better advantage. The casing 5 at the rear end abuts against the collar 6 and at the opposite end is provided with an annular portion 12, threaded externally and mutilated internally, as at 12^a in Figs. 1 and 2. Screwed upon this annular portion is a cap 13, preferably of insulating material, provided with facets 14 and with a bulged or outwardly-projecting portion 15, substantially frusto-conical, this portion being provided with a circular aperture 16, the said projecting portion 15 in the form illustrated being an integral portion of the cap.

The member 4, of insulating material, is pro-

vided with a concave face 17, containing a bipolar magnet 18, mounted upon the pole-pieces 19 of the permanent magnet 20. The bipolar magnet is connected with the binding-posts 7 8 by wires 21, these wires being likewise embedded solidly within the insulating material forming the core 4. The diaphragm is shown at 22 and may be of the usual construction. The cap 13 is provided with an annular cylindrical hollow interior 23, which may with advantage be of slightly smaller diameter than the diaphragm 22, and preferably the inner surface of the cap 13 is dome-shaped. The diaphragm is held in position by pressure of the cap 13, which binds it directly against the enlarged end of the insulating-core, the central portion of the diaphragm being free to vibrate in the usual manner.

Referring to Fig. 3, it will be seen that when the receiver is allowed to rest upon the table or shelf the latter is engaged by one of the facets 14, so as to prevent the receiver from rolling. The portion 15 by projecting partly into the ear of the subscriber when the telephone is in use serves to more effectively convey the sound into the ear and to more effectively exclude extraneous sounds from the ear. The metallic casing 5 makes the telephone-receiver more durable and also improves its appearance, besides offering greater protection for the mass of insulating material. The concavity 17 is made smooth, as shown in Figs. 1 and 2, for the purpose of reflecting the sound-waves, the insulating material provided with the concavity thus acting to some extent as a sounding-box. The provision of a sound-chamber between the diaphragm and the cap or earpiece, it will be observed, is an important improvement.

It will be noted that the collar 6 may be removed without disturbing the binding-posts 7 8. While the bipolar magnet is rendered accessible by merely removing the diaphragm 22, the permanent magnet 20 and the pole-pieces 19 are secured rigidly within the core of insulating material 4 and are therefore not removable.

It will be seen that in the insulating-core there may be embedded as many of the metallic parts as may be desired. The casing 5 is made of metal. The cap should preferably be made of a suitable insulating material. The construction also admits of other combinations.

The interiorly-mutilated portion 12^a may constitute also a means for securing engagement with the insulating material if the latter is molded directly within the casing, which in some instances may be desirable.

I do not limit myself to the particular combination nor to the style of outer shell herein shown nor to the manner of mounting the caps nor to the manner herein shown of securing the insulating-core within the outer shell or casing, as those skilled in the art will readily understand that many variations may be employed without departing from the spirit or scope of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a telephone-receiver, the combination of a metallic member provided with an enlarged end integral therewith, said enlarged end having mutilations disposed internally thereof and also being threaded externally, a member of insulating material molded into said metallic member and also into the internal mutilations thereof so as to prevent relative movement as between said

metallic member and said member of insulating material, a cap of insulating material threaded internally and fitted upon said enlarged end, and magnetic mechanism supported by said member of insulating material and a diaphragm disposed adjacent to said magnetic mechanism.

2. In a telephone-receiver, a metallic casing provided with an enlarged end having mutilations disposed internally thereof, a member of insulating material encircled by said casing and provided with an enlarged end having portions extending into said mutilations, a diaphragm mounted upon said member of insulating material, and magnetic mechanism supported in proximity to said diaphragm by said member of insulating material.

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

LOUIS STEINBERGER.

Witnesses:

JNO. M. RITTER,
J. L. McAULIFFE.