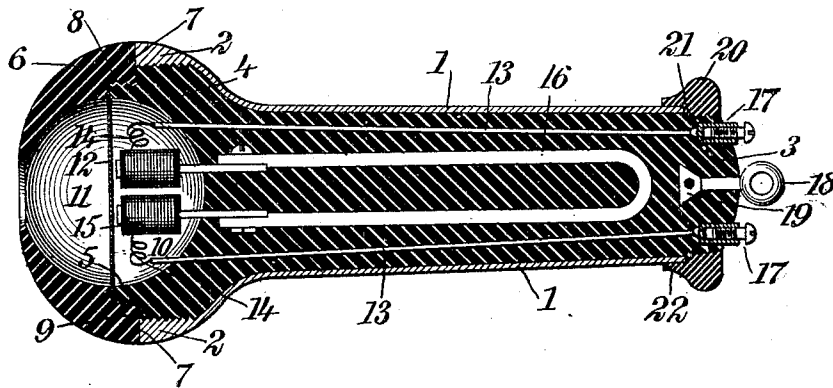


No. 838,362.

PATENTED DEC. 11, 1906.

L. STEINBERGER.
RECEIVER FOR TELEPHONES.
APPLICATION FILED JAN. 16, 1905.



WITNESSES:

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RECEIVER FOR TELEPHONES.

No. 838,362.

Specification of Letters Patent.

Patented Dec. 11, 1906.

Application filed January 16, 1905. Serial No. 241,251.

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 Receiver for Telephones, of which the following is a full, clear, and exact description.

My invention relates to telephony, my more particular purpose being to produce certain improvements in the construction of the receiver. These improvements are partly acoustic and partly mechanical.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which the figure represents a vertical longitudinal section through a telephone-receiver equipped with my several improvements.

An outer casing 1, of metal, is provided with a thickened annular portion 2, threaded internally, as shown. Surrounded by this casing is a core 3, of insulating material, preferably "electrose," this core being provided with an enlarged end 4, having a neck 5 integral therewith. A cap 6, also of insulating material and rounded, as shown, is provided with an annular surface 7, which engages the thickened portion 2 of the casing 1 and also engages an annular shoulder 9 of the core 3. The large end of the core 3 is provided with a hemispherical concavity 10, and the cap 6 is provided with a similar concavity 11, these two concavities registering with each other and being separated by a vibratory diaphragm 12. A pair of longitudinal conductors 13 are embedded within the core 3 and connected by wires 14 with an electromagnet 15, disposed adjacent to the diaphragm 12. A permanent magnet 16, of suitable construction, polarizes the electromagnet 15. Binding-posts 17, partially embedded within the core 3, are connected with the conductors 13. A ring 18 is provided with an anchorage 19, embedded within the core 3. An annular member 20, preferably of insulating material, threaded internally, as shown, is screwed upon the lower end of the core 3 and is provided with a shoulder 21, which engages the smaller end of the casing 1, serving thus as a locking member therefor. This locking member is also provided with an annular flange 22, which encircles and braces the casing 1.

To assemble the detachable parts, the diaphragm 12 is laid upon the neck 5 of the core 3 and the cap 6 is screwed firmly down, so as to engage the diaphragm 12. The casing 1 may next be screwed into position so as to abut against the annular surface 7 of the cap 6, and the ring 20 is screwed into position. If desired, however, the assembling may be done by first placing the core 3 within the casing 1, these parts being turned relatively to each other until they register properly, the cap 6 next being screwed into position and finally the annular member 20 being applied. In order that the registering of the parts may be strictly accurate, I gently place the diaphragm 12 upon the neck 5, screw the cap 6 firmly into position, then slip the casing 1 over the core 3, and screw the casing until its larger end is tight against the face 7 of the cap. The annular member 20 is next applied.

I have made the discovery that if the concavities 10 11 be made hemispherical, as shown, the acoustic properties of the telephone are greatly increased, the intensity of the sound-waves being apparently amplified by this arrangement.

The several parts are given such shape that the large end of the receiver has the form of an oblate spheroid. This enables it to be applied to the ear with great precision and also gives it a neat appearance. The globe roundness of the receiver prevents the undue catching of dust and presents a surface which is easily cleaned or polished, all parts being readily accessible. Indeed, the receiver as a whole presents no crevices, chinks, or ledges of any kinds in which any foreign substance is liable to lodge. The sanitary properties of the receiver are therefore greatly increased.

It will be noted that the receiver consists of several parts which are easily detachable and readily interchangeable, so that if a part be injured or lost it need not necessitate the ordering of a complete new receiver. It follows, therefore, that either of the several parts may be readily replaced when worn out or destroyed.

I do not limit myself to the particular form of any of the parts as herein shown, nor to the particular manner of assembling the parts, nor of connecting any two parts together, as other means will readily suggest.

themselves to those skilled in the art without departing from the spirit and scope of my invention.

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

1. A telephone-receiver, comprising a longitudinal core provided at each of its ends with a thread, a casing mounted upon said core and provided at one of its ends with a thread engaging one of the threads of said core, and a threaded member engaging the other end of said core and provided with a flange partially encircling said casing.

2. In a telephone-receiver, a core of insulating material provided with a comparatively massive end having threaded portions of different diameters, and with an annular shoulder disposed intermediate of said threaded portions, a casing encircling said core and provided with a threaded portion engaging one of said threaded portions of said core, and a cap provided with a threaded portion engaging the other of said threaded portions of said core, said cap being further provided with an annular surface engaging said annular shoulder of said core and also engaging said casing.

3. A telephone-receiver, comprising a core of insulating material, an outer metallic casing encircling the same, a locking member connected to one end of said core and engaging the adjacent end of said metallic casing, and a cap connected to the other end of said core and engaging the end of said casing adjacent thereto.

4. In a telephone-receiver, the combination of a longitudinal core of insulating material provided at each of its ends with a thread, a metallic casing fitted upon said longitudinal core and provided with a thread engaging one of said threads of said core, an annular locking member engaging the other of said threads of said core and also engaging said casing, and a cap engaging said metallic casing and also engaging said core.

5. In a telephone-receiver, a core of insulating material having a plurality of threaded portions of different diameters, said threaded portions being located immediately adjacent to each other, a metal casing engaging said core and provided with a threaded portion engaging one of said threaded portions of said core, and a cap provided with a threaded portion and engaging the other threaded portion of said core and also engaging said casing.

6. A telephone-receiver, comprising a core of insulating material provided with threaded portions of different diameters separated by a shoulder, a metallic casing also threaded and adapted to engage one of said threaded portions, and a cap provided with a flat surface for engaging said casing and said shoulder,

said cap being further provided with a threaded surface for engaging the other threaded portion of said core.

7. A telephone-receiver, comprising a longitudinal core of insulating material provided at one of its ends with an enlarged portion having a thread upon its exterior, magnetic mechanism supported by said core a longitudinal casing of metal encircling said core and provided at one of its ends with an enlarged portion threaded internally and engaging said threaded portion of said core, an annular locking member detachably connected with said core and engaging the other end of said metal casing for the purpose of securing the same relatively to said core, and a diaphragm disposed adjacent to said magnetic mechanism.

8. A telephone-receiver, comprising a longitudinal core of insulating material provided at one of its ends with an enlarged cylindrical portion threaded externally, a longitudinal metallic casing encircling said core, said metallic casing being provided at one of its ends with a portion threaded internally and adapted to fit said enlarged cylindrical portion of said core so as to secure said casing relatively thereto, magnetic mechanism mounted upon said core of insulating material, and a diaphragm disposed adjacent to said magnetic mechanism.

9. In a telephone-receiver, the combination of a core of insulating material provided with an enlarged end having a thread external thereto, a metallic casing provided with an enlarged portion, said enlarged portion being provided with a thread disposed internally thereof and mating said thread of said core, and a cap mounted upon said core and engaging both said enlarged end of said core and said enlarged end of said casing.

10. In a telephone-receiver, the combination of a core of insulating material provided with two threaded portions of different diameters and with a shoulder intermediate of said portions, magnetic mechanism connected with said core, a casing surrounding said core and provided with a threaded portion engaging one of said threaded portions thereof, a threaded cap secured upon the other of said threaded portions of said core, said threaded cap engaging said shoulder and also engaging said casing, and a diaphragm disposed intermediate of said cap and said core.

11. In a telephone-receiver, the combination of a longitudinal core of insulating material provided at one of its ends with an enlarged portion and with a shoulder, a longitudinal metallic casing surrounding said core of insulating material and provided with a surface registering with said shoulder, and a cap of insulating material mounted upon said core and provided with a clamping-sur-

face registering with both said shoulder and said surface of said metallic casing.

12. In a telephone-receiver, the combination of a longitudinal core of insulating material provided with an enlarged end, a metallic casing surrounding said core and provided with an enlarged end engaging said enlarged end thereof, and a cap mounted upon said core and provided with a portion engag-

ing both said enlarged end of said core and said enlarged end of said casing.

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

LOUIS STEINBERGER.

Witnesses:

WALTON HARRISON,
EVERARD BOLTON MARSHALL.