

(No Model.)

L. TOWNSEND.  
TELEPHONE RECEIVER.

No. 348,429.

Patented Aug. 31, 1886.

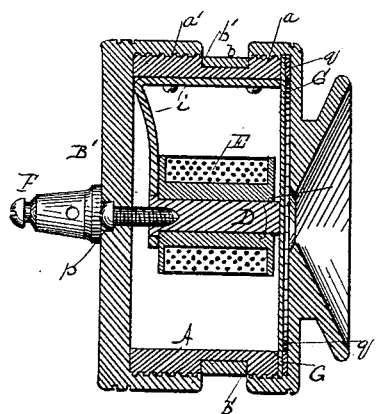
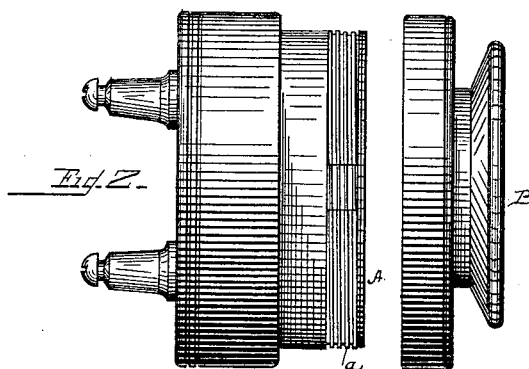
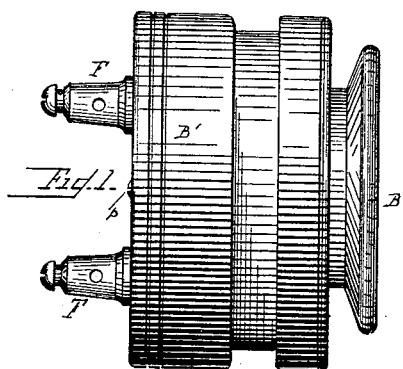


Fig. 3.

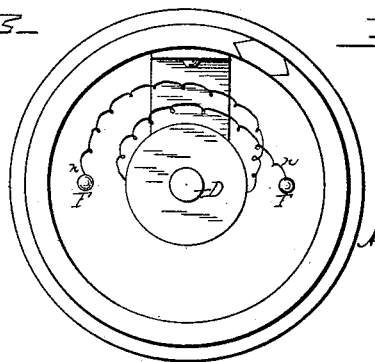


Fig. 4.

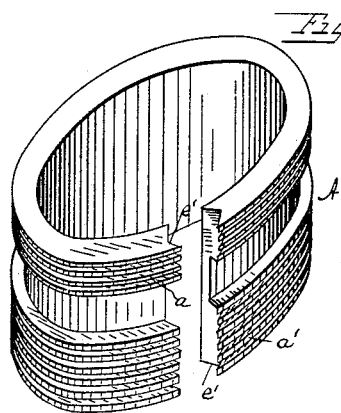


Fig. 5.

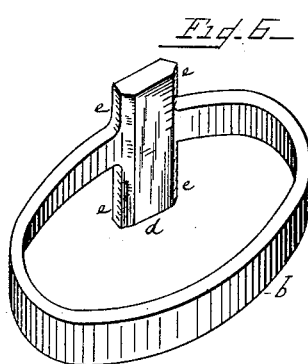


Fig. 6.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## TELEPHONE-RECEIVER.

SPECIFICATION forming part of Letters Patent No. 348,429, dated August 31, 1886.

Application filed May 10, 1886. Serial No. 201,735. (No model.)

*To all whom it may concern.*

Be it known that I, LOUIS TOWNSEND, of Evansville, in the county of Vanderburg and State of Indiana, have invented certain Improvements in Telephone-Receivers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side elevation of my improved receiver. Fig. 2 is a side elevation of the same having the ear-piece removed. Fig. 3 is a central vertical sectional view. Fig. 4 is a plan view with the ear-piece and diaphragm removed. Figs. 5 and 6 are details to be referred to.

My invention relates to receiving-instruments for speaking-telephones, and has for its object to provide an effective and certain reproduction of the effect of the sound-waves upon the transmitter.

To this end my invention consists in certain details of construction and combinations of devices, as hereinafter fully described, and specifically pointed out in the claims.

In order that those skilled in the art may make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the said drawings, A is a magnet, annular in structure, but having its poles separated in a manner hereinafter described. Exteriorly at the top and bottom, as seen at *a a'*, this magnet is threaded to receive female threads on the interior of the ear-piece B and the base B', so that the side wall is the magnet. Surrounding the magnet A and covering the exposed portion is a strip of brass, *b*, set into a groove or recess, *b'*, around the magnet, and

this brass ring has brazed or otherwise secured to it a transverse brass block, *d*, having beveled edges *e* to fit in beveled grooves *e'* in the ends of the annular magnet and separate the poles of the magnet, while it also completes the circle of the case. To the inner surface of the magnet is secured a shelf or bracket, *i*, which supports in the center of the instrument a projection, D, of the permanent magnet A, the said projection being surrounded by a coil, E, the ends *nn* of which pass to binding-posts F F to form the electrical connections. A screw, *p*, passes through the center of the base-piece B' into the projection D and secures it as well as the surrounding spool.

Around the edge of the magnet A rests the thin metal diaphragm G, the edge of which is clamped between the ear-piece, an intervening compressible washer, *g*, and the edge of the magnet. By this construction I am enabled to place the coil in a strong magnetic field and utilize the magnet for forming the body of the box.

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

1. The annular magnet, divided as described, and having dovetailed ends, in combination with the rigid inserted block *d*, having beveled edges, substantially as described.

2. The annular magnet A, in combination with the connecting spring-bracket *i*, core D, adjusting-screw *p*, extending through the case, coil E, diaphragm G, and proper electrical connections, substantially as set forth.

LOUIS TOWNSEND.

Witnesses:

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