No. 794,137. PATENTED JULY 4, 1905.

T. C. BRECHT.

TELEPHONE RECEIVER.

APPLICATION FILED SEPT. 22, 1902. RENEWED DEC. 14, 1904.

Fig. 1.

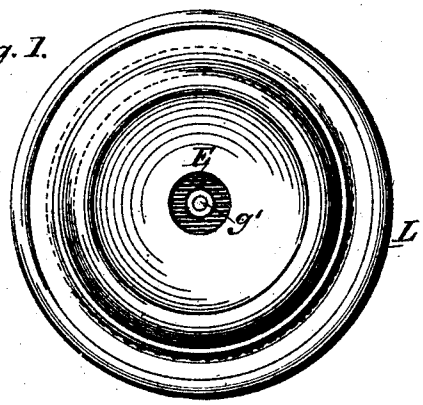


Fig. 2.

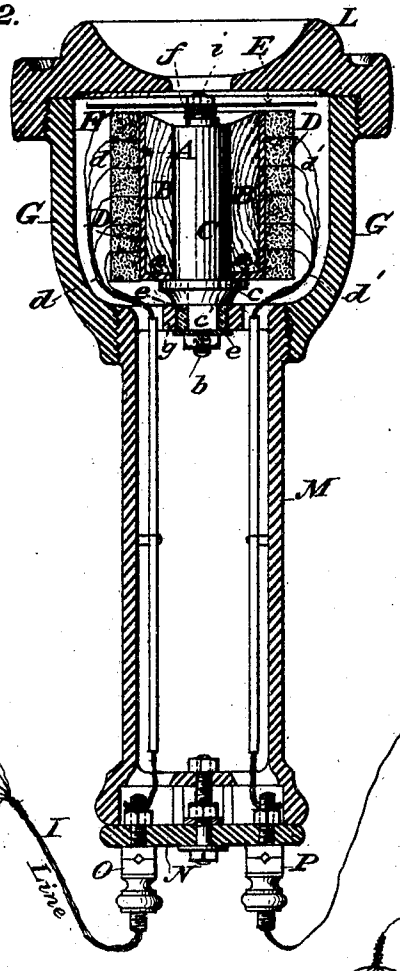
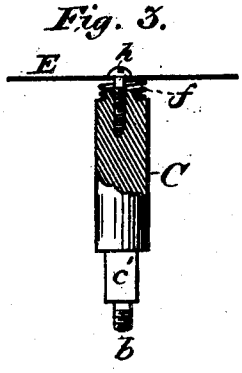
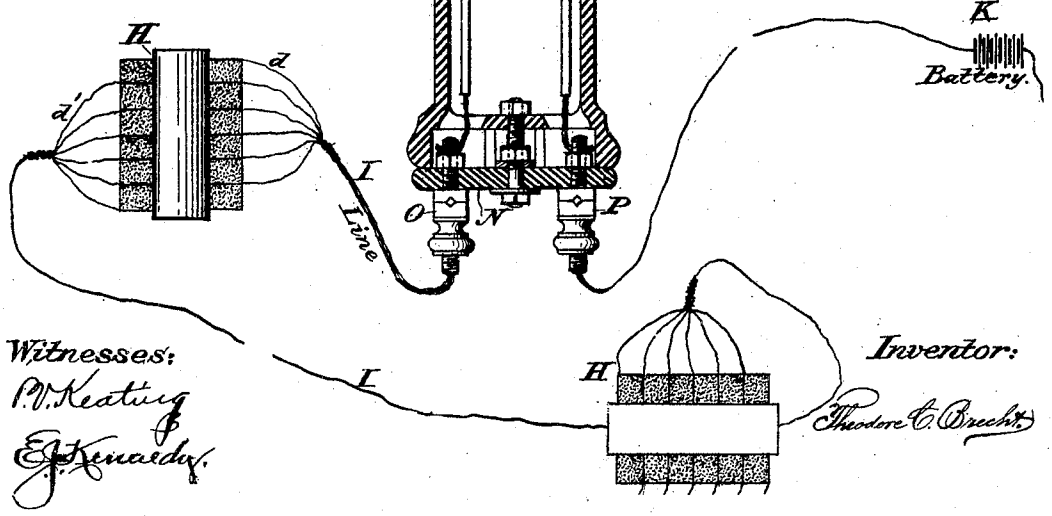


Fig. 3.





Witnesses:

P. W. Keating

E. J. Kennedy.

Inventor:

Theodore C. Brecht.

No. 794,137. Patented July 4, 1905.

UNITED STATES PATENT OFFICE.

THEODORE C. BRECHT, OF WASHINGTON, DISTRICT OF COLUMBIA.

TELEPHONE-RECEIVER.

SPECIFICATION forming part of Letters Patent No. 794,137, dated July 4, 1905.

Application filed September 22, 1902. Renewed December 14, 1904. Serial No. 236,855.

To all whom it may concern:

Be it known that I, THEODORE C. BRECHT, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Telephone-Receivers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in receivers for telephones; and the object of the invention is to produce an instrument for receiving the messages in telephone-lines that is more sensitive and will respond to the sound or voice in a clearer and stronger manner than those now in use; also, that it will reproduce the vibrations of the transmitting instrument to the receiving instrument in the same manner and so that they will not interfere with each other; furthermore, to increase the sound or voice, whether it be of high or low pitch, by means of a centrally-secured diaphragm on a holding-core, having multiple coils of wire upon it, as also to place one or more multiple coils in the line-wire to increase the currents, and thus the vibrations of the diaphragm.

To this end my invention consists in the peculiar construction of details and the novel arrangement of certain parts, as will be more fully described hereinafter, and pointed out in the claims, reference being had to the accompanying drawings, and the letters thereon.

Like letters indicate similar parts in the figures, in which—

Figure 1 represents a front view of the receiver. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a detail view, partly in section, of the central core for the diaphragm and slightly-modified fastening for said diaphragm.

In the drawings, A represents a cylinder of suitable size, made, preferably, of soft or cast iron and having a flange *a* at its lower end. This cylinder A is fitted over a wooden cylinder B, which is in turn attached to a metal core C. The main part of the core is of circular form, and its lower part is provided with a collar *c*, that bears against a spider *g* of the case G, made of proper material, shape, and size. The case G is preferably made of three parts—*i. e.*, the case G proper, the mouthpiece L, and the holding-piece M for the hand. The mouthpiece L is screwed onto the main part G and the holding-piece M to its lower side. To this is secured the cap N with the binding-screws O and P. The core C is provided with the square part *c'*, passing through the spider *g*, and is preferably fitted through a thimble *e* and prevents turning or wear of the core. The screw end *b* and a nut secures the core firmly in place. The opposite end of the core C is slightly reduced to receive the spring *f*, against which the diaphragm E bears, and serves to increase the sensitiveness thereof, as well as its actions. Said diaphragm E of suitable material is held centrally in place by the screw end and nut *i*, and by this means said diaphragm can be adjusted and regulated so as to reduce the vibrations of said diaphragm to a minimum, as well as its contact with the cylinder A to a nicety. Upon the cylinder A are wound a series of fine coil-wires D, side by side. At one side the ends *d* of said wires are connected together and then to the line-wire I, while their opposite ends *d'* are connected together and to the battery K. In the main line I is arranged a multiple coil H to strengthen the current and increase its force, and, if desired, two or more of these coils H may be arranged at certain intervals, especially in long lines.

In the modification shown in Fig. 3 the diaphragm E is secured in place by a screw *h*, that is screwed into the core C, having the square part *c'* and the screw end *b* to secure it in the spider of the case G. Said diaphragm E is supported on the spring *f* and held in place by the screw *h* in this instance.

The operation is as follows: When the message is sent from the transmitter through the line-wire I, the current passes around the multiple coil H, through the core and line-wire, connecting to the receiving end. The current passes around the cylinder A, whose coils are so connected that their first ends com-

municate with the line-wire and their last ends are connected together and to the battery. Thus said cylinder becomes magnetized when the line is in use. The vibrations are imparted from the diaphragm of the transmitter through the line and are reproduced in a much stronger and more distinct manner, and also in the same manner to the diaphragm of the receiver, as they both will act in perfect accord with each other. The multiple coils serve to increase the strength of the current and also cause the sound of the voice to be clearer and easier understood than any now in use.

Having thus described my invention, what I claim is--

1. In a telephone-receiver, the combination of the metal cylinder, the metal coils wound thereon, the wooden cylinder, a core, a diaphragm centrally secured to the core, a spring for supporting the diaphragm, substantially as specified.

2. In a telephone-receiver, a metal core, a wooden cylinder carried thereby, a diaphragm centrally secured to said core, in combination with a series of multiple coils, whose ends are connected together at one end and to the line-wire, while their opposite ends are connected to a battery, all as set forth.

3. In a telephone-receiver, the combination of the metal cylinder, the metal coils wound thereon, the wooden cylinder, a core, a diaphragm centrally secured to the core, a spring for supporting the diaphragm, and a series of multiple coils, whose ends are connected together at one end and to the line-wire, while their opposite ends are connected to a battery, all as herein specified.

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

THEODORE C. BRECHT.

Witnesses:

P. V. KEATING,

E. J. KENNEDY.