

(No Model.)

DE WITT C. FARRINGTON.
EARPIECE FOR TELEPHONE RECEIVERS.

No. 572,108.

Patented Dec. 1, 1896.

Fig. 1.

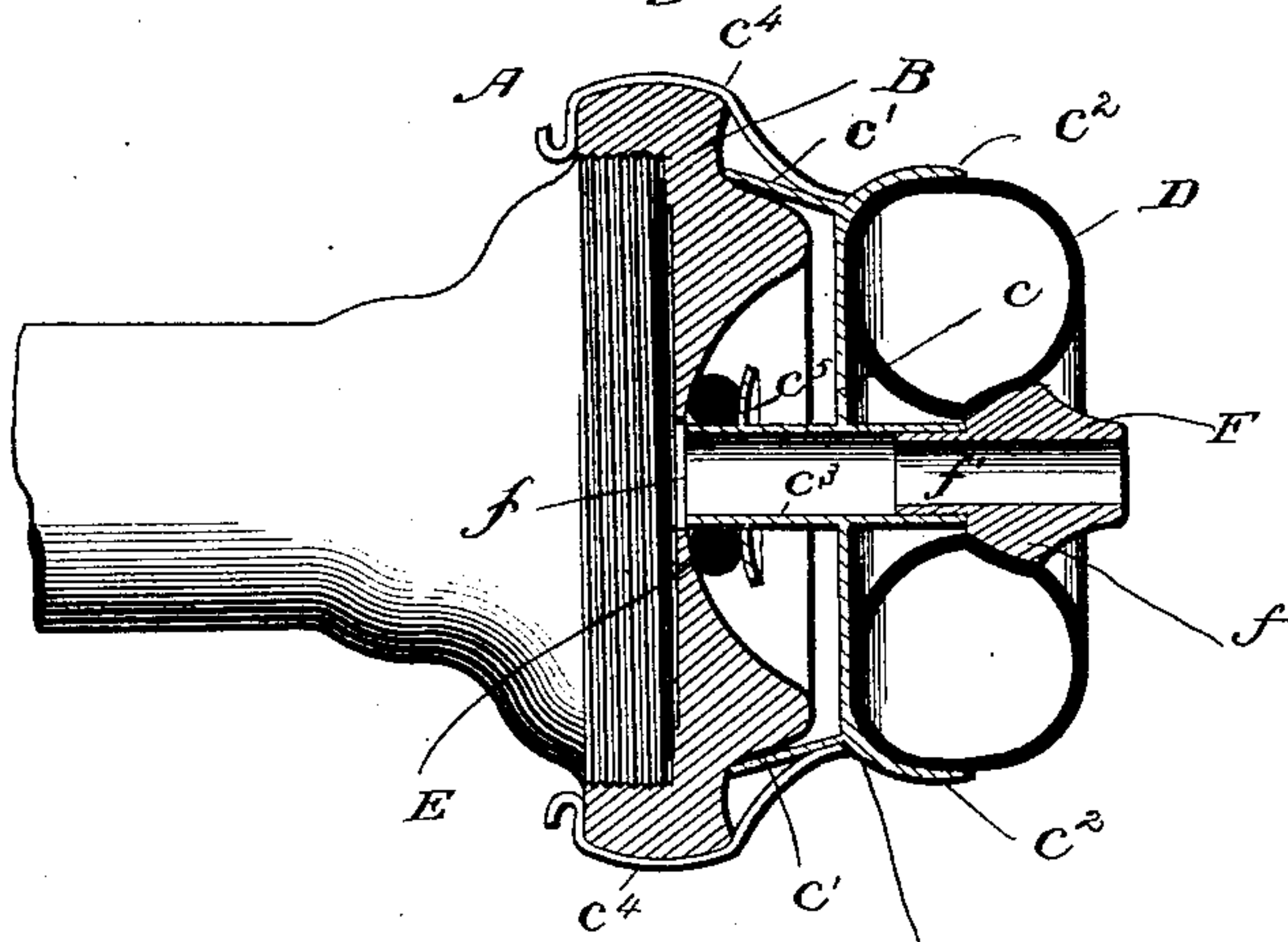


Fig. 2.

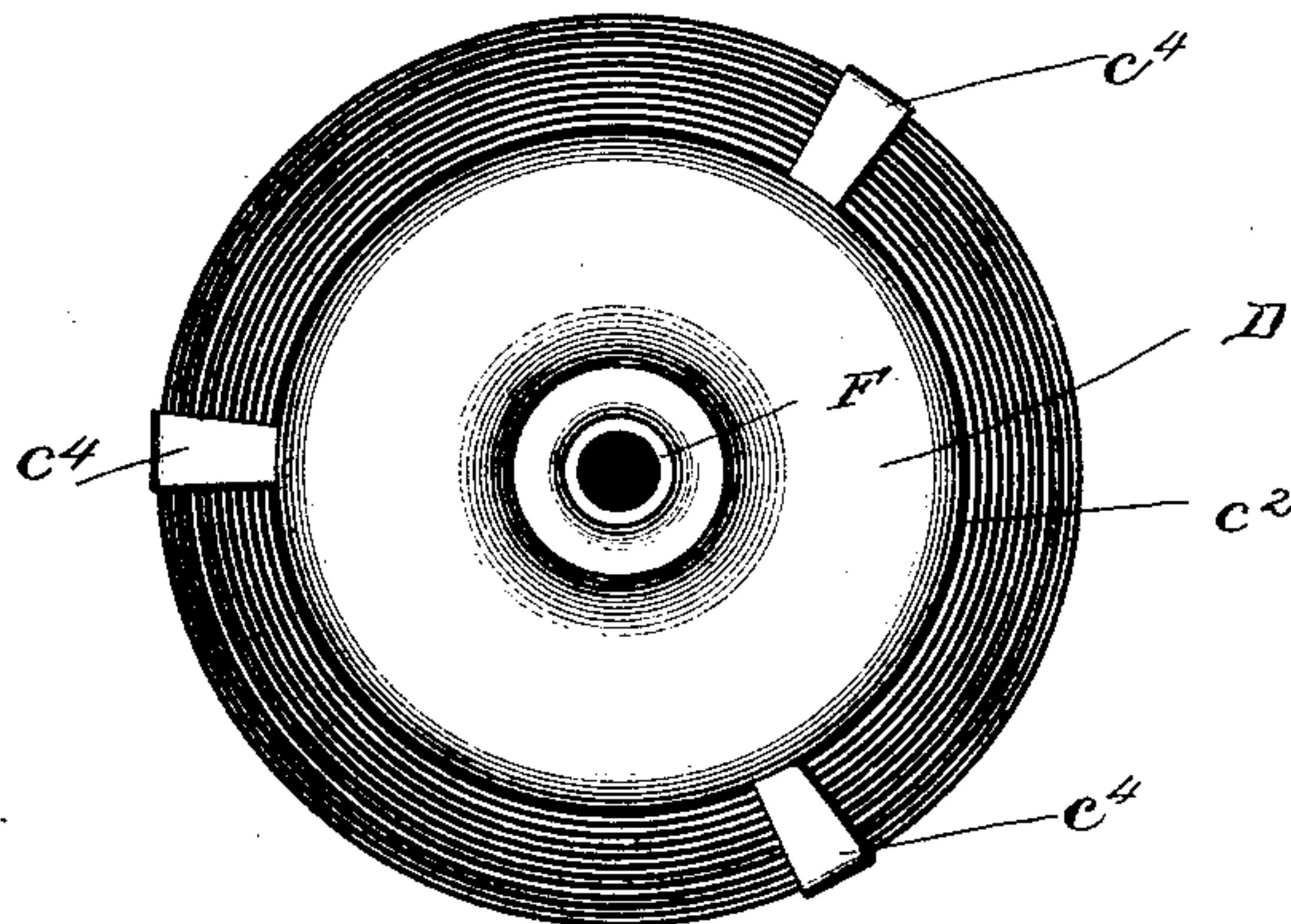
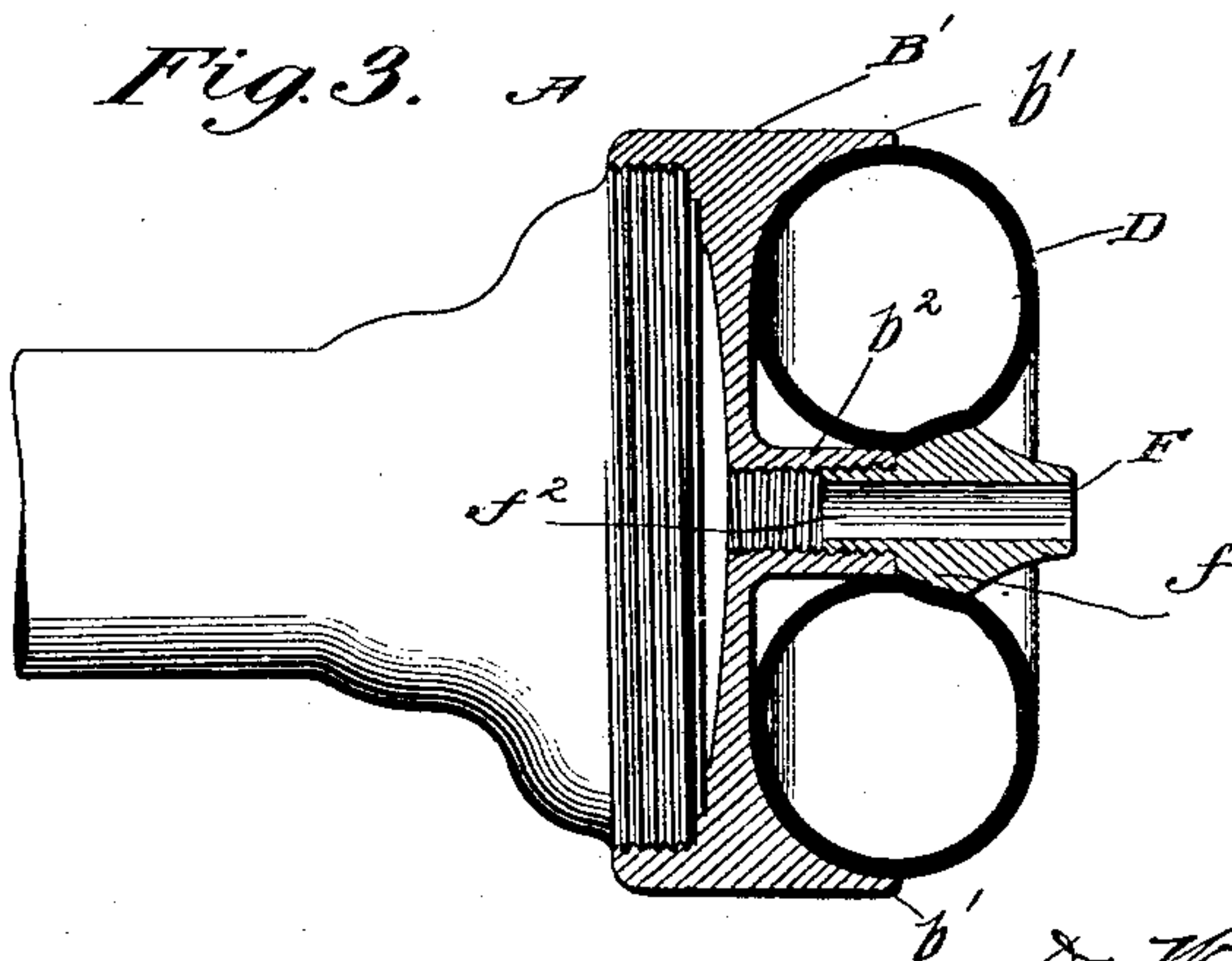


Fig. 3.



Witnesses
E. W. D. Russell Jr.
Charles E. Riordan

Inventor
De Witt C. Farrington
By Butcherworth & Dowell
his Attorneys.

UNITED STATES PATENT OFFICE.

DE WITT C. FARRINGTON, OF WASHINGTON, DISTRICT OF COLUMBIA.

EARPIECE FOR TELEPHONE-RECEIVERS.

SPECIFICATION forming part of Letters Patent No. 572,108, dated December 1, 1896.

Application filed April 3, 1896. Serial No. 586,092. (No model.)

To all whom it may concern:

Be it known that I, DE WITT C. FARRINGTON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Earpieces for Telephone-Receivers; and I do hereby 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.

My invention relates to telephones, but more particularly to earpieces for receivers of ordinary Bell telephones or other similar instruments.

The primary object of the invention is to provide means for shutting off from the receiver all sound-vibrations which are due to noises outside of the instrument or which are not received over the wire from the transmitting office or station, so as to prevent such outside noises or sound-waves from reaching the ear and to adapt the receiver to reproduce the transmitted message and deliver the same to the auditory passage of the ear unaffected by extraneous sound-waves.

A further object is to provide a simple, efficient, and inexpensive earpiece and sound-muffler adapted to be applied to the receiver of an ordinary Bell telephone or other similar instruments such as are in common use.

Another object is to provide means whereby the surface of that part of the receiver which touches the ear may be easily and quickly cleaned or washed without impairing the instrument, so that the earpiece may not become soiled and offensive in use, but may present a clean surface to the ear at all times.

The invention will first be hereinafter more particularly described with reference to the accompanying drawings, forming a part of this specification, and then pointed out in the claims at the end of the description.

In the drawings, Figure 1 represents a side elevation, partly in section, of a portion of the receiver of an ordinary Bell telephone having my improvement applied thereto. Fig. 2 is a front view of the same, and Fig. 3 a sectional side elevation illustrating a modification of the earpiece.

It is a well-known fact that in the use of the telephone as at present constructed outside

noises greatly interfere with the hearing of the person receiving a message, and in most cases it is necessary to provide an inclosure for the purpose of shutting off sound from the outside. It is also a well-known fact that in the continuous use of ordinary telephone-receivers the surface of the earpiece is repeatedly presented to the ears of different persons, and in a short time this surface becomes soiled and offensive, such soiling being due principally to the moisture from the face and ear, and in case the instrument is used by a person whose ear is affected with any disease other persons using the instrument are liable to be affected. Furthermore, receivers as at present constructed cannot readily be cleaned or washed without danger of impairing or injuring the instrument, and hence cannot easily be kept clean.

My invention is designed to overcome these objectionable features and to provide means for adapting the receiver to be used without interference from outside noises and without subjecting the user to the danger of contracting diseases of the ear when the instrument has become soiled and contaminated by constant use.

Referring to the drawings, A may represent the receiver of an ordinary Bell telephone or other similar instrument having my improvement applied thereto, such instrument being provided with the usual appliances for connection with a transmitter or telephone system. In the form shown in Fig. 1 the instrument is an ordinary Bell magneto-telephone with my sound-muffler and auxiliary earpiece attached.

B denotes the usual earpiece, which is screwed upon the instrument and holds the diaphragm in place in the usual manner. To the earpiece B is secured an auxiliary earpiece C, consisting, essentially, of a circular disk or plate c , having a rearwardly-extending circumferential flange c' and a forwardly-extending circumferential flange c'' , the latter being preferably concave on the inner surface thereof, so as to form an annular seat for the cushion D, which is secured thereto, said disk or plate c being provided centrally with a tube c^3 or tubular bosses projecting in front and in rear thereof and communicating with the usual centrally-arranged opening in

the earpiece B, through which sound-waves may reach the ear of the person receiving the message.

The auxiliary earpiece C may be secured 5 to the main earpiece B by means of spring-arms c^4 , having their rear ends bent to form shoulders, which may overlap the rear edge of the earpiece B, as shown in Fig. 1, said arms being adapted to be sprung over the 10 earpiece B, so as to secure the auxiliary earpiece thereto, as shown. Other suitable means may be employed, however, for securing the auxiliary earpiece to the instrument. Near the rear or inner end of the tube c^3 it is 15 formed or provided with a flange, projection, or shoulder c^5 , between which and the face of the earpiece B is placed a rubber or other suitable elastic ring E, which encircles the tube about the opening b and is designed to 20 shut out or cut off sound-waves emanating from the outside of the instrument when the parts are in working position.

F denotes a detachable tubular section or nipple forming a continuation of the auditory tube c^3 and having a reduced portion fitting therein and secured thereto by frictional 25 contact or by screw-threads or otherwise, so as to permit its easy removal, said nipple having an exterior shoulder or bulged portion f . 30 The cushion D may consist of a tube of thin rubber or other suitable material which will yield and accommodate itself to the ear of the person using the instrument, so that on receiving a message the ear may be shut off en- 35 tirely from sound-waves or noises outside of the instrument, the nipple F being adapted to occupy a position in direct communication with the auditory passage of the ear for delivering the sound-waves transmitted through 40 the instrument directly thereto, while the cushion completely shuts off any sound-waves proceeding from outside of the instrument. The cushion D is adapted to fit within the 45 dished or concave surface of the holder formed by the disk c and flange c^2 , and may be secured in place, so as to prevent accidental displacement thereof, by the engagement therewith of the enlargement or shoulder f on the nipple, so as to normally prevent the 50 cushion from being removed without first removing the nipple.

In the modification shown in Fig. 3 of the drawings the usual earpiece of the instrument 55 has been removed and a combined earpiece and sound-muffler has been substituted therefor. The part B' in this instance is formed with a dished face having a circumferential concave flange or projection b' , forming a seat 60 seat and be secured between the same and the shoulder or projection f on the nipple F, the same as in Fig. 1, the nipple being provided with a screw-threaded projection f^2 , adapted to be screwed into an internally- 65 screw-threaded opening through a central projection b^2 in the part B'.

The instrument thus constructed is adapted

to completely muffle or shut off sound-waves resulting from noises outside of the instrument, and also affords means whereby the 70 surface which is presented to the ear can be easily and quickly reversed or removed and cleaned, so as to present a clean surface to the ear at all times, and the cleaning or washing 75 may be done very quickly and without danger of impairing the instrument.

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

1. In combination with a telephone-re- 80 ceiver, an earpiece having a centrally-disposed auditory passage, a cushion seated in and covering the face of said earpiece and having a central aperture coincident with said passage, and a detachable tubular sec- 85 tion forming a continuation of said auditory passage and snugly fitting within the aperture of the cushion, so as to close the same and aid in holding the cushion to its seat, substantially as described. 90

2. In combination with the earpiece of a telephone-receiver, a cushion detachably 95 seated in the face thereof, and a detachable nipple communicating with the auditory passage through the earpiece and cushion and adapted to hold the cushion to its seat, substantially as described.

3. An auxiliary earpiece for telephone-re- 100 ceivers, comprising a cushion-holder having an auditory tube independent of but adapted to communicate with the delivery-opening in the receiver, an elastic ring encircling the inner end of said tube so as to bear against the face of the receiver and close 105 said opening against outside noises, a cushion seated in the face of said auxiliary earpiece and means for detachably securing said auxiliary earpiece to the usual earpiece of the instrument, substantially as described.

4. An auxiliary earpiece for telephone-re- 110 ceivers, comprising a cushion-holder having an auditory tube communicating with the delivery-opening in the receiver, an elastic ring encircling the inner end of said tube so as to close said opening against outside noises, 115 a cushion seated in the face of the earpiece and means for detachably securing said auxiliary earpiece to the usual earpiece of the instrument, together with a detachable nipple engaging the outer end of the auditory 120 tube and adapted to confine the cushion between the same and the face of the earpiece, substantially as described.

5. In combination with a telephone-receiver 125 having the usual opening therein for delivering the sound-waves, a detachable nipple connecting with said opening, and a cushion encircling the nipple and completely covering the face of the earpiece except the auditory 130 passage; said cushion being confined between the face of the earpiece and a shoulder or bulge of the nipple, substantially as described.

6. An auxiliary earpiece for telephone-re-

ceivers comprising a cushion-holder having
an auditory tube connecting with the usual
delivery-opening in the earpiece of the re-
ceiver, an elastic ring or sound-muffler inter-
posed between said holder and the surface of
said earpiece, an elastic cushion seated in
the face of said holder and encircling said
auditory tube, and a detachable nipple form-
ing a continuation of said tube and having a

projection or shoulder thereon for confining to
the cushion between the same and the surface
of the holder, substantially as described.

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

DE WITT C. FARRINGTON.

Witnesses:

CHARLES E. RIORDON,
WILLIAM B. CROWELL.