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F. H. COOLBROTH

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EARPIECE

Filed Dec. 24, 1926

Fig. 1.

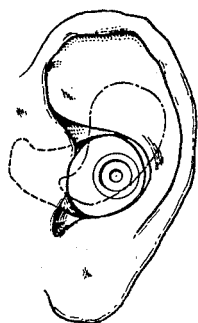


Fig. 2.

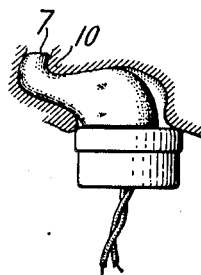


Fig. 3.

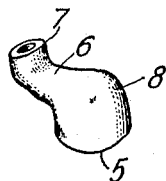
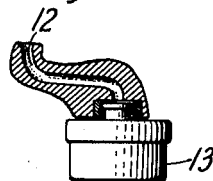


Fig. 4.



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UNITED STATES PATENT OFFICE

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EARPIECE

Application filed December 24, 1926. Serial No. 156,840.

This invention relates to electromagnetic receiving apparatus and particularly to means for supporting a small type of telephonic receiver in operative relation to the ear of the user.

Developments and refinements in magnetic structure have enabled the production of compact inconspicuous but highly efficient receivers which are well adapted for use in audiophone and head sets.

Due to the compactness and lightness of the receiver structure it may be easily supported by the ear structure and it is the object of this invention to provide a supporting means for the receiver which will securely support it in operative relation to the ear without discomfort or inconvenience to the user.

In accordance with the general plan of the invention, an ear piece is formed with such contour that the act of inserting it into the ear involves a twisting or turning action which causes it to become securely yet lightly engaged with various contours of the ear from which it may not be easily dislodged except by a twisting or turning movement in a direction opposite to the inserting movement.

In the drawings illustrating this invention, Fig. 1 is a side view of the human ear illustrating the ear piece of this invention in two positions;

Fig. 2 is an inner side view of the ear piece with the telephone attached thereto;

Fig. 3 is a side perspective view; and

Fig. 4 is a sectional view of the ear piece with the receiver attached.

The form of the ear piece is best illustrated in Figs. 2 and 3 in which 5 designates an enlarged body portion somewhat conical in shape and having a substantially right angle portion 6 which terminates in a hook portion 7 which as illustrated in Fig. 2 of the drawing is adapted to engage with the meatus 10 of the human ear to help retain the ear piece in place. A rounded portion 8 on the ear piece is adapted to engage a depression in the ear and cooperates with the hook portion engaging the bend in the meatus for retaining the ear piece firmly in position.

The ear piece is provided with a channel 12 for conveying vibrations from a diaphragm of a receiver 13 attached thereto to the ear drum.

The form taken by this ear piece is such that the insertion of it into the ear is brought about by a turning motion which brings the hook portion 7 into engagement with the bend in the meatus of the ear and the rounded portion into engagement with a depression in the ear. When the ear piece is seated in this manner it is held firmly against displacement except by a turning movement opposite to that for inserting it into the ear of the user.

The advantage of an ear piece of this construction is that a few standard sizes can be produced from which can be selected one which will fit almost any human ear, and as it can be made from rubber or similar moldable material, it avoids the use of metallic parts which might form a source of irritation or discomfort when in contact with the ear. This method of insertion and removal insures against discomfort to the wearer and at the same time provides a firm although light seating for the apparatus.

What is claimed is:

1. In combination, a telephonic receiver, and an ear piece comprising a body having a projection adapted to engage the bend in the meatus of the ear and an enlarged portion adapted to engage the depression (anti-helix) of the ear to hold the receiver against dislodgment.

2. In combination, a telephonic receiver, and an ear piece, the ear piece comprising a rounded and tapered body portion having an angular projection at its smaller end adapted to engage over the bend in the meatus of the ear when the larger end of the ear piece is in engagement with a depression of the ear to hold the receiver against dislodgment.

In witness whereof, I have hereunto subscribed my name this 4th day of December, A. D. 1926.

FRANK H. COOLBROTH.