

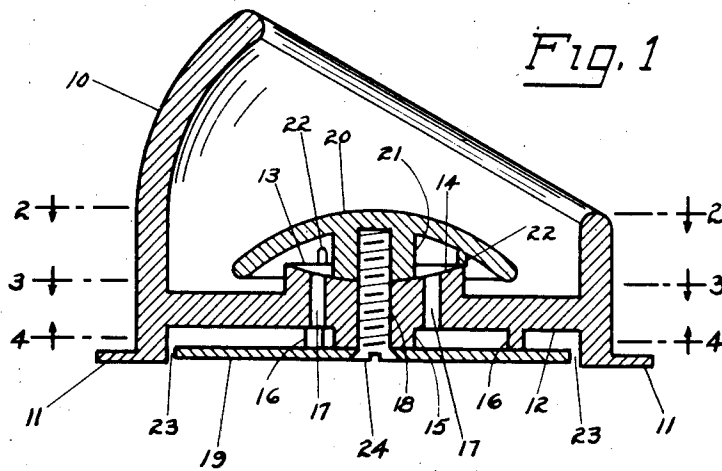
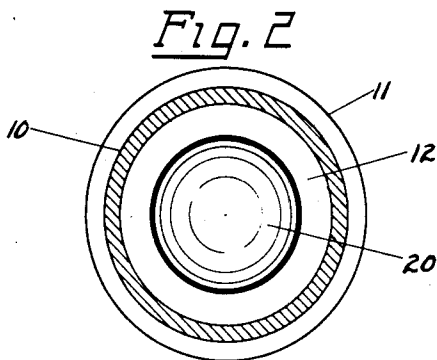
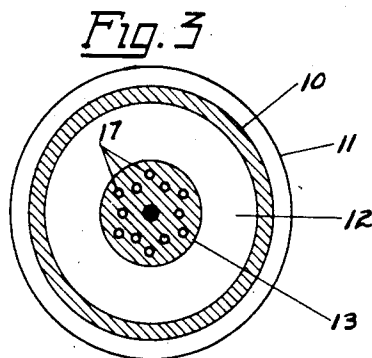
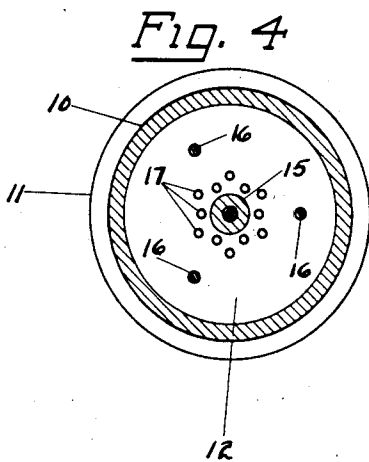
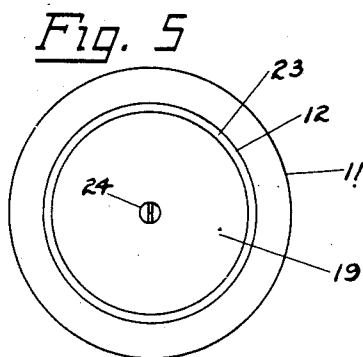
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TELEPHONE MOUTHPIECE

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UNITED STATES PATENT OFFICE

1,991,002

TELEPHONE MOUTHPIECE

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6 Claims. (Cl. 179—187)

My invention relates to telephone mouthpieces, and more particularly to those used on the telephone instruments known as hand sets, in which the mouthpiece is attached to one end of the handle and the receiver to the other end. In such telephones, the mouthpiece and transmitter are placed approximately opposite the receiver. When the mouthpiece is spoken into, the sound currents set up in the transmitter are in part shunted by the receiver, and are heard by the speaker. The sounds produced by the receiver are then picked up by the transmitter, because of its position opposite the receiver, and again reproduced in the receiver. This continuous circuit of sound waves produces an objectionable noise in the telephone which is known as side-tone.

An object of my invention is to prevent this side-tone by providing obstructions which cause the sound waves to travel a tortuous path from the mouthpiece entrance to the transmitter diaphragm.

A feature of my invention is the provision of a baffle in the front of the mouthpiece diaphragm and a flat disk in the back of it, which cause the sound waves to travel a tortuous course before reaching the transmitter diaphragm.

These and other features will be more specifically pointed out in the ensuing specification and the appended claims, and illustrated in the accompanying drawing in which like reference characters refer to similar parts in the several views, and in which

Fig. 1 is a sectional view of the mouthpiece of my invention;

Fig. 2 is a sectional view along the line 2—2 of Fig. 1;

Fig. 3 is a sectional view along the line 3—3 of Fig. 1;

Fig. 4 is a sectional view along the line 4—4 of Fig. 1; and,

Fig. 5 is a view of the back side of the mouthpiece.

Referring now to the drawing, 10 is a mouthpiece shell having a flange 11 and partition 12. The outer side of the partition 12 is provided with a circular elevated portion 13 having a concave surface 14. The rear side of the back 12 is provided with a circular elevated portion 15 and three or more studs 16. The elevated portions 13 and 15 are substantially concentric with the partition 12, and may be molded integral therewith or made as separate pieces. A plurality of orifices 17 and a central orifice 18 extend entirely through the partition 12 and the

elevated portions 13 and 15. A flat disk or baffle 19 is positioned behind the back 12 in engagement with studs 16. Disk 19 is smaller in diameter than the inner circumference of the shell 10, leaving a space 23 around its circumference. A curved baffle 20 having a cylindrical elevated portion 21 on its inner surface is positioned upon the concave surface of the elevated portion 13 of the partition 12. A screw 24 passes through an orifice in the disk 19 and the orifice 18 into screw-threaded engagement with the baffle 20. This screw serves to hold the disk 19 and the baffle 20 in position. On the inner surface of the baffle 20 are three or more studs 22 which rest on the edge of the elevated portion 13. These studs serve to hold the baffle away from the portion 13, permitting air and sound waves to pass.

Sound waves, such as are caused by speaking into the mouthpiece, are deflected from the baffle 20 and pass behind it, between the back side of the baffle and the edge of the elevated portion 13, and through orifices 17. Disk 19 then deflects the sound waves, and they pass through the space 23 between the disk 19 and the sides of the mouthpiece shell 10 into engagement with the transmitter diaphragm. The usual transmitter (not shown) will be positioned behind the disk 19, to pick up and transmit the sound waves in the usual manner.

It will be seen that, by the use of the structure herein disclosed, the sound waves are caused to travel a circuitous course before reaching the transmitter diaphragm. Tests have proven that by this arrangement objectionable side-tones are eliminated from the hand set, making it much more efficient and satisfactory.

While I have illustrated and described a preferred embodiment of my invention, it is to be understood that I do not wish to be limited to the specific structure shown, but only by the spirit and scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. A telephone mouthpiece comprising a shell, a partition having a plurality of orifices therethrough, a curved baffle overlying said orifices positioned in front of and spaced from said partition, and a second baffle positioned behind and spaced from said partition, and means passing thru said partition substantially at the center thereof and engaging said baffles on opposite sides of said partition.

2. A telephone mouthpiece comprising an outer shell, a partition, an elevated portion on the front side of said partition, a second elevated portion on the rear of said partition, said partition and said elevated portions having a plurality of orifices extending therethrough, a baffle positioned in front of said orifices, a plurality of studs on said baffle adapted to rest against the edge of said first elevated portion, a flat disk member positioned behind said orifices, a plurality of studs on the rear side of said partition adapted to position said disk member, and means to hold said baffle and said disk member in said positions.

3. A telephone mouthpiece comprising an outer shell, a partition having a plurality of orifices therethrough, an imperforate baffle overlying said orifices in front of said partition and spaced therefrom and a second imperforate baffle overlying said orifices behind said partition and spaced therefrom.

4. A telephone mouthpiece comprising a shell, a partition across said shell, said partition being perforated to permit the passage of voice currents therethrough, and a pair of baffles, one on each side of said partition, spaced therefrom and overlying the perforated portion thereof, said baffles being impervious to the passage of sound waves, the edges of said baffles being spaced from the side wall of said shell.

5. A telephone mouthpiece comprising an outer shell, a partition, an elevated portion on the front side of said partition having a concave portion therein, said partition and said elevated portion having a plurality of orifices extending therethrough, a baffle positioned in front of said elevated portion having a concave surface opposite the concave portion of said elevated portion, said baffle being spaced from said elevated portion and overlying said orifices and smaller in diameter than said partition to deflect sound waves around the edge and back thereof and through said orifices in said partition.

6. A telephone mouthpiece comprising an outer shell, a partition, an elevated portion on the front side of said partition, having a concave portion therein, said partition and said elevated portion having a plurality of orifices therethrough, a concavo-convex baffle positioned in front of said elevated portion and having its concave surface opposite the concave portion of said elevated portion, said baffle being spaced from said elevated portion and overlying said orifices and smaller in diameter than said partition to deflect sound waves around the edge and back thereof and through said orifices in said partition.

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