

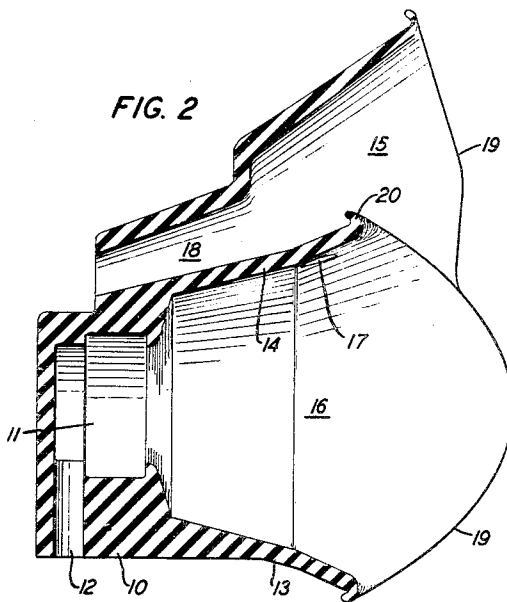
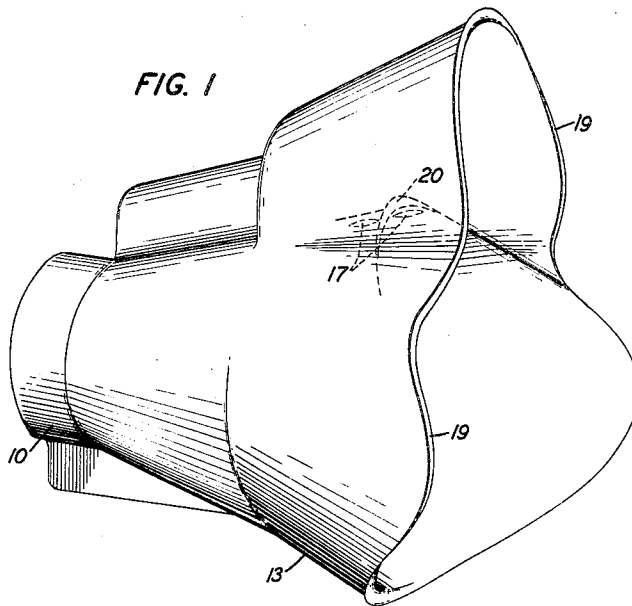
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NOISE SHIELD FOR ACOUSTIC DEVICES

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NOISE SHIELD FOR ACOUSTIC DEVICES

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3 Claims. (Cl. 179-188)

This invention relates to noise shields for acoustic devices and more particularly to shield attachments for telephone transmitters especially suitable for use in locations of high ambient noise, for example in aircraft.

One object of this invention is to effectively shield the diaphragm of a telephone transmitter from external noise whereby the quality and intelligibility of speech transmitted are enhanced.

Another object of this invention is to improve the articulation obtainable with telephone transmitters in noisy locations.

A further object of this invention is to enable comfortable use through long periods of telephone transmitters provided with noise shields adapted to engage the face of the user of the transmitter.

In one illustrative embodiment of this invention, a noise shield for a telephone transmitter comprises a body portion for mounting the transmitter and mouth and nosepiece portions having edges contoured to fit closely the face of the user of the transmitter and thus form an acoustic seal thereat.

In accordance with one feature of this invention, the noise shield is formed to constitute individual nose and mouth cavities or chambers having communication through restricted apertures in a common wall therefor whereby the nasal cavity is included in the acoustic input system for the transmitter and good articulation is obtained.

In accordance with another feature of this invention, an elongated restricted passageway is provided affording communication from the nose chamber to the atmosphere. This passageway facilitates comfortable breathing of the user of the telephone transmitter, attenuates noise waves so that their effect upon the transmission quality of the transmitter is very small and also provides a vent from the mouth chamber whereby the creation of deleterious pressures adjacent the transmitter diaphragm is prevented.

The invention and the above-noted and other features thereof will be understood more clearly and fully from the following detailed description with reference to the accompanying drawing in which:

Fig. 1 is a perspective view of a noise shield for a telephone transmitter, illustrative of one embodiment of this invention; and

Fig. 2 is a side sectional view of the noise shield shown in Fig. 1.

Referring now to the drawing, the noise shield illustrated is molded in one piece of soft rubber and comprises a body portion 10 having therein

a cavity 11 into which a telephone transmitter (not shown) may be snapped and having also a bore or passageway 12 for receiving the transmitter cord. The shield comprises also a flaring portion 13 having an internal wall 14 which divides the interior into a nose cavity or chamber 15 and a mouth cavity or chamber 16, the two chambers having communication with each other by way of a pair of apertures 17 in the wall 14, the two apertures 17 being equally spaced on opposite sides of the median longitudinal plane of the shield. Extending from the chamber 15 is an elongated, restricted passageway 18, the function of which will be pointed out hereinafter.

The edge 19 of the shield is contoured to conform to the face of the user, that is the upper portion, in Figs. 1 and 2, of this edge conforms to the bridge of the nose and adjacent portions of the face of the user and the lower portion conforms to the face surface about the mouth of the user, so that an acoustic seal is formed between the edge and the face. In some cases a soft edging, for example of chamois skin, may be secured to the edge 19 to improve the acoustic seal.

In use, the shield is held against the face with the nose extending into the chamber 15 and the mouth extending into the chamber 16 and the edge portion 19 engaging the portion of the face between the nose and the upper lip. Thus, as will be apparent, both the nasal and mouth cavities are included in the acoustic input system for the transmitter and good articulation and high quality speech transmission are realized. The apertures 17 and passageway 18 facilitate breathing by the user and thus assure comfortable use of the transmitter over prolonged periods. As noted above, because of the configuration of the edge 19, an acoustic seal is provided between the face of the user and the chambers 15 and 16 and, therefore, noise waves are excluded from the front ends of these chambers. The passageway 18, being elongated and of small cross-sectional area, affords a high impedance to noise waves so that noise is highly attenuated. The apertures 17 also attenuate noise waves. Further, as is apparent, a relatively long path for noise waves, as compared with the path for speech waves, is provided. Consequently, the effect of noise waves upon the transmitter is minimized and highly intelligible transmission of speech in locations of high ambient noise is attainable.

Although a specific embodiment of the invention has been shown and described, it will be understood that it is but illustrative and that various modifications may be made therein with-

out departing from the scope and spirit of this invention as defined in the appended claims.

What is claimed is:

1. An attachment for a telephone transmitter, comprising a mouthpiece portion bounding a first cavity, a nosepiece portion bounding a second cavity, said cavities having communication with each other by way of an elongated restricted aperture, and means defining a restricted passageway connecting said second cavity to the atmosphere.

2. A noise shield for a telephone transmitter, comprising a body portion for receiving the transmitter, a flaring member extending from said body portion and having an edge contoured to fit the face of the user, said member having therein individual nose and mouth cavities in communication with each other by way of a path providing substantial attenuation of noise

waves, and means defining a breathing vent having a high impedance to noise waves connecting the nose cavity to the atmosphere.

3. A noise shield for a telephone transmitter, comprising a pliant member including a portion for accommodating the transmitter, a flaring portion extending from said body portion and having an internal wall dividing the interior thereof into a nose cavity and a mouth cavity, said wall having a restricted aperture therein and said flaring portion having its edge remote from the body portion contoured to conform to the face of the user of the shield, and a portion defining an elongated restricted passageway extending from said first portion along said wall and connecting said nose cavity to the atmosphere.

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