

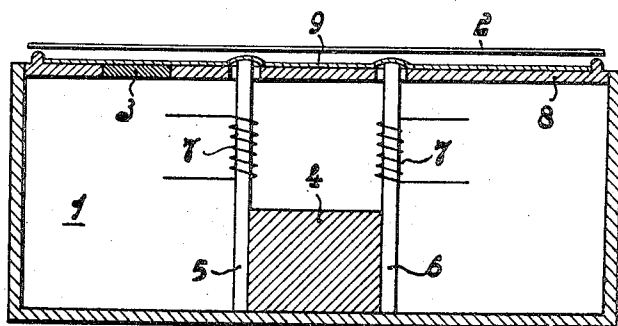
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TELEPHONE AND MICROPHONE

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[Signature]

AGENT

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2,852,627

TELEPHONE AND MICROPHONE

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1 Claim. (Cl. 179—180)

The present invention relates to an improved telephone and microphone. More particularly, the invention relates to improvements in electromagnetic telephones and microphones and more particularly to an improved structure for a closed chamber situated behind a diaphragm and having an acoustical resistance in a wall of the chamber.

The acoustical resistance generally consists of an opening provided in a wall of the chamber, which opening is covered or filled with a material such as, for example, nylon, the acoustical resistance of which is so chosen that the chamber acts as a resonator in the range which is favorable for the frequency response curve of the telephone and microphone.

In the conventional electromagnetic apparatus, a wall of the chamber at the two poleshoes is sealed by means of lute which is provided after assembling the system and prior to providing the diaphragm.

In accordance with the present invention, in the electromagnetic telephone and microphone, the chamber behind the diaphragm at the poleshoes is closed by means of a foil made of non-magnetic material.

The apparatus of the present invention has an advantage over known electromagnetic apparatus, which have luted joints in their acoustical chambers, in that disturbances caused by the vibration of wire-like projections of lute are avoided. Joints which are united with soft lutes usually form such wire-like projections as a result of the contact between the diaphragm and the luted portion of the chamber, whereas the apparatus of the present invention entirely eliminates the use of luted joints.

Moreover, the air-gap is very efficiently protected against fouling, particularly by small particles from the poleshoes which, in the known constructions, are fixed in the lute but which may gain access to the air-gap in due time and render the telephone and microphone unserviceable.

Furthermore, the use of a non-magnetic foil in the fabrication of such electromagnetic telephones is simpler than the corresponding use of lute to joint the chamber and particularly so in the case of the mass production of such electromagnetic apparatus.

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In order that the invention may be readily carried into effect it will now be described with reference to the accompanying drawing, given by way of example, which represents one embodiment thereof and in which a single figure shows an electromagnetic telephone in accordance with the invention.

In the figure, the telephone comprises a chamber 1 which is situated behind the diaphragm 2 and closed except for the acoustical resistance, that is, an opening 3 which is filled with a material having a predetermined acoustical resistance. The telephone furthermore comprises a magnet 4 contiguous with two poleshoes 5 and 6 carrying a winding 7. Opening 3 is provided in cover 8 and two additional openings are also provided in cover 8 with sufficient clearance so that the ends of poleshoes 5 and 6 may engage foil 9. The engagement of foil 9 with cover 8 and the ends of the poleshoes 5 and 6 seals off chamber 1. The foil 9 may, for example, consist of aluminum or other non-magnetic material such as aceto-butyrates and is, for example, 10 to 20 microns thick. Naturally, the aperture 3 is not covered with foil 9, in order to permit the passage of ambient air through the acoustical resistance material.

While I have shown and described the preferred embodiment of my invention, it will be understood that the latter may be embodied otherwise than as herein specifically illustrated or described and that in the illustrated embodiment certain changes in the details of construction and in the arrangement of parts may be made without departing from the underlying idea or principle of the invention within the scope of the appended claim.

What is claimed is:

A telephone and microphone comprising an open-ended receptacle, an electromagnet having spaced-apart poleshoes in said receptacle contiguous with said electromagnet, a closure means on said receptacle for forming an acoustical chamber therein, said closure means having at least three apertures therein, an acoustical plug of predetermined acoustical resistance in one of the apertures of said closure means, the ends of said poleshoes extending through the other apertures in said closure means, a non-magnetic foil superposed and engaging a large portion of said closure means and over the ends of the poleshoes, said foil having an opening therein substantially the same size as said one aperture in the closure means and a diaphragm mounted adjacent said foil, the ends of said pole shoes engaging said foil at adjacent portions thereof.

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