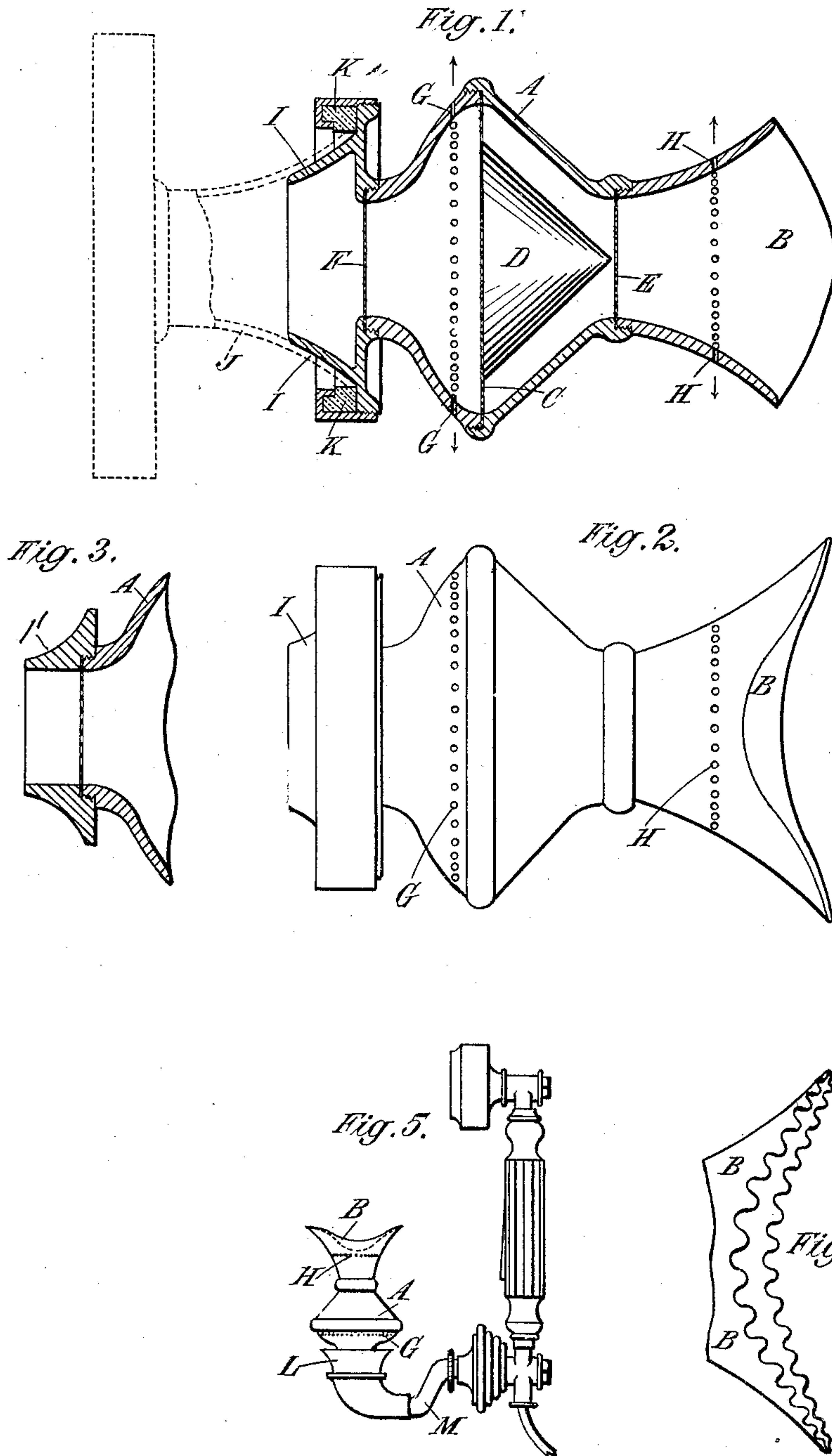


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H. A. CUTMORE.
TELEPHONE OR LIKE TRANSMITTER.

APPLICATION FILED SEPT. 28, 1905.



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TELEPHONE OR LIKE TRANSMITTER.

No. 829,849.

Specification of Letters Patent.

Patented Aug. 23, 1906.

Application filed September 28, 1905. Serial No. 280,557.

To all whom it may concern:

Be it known that I, HAHNEMANN ADOLPHUS CUTMORE, a subject of the King of the United Kingdom of Great Britain and Ireland, and a resident of 115 Queen Victoria street, London, England, have invented new and useful Improvements in or Relating to Telephone or Like Transmitters, of which the following is a specification.

10 This invention relates to an improved device to be attached to or connected with the transmitter of a telephone or like apparatus.

By the use of this device a conversation may be carried on in a subdued tone or even 15 in a whisper without the same being overheard in the vicinity of the speaker, and the sound-waves are so treated before reaching the transmitter that the message is received at the distant terminal perfectly clear and 20 audible.

In order that the invention may be clearly understood, I will describe the same with the aid of the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of 25 the improved device. Fig. 2 is a plan of same. Fig. 3 is a sectional view of a fragment of the device, showing an alternative form of fitting for a telephone-mouthpiece. Fig. 4 is a view of a fragment of the mouth- 30 piece of the device, showing an alternative form of vents; and Fig. 5 shows, on a reduced scale, the device fitted to the transmitter of an ordinary combined telephone hand set.

In carrying out the invention I provide a 35 member or casing A, which is circular in cross-section and formed preferably in two portions suitably jointed together. On one end of the member A is a specially-constructed mouthpiece B, and on the other end is a 40 suitable fitting adapted to engage with the ordinary transmitter of a telephone or like apparatus. Within the said member A is located a fine wire-gauze or perforated diaphragm or ring C, which has thereon a con- 45 ically or conoidally shaped piece D, having its apex presented toward the mouthpiece B. The base of this cone D is smaller than the diaphragm, so that the diaphragm proper is annular in form and may be connected with 50 the cone in any suitable manner.

The interior of the member A from or near the mouthpiece end or joint of same to the diaphragm is formed at a corresponding inclination to the cone-piece D in order to pro- 55 duce an annular diverging chamber of suit-

able width, so as to allow the sounds to be distributed over an even surface.

A fine wire-gauze or perforated disk E is located at the mouthpiece end of the member A, and a similar disk F is located at the oppo- 60 site end of the said member. The said gauzes or perforated parts C, E, and F are preferably retained in position between the joints in the device, as shown in Fig. 1, although of course they may be retained in any 65 other suitable manner. They have the effect of checking or modulating the sound-vibrations.

In the member or casing A between the fitting for the transmitter and the center gauze 70 or diaphragm C and preferably close to the said diaphragm are formed suitable perforations or vents, such as G. These vents, however, if desired, may be formed in the fitting which engages with the telephone or like 75 mouthpiece or in the parts connected therewith. They are provided to allow for the superexpansion of the sound-waves and disturbed air and prevent the mutilation of the sounds, and thus overcome the excessive vi- 80 brations interfering with the normal effects of the ordinary telephone-transmitter diaphragm.

The mouthpiece B of the device is specially shaped at its edge portion, so as to fit closely 85 over the mouth of the speaker, so that a conversation may be carried on in a low tone or even in a whisper without the same being overheard in the vicinity of the speaker. In order to provide an outlet for the expanded 90 air and also to allow for free breathing while conversing, I form in the mouthpiece B suitable perforations, slots, apertures, or vents, such as H in Figs. 1 and 2, which, if desired, 95 may be covered by gauze, wool, fabric, or the like, or I may suitably corrugate or serrate the edge of the mouthpiece, as in Fig. 4, or form the vents in the same in any other suitable manner.

When the device is intended to be used in 100 connection with telephone-transmitters such as shown by dotted lines in Fig. 1, I prefer to use a fitting for same such as shown in the said figure. This form of fitting is furnished with a tubular socket-piece I, which is adapt- 105 ed to fit into the transmitter-mouthpiece J. A rubber ring K, which is suitably mounted around this socket-piece, embraces the rim of the said mouthpiece J and retains the device in position. 110

For the class of apparatus as shown in Fig. 5 a socket-piece such as I' (shown in Fig. 3) may be used. In this form of apparatus I preferably extend the mouthpiece L a short distance outwardly and downwardly by means of a bent tube M in order that the device may be in a more convenient position for use.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a telephone or like transmitter the combination of a conical conoidal chamber having a perforated diaphragm at each end thereof, and a perforated diaphragm in the center thereof, the conoidal portion of the said chamber being provided with vents in the periphery thereof, with a cone attached to the central diaphragm disposed concen-

trically with the conical portion of the chamber, a mouthpiece secured to the conical portion of the chamber adapted to fit closely over the lips of the speaker and provided with vents in the periphery thereof, and means for securing the whole to an ordinary telephone-transmitter as specified and for the purpose stated.

2. In a telephone or like transmitter the conical conoidal chamber A having a cone D therein the said cone being attached to a perforated diaphragm C and disposed concentrically with the conical portion of the chamber A as specified.

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