

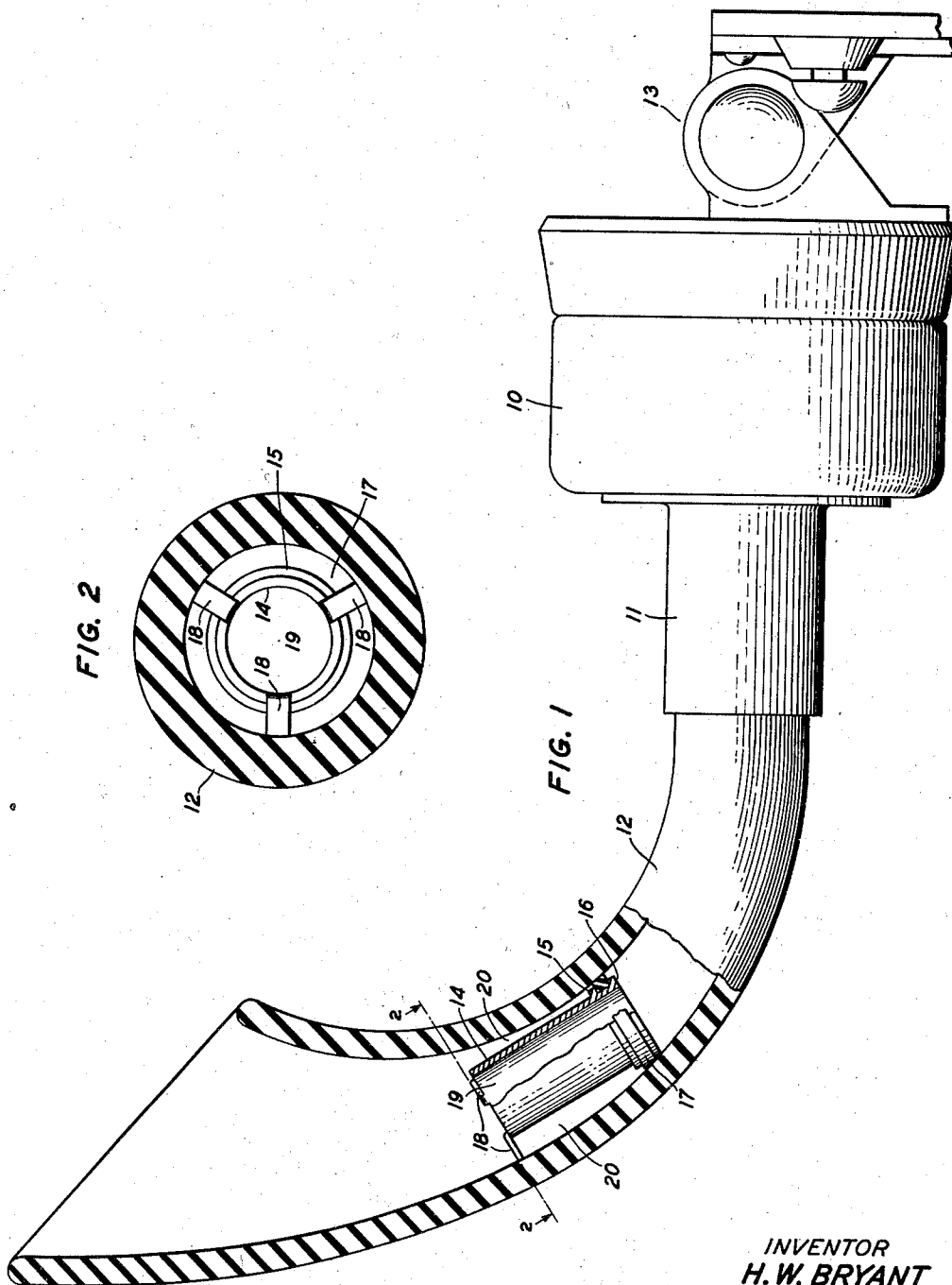
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ACOUSTIC DEVICE

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ACOUSTIC DEVICE

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6 Claims. (Cl. 179—185)

This invention relates to acoustic devices and more particularly to means for protecting such devices, for example, telephone transmitters, against moisture.

5 In telephone transmitters, such as those used by telephone operators, breath moisture may condense in the mouthpiece or horn and flow along the inner wall thereof to the transmitter unit. This condensed moisture in the mouthpiece or
10 horn and at the transmitter unit may cause objectionable transmission losses.

One object of this invention is to protect the unit in acoustic devices, such as telephone transmitters, against condensed breath moisture.

15 Another object of this invention is to simplify the structure of moisture traps for acoustic devices, such as telephone transmitters, and to facilitate the application of moisture traps to such devices.

20 Still another object of this invention is to protect acoustic devices, such as telephone transmitters, by a moisture trap without appreciably affecting the operating characteristics of such devices.

25 In accordance with one feature of this invention, the mouthpiece or horn of a telephone transmitter or similar device is provided with a removable member which together with portions of the mouthpiece or horn defines a chamber in which
30 moisture flowing along the inside of the mouthpiece or horn is trapped.

In one illustrative embodiment, this member comprises a cylindrical member having thereon compressible or resilient means for frictionally
35 engaging an inner portion of the mouthpiece or horn whereby the member is removably locked in position. The cylindrical member may be provided with projections or tabs for centering it in the sound passageway of the mouthpiece or horn.

40 The cylindrical member may be of thin hollow material and so located that it offers no appreciable impedance to sound waves and thus does not affect the operating characteristics of the transmitter deleteriously.

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

50 Fig. 1 is a view partly in elevation and partly in section showing one form of a moisture trap constructed in accordance with this invention and applied to the mouthpiece of an operator's transmitter; and

55 Fig. 2 is an enlarged sectional view taken on

line 2—2 of Fig. 1 showing the moisture trap as seen from the outer end.

Referring to the drawing, 10 designates the casing of an operator's transmitter, the casing housing a transmitter unit, not shown, and having a collar member 11 to which the mouthpiece or horn 12 is attached by conventional means. The means for attaching the transmitter to the breast-plate and a portion of said plate are designated generally by 13.

10 Located at an intermediate portion in the horn 12 is the moisture trap. The member which forms the trap comprises a thin walled cylinder 14, preferably of a metallic material, such as stainless steel. Adjacent one end of cylinder 14
15 are a pair of parallel flange members 15 and 16 forming a groove or channel in which is located the ring 17 of compressible or resilient material, such as soft rubber. At the other end of the cylinder are a plurality of spacing members 18, which
20 engage the inner wall of the horn 12 and center the member 14 with respect thereto. These spacing members may be integral tabs bent at right angles to the axis of cylinder 14.

25 The trap is formed by inserting the cylindrical device into the large end of the horn 12 and pushing it down until the resilient member 17 is frictionally engaged and is gripped by the horn wall. The spacing members 18 in cooperation with the ring 17 maintain the device in a relatively central
30 position. There is thus provided a cylindrical passage 19 for the ingress of sound waves and an annular chamber 20 for retaining condensed moisture.

35 The device described in the foregoing when applied to a horn or mouthpiece of an acoustic transmitter provides a simple and efficient moisture trap for condensed breath moisture. The elements are so constructed and arranged that the impedance offered to sound waves is not appreci-
40 able.

Although the foregoing description relates to a particular embodiment of the invention, it is to be understood that the invention is not limited thereby but only by the scope of the appended
45 claims.

What is claimed is:

1. A moisture trap for a telephone transmitter having a mouthpiece, comprising a cylinder for
50 placement in said mouthpiece intermediate its ends having means for locating said cylinder including a ring of compressible material near one end of the cylinder to frictionally engage the
55 mouthpiece wall and a plurality of projections at

the other end of the cylinder for engaging said wall.

2. A moisture trap for a telephone transmitter having a tapered horn comprising a thin cylinder
5 having a circular groove near one end, and a ring of resilient material in said groove, said cylinder having a plurality of tabs at the other end for centralizing the cylinder in the horn, said ring
10 being of such outer diameter as to engage the wall of the horn to retain the cylinder therein.

3. A moisture trap for a telephone transmitter having a mouthpiece with a bore tapering towards the inner end, comprising a thin walled cylinder of less diameter than an intermediate
15 portion of the bore for placement therein, and defining with the walls thereof an annular chamber, a ring of compressible material fixed in a groove near the inner end of said cylinder for engaging the mouthpiece wall and forming a bottom closure for the annular chamber, and a plurality
20 of projections on the outer end of the cylinder for spacing it centrally in the bore.

4. A moisture trap for an acoustic device having a mouthpiece with a tapering sound passage,
25 comprising a cylindrical tube having a ring of resilient material located in a groove near one end and a plurality of projections at angles to the axis at the other end, said ring and projec-

tions cooperating with the wall of the sound passage to define an outer annular moisture reservoir and an inner cylindrical passage for sound waves.

5. A moisture trap for an acoustic device having a mouthpiece with a tapering sound passage,
5 comprising a cylindrical tube having a ring of resilient material located on its outer surface adjacent one end and a plurality of projections at the other end, said ring and projections co-
10 operating with the wall of the sound passage to centrally locate said tube, thereby defining an outer annular moisture trap and an inner cylindrical passage for sound.

6. A moisture trap for a telephone operator's transmitter having a mouthpiece with a tapering
15 sound passage, comprising a thin walled metallic tube of less diameter than an intermediate portion of the sound passage, a resilient ring located in a groove on the outer surface of said tube
20 adjacent one end, and a plurality of bent-over projections perpendicular to the axis of the tube at the other end, said ring and projections contacting the wall of the sound passage to centrally locate the tube and defining with said wall
25 an outer annular trap for condensed moisture and an inner cylindrical passage for sound waves.

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