Nov. 17, 1953 V. FRASCHETTI 2,659,778

DEVICE FOR TREATING WITH DISINFECTANT THE MOUTHPIECES OF TELEPHONES AND LIKE APPARATUS

Filed Sept. 11, 1950 2 Sheets-Sheet 1

FIG. 1.

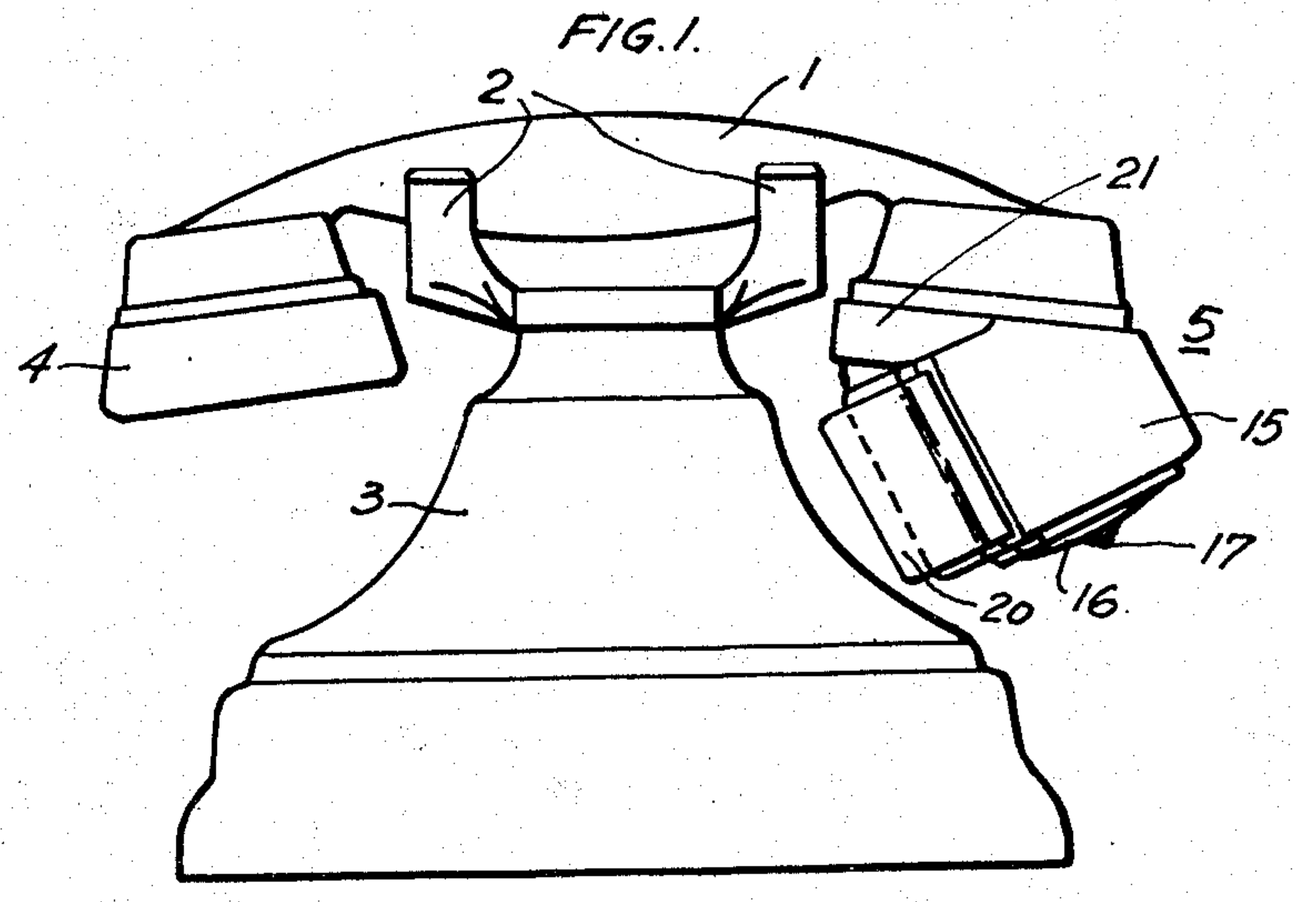


FIG. 2.

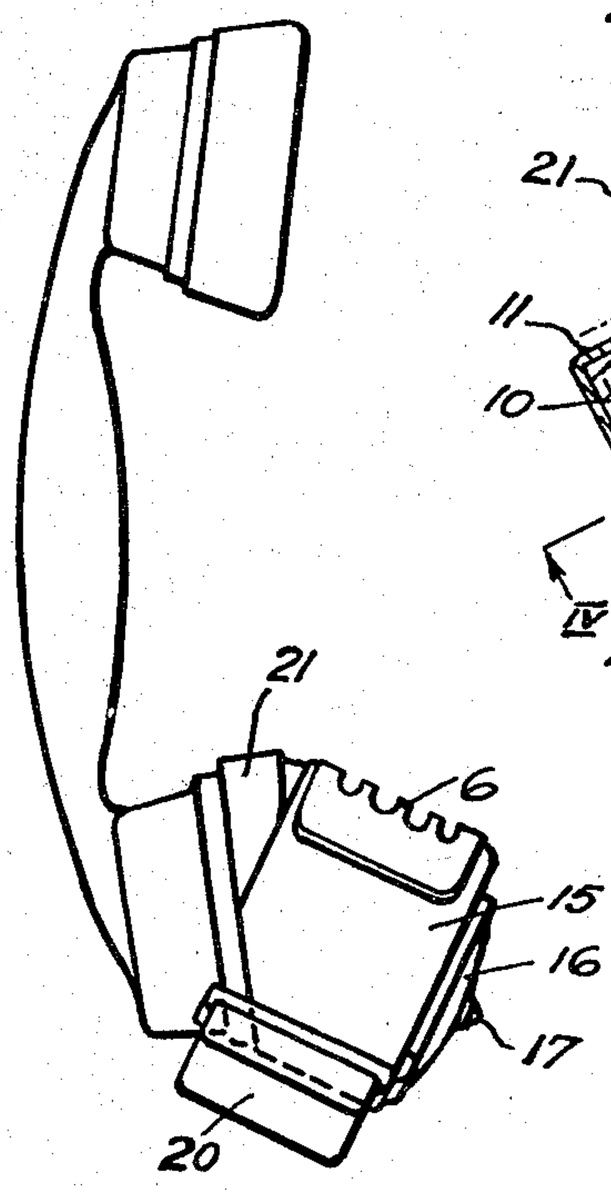
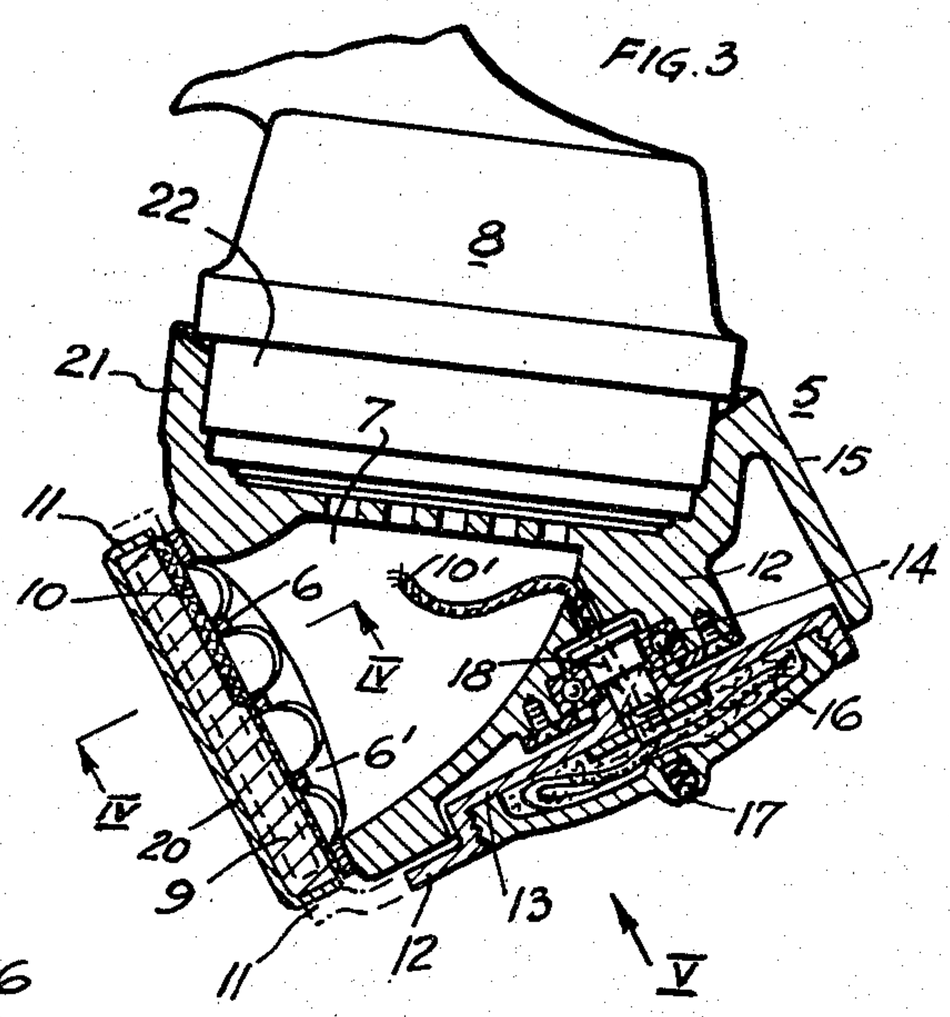


FIG. 3



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Filed Sept. 11, 1950 2 Sheets-Sheet 2

FIG. 5.

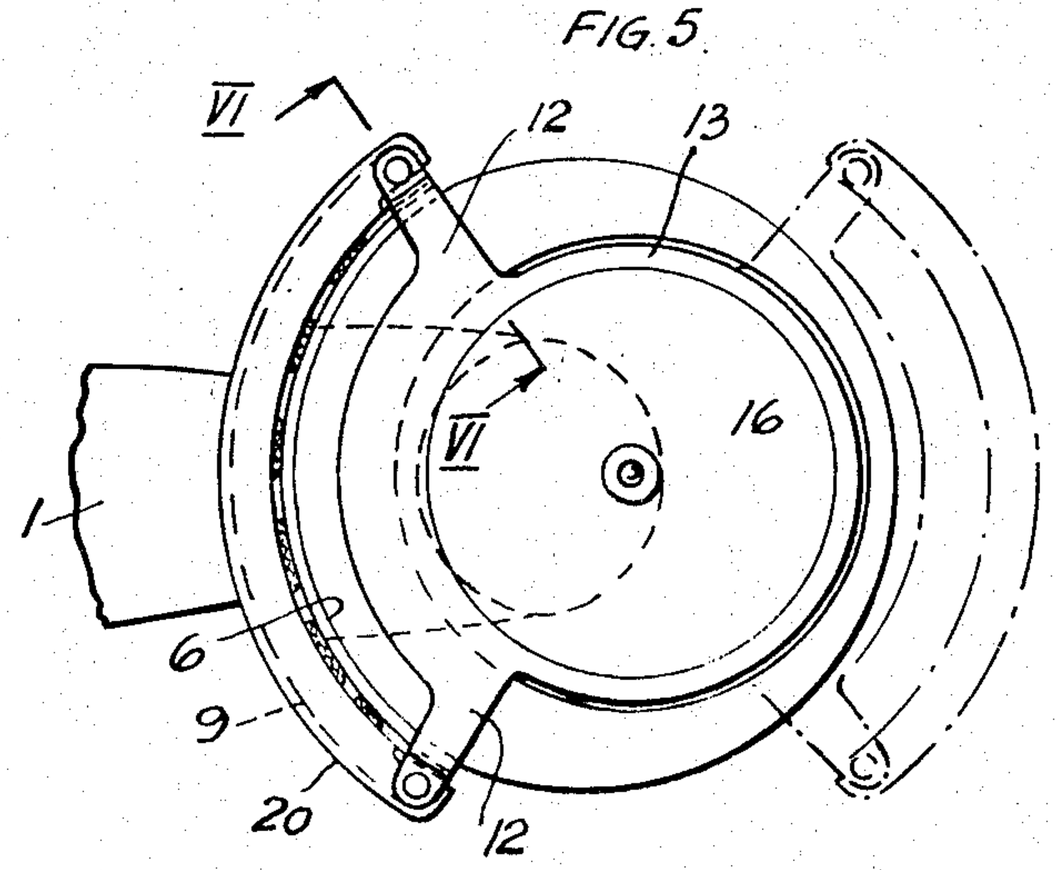
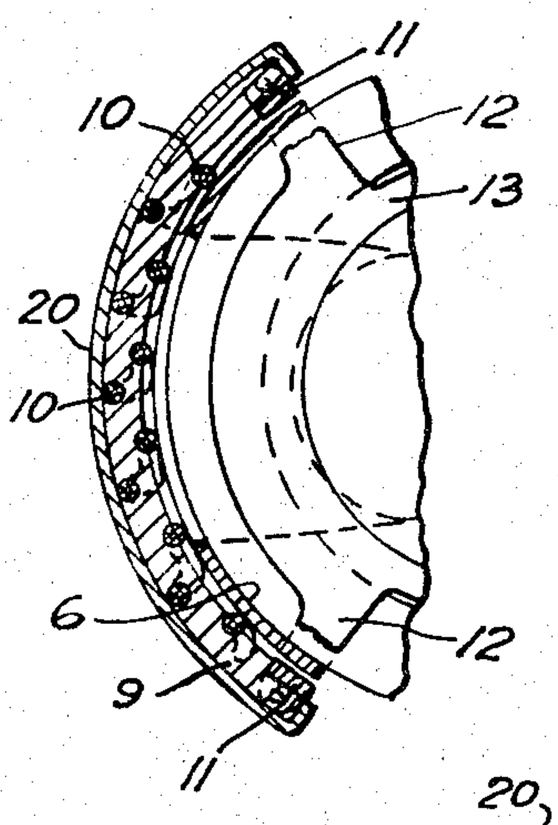


FIG. 7.

FIG. 4.



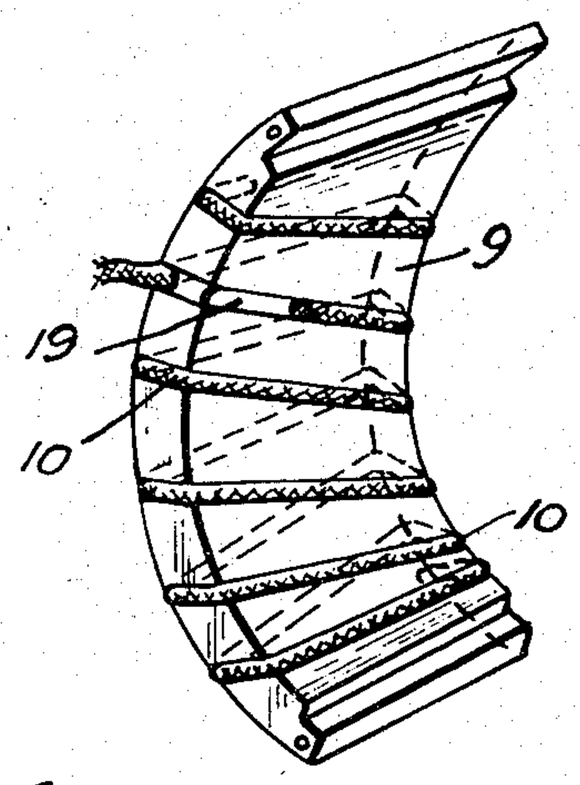
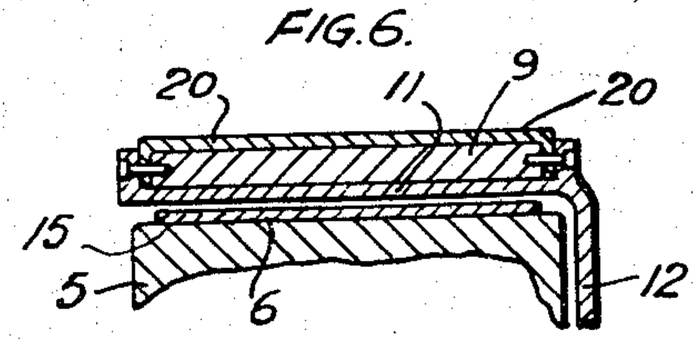


FIG. 6.



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DEVICE FOR TREATING WITH DISINFECTANT THE MOUTHPIECES OF TELEPHONES AND LIKE APPARATUS

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Application September 11, 1950, Serial No. 184,235

2 Claims. (Cl. 179—185)

1

This invention relates to apparatus such as telephones for example which employ mouthpieces.

The main object of this invention is to provide an improved device which will operate automatically to maintain such a mouthpiece in an hygienic condition.

The present invention consists as to one feature in a mouthpiece element having a speech opening formed in a curved wall and having a speech passage extending to that opening, a disinfecting element having a wiper component engaging the curved wall, and a distribution component within the speech passage and means supporting the disinfecting element for swinging movement about the axis of curvature of the curved wall so that the wiper component moves across the curved wall to close and to open the speech opening and to distribute disinfectant about it, and means to swing the disinfecting component automatically when the instrument is moved.

The invention also consists as to another feature in a mouthpiece element having a speech opening formed in a curved wall and having a speech passage extending to that opening, a disinfecting element mounted for swinging movement about the axis of curvature of the curved wall, the said element having a wiper component to engage that wall and a disinfectant distribution component within the speech passage, the said disinfecting element being weighted so that it is swung automatically by movement of the instrument to close and to open the speech opening and to distribute disinfectant about it.

The invention is illustrated in the accompanying drawings as applied to a standard form of telephone desk instrument of the combined form, i. e. comprising in the one instrument the receiver and the transmitter.

In these drawings, Figure 1 is an elevation of the complete combined instrument with the device of this invention fitted to its mouthpiece, Figure 2 is an elevation of the hand part of the instrument, Figure 3 is a sectional elevation to a larger scale of the device and of a portion of the mouthpiece, Figure 4 is a sectional elevation taken on the line IV—IV, Figure 3, Figure 5 is an elevation looking in the direction of the arrow V in Figure 3, Figure 6 a section on the line VI—VI, Figure 5, and Figure 7 is a perspective view of the wiper of the device.

Referring to the accompanying drawings 1 indicates a combined hand instrument which when out of use is supported by a rest 2 on a base 3, the instrument 1 comprising a receiver ear

2

piece 4 and a transmitter mouthpiece 5; such an instrument is now in common use.

This invention is concerned with maintaining the mouthpiece 5 in a proper hygienic condition by applying a disinfectant to it automatically. In the construction illustrated the mouthpiece or more precisely that part on which plays the breath of the user of the instrument is formed by a metal grid 6; this grid masking an opening 6' at the end of a goose-neck passage 7 by which the sound waves are transmitted to the usual microphone component 8.

For the purpose of disinfecting this mouthpiece (i. e. the grid 6) there is provided a block 9 which supports a wick 10 to which a liquid disinfectant is supplied. The block 9 is so mounted for movement relative to the grid 6 that the movement of the instrument 1 from its horizontal position of rest (as seen in Figure 1) to its more or less vertical position of use (as seen in Figure 2) causes the block 9 to move and in this way to cause the wick 10 to sweep over the grid 6 and so to deposit disinfectant upon it.

The arrangement would also preferably be such that, when the instrument 1 is in its position of rest, the block 9 occupies a position in which it masks the grid 6 so protecting it against the entry of foreign matter.

In the particular construction shown the block 9 is mounted for swinging movement under gravity action and for this purpose the grid 6 is formed as a segment of a circle having an axis coincident or parallel with the axis of pivotal movement of the block 9 which itself has a curved form to correspond to the curvature of the grid. Thus, the block 9 is supported by brackets 11 extending cantilever fashion from the outer ends of arms 12 radiating from a plate 13; the plate 13 is supported for free angular movement by a bearing 14 which is supported by the mouthpiece 5 itself formed with a cylindrical surface 15 on which the grid 6 is mounted.

The disposition of the axis of the bearing 14 is such that when the instrument 1 is in the position of rest shown in Figure 1, the weight of the block 9 and the parts associated with it will cause the block to swing by gravity to a position over the opening 6' and when the instrument is moved to the position of use shown in Figure 2, the block 9 will be caused by gravity to swing to uncover the opening 6'; obviously in this swinging movement the wick 10 which is wrapped about the block 9 will sweep over the grid 6 deposit disinfectant on it to obtain the desired automatic disinfecting operation.

To maintain a supply of disinfectant for the

wick, the plate 13 is dished to provide a receptacle for cotton-wool or some other absorbent filling, the receptacle being closed by a screwed cover plate 16 having a nipple 17 by which a charge of disinfectant can be supplied by a gun of usual form.

The wick 10 referred to can be taken direct to the receptacle; it is however preferred to employ a second wick 10' which is coiled in intimate association with filling and is taken out through a passage in a bolt 18 securing the plate 13 to the bearing 14; the end of this second wick 10' terminates within the goose neck passage 7 and it has been found that the disinfecting vapour given off by this wick 10' is sufficient not only to disinfect the interior of the passage 7 but also to charge the wick 10 acting as a wiper; the disinfecting of the passage 7 is assisted by the fact that the free end of the wick 10 moves with the reservoir and so acts to wipe the interior of the passage 7.

The block 9 is preferably provided with flattened helical grooves 19 in which the wick 10 is wrapped; as only the inner convolutions of the wick sweep over the outer face of the grid 6, the grooves for the outer convolutions of the wick are of such depth as wholly to receive the wick and a cover plate 20 is secured to the block 9 to cover those convolutions of the wick.

The axis of the bearing 14 could be coincident with the axis of the cylindrical surface 15 of the mouthpiece 5; it is preferred as is shown to offset the two axes so that when the block 9 is caused to swing to expose the mouthpiece 6', the block will recede from the cylindrical surface; this is shown in Figure 5 where the block 9 is shown in full lines in the position to mask the opening 6' and in dotted lines in its other position.

The mouthpiece 5 of this invention is as shown intended to replace the usual goose-neck mouthpiece and for this purpose it would be arranged to be detachably secured to the hand-grip part 1 of the instrument by the same lug and socket connection as is normally used: for this purpose the mouthpiece 5 has remote from the reservoir 13, 16 a socket portion 21 to fit over the hollow

spigot 22 on the hand-grip; this socket 21 would of course be so disposed with respect to the opening 6' and grid 6 that when it is fitted, the speech opening would be directed towards the mouth of the user when the instrument is brought into position for receiving and transmitting speech.

What I claim is:

1. A telephone instrument comprising a mouthpiece element having a speech opening formed in a curved wall and having a speech passage extending to that opening, a disinfecting element having a wiper component engaging the curved wall, and a distribution component within the speech passage, means supporting the disinfecting element for swinging movement about the axis of curvature of the curved wall so that the wiper component moves across the curved wall to close and to open the speech opening and to distribute disinfectant, and means to swing the disinfecting component automatically when the instrument is moved.

2. A telephone instrument comprising a mouthpiece element having a speech opening formed in a curved wall and having a speech passage extending to that opening, a disinfecting element mounted for swinging movement about the axis of curvature of the curved wall, the said element having a wiper component to engage that wall and a disinfectant distribution component within the speech passage, the said disinfecting element being weighted to be swung automatically by movement of the instrument to close and to open the speech opening and to distribute disinfectant about it.

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