June 12, 1934. W. DRUMMOND-DICK 1,962,639

HYGIENIC MOUTHPIECE

Filed Oct. 19, 1932

Fig. 1.

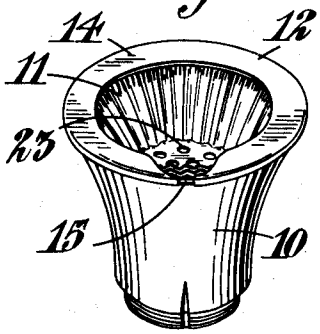


Fig. 2.

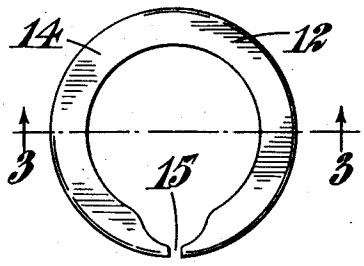


Fig. 3.



Fig. 4.

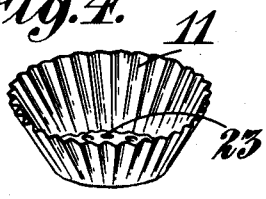


Fig. 5.

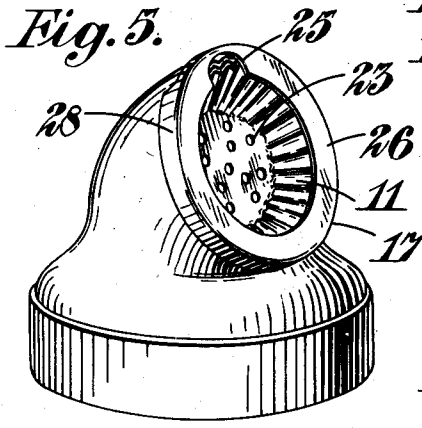


Fig. 6.

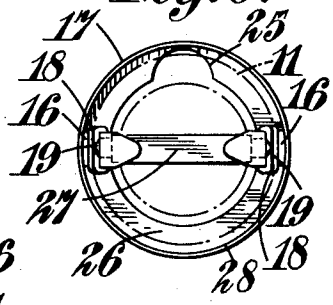
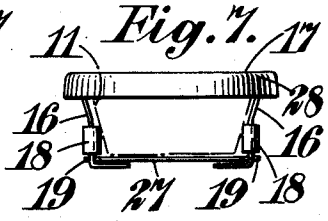


Fig. 7.



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UNITED STATES PATENT OFFICE

1,962,639

HYGIENIC MOUTHPIECE

William Drummond-Dick, Surbiton, England

Application October 19, 1932, Serial No. 638,557
In Great Britain January 22, 1932

3 Claims. (Cl. 179—185)

This invention relates to hygienic appliances for use in combination with telephones, speaking tubes and like apparatus.

Various methods of disinfecting telephone mouthpieces and earpieces have already been proposed, for example, the periodic spraying of the apparatus with a disinfectant solution, and also the insertion—particularly in the mouthpiece—of an absorbent pad which can readily be removed and interchanged when required, the object of such proposals being to prevent the spreading of infection.

The present invention has the same object in view and seeks to remedy certain disabilities of these earlier proposals.

This invention provides for use in combination with the mouthpiece or earpiece of a telephone, speaking tube or like apparatus, a hygienic appliance comprising a nest of dished elements or capsules of paper or like sheet material, adapted to fit within the mouthpiece or earpiece so as to be removable therefrom, one at a time as and when required. Each of the capsules in the nest is preferably coated, impregnated or otherwise treated with a disinfectant or germicidal compound. The form of each capsule may be such that it has a base perforated with a plurality of holes, the capsules being so nested, that the holes in all of them are in register. Each capsule may be of truncated conical form with the base at the narrow end, and the side walls corrugated.

According to a feature of the invention, the nest of capsules is combined with a retaining member arranged to engage the mouthpiece or earpiece and to hold the capsules within it. The retaining member may comprise a split ring arranged to be sprung over the mouthpiece or earpiece around the lip thereof. In another form the retaining member may comprise a ring adapted to fit over the mouthpiece or earpiece combined with a device associated with the ring for interconnecting the nest of capsules with it, so that the ring and the capsules may be positioned on the mouthpiece or earpiece and removed from it as a unit.

Two examples embodying the invention will now be described with reference to the accompanying drawing in which—

Figure 1 is a perspective view showing a nest of capsules fitted within the mouthpiece of a telephone of standard type,

Figure 2 is a plan of the retaining ring,

Figure 3 is a section, on the line 3—3 in Figure 2, of the retaining ring,

Figure 4 is a perspective view of one of the capsules,

Figure 5 is a perspective view showing the capsules nested in position on the mouthpiece of a telephone instrument of the "hand-microphone" type,

Figure 6 is an under-plan view of the retaining ring and bridge piece, and

Figure 7 is a side view of the parts shown in Figure 6.

Like reference numerals indicate like parts throughout the figures.

In the first example illustrated in Figures 1 to 4, the invention is applied to a telephone instrument of the standard type in which the mouthpiece 10 has a flared-out lip. The nest of capsules 11 is located within the mouthpiece and held in position by a split-ring 12 which fits over the lip of the mouthpiece. As shown in Figure 3, the retaining ring 12 has a depending rim 13 adapted to fit over the lip of the mouthpiece, and an inwardly extending flange 14 arranged to overlie the outer edges of the capsules and hold the nest in position. Each capsule 11 is, as shown clearly in Figure 4, cup shaped, having a flat base and corrugated walls. The base is provided with a plurality of holes 23, and the capsules are so nested that the holes in all of them are in register. This arrangement ensures that the efficiency of the instrument is not impaired by the use of this hygienic appliance.

Any desired number of capsules may be nested together—in the present example there are thirty.

The inwardly extending flange 14 of the split-ring is formed with a cut-away portion 15 adapted to form a finger opening to facilitate the removal of the capsules one at a time as required.

In the example illustrated in Figures 5 to 7, the appliance is adapted for use with the mouthpiece of a telephone instrument of the so-called "hand-microphone" type. In such a case there is no outwardly flared lip to the mouthpiece. In this example the nest of capsules is arranged as before, but the retaining member comprises in combination a continuous ring 17, arms 16, depending from the ring, and a bridge piece 27 interconnecting the lower ends of the arms. The ring 17 has, as before, an inwardly extending flange 26 adapted to engage over the outer edges of the capsules and hold the nest in position, and a depending rim 28 to fit over the mouthpiece. The base of the capsule nest rests on the bridge piece 27 and is thereby prevented from sliding into the remote part of the mouthpiece away from the mouth thereof. The arms 16 are fitted with small rubber sleeves 18, and they are of a springy nature so that when

the appliance is inserted into the mouthpiece, the rubber sleeves 18 will bear against the side walls of the mouthpiece and retain the appliance in position. It will be understood that in this case, the appliance forms a push-on fit with the mouthpiece. The bridge piece 27 is formed at its opposite ends with small projections 19 which engage in slots in the lower ends of the arms 16. With this arrangement the arms may be readily sprung apart and the bridge piece removed from position, thus facilitating removal of the capsule nest. As before, the inwardly extending flange 26 of the retaining ring is formed with a cut-away portion or thumb-hole 25.

Preferably the capsules are of paper or other sheet material, of a non-porous nature, and they are impregnated with a strong germicidal solution. If desired, they may be formed with tongues arranged to extend outwardly through the thumb-hole 25 on the retaining ring so as to enable the removal of the capsules one at a time to be performed more readily.

I claim:—

1. For use in combination with the mouthpiece or earpiece of a telephone, speaking-tube, or like apparatus, a hygienic appliance comprising a nest of cup-shaped capsules made of sheet material adapted for location wholly within the mouthpiece or earpiece so as to be removable therefrom one at a time as and when required, combined with a retaining member having a portion adapted to fit over the mouthpiece or earpiece, a flange arranged to extend inwardly and act as an abutment for the outer edges of the side walls of the capsules, and a cut-away portion of the flange aforesaid acting as a finger opening to facilitate the removal of the capsules.

2. The combination of a plurality of removable nested cup-shaped linings made of sheet material for voice transmitting mouthpieces or like apparatus, arranged for location wholly within the mouthpiece, each lining being of truncated conical form with a perforate base at the narrow end, and the side walls corrugated, the perforation of each lining being in register with the perforation of the other linings, and a removable retaining member in the form of a ring having a radially directed portion against which the linings abut and a depending rim at right angles thereto to engage the outside of the mouthpiece, a plurality of arms fastened to the ring and projecting inwardly of the mouthpiece to cooperate with the inner portion of the mouthpiece, and a bridge piece inner-connecting the lower ends of the arms and engaging the base of the nested linings to prevent the linings from sliding into the remote part of the mouthpiece away from the mouth therefrom.

3. The combination with the mouthpiece of a voice transmitting device or the like, of a plurality of nested cup-like linings within the confines of the mouthpiece, said linings having corrugated side walls, and a retaining member on the mouthpiece having a radial flange projecting over the ends of the linings to prevent straight endwise removal of the linings, said flange having a finger notch therein to give access to the ends of the linings to facilitate successive removal thereof.

WILLIAM DRUMMOND-DICK.