

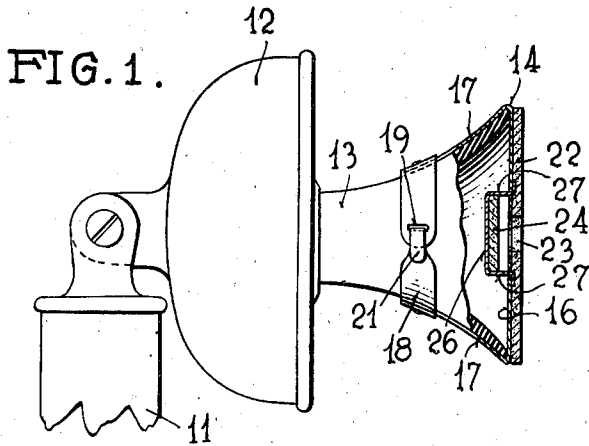
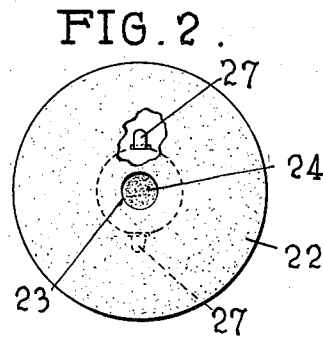
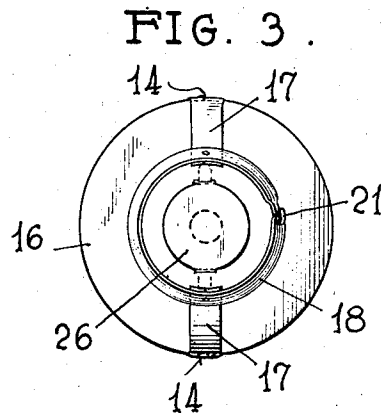
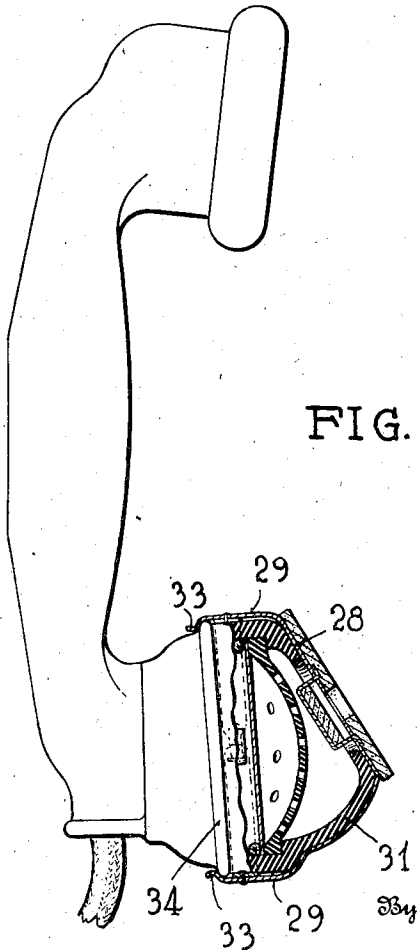
April 27, 1937.

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2,078,877

ANTISEPTIC DEVICE AND METHOD OF MAKING SAME

Filed March 23, 1935



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2,078,877

ANTISEPTIC DEVICE AND METHOD OF
MAKING SAME

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Application March 23, 1935, Serial No. 12,691

7 Claims. (Cl. 179—185)

My invention relates to new and useful improvements in antiseptic devices and methods of making same, and more particularly to improvements in antiseptic telephone transmitter mouth-piece guards and the methods of making the antiseptic elements thereof.

Although many authorities are of the opinion that various diseases may be communicated due to the lodgement of germs in the conventional telephone mouthpiece no convenient and effective steps have been taken heretofore to remedy the situation. The construction of telephone mouthpieces is such as to be not readily accessible for necessary adequate frequent cleansing, and various known guards are so constructed as to be either too clumsy for convenient use or are ineffective to prevent germs from reaching and remaining in the mouthpiece. Some guards developed in the past have been objectionable in that they have been so constructed as to muffle the voice tones and impair the telephonic properties of the instruments to which they have been attached.

The antiseptic device which I have invented functions as a guard which is so constructed as to be readily and detachably engaged with standard types of transmitters; and includes in this structure a series of aligned members of porous or fibrous nature and impregnated with a lasting germicide. When my device is in operative position it is disposed over the entrance to or mouthpiece of the transmitter and, without impairing the tonal quality of the instrument, prevents the accumulation of disease germs in or on the transmitter and immediately destroys such germs so as to effectively prevent the possible spread of disease.

The primary object of the invention is to provide a device of the character mentioned which is simple in construction, inexpensive of production and which will effectively obtain the purposes for which it is designed.

My invention is clearly and fully described hereinafter; and the structure thereof is illustrated in detail in the accompanying drawing, to be considered as a part of this specification and wherein

Figure 1 is a vertical sectional view of one form of antiseptic device embodying my invention, as applied to a standard upright telephone transmitter; Figure 2 is a front elevational view of the device shown in Figure 1, partly in section to show means for mounting a baffle element thereof; Figure 3 is a rear elevational view of the device shown in Figures 1 and 2, and Figure 4 is

a vertical sectional view of another form of my device applicable to the arm of a standard "French-type" telephone, the transmitter of which is shown partly in section for clarity.

Referring to the drawing, in which identical reference numerals indicate similar parts in the several views, and referring initially to Figures 1, 2 and 3, there is shown fragmentarily a standard or upright 11 of a conventional telephone, to which is pivotally secured a transmitter 12. A threaded hard-rubber bell-shaped mouth-piece 13 is screwed into the transmitter casing concentrically thereof, and clasped detachably upon the mouth piece and preferably concentrically thereof, is a guard 14 comprising one form of my antiseptic device.

The guard 14 consists of a circular disc 16 of thin metal such as iron, tin or brass, or other rigid sheet material corresponding in diameter with the extreme diameter of the mouth piece 13. A pair of oppositely disposed arms or straps 17—17 of the same material fast to the disc 16 extend rearwardly therefrom a distance of approximately one-half of the depth of the mouth piece 13. The straps 17—17 are curved concavely to follow the contour of the mouthpiece 13 and at their rearward extremities are riveted or otherwise suitably secured to a band 18 of similar material, which is shaped to lie flat upon the periphery of the mouthpiece. For fastening around the mouth piece the band is provided at one end with an aperture 19 and at the other with a tongue portion 21. The guard 14 is firmly attached to the mouthpiece by passing the end of the tongue 21 through the aperture 19 and bending it back upon itself as shown in Figs. 1 and 3. When thus assembled the disc 16, as shown in Figure 1, will be snugly held as a cover for the mouth piece 13, its periphery closely engaging that of the mouthpiece through its entire extent in order to effectually seal the same against the germs which would otherwise be conveyed therinto by the breath or hands of the telephone user.

The disc 16 is covered by a correspondingly shaped disc or layer 22 of suitable fibers or porous material cemented thereto, and thoroughly impregnated with a durable and powerful germicide. The layer 22 is composed of any cloth, paper, sponge, or leather types of fabric; but at the present time felt is believed to be the most satisfactory material because it is mechanically durable, capable of being readily handled and is highly adapted for receiving and retaining a powerful and lasting charge of germicide.

In order to insure transmittal of full voiced tones through the guard 14, the discs 16 and 22 are formed axially with aligned apertures 23 which are preferably close to and in alignment with the transmitter diaphragm and magnet of the telephone. Preferably the apertures 23 are about one-sixth of the diameter of the discs 16 and 22 in extent, so that ample provision exists for the full voice tones to pass therethrough while a large proportion of the user's breath is directed upon the surface of the disinfectant disc 22, where the germ content thereof is immediately destroyed.

In order to destroy all the germs of the breath, a baffle arrangement is provided which includes an auxiliary antiseptic disc 24 located so as to back up the perforated disc 22. It will be noted that the auxiliary disc 24 is not perforated, but is cemented upon the surface of an imperforate sheet metal plate 26. Both the disc 24 and the plate 26 are preferably of the same materials as the disc 22 and the plate 16 respectively, and are approximately one-third the diameters thereof. The plate 26 is attached to the plate 16, as shown in Figs. 1 and 2 by opposite arms 27—27 extending at right angles from the plate 26 and through suitable small apertures in the plate 16 to be bent and secured upon the face thereof beneath the impregnated disc 22. The disc 24 is about three times the diameter of the aperture 23 and preferably is arranged with respect to the transmitter and the disc 22 as shown in Figure 1, wherein it will be noted that the disc 24 extends radially beyond the axis of the aperture 23 to insure that all germs passing therethrough will be received upon the germicidal surface of the disc 24. This desideratum is readily obtained with the disclosed relation of aperture 23 to the disc 24 because the fit of the disc 16 upon the periphery of the mouth piece rim is tight and the formation of air currents within the mouthpiece is successfully inhibited. While it has been found that the baffle arrangement of discs 22 and 24 interrupt the perpendicular tonal column to successfully capture and destroy all germs of the breath, it is accomplished without distorting or muffling the voice or in any way impairing the telephonic properties of the conventional instrument.

The material forming the discs 22 and 24 is rendered germicidal preferably by impregnating it to saturation with a hot mixture of an antiseptic ingredient with oil. By experiment it has been found that satisfactory results may be obtained by mixing bi-chloride of mercury and heated ammoniated mercury. The bi-chloride of mercury is powdered and mixed with the ammoniated mercury in the approximate ratio of seven and one-half grains powdered bi-chloride of mercury to one teaspoonful of ammoniated mercury. It has also been found that other germicides such as mercury crystals may be substituted quantitatively for the bi-chloride of mercury in the mixture, and any non-decomposable oil such as petroleum-jelly, lard or lanolin may be used in lieu of or in combination with the active germicidal ingredient. Where such materials are substituted for the ammoniated mercury, a larger proportion of the active germicidal agent should be used, in order to compensate for the loss of germicidal effect due to the elimination of ammoniated mercury.

After saturating the felt or other material, and then allowing the same to cool the impregnated felt will be found to be practically in a dry state, and it has been found that there is no tendency

to present an objectionally oily surface. While the surface of the discs 22 and 24 will retain and immediately destroy all germs contacting therewith, thereby remaining sterile at all times, the oil vehicle acts as a bond for the disinfectant and renders it impossible for the user to be injured by the disinfectant should be accidentally or unthinkingly touch the discs 22 and 24. The oil, furthermore, aids in matting the material of the discs thereby adding life to the fabric and the disinfectant by impeding any tendency to dry out.

The construction shown in Figure 4 shows my invention as applied to the latest standard "French-type" telephone. A guard 28 is shown which is identical with that described above. The different shape of the "French-type" transmitter renders it necessary to mount the guard thereon by forming oppositely disposed spring arms 29—29 to the curvature of the mouth piece 31 of the transmitter 32. The guard 28 is detachably held snugly over the mouth piece 31 by bending the ends of the arms 29—29 inwardly at 33—33 to clasp around the conventional flange 34 of the mouth piece.

Guards constructed in the above described manner have been found to be thoroughly efficacious without measurable deterioration upon test after long periods of use. The construction is readily adaptable to be colored to correspond with any color scheme for the instrument or its environment.

It is essential in carrying out the described process that the vehicle employed be an oil which is normally solid at room temperature. When oils fluid at room temperature are employed it has been found that the surfaces of the discs 22 and 24 are too greasy, and besides being unpleasant from esthetic stand points involve the risk of soiling surfaces brought in contact therewith. However use of an oil liquid at room temperature does not impair the antiseptic properties of the disclosed device.

The process and construction described is inexpensive and susceptible of being employed in large scale production whereby a selling price may be arrived at which will enable widespread use in connection with telephones especially.

While I have herein shown and described my invention as applied to two familiar types of telephone instruments and specific construction for its adaptation thereto and specific materials for its preparation, I wish it to be understood that I do not limit or confine myself to the precise details herein described, as modification and variation may be made within the scope of the claims without departing from the spirit of the invention.

What I claim is:

1. Antiseptic device for mouth pieces including a forward perforated germicidal body, an aligned rearward imperforate germicidal body connected thereto and a means for attaching the bodies to the mouth piece.

2. Antiseptic device for telephonic mouthpieces and the like including a germicidal body having an aperture therein, a substantially imperforate germicidal body in spaced relation therewith and means for attaching the bodies to the mouthpiece.

3. An antiseptic shield for telephonic mouthpieces and the like including a disc having an aperture therein, a substantially imperforate disc in spaced relation therewith and a germicidal element on the imperforate disc.

4. An antiseptic shield for telephonic mouth-

pieces and the like including a disc having an aperture therein, a substantially imperforate disc in spaced relation therewith and germicidal elements on each of the discs.

5 5. An antiseptic shield for telephone mouthpieces and the like including a disc having an aperture therein, a substantially imperforate disc in spaced parallel relation therewith and disposed substantially concentric with said aperture, and
10 a germicidal element on each of the discs.

6. A guard for telephone mouthpieces and the like including a forward perforated body substan-

tially in continuous engagement with the periphery of the mouthpiece, an aligned rearward imperforate body connected thereto, and means for attaching the bodies to the mouthpiece.

7. A guard for telephone mouthpieces and the like including a disc having an aperture, a substantially imperforate disc in spaced parallel relation therewith and disposed substantially concentric with said aperture, and means for attaching the guard to the mouthpiece substantially
10 concentrically thereof.

FRED A. HOYLAND.