

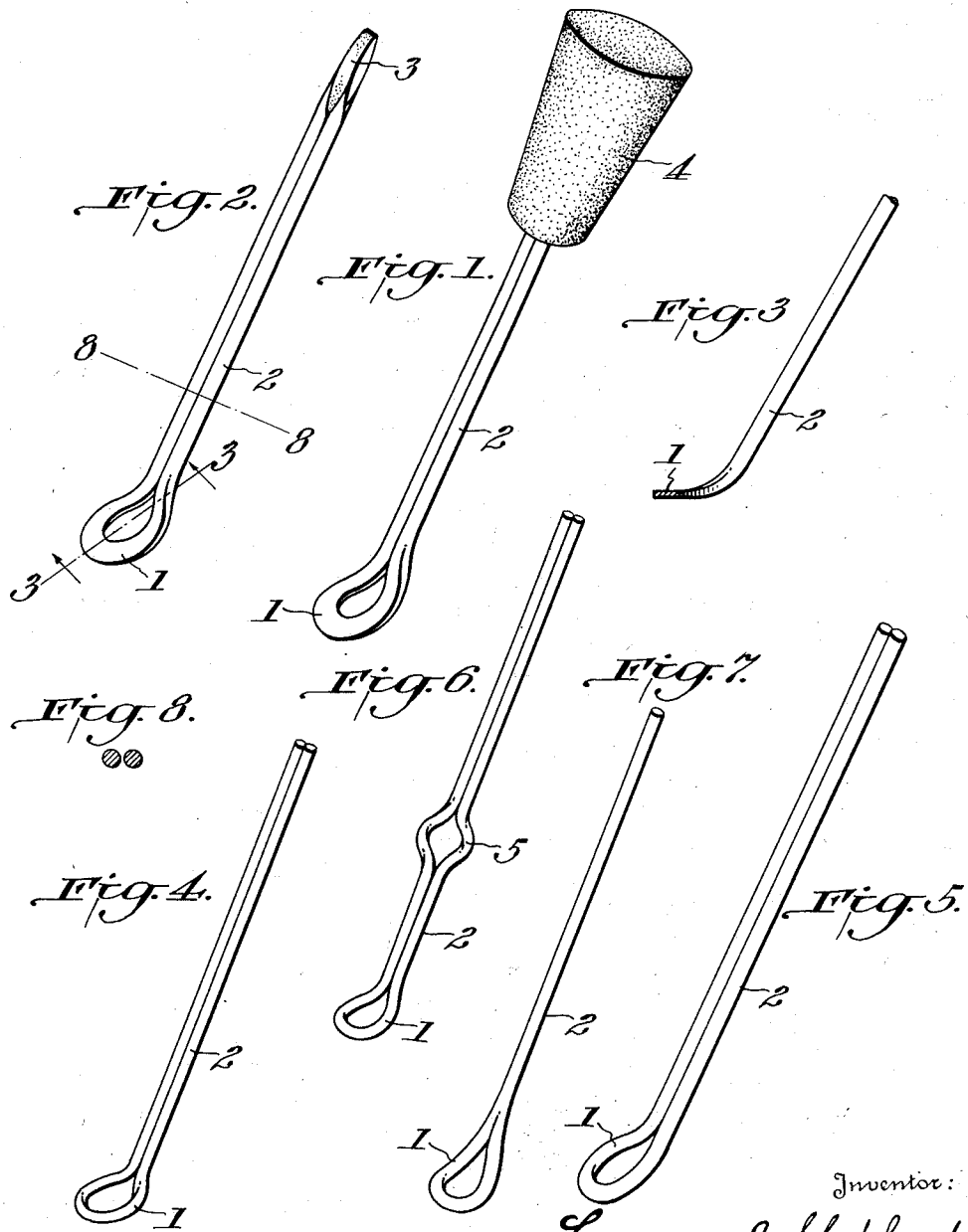
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APPLICATOR

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APPLICATOR

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6 Claims. (Cl. 91—67.4)

This invention relates to a device for applying liquids, such as medicines, to surfaces such as the skin; for example, for applying an antiseptic liquid or the like to minor injuries, such as mosquito bites, cuts and abrasions. As will be apparent, the device is capable of a variety of uses, such as for applying oil, mucilage and the like.

An object of the invention is to provide such a device, commonly known as an applicator, having the well recognized advantages of applicators heretofore commonly used, i. e. having a rounded and smooth tip or contact surface, and in addition the advantages of a relatively large contact surface and the ability to hold and feed onto the surface being treated a relatively large amount of liquid compared with the quantity of liquid which may be applied in a single operation by the use of the well known applicator consisting of a glass rod having a rounded or slightly enlarged spherical end or tip. These characteristics are important in an applicator for medicines in view of the fact that the medicine must be brought into contact with a sensitive part of the body without injury or irritation.

The invention resides in an applicator having a stem and a tip in the form of a loop adapted to hold a quantity of liquid and bent laterally with respect to the stem to facilitate bringing the loop into substantially flat contact with the surface being treated. The tip may be flattened to improve the contact between it and the surface being treated and to facilitate the transfer of liquid therefrom to said surface.

Other novel and advantageous features of the invention will be brought out in the ensuing detailed description in connection with the accompanying drawing which illustrates the invention and in which:

Fig. 1 is a perspective view of an applicator in accordance with the invention mounted on a bottle stopper.

Fig. 2 is a perspective view of the applicator of Fig. 1 with the bottle stopper removed.

Fig. 3 is a side view of the applicator of Fig. 2 with a portion of the stem broken off.

Figs. 4, 5, 6 and 7 are perspective views of four modifications of the applicator.

Fig. 8 is an enlarged sectional detail on line 8—8 of Fig. 2.

The applicator may be made of any suitable material, such as metal, glass, resin, wood or the like, but is designed to be made from metal wire or from glass rod or tubing. If metal is

used it should, of course, be resistant to corrosion or coated or plated with such a metal. The applicator may be made in any suitable manner, such as by pouring fluid metal or glass into a mold, or by stamping or cutting or pressing, and the method hereinafter described is given only for the purpose of illustration.

In making the applicator illustrated in Figs. 1-3, I prefer to bend a piece of wire or glass rod or tubing to form the loop 1 of the desired size, say about from one eighth to one fourth of an inch in diameter, and bring the two end portions of the wire, rod or tube together to form the stem or shaft 2. The loop is then bent laterally to an angle of about 45° or more to the stem and flattened. The two ends in case metal wire is used, are then united by soldering or welding and slightly pointed at 3 to facilitate the insertion of the end of the stem of the applicator into the bottle stopper 4.

It will be noted that in the construction described and illustrated in Figs. 1-3, the loop 1 is bent laterally at right angles to the plane intersecting the two parallel end portions of the wire forming the stem, and that the opening in the loop communicates with the grooves formed on the opposite sides of the stem by the two contacting portions of the wire forming the stem. Thus, in addition to the liquid held by the loop 1, some additional liquid is held by the two grooves and feeds down into the loop as the liquid in the latter is withdrawn and the applicator is capable of carrying for application at a single operation a considerable quantity of liquid. The two end portions that form the stem may be spaced apart slightly in capillary relation to each other, as shown in Fig. 8. The flattened loop is capable of contacting a relatively large surface and therefore of applying liquid to a relatively large surface, and moreover does not present any sharp edge, point or corner which might irritate or injure the surface. The flattened loop supports the liquid held thereby very close to its lower face so that no difficulty is encountered in securing a transfer of liquid from the loop to the surface, i. e. securing contact between the liquid and the surface.

The modified forms of applicator illustrated in Figs. 4 and 5 are very similar and involve essentially only the use of a different size of wire and a slightly different size and shape of loop. Both of these modified forms may be regarded as representing the incomplete applicator of Figs. 1-3 in which the loop has not been flattened and the stem has not been pointed for insertion into the

stopper. On the other hand, the applicators of Figs. 4 and 5 may be regarded as finished products in which the flattening of the loop and the pointing of the stem are omitted. As will be apparent the stem need not be inserted in a bottle stopper and it need not be pointed for that purpose, and many of the advantages of the applicator illustrated in Figs. 1-3 will be secured without flattening the loop, i. e. it will hold the same or even a greater quantity of liquid, will contact substantially the same area of surface, and will feed the liquid to the surface, although not quite as readily.

The two ends forming the stem of the applicator are not necessarily united throughout their length by welding or soldering or the like, not even at their ends, and may in fact be spaced apart slightly to increase the amount of liquid held by the two grooves formed between them. This spacing may extend only part way up the stem or the two end portions forming the stem may be in contact or in fact integral in case the applicator is made by stamping or molding.

Fig. 6 illustrates a modification in which an additional loop 5 is provided between the two end portions of the wire or rod forming the stem of the applicator at a point a short distance up the stem from the loop 1. This second loop 5 serves to carry additional liquid which will feed down the grooved stem to the loop 1 and onto the surface being treated.

Fig. 7 illustrates a further modification in which the stem is formed at least down to a point near the loop 1 of a single strand of the wire or rod. In this modification the groove in the stem may be entirely omitted or it may extend only a short distance up the stem from the loop 1. The loop 1 of the forms of applicator illustrated

in Figs. 6 and 7 may be flattened as illustrated in Figs. 1-3.

It is apparent that the shapes illustrated, whether the loop 1 is flattened or not, and whether the stem is bifurcated or grooved all or only part of the way up from the loop, whether the two strands forming the stem are in contact or spaced apart, or united or not, may be made in a variety of ways of which the method described, i. e. bending a piece of wire or a rod or tube to the desired shape is merely illustrative.

I claim:

1. An applicator comprising a substantially straight stem provided with a longitudinal groove, a substantially flat loop at one end of the stem lying at an angle to the stem, the opening in said loop communicating with the groove in the stem, the peripheral wall of said loop being flattened.

2. An applicator comprising a stem and a loop adapted to hold a body of liquid, the loop being disposed at an angle to the stem.

3. An applicator comprising a stem and a loop adapted to hold a body of liquid, the material of the loop being flattened in the plane of the loop.

4. An applicator comprising a stem and a loop adapted to hold a body of liquid, the material of the loop being flattened in the plane of the loop and the loop being disposed at an angle to the stem.

5. An applicator comprising a stem and a loop adapted to hold a body of liquid, the stem being provided with a groove communicating with the opening in the loop.

6. An applicator comprising a stem, a loop at one end of the stem adapted to hold a body of liquid and a second loop at a short distance from the first named loop, the openings in the two loops being connected by a groove in the stem.

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