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APPLICATOR HAVING COMPRESSIBLE PLASTIC HOLDER

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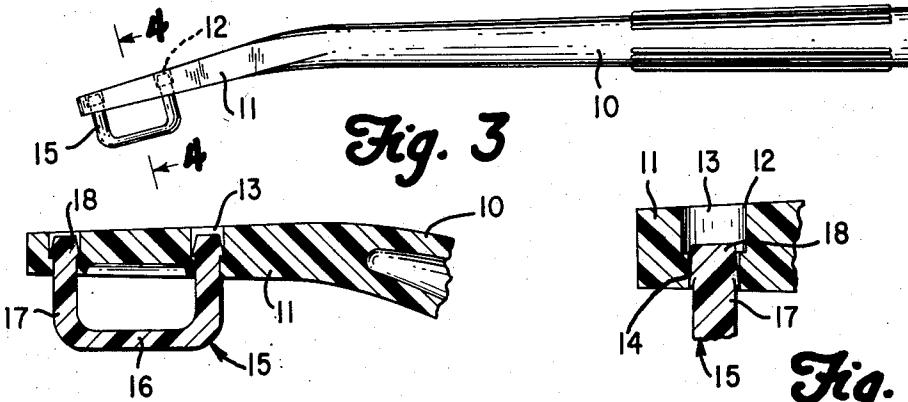
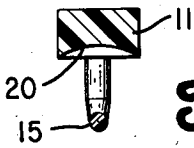
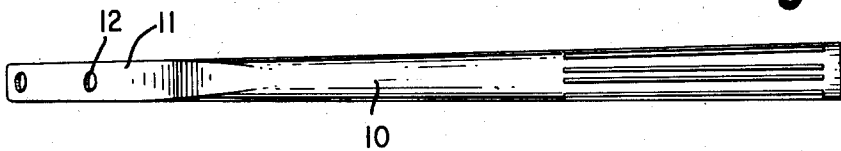
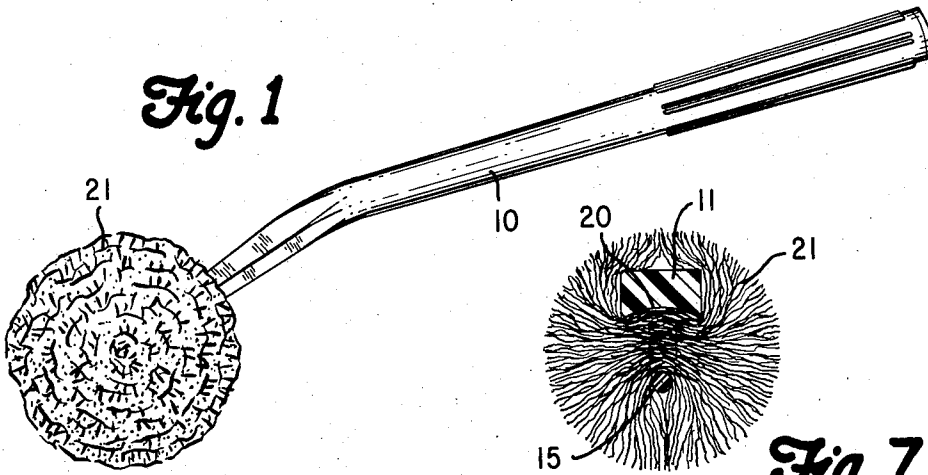
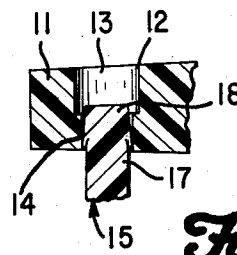


Fig. 6



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APPLICATOR HAVING COMPRESSIBLE PLASTIC HOLDER

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2 Claims. (Cl. 15—210)

This invention relates to mops but particularly to an applicator mop for use in applying a liquid chemical to toilet bowls or the like for cleaning same and an object is to produce a new and improved applicator of this type in which the bundle of yarn forming the applicator head is secured to the handle part in a simple and efficient manner militating satisfactorily against the yarn coming loose and providing an exceptionally secure fastening free of sharp edges and of a chemical resistant sturdy material.

Another object is to produce an applicator of the above type in which the handle as well as the fastener device are of a plastic material having certain characteristics of compressibility and resiliency enabling a fastener of the staple type to be employed in such manner that the bundle of yarn forming the applicator head may be attached to the handle by merely pressing the fastener into holes provided in the handle structure.

Other objects and advantages of the invention will hereinafter appear and for purposes of illustration but not of limitation, an embodiment of the invention is shown on the accompanying drawings in which

Figure 1 is a perspective view of the applicator with the head fastened thereto;

Figure 2 is a top plan view of the applicator handle;

Figure 3 is a side elevation of the applicator handle showing the U-shaped fastener attached thereto but without the applicator head or bundle of yarn secured in place;

Figure 4 is an enlarged sectional view on the line 4—4 of Figure 3;

Figure 5 is an enlarged fragmentary sectional view showing one leg of the fastener being driven into the applicator handle;

Figure 6 is an enlarged longitudinal sectional view of the end portion of the handle and showing the U-shaped fastener in applied position; and

Figure 7 is a sectional view similar to Figure 4 but with the yarn forming the mop head secured in place.

The illustrated embodiment of the invention comprises an applicator having an elongate tubular handle 10 provided with a downwardly inclined tapered inner end portion 11, opposite sides of which are substantially parallel and flat and the upper and lower surfaces also being flat but tapering toward each other so that the free end is of considerably less thickness than the remainder, particularly as shown on Figure 3. Formed in the outer end portion of the tapered end 11 is a pair of longitudinally spaced parallel holes 12. These holes are of shouldered construction having a relatively large upper cylindrical cavity 13 and a relatively narrow cylindrical lower portion 14 providing a reduced neck portion.

The applicator head is secured to the handle by a U-shaped fastener 15 which has a cross piece 16 and integral parallel legs 17 formed with rearwardly tapered or frusto conical heads 18 providing a relatively flat shoulder at the inner end thereof.

In this instance, both the handle and the fastener 15 are of plastic material such for example as polyethylene

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and a particular polyethylene found particularly suitable in this connection is that which is sold under the trademark "Super Dylan," a product of Koppers Company, Inc. of Pittsburgh, Pennsylvania. That particular plastic has considerable heat resistance and rigidity and tensile strength. It is chemically resistant and is resiliently compressible at room temperatures. Its chemical resistance lends itself for use in connection with an applicator for liquid chemical used for cleaning toilet bowls and the like. Its resilient compressible nature lends itself to this particular purpose because the fastener 15 may be forced into the holes 12 by merely exerting the proper pressure thereagainst. Although the tapered head 18 is considerably larger than the neck 14 of the holes, nevertheless by imparting the proper pressure the head is compressed as indicated at Figure 5 but as soon as the head passes the reduced neck 14, it immediately expands to its original shape thereby preventing the fastener from being pulled outwardly. Preferably the outer ends of the fastener heads 18 do not project outwardly through the enlarged portions 13 of the handle holes in order to obviate any projections.

In practice, a bundle of yarn such as a textile yarn or synthetic yarn which have compressible characteristics is laid across the end portion 11 of the handle between the holes 12 and then the U-shape fastener 15 straddles the yarn and thereafter the fastener is forced into the holes until the heads are able to expand into the enlarged portions thereof. The inherent resiliency of the yarn causes it to assume the pompon-like form as shown on Figure 1. To assist in forming this form of applicator head 21, an inwardly dished or upwardly curved surface 20 (Figure 4) is formed on the under face of the handle end portion 11. Thus with a sizeable bundle of yarn, a portion thereof is forced into the dished portion which contributes to the ball-like head.

Numerous changes in details of construction, arrangement and choice of materials may be effected without departing from the spirit of the invention, especially as defined in the appended claims.

What I claim is:

1. An applicator comprising a handle, a pair of shouldered transverse holes in one end of the handle and spaced longitudinally from each other, each hole having a relatively small portion communicating with a relatively large portion, a U-shape fastener having plain parallel legs and tapered heads on the free ends thereof with the heads disposed in the larger portions of the holes and the legs disposed in the smaller portions thereof, said fastener and handle being of a compressible resilient plastic material whereby both the handle material adjacent the holes and the legs of the fastener yield as the heads of the fastener pass through the smaller portions of the holes during insertion of the fastener, and yarn in the space between the fastener and the handle and compressed thereby to provide the head for the applicator.

2. An applicator comprising a handle, a pair of shouldered transverse holes in one end of the handle and spaced longitudinally from each other, each hole having a relatively small portion communicating with a relatively large portion, a U-shape fastener having plain parallel legs and tapered heads on the free ends thereof with the heads disposed in the larger portions of the holes and the legs disposed in the smaller portions thereof, said fastener and handle being of a compressible resilient plastic material whereby both the handle material adjacent the holes and the legs of the fastener yield as the heads of the fastener pass through the smaller portions of the holes during insertion of the fastener, and yarn in the space between the fastener and the handle and compressed thereby to provide the head for the applicator, there being an

inwardly dished surface on the under side of the handle between said holes into which yarn is forced by the fastener.

References Cited in the file of this patent

UNITED STATES PATENTS

1,237,086	Parantau	Aug. 14, 1917
1,634,907	Lester	July 5, 1927
2,042,239	Planding	May 26, 1936
2,679,063	Hoffman	May 25, 1954