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(54) Dual dispenser.

(57) A container includes a neck and a pour spout. A co-dispensing pump sprayer is threadingly engaged to the neck. The pump dispenser includes a shroud member as a housing. The pour spout extends through an opening in the shroud member. A two-part snap-hinge is mounted to the shroud member and is adapted to hingedly seal the pour opening of the pour spout. The snap hinge includes outwardly directed flanges adapted to interengage with lips on the shroud member to provide a snap-locking closure for the pour spout.

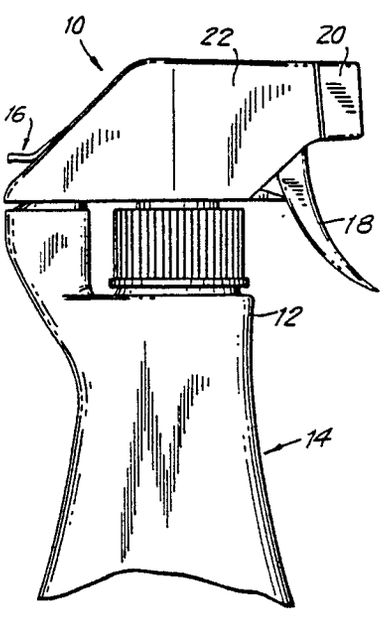

FIG. 1

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CO-DISPENSER

FIELD OF THE INVENTION

The present invention pertains to dispensers and more particularly to a dispenser having both pump dispensing and pour dispensing capacity.

BACKGROUND OF THE INVENTION

Pump actuated dispensers particularly for household products have gained wide acceptance. Trigger actuated pumps, for example are becoming increasingly popular for dispensing various and household cleaning products in selected patterns on a variety of areas and surfaces. However, the dosage conveniently dispensed by such pumps is restricted and where larger amounts are needed or desired for certain applications, the pump is required to be actuated several times until this quantity is applied. This manual manipulation is time consuming, fatiguing and frequently a nuisance and annoyance. In order to circumvent this problem, some users remove the pump and pour the liquid in the desired amounts from the container neck opening. This procedure has many attendant problems, including the time necessary to remove and to properly reapply the pump. When the pump is removed from the container, product from the pump's dip tube unwantingly drips onto various surfaces. Often times the removed pump will be misplaced or lost or placed on the container improperly, greatly reducing the effective and intended dispensing of the product.

Recent attempts have been made in the art to address the aforementioned problem. U.S. Patent 4,614,284 (Miles) pertains to a co-dispensing spray bottle having a spout projecting from a shroud on the pump, the spout is adapted to be snipped or cut open to provide a pour opening. U.S. Patent 4,618,076 (Silvenis) pertains to a dual dispensing bottle having a twist off closure piece covering a pour spout and adapted to be twisted off and used as a plug for the pour opening.

SUMMARY OF THE INVENTION

The principal object of the present invention is to provide an improved container having a dispensing pump with co-dispensing capability, permitting selective by-passing of the pump.

Another object is to provide a co-dispensing pump having a snap hinge mounted to the pump body or shroud, the snap hinge operating as a closure for the co-dispensing pour spout.

A further object is to provide a pour spout closure which is affixed to the pump thus eliminating the possibility of misplacement or loss of the closure.

Still another object is to provide a container and pump of the foregoing type which facilitates switching from pouring to spraying, and vice versa, with one hand. The snap hinge of the present invention being easily snapped open or snapped closed with the thumb while the container is being held in one hand. This feature is advantageous to a housewife holding any other matter at the same time as spraying/pouring from the co-dispenser.

A still further object is to provide a container and dispensing pump of the foregoing type in which the pump is finger actuated and includes a body or shroud having a snap hinge affixed immovably on one side to the body or shroud and conveniently adapted to snap into engagement with the shroud on the other side. The snap hinge is mounted in such a way as to maintain the aesthetics and consumer appeal of a popular and well accepted pump design and/or image.

Yet another object is to provide a novel hinge structure to facilitate the co-dispensing capacity of the present structure. A similar hinge is disclosed in U.S.Reissue Pat. No. 30,861.

Other objects and advantages will become apparent from the following detailed description to be taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a side elevation view of an upper portion of the container and the pump dispenser of the present invention.

Fig. 2 is a side elevation view similar to Fig. 1 wherein the shroud is partially cut away illustrating the pour spout of the present invention.

Fig. 3 is a partial side view illustrating the pour spout in section, and illustrating the snap hinge mounted to the shroud.

Fig. 4 is a side elevation view of the pump dispenser affixed to a container, with the pour spout illustrated in phantom by dotted lines.

Fig. 5 is a top perspective close-up view of the snap hinge in open position.

Fig. 6 is a plan view of the pump dispenser, the snap hinge being in a closed position.

Fig. 7 is a side elevation view illustrating actuation and spraying of the pump dispenser.

Fig. 8 is a side elevation view illustrating pouring from the pour spout.

Fig. 9 is a top perspective view illustrating a part of the snap hinge.

Fig. 10 is a sectional view taken along lines 10-10 of Fig. 5 illustrating a portion of the shroud of the pump sprayer and the snap hinge.

DETAILED DESCRIPTION

In the drawings, a manually operated finger actuated pump or sprayer 10 is shown mounted on the top 12 of a container or bottle 14. Bottle 14 may be fabricated by current blow molding techniques and equipment and will include the usual threaded neck defining an opening and on which the trigger pump 12 is threadedly attached. The trigger pump 10 comprises trigger 18, adjustable spray nozzle 20 and shroud 22. Snap hinge 16 is affixed to the shroud.

Pump 10 may be of any commercial variety but preferably is of the type manufactured and offered commercially by the (Texize) Dow Consumer Product Inc. as well as that disclosed in U.S. Pat. No. 3,749,290. This pump usually includes at its discharge end a multiple purpose nozzle (item 20 in the drawings) that is adjustable between several positions from "Off to" "Spray" and "Stream". A nozzle of this type is disclosed in U.S. Pat. No. 3,843,030. The pump 10 may under these circumstances be employed for discharging many household products including detergents, cleaning fluids and the like on any surface and with a variety of discharge patterns and forms.

As previously explained, many applications require discharge of the product from the bottle 10 at relatively high rates and with increased volume not normally satisfied by the incremental dosage normally attributed to a single actuation of the pump or for that matter several actuations. Therefore, the present invention provides a co-dispensing feature that permits the pump discharge network to be bypassed or supplemented. As seen in Fig. 2 pour spout 24 extends from container 14 and further extends slightly beyond the perimeter of shroud 22. It is also contemplated that the spout not extend beyond the shroud. Liquid may be poured from the container through opening 26. Liquid may also be squirted through opening 26 by squeezing the container.

Figures 3-6 illustrate the structure of the snap hinge 16. The snap hinge is preferably composed of an integrally molded plastic. Fig. 3 shows hinge 16 having first part 30 and second part 32 which may be integrally molded. First part 30 is immovably mounted to shroud 22 of the pump dispenser. Fig. 10 illustrates a preferred mounting structure which provides a secure connection for routine use, but which is detachable (further discussed below). Connecting link 34 extends between the first and second parts of the snap hinge providing bi-stability. The hinge rests naturally in the open position shown in Figs. 3, 4 and 5 and also in the closed position illustrated in Fig. 6. Connecting link 34 is preferably joined to the first and second hinge parts, via transverse bar members 35 best illustrated in Fig. 4. Connection via transverse bar members 35 facilitates the bi-stable characteristic of the snaphinge.

Second part 32 of the hinge comprises flat surface 38, side walls 40, flanges 42 and projecting ridge 44. Flanges 42 extend outwardly from each sidewall 40. The shape of the flanges is illustrated in Fig. 9. The flanges are preferably substantially triangular in cross-section (see Figs.5 and 9. They are adapted to engage inward lips 46 of the shroud providing a snap-lock or ratchet type secure interengagement therebetween. When hinge 16 is snapped closed, oblique sides 48 of the flanges initially contact the inwardmost edges of lip 46. With increased pressure on flat surface 38, the plastic flange and lip parts resiliently give way so that the flanges snap into engagement with the lips 46. During the closing projecting ridge 44 is aligned with pour opening 26. Ridge 44 contains a sealing pad 50. The pad may be of any suitable material such as a commercial foam material. Hinge 16 rotates about hinge line 45. When the hinge 16 is snapped closed, ridge 44 encircles and covers pour opening 26 and pad 50 contacts opening 26 in sealing engagement therewith. It should be understood that the pour opening 26 may be initially sealed by foil or any other form of seal during shipping and storage prior to purchase by a consumer.

Fig. 6 illustrates the contour of pump dispenser 10 on its top surface. A channel 52 extends from snap hinge 16 to spray nozzle 20.

Figs. 7 and 8 illustrate the spraying and pouring functions of pump sprayer 10. As seen in Fig. 7, as trigger 18 is depressed the pump dispenses the liquid contents of container 14 as shown. Fig. 8 illustrates pouring liquid contents of container 14 through pour opening 26 when snap hinge 16 is in an open position.

Fig. 9, as noted above, provides a top perspective view of snap hinge 16 illustrating certain parts by dotted lines. The triangular cross-sectional configuration of flanges 42 is illustrated.

Fig. 10 illustrates a preferred means of attachment of snap-hinge 16 to pump dispenser shroud 22. A pair of mounting openings in the shroud

correspond to mounting studs 58 in the first part of snap hinge 16. An expanded ridge (not shown) is located on the outermost end of each plastic stud 58. Ridged studs 58 firmly secure snap hinge 16 in place on shroud 22, and, during normal use, provide an immovable mounting of first part 30 of the hinge to shroud 22. The mounting illustrated facilitates assembly of the pump dispenser.

As seen in Fig. 10 connecting link 34 is a curved resilient member of uniform cross section. The link tends to keep its ends apart at a given spacing. The snap hinge is bi-stable, having a first stable position (open) and a second stable position (shown by dotted lines). The hinge is at rest in these positions. A departure from either of these positions deforms the link outwardly, increasing stress in the link, tending to restore the hinge to the other of the respective positions.

Thus the aforenoted objects and advantages are obtained. Although a preferred embodiment of the invention has been disclosed and described in detail herein, it should be understood that this invention is in no sense limited thereby and its scope is to be determined by that of the appended claims.

Claims

1. A co-dispenser package comprising in combination a container comprising a body, a neck at the top of the body having an opening for introducing and removing product from the body, a spout extending from the body on one end thereof and having a pour opening on the other end thereof, a dispensing pump mounted on the neck for selectively dispensing product from the container, the pump including a shroud, an opening in the shroud in alignment with said pour opening, and a hinge having a first section mounted to the shroud and a second section hingedly connected thereto, the second section being a hingedly openable closure member for sealing the pour opening in the spout.

2. The invention in accordance with claim 1 wherein the spout is positioned at the top of the body.

3. The invention in accordance with claim 2 wherein the spout pour opening is at a predetermined location relative to the plane of the shroud.

4. The invention in accordance with claim 2 wherein the second section of the snap hinge comprises at least one outwardly directed flange and wherein the shroud comprises an engaging means for engaging the at least one flange in snap lock fashion.

5. The invention in accordance with claim 4 wherein the engaging means comprises at least one inwardly directed lip.

6. The invention according to claim 5 wherein the at least one flange comprises a pair of outwardly directed flanges and the at least one inwardly directed lip comprises a pair of inwardly directed lips.

7. The invention in accordance with claim 3 wherein the second section of the snap hinge comprises a flat surface having an upper surface and a lower or downward surface, the flat surface having a substantially perpendicular wall depending downwardly from either side thereof, each wall having an outwardly directed flange extending from a lower portion thereof.

8. The invention in accordance with claim 7 further comprising a substantially circular projecting ridge on the lower side of the flat surface, said ridge containing a sealing pad mounted therein, the substantially circular projecting ridge being adapted to cover the pour opening in the pour spout with the seal member contacting the pour spout when the snap hinge is closed.

9. The invention in accordance with claim 8 further comprising a plastic spring bar connecting the first hinge section to the second hinge section, the spring bar adapted to maintain the hinge stable in a first, open position and in a second, closed position.

10. The invention in accordance with claim 9 wherein the second hinge section also comprises a flat surface and wherein the spring bar is connected on a first side to a flat bar element connected to and extending transverse to the flat surface of the first hinge section and, on a second side, to a flat bar member connected to and extending transversely to the second hinge section.

11. The invention in accordance with claim 9 wherein the shroud contains a pair of mounting openings and the first part of the snap hinge contains a pair of corresponding male studs, the studs being firmly snapped into the mounting opening to provide a mounting which is stationary during normal use.

12. The invention in accordance with claim 9 wherein all parts are composed of a resinous material.

13. A co-dispenser package comprising in combination, a container comprising a body, a neck at the top of the body having an opening for introducing and removing product from the body, a spout extending from the body on one end thereof and having a pour opening on the other end thereof, a dispensing pump mounted on the neck for selectively dispensing product from the container, the pump including a shroud, an opening in the shroud, and a snap hinge, the snap hinge comprising a first hinge member, securely mounted to the shroud, a second hinge member hinged to said first hinge member about a hinge line, a curved

resilient connecting link, the link being joined at both ends integrally to said first and second hinge members respectively, the link tending resiliently to maintain its two ends apart at a given spacing, the snap-hinge having a first position and a second position, in each of which stress in the connecting link is at a minimum, the snap-hinge being at rest in each of said positions, the second position being in contact with the pour opening, wherein a small departure from either position increases the stress in the connecting link, which tends to restore the snap-hinge to the respective position, the connecting link being capable of resilient deformation between its one end and its other end when the distance between the ends changes, the snap-hinge being adapted to articulate between said first-mentioned position and said second position in such a way that the connecting link is resiliently deformed in positions intermediate said first-mentioned position and said second position when the distance between the ends of the link changes, the maximum deformation of said connecting link representing a state of unstable equilibrium for the snap-hinge, departure from which in either direction causes said connecting link to urge the snap-hinge further in that direction to return the snap-hinge to one of said positions.

14. A snap hinge as claimed in claim 3 wherein said resilient connecting link is curved throughout its entire length.

15. A snap hinge as claimed in claim 13 wherein said resilient connecting link is of uniform cross-section throughout its entire length.

16. A snap-hinge as claimed in claim 13, in which said first and second hinge members and said resilient connecting link are made of a thermoplastic material.

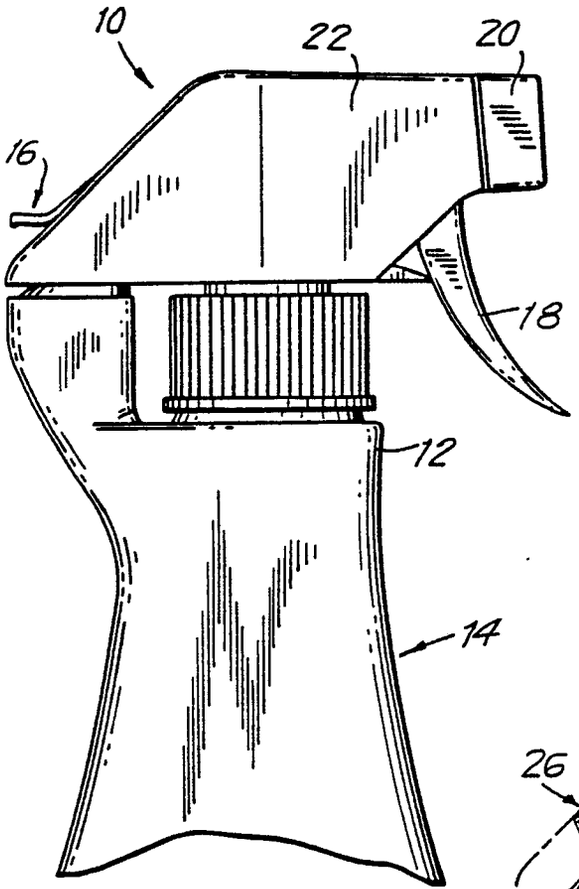


FIG. 1

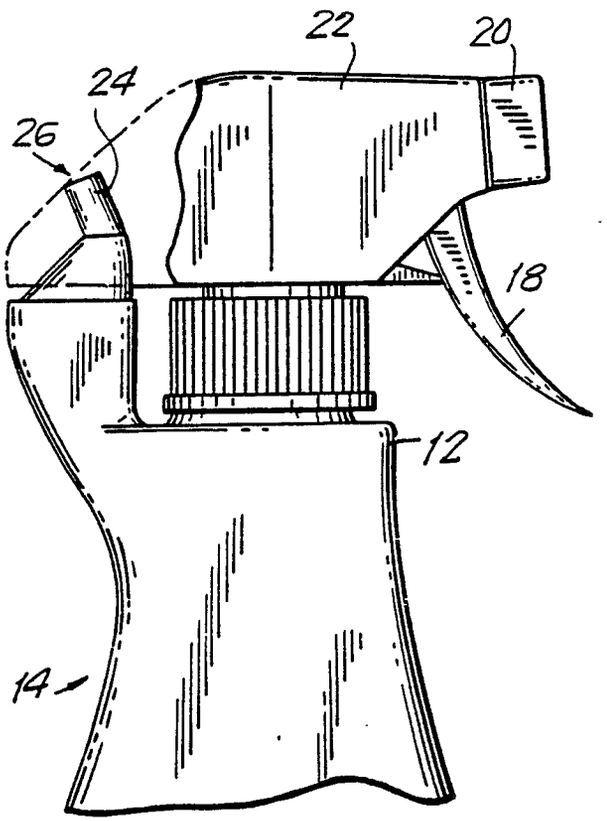
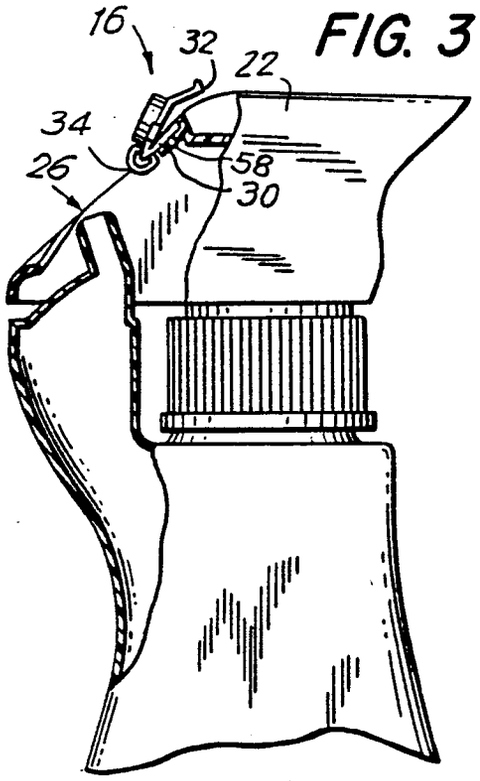


FIG. 2

FIG. 3



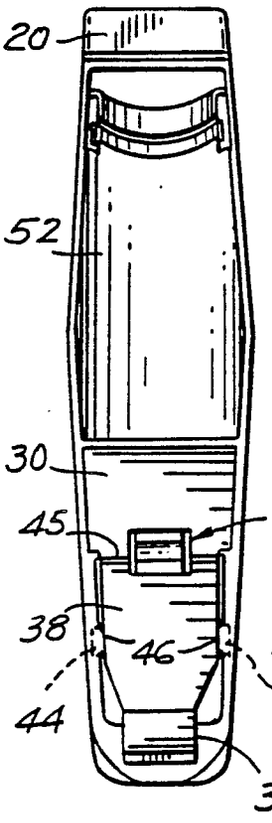


FIG. 6

FIG. 5

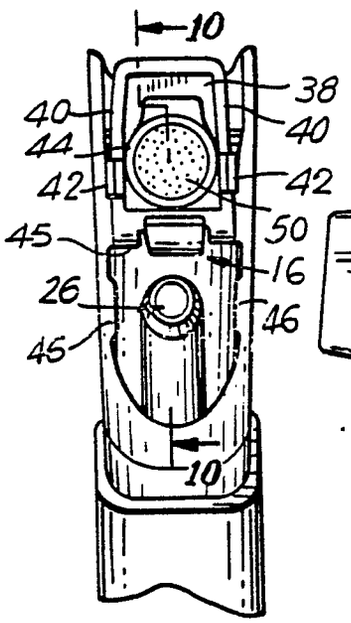


FIG. 4

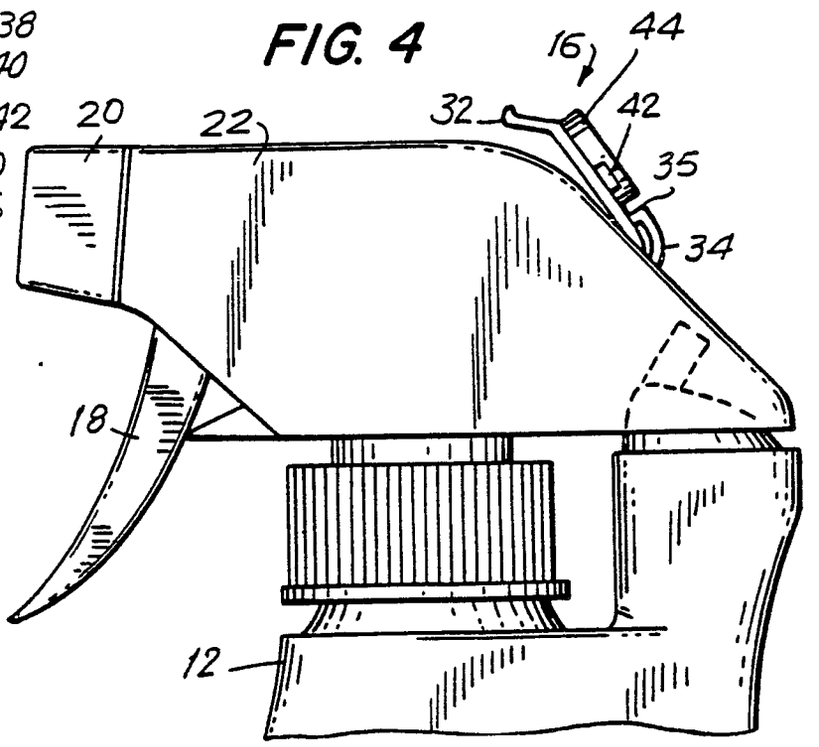
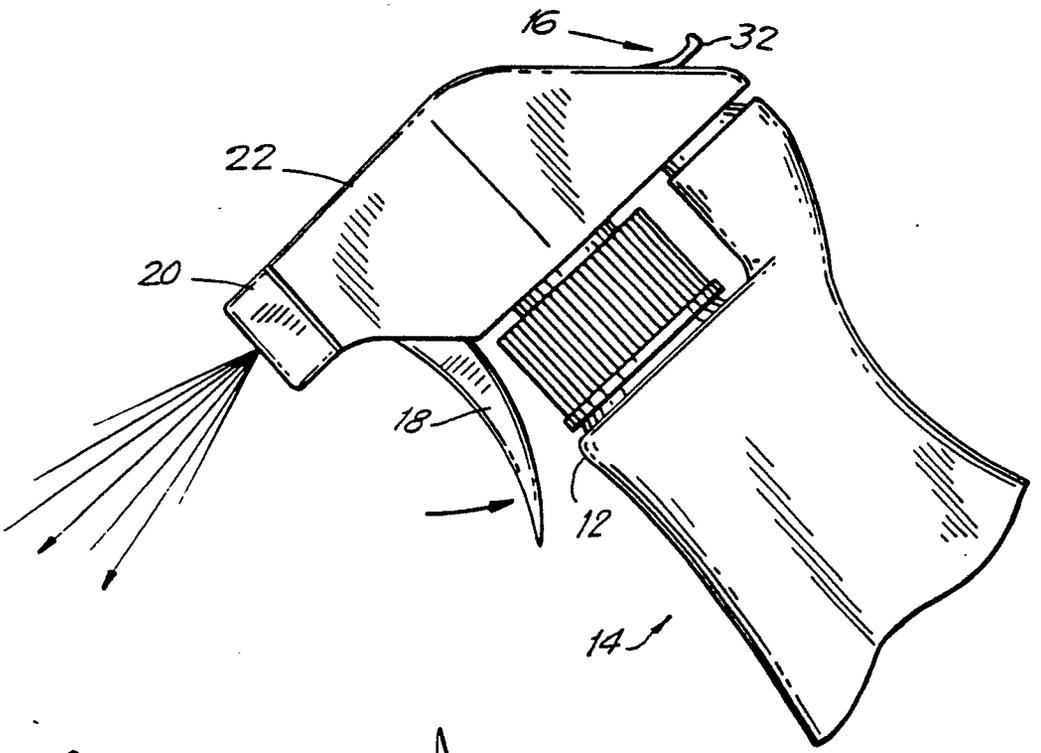


FIG. 7



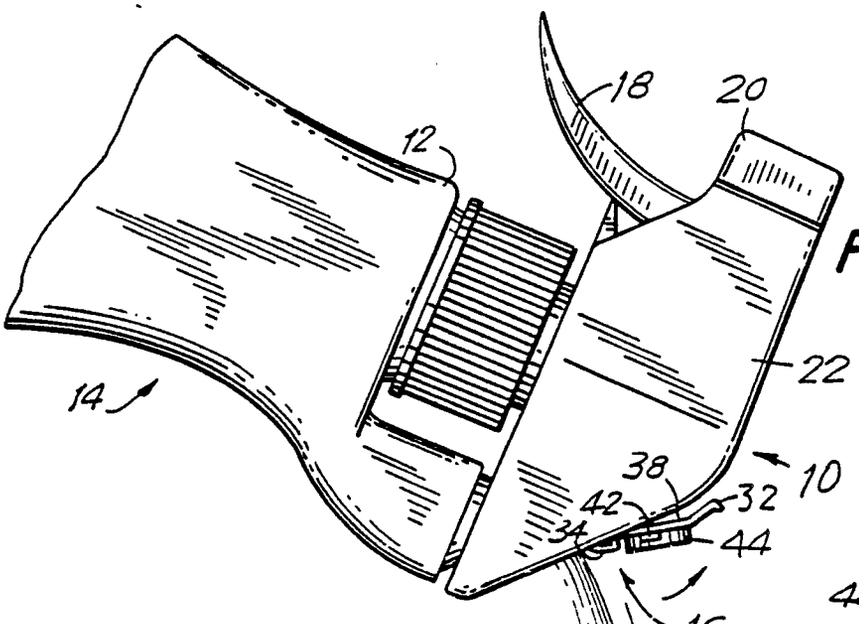


FIG. 8

FIG. 9

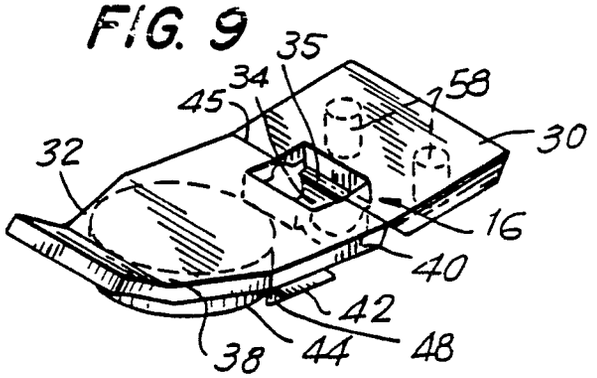


FIG. 10