

[54] STAY CLEAN FUNNEL

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[63] Continuation-in-part of Ser. No. 396,876, Sept. 13, 1973, abandoned.

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[51] Int. Cl. **B65b 39/00**

[58] Field of Search 141/87, 98, 105-107, 141/199-205, 297-300, 114, 331-345; 285/DIG. 22, DIG. 4, 177, 260; 24/16, 17, 150 FP, 230 SL, 243 K, 256

[56]

References Cited

UNITED STATES PATENTS

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[57]

ABSTRACT

A funnel with an elongated flexible spout is provided wherein a cap is located on the flexible spout near its terminal end whereby the cap can be snapped onto the funnel to keep the funnel and the pouring nozzle clean.

6 Claims, 4 Drawing Figures

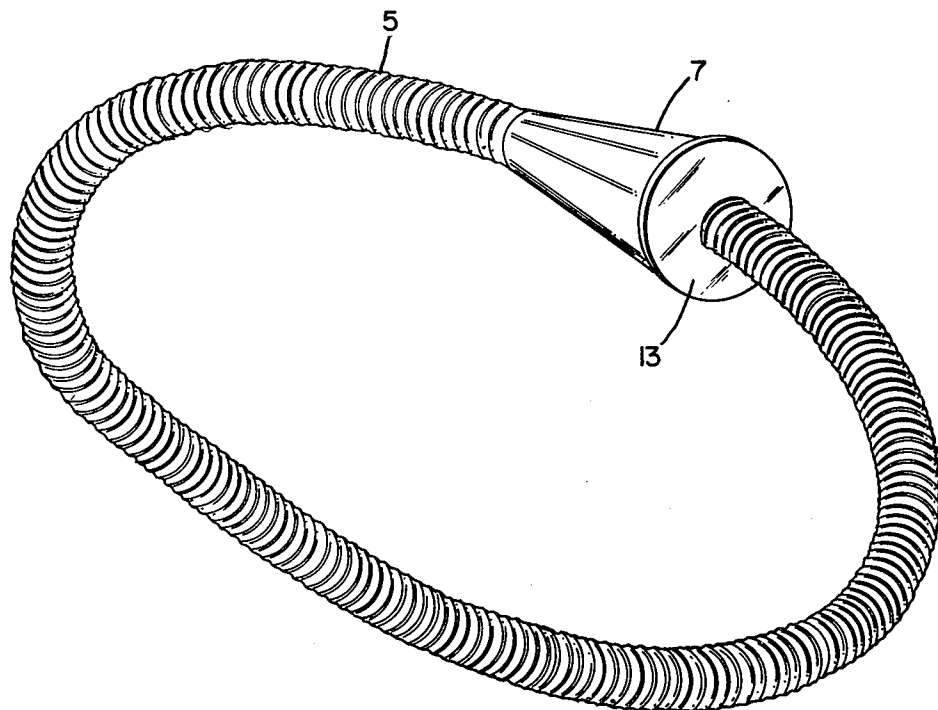


FIG _ 1

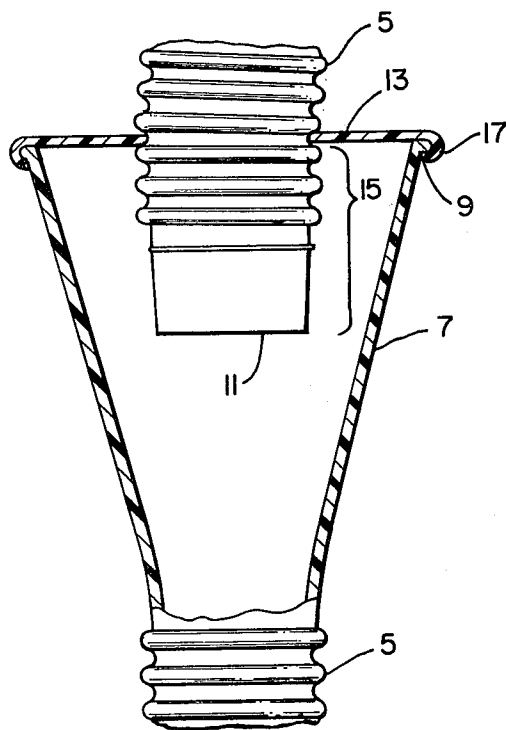
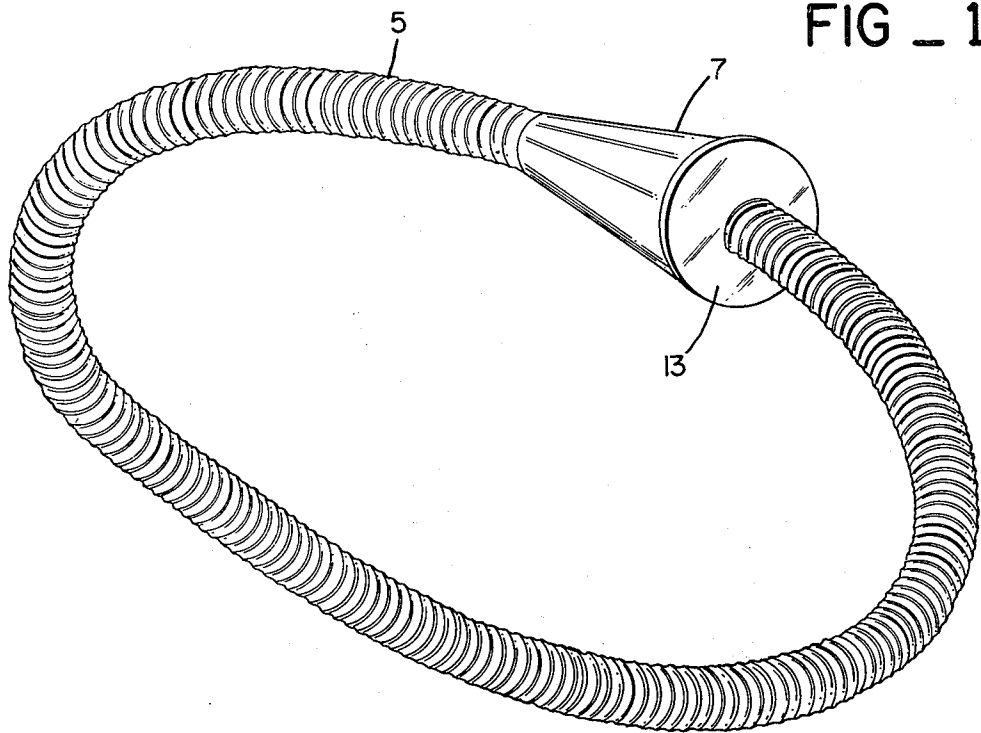


FIG _ 3

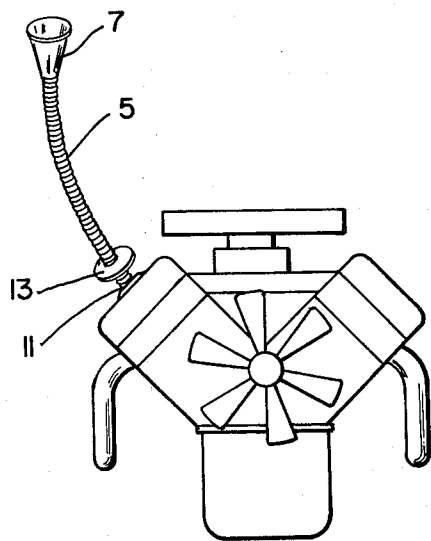


FIG _ 2

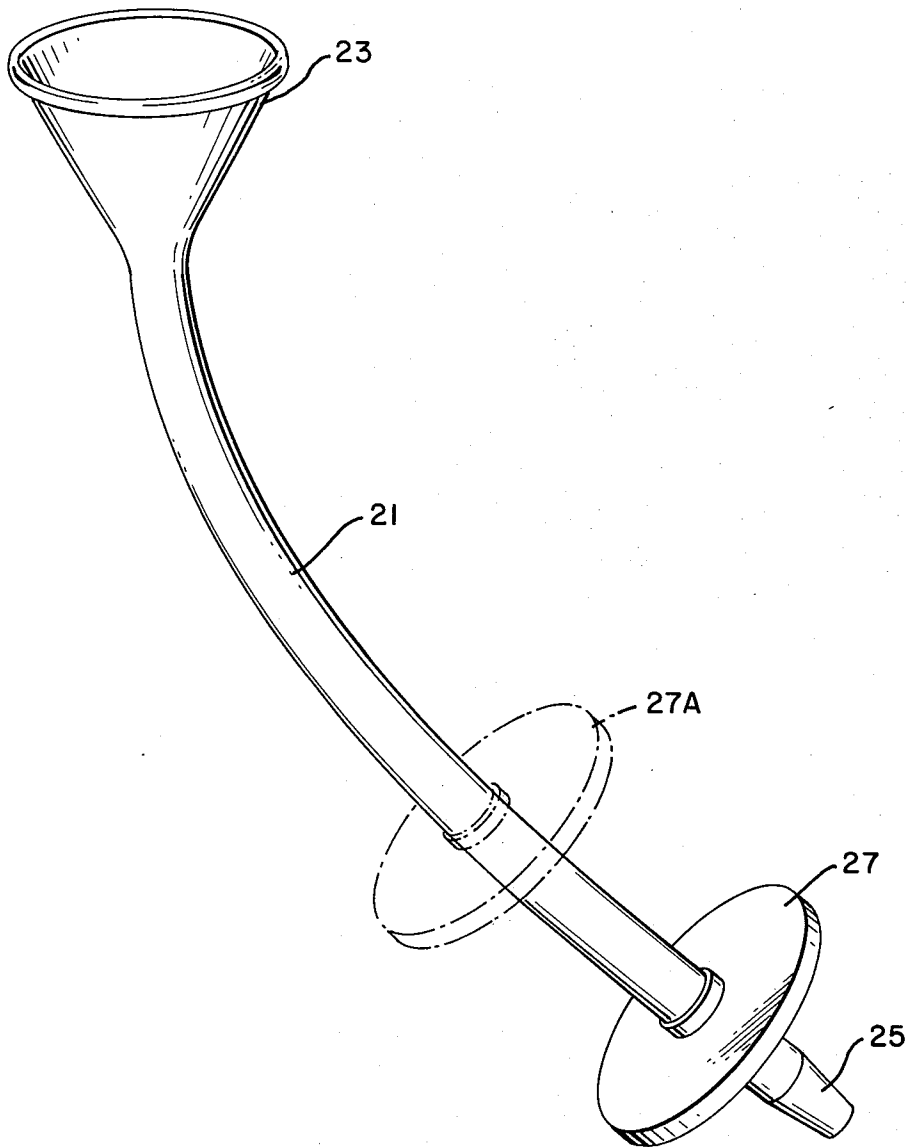


FIG. 4

STAY CLEAN FUNNEL

REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of my application Ser. No. 396,876 filed Sept. 13, 1973 now abandoned.

SUMMARY OF THE INVENTION

Flexible funnels find many uses, particularly at service stations where oil must be frequently poured into a relatively inaccessible opening. The flexible spout end of the funnel permits one to place the mouth of the funnel at a convenient location while the outlet or pouring spout is in the otherwise inaccessible opening.

One difficulty with such funnels is that they frequently become contaminated, particularly if they are used with some sticky substance such as oil. When such a funnel is not in use the oily surface of the interior of the funnel and the pouring spout both act as a holder for dust and dirt so that the next time the funnel is used, the oil or other liquid becomes contaminated.

Further, when such flexible funnels are hung up, they tend to drip so that they are unsightly.

In accordance with the present invention a flexible funnel is provided preferably made of a convoluted tubing wherein a snap action cap is provided on the pouring spout near its terminal end, which cap can be snapped onto the funnel when not in use.

Thus, the interior of the funnel and the pouring spout remain clean even if they have a sticky or oily substance thereon.

Since the funnel of the present invention forms a circle when cupped together, it is easy to hang up and does not drip.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings forming part of this application:

FIG. 1 is a perspective view of a funnel embodying the present invention.

FIG. 2 is a perspective view showing how the funnel of the present invention might be used in pouring oil into a motor.

FIG. 3 is an enlarged sectional view of the mouth of the funnel and the pouring spout showing the cap in place.

FIG. 4 is a perspective view showing another embodiment of my invention wherein the cap portion is slideably mounted on the hose.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings and particularly FIGS. 1 through 3, by reference characters, the device of the present invention includes a length of a flexible tubing 5. Preferably this flexible tubing is a convoluted plastic tubing although it could be made of various materials and, of course, the material of which it is made must be selected to be inert to the material for which the funnel will be used. Although a convoluted tube, such as that illustrated is preferred, any form of flexible tubing such as flexible rubber or plastic tubing may be employed as well as convoluted metal tubing. At one end of the tubing a funnel 7 is attached by any suitable means. In one preferred embodiment of the invention the funnel is molded as an integral part of the tubing although a normal production practice of the funnel would be fabricated separately and attached to the tubing by cement-

ing, clamping or even by mere friction. The funnel 7 may be as the same material as the tubing or may be of a different material and, of course, it need not be flexible so it might be made of a stiff metal. The lip forming the mouth of the funnel preferably has a bead 9 thereon, the purpose for which will be later apparent.

The tubing 5 terminates in a spout end 11 and is suitably not convoluted but it is smooth for easy insertion in an opening of a vehicle or the like. Near the terminal end a cap 13 is provided which is sealed to the tubing 5. Cap 13 is spaced a substantial distance from the terminal end 11 so that the end 11 can easily be inserted in an opening even in an inaccessible place and the cap 13 will not interfere with the operation. In FIG. 3 this distance has been designated as 15 and will be understood that this distance might be even longer than that illustrated, the only limitation being that the parts must fit together so that the terminal end 11 can be inserted into the mouth of the funnel and still permit the cap 13 to engage the rim 9. Of course, by making the terminal end constricted, the distance 15 could be even greater than the depth of the funnel proper. Cap 13 terminates in a rolled over rim 17 which mates with bead 9.

When the funnel is not in use the parts are assembled as is shown in FIGS. 1 and 3 with cap 13 snapped onto funnel 7 with rim 17 engaging bead 9. In this position the interior of the funnel 7 and that portion of the tubing designated 15 will be sealed and thus not be in contact with ambient dust or the like. Further, if these surfaces are oily, there will be no tendency for the liquid to drip from the equipment even when it is hung up. For use it is only necessary to unsnap the cap 13 from the funnel 7 and extend the terminal end 11 into an opening of a vehicle or the like as is shown in FIG. 2.

In some instances it has been found that a fixed cap interferes with the use of the funnel when the funnel is to be used in a restricted space such as might be found on the filling openings for power transmissions and lawnmowers. In such instances it is highly desirable that the cap be slideably mounted so that it can be slid out of the way, permitting the nozzle to be inserted in an opening even if the space is very restricted. Thus, referring to FIG. 4, there is shown a structure embodying the present invention wherein the smooth tube 21 is employed with a funnel 23 at one end and a nozzle 25 at the other. A cap 27 is employed as was previously described but here the cap 27 is slideably mounted on the tubing 21. Thus, when it is desired to place the cap and funnel in sealing relationship, it can be moved near the nozzle as is shown in solid lines but, if the structure is to be used in a restricted location, it can be slid up the tubing so that it will be out of the way as is shown in dot-dash lines at 27A.

Many variations can be made in the exact structure shown without departing from the spirit of the invention. Although the funnel portion 7 has been shown in a conventional funnel configuration with gradually sloping sidewalls, it could be made in more cup-like with the walls almost parallel. The mouth could be oval rather than round as illustrated. The material from which the tubing and funnel are made could be of flexible metal, plastic, rubber or the like. Although a snap fastening has been shown for fastening the cap 13 to the funnel 7, other fastening means might be employed such as threading, interrupted threads, a friction fit or the like.

I claim:

1. A stay clean, no drip funnel comprising in combination:

A. an enlarged mouth end portion and a smaller tail end portion;

B. an elongated flexible tubular member forming a continuation of the tail end portion, said elongated member having a terminal end suitable for insertion in an orifice;

C. a cap having a central opening therein to permit mounting on the elongated flexible tubular member;

D. said cap adapted to snap over the large mouth end portion of the funnel;

E. said cap being mounted on said flexible member near said terminal end whereby said terminal end is free and extends beyond said cap for a sufficient distance to permit the same to be inserted in said

orifice; and,

F. said terminal end can be inserted in the enlarged mouth end portion to provide a closed structure.

2. The structure of claim 1 wherein said funnel opening and said cap are of circular configuration.

3. The structure of claim 1 wherein said flexible member is constructed of a convoluted flexible inert plastic tubing.

4. The structure of claim 1 wherein said funnel mouth terminates in a lip and wherein said cap has an returned rim portion whereby said cap can be pushed over said rim and snapped into place thereon.

5. The structure of claim 1 wherein the cap is fixed onto the flexible member.

6. The structure of claim 1 wherein said cap is slideably mounted on said flexible member.

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