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A. E. AALAND

3,195,784

MULTI-TIP DISPENSING DEVICE

Filed April 11, 1963

FIG. 2

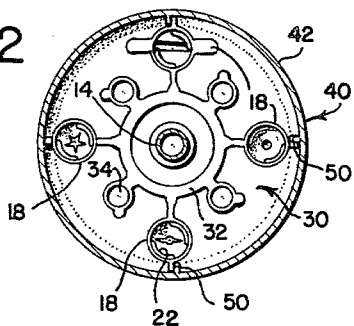


FIG. 3

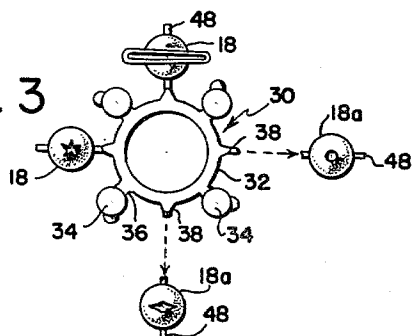


FIG. 4

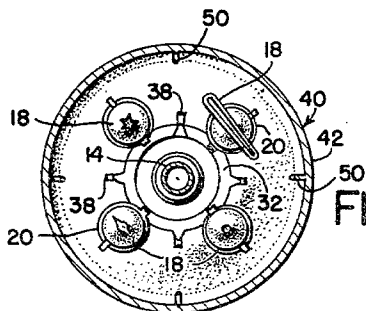
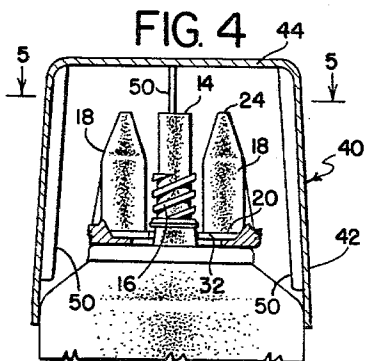


FIG. 5

FIG. 6

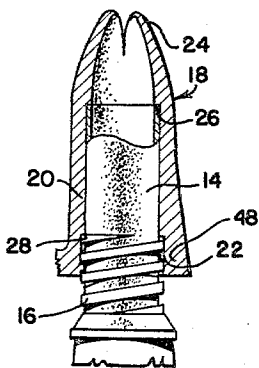
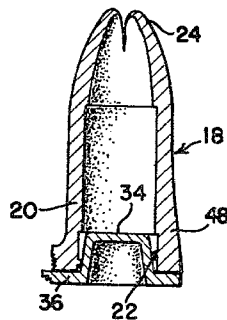


FIG. 7



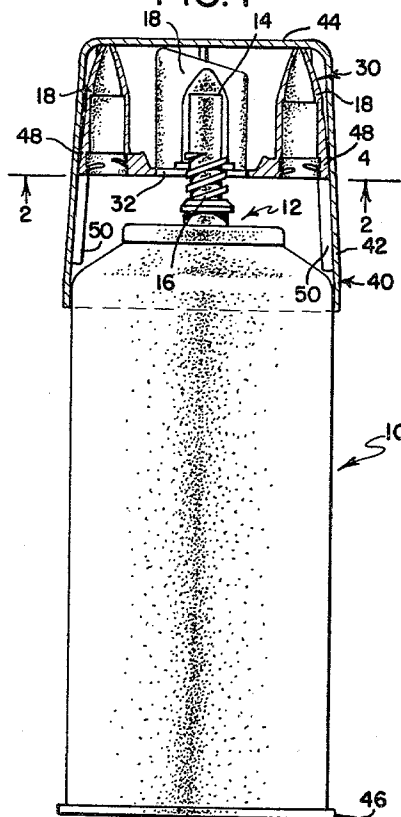
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FIG. 1



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3,195,784

MULTI-TIP DISPENSING DEVICE

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5 Claims. (Cl. 222-182)

This invention relates generally to product dispensing apparatus, and more particularly to apparatus adapted for household use in dispensing frosting or a similar viscous product from a pressurized dispensing can through various selected decorative tips, wherein such tips can be conveniently stored with their associated dispensing can.

It is a general object of the present invention to provide apparatus of the type described wherein a plurality of decorating tips can be conveniently stored in the apparatus prior to initial use and also be easily removably stored in said apparatus after such initial use so as to be readily available for reuse.

It is a more particular object to provide a decorating tip assembly for use with a pressurized dispensing can of a general type which is now commonly used commercially, which assembly is inexpensive, and can readily be made as a unitary structure as, for example, by injection molding.

These and other objects and features of the invention will be more readily understood and appreciated from the following detailed description of the preferred embodiment thereof selected for purposes of illustration and shown in the accompanying drawings, in which:

FIGURE 1 is a side elevational view of a dispensing apparatus embodying preferred teachings of my invention, with the closure cap thereof being shown in section,

FIGURE 2 is a horizontal sectional view taken on line 2-2 of FIGURE 1,

FIGURE 3 is a top plan view of the dispensing tip assembly of my invention, illustrating the manner in which a pair of said tips can be separated from the frame,

FIGURE 4 is a view similar to that of FIGURE 1, showing the upper portion of the dispensing apparatus, with the dispensing tips having been broken away from their frame and inserted on the mounting plugs thereof,

FIGURE 5 is a horizontal sectional view taken on line 5-5 of FIGURE 4,

FIGURE 6 is a fragmentary side elevational view illustrating the manner in which a selected one of said dispensing tips is inserted onto the discharge stem of the dispensing can, and

FIGURE 7 is a fragmentary sectional view taken on line 7-7 of FIGURE 5, illustrating the manner in which a dispensing tip is removably secured onto a mounting plug of the tip assembly.

Numerical 10 designates a generally cylindrical pressurized dispensing can of known design, in which is contained a supply of frosting mix or some other like product. At the upper end of the can 10 is a valve assembly 12 having a discharge stem 14 through which the frosting is dispensed in response to the tilting of the stem 14. This valve assembly 12 with its stem 14 is, or may be, one of any number of suitable prior art valves of this general type now commercially available. The stem 14 is desirably formed with exterior threads 16 by which various selected decorating tips 18 can be individually secured to the stem 14 for use in dispensing the frosting in a particular decorative flow pattern.

In this preferred embodiment of the present invention, there are provided a plurality (as shown herein, four) of these decorating tips 18, each of which is, by itself, well known in the prior art. Thus each tip 18 has a cylindrical base 20 with interior threads 22 to engage the threads 16 of the stem 14 (as shown in FIGURE 6). The discharge

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or top end 24 of each tip 18 is formed in a particular manner (this of itself being of no significance in the present invention) to give a specific configuration to the frosting being discharged therethrough. Each tip 18 is formed with interior annular shoulders 26 and 28 to engage, respectively, the top of the stem 14 and the upper portion of the threads 16, when the tip 18 is placed on the stem 14 (as shown in FIGURE 6).

The tips 18 are made as a part of an integral tip assembly 30, comprising these tips 18, a circular ring-like frame 32, and a plurality of mounting plugs 34 numerically equal to the tips 18. The plugs 34 and the tips 18 are disposed evenly and alternately about the periphery of the ring 32 in a symmetrical pattern. While the plugs 34 are each secured to the ring 32 by a relatively strong connecting piece 36, the tips 18 are each connected to the ring 32 by a smaller connecting piece 38 which is easily broken by twisting the related tip 18 away from the ring 32. In the particular arrangement shown herein, each of the tips 18 and each of the plugs 34 has its lower end generally co-planar with the plane defined by the ring 32 and extends upwardly therefrom. This assembly 30 readily lends itself to being made from a suitable material, such as polyethylene, by an injection molding process.

Closing the upper end of the can 10 is a cap 40 having a generally cylindrical side wall 42 which moderately tapers upwardly to a top flat cover portion 44, having a diameter slightly smaller than a peripheral lip 46 at the base of the can 10, to permit the cans 10 with their caps 40 to be properly stacked for shipping. The inside diameter of the cap 40 near its upper portion is slightly smaller than the maximum dimension measured from the outside edges of oppositely positioned tips 18, when such tips 18 are in their initial positions as integral parts of the tips assembly 30. Thus the tip assembly 30 can, with moderate pressure, be inserted into the cap 40 with the outside edges of the tips 18 frictionally engaging the cover side wall 42. Thus each of the tips 18 has, opposite its connecting piece 38, a small flange piece 48 to engage the cap side wall 42. The side wall 42 of the cap 40 is formed with a plurality of interior evenly spaced, vertical reinforcing ribs 50, equal numerically to the dispensing tips 18. These ribs 50 (besides having a reinforcing function) act as a guideway when the unitary tip assembly 30 is initially inserted into the cap 40, and also serve a stop function to locate the cap 40 when it is placed on the can 10 (as shown in FIGURE 1), by engaging the top of the can 10.

In operation, when the dispenser (comprising the can 10, valve assembly 12, tip assembly 30, and closure cap 40) is first assembled, the tip assembly 30 is inserted into the cap 40, which is in turn placed on the can 10. The tip assembly 30 fits snugly in the upper portion of the cap 40 with the discharge stem 14 projecting upwardly through the center of the ring 32, and each of the tips 18 being adjacent a related reinforcing rib 44. When the housewife or other consumer uses the dispenser, the cap 40 is removed, the tip assembly 30 taken out of the cap 40, and one or more selected decorating tips 18 are broken away from the tip assembly 30. This is illustrated in FIGURE 3, wherein two of the tips designated 18a, are shown removed from the ring 32. The selected tip 18 is inserted on the discharge stem 14 (as shown in FIGURE 6), and the can 10 is used in the conventional manner to discharge frosting through the selected tip 18 (i.e. tilting the stem 14 to discharge the frosting).

When the housewife or other operator has finished using a particular decorating tip 18, the tip 18 is preferably cleaned and then placed by its base end 20 onto a mounting plug 34, as illustrated in FIGURE 7, so as to be upstanding from its plug 34. Thus, upon completion of this frosting dispensing operation, the tips 18 which were re-

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moved from the ring 32 are each positioned on a related plug 34 and the resulting assembly (comprising the ring 32, plug 34, and tips 18, one or more of which may be removably secured to, respectively, one or more plugs 34) is placed over the discharge stem 14 to rest on the top of the can 10 (this being illustrated in FIGS. 4 and 5). The cap 40 is replaced and the can 10 stored in a suitable location. When the dispensing unit is again used, the tips 18 on the plugs 34 are readily available for reuse in the afore-described manner.

What is claimed:

1. A decorating tip assembly for a pressurized dispensing can and the like, which can has a discharge stem from which a product such as frosting is dispensed, said assembly comprising:

- (a) a ring-like frame,
- (b) a plurality of decorating tips,
- (c) a plurality of breakable connecting pieces by which each of said tips is secured to said frame,
- (d) tip mounting means fixedly secured to said frame and positioned at a location other than that of said plurality of breakable connecting pieces,
- (e) said assembly being unitary and having a general ring-like configuration so that said assembly can be inserted in an original storage position around said stem,
- (f) said tip mounting means being arranged to interfit with any of said tips which are broken away from said frame, whereby a selected one of said tips can be broken from said frame, applied onto said stem for use in product dispensing, and be subsequently

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removably secured to said frame by being interfitted with said mounting means, and

(g) said mounting means being so arranged that with said tips so removably secured to said frame, the tips and mounting means are arranged with the frame in a general ring-like configuration so as to be able to be placed around said stem in a subsequent storage position.

2. The apparatus as recited in claim 1, and comprising a closure cap for said can, wherein said frame, tips, and mounting means are so arranged that in said original position and in said subsequent storage position said assembly fits within said closure cap.

3. The apparatus as recited in claim 2, wherein said assembly in its original storage position frictionally engages said cap so as to fit snugly therein.

4. The apparatus as recited in claim 3, wherein said cap has a plurality of interior ribs to act as guideways for related tips when said assembly is inserted into said cap in its original storage position.

5. The apparatus as recited in claim 1, wherein said mounting means comprises a plurality of plug members arranged one for each tip to interfit each with a base end of a related tip.

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