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2,969,890

ANIMAL OR LIKE FEEDING DISH

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FIG. 1

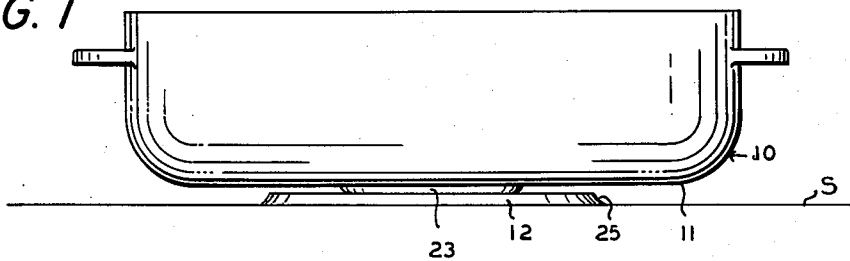


FIG. 2

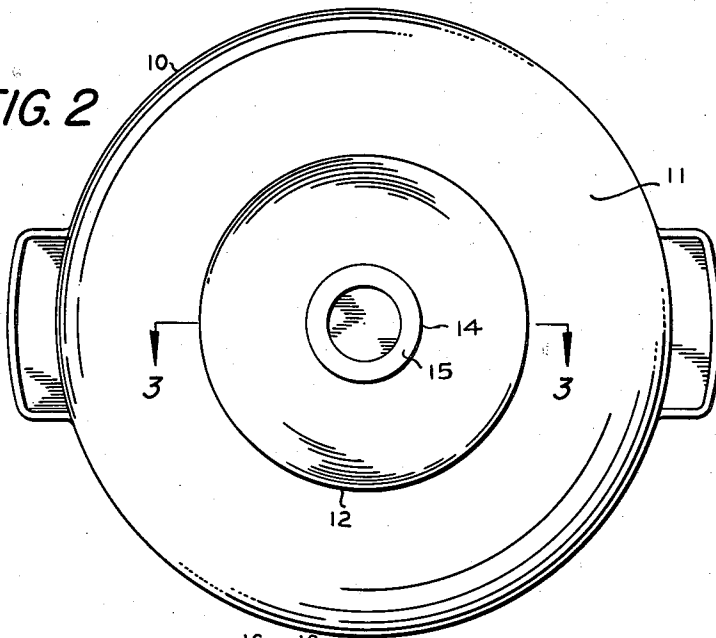


FIG. 3

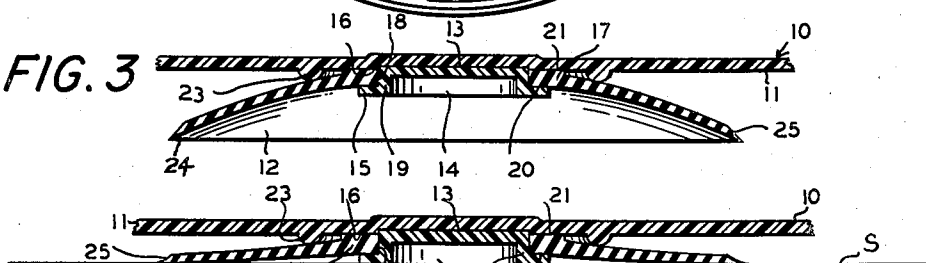
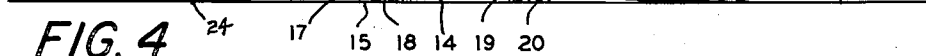


FIG. 4



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1

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3 Claims. (Cl. 220—69)

This invention relates to a feeding dish, and in particular relates to a feeding dish to be used on a floor or like surface, as for feeding small animals.

Heretofore, animal feeding dishes of the character described have been provided with suction cups on the underside thereof, adapted to be adhered to a floor or like surface, to prevent tipping of the dish and spilling the contents of the same. When, however, it was desired to provide a feeding dish of seamless molded construction, of material such as synthetic resin, and a suction device of elastic material, it was difficult, if not impossible, to mold undercut retaining means for the suction cup integral with the material of the dish. This difficulty generally resulted from the fact that undercut or recessed retaining portions formed on the underside of the dish prevented removal of the seamless dish from the mold.

One object of the present invention is to provide a seamless, molded feeding dish of hard plastic material, having a suction cup retaining member affixed thereon which will not adversely effect ready removal of the dish from its forming mold.

Another object of the invention is to provide a dish of the character described having improved means for maintaining the usual concavo-convex shape of the elastic suction cup for effecting proper suction-gripping engagement with the floor or like surface immediately upon initial engagement of the suction cup with said surface.

Another object of the invention is to provide, in a feeding dish of the character described, improved means for removably retaining the suction cup on the underside of the dish in air-sealing relation.

Another object of the invention is to provide a suction cup unit of the character described, including improved means thereon for limiting flattening thereof against a surface, and thereby to prevent excessive vacuumizing which otherwise tends to make manual removal of the suction cup from said surface relatively difficult.

These and other objects of the invention will be manifest from the following brief description and the accompanying drawings.

Of the accompanying drawings:

Figure 1 is a side elevation of an animal feeding dish embodying the features of the invention, attached to a surface by means of a suction cup on the underside of the same.

Figure 2 is a bottom plan view of Figure 1.

Figure 3 is an enlarged fragmentary cross-section, taken substantially on the line 3—3 of Figure 2, and illustrating the suction cup of the dish in inoperative condition.

Figure 4 is a view corresponding to Figure 3, but illustrating the suction cup attaching means in an operative condition for attachment of the dish to a floor or like surface.

Referring to the drawings generally, the numeral 10 designates a seamless molded feeding dish of hard plastic material, such as vinyl resin, and having a flat bottom wall 11 to which is removably attached a suction cup 12

2

of concavo-convex shape, and of suitable elastic material, such as rubber or synthetic rubber.

For releasable attachment of the suction cup to the dish 10, the bottom wall 11 may be indented to provide a shallow circular recess 13 for centering reception of a cylindrical cup-shaped cap 14, said cap being of material similar to that of the dish, and being bonded thereto, as by means of a solvent cement compatible to the materials of both parts. The cap 14 may have an outturned annular flange 15 in spaced relation to a flat opposite peripheral portion 16 of said bottom wall to define an annular channel. A thickened central portion 17 of the suction cup has a cylindrical central opening 18 for tight sealing reception within said channel about the cylindrical portion 19 of the cap, and flat oppositely disposed peripheral seat portions 20 and 21 in similar tight or yielding sealing engagement with the inner face of flange 15 and said peripheral seat 16. This tight fitting relationship of the central portion of the suction cup is designed to prevent passage of atmospheric air inwardly of the suction cup through the opening 18 when the suction cup is flattened against a flat surface S, as best shown in Figure 4. At the same time, the suction cup, being elastic, is readily attachable and removable with respect to the dish, by stretching the central portion 17 over the flange 15, as for the purpose of washing dish 11.

Integrally provided on the bottom wall 11 may be an annular rib 23 of beaded or rounded cross-section, adapted to be engaged by a convex upper portion of the suction cup, upon urging the dish and the suction cup against a flat surface, thereby tending to bow the suction cup from the peripheral edge of flange 15, and to maintain the general concavo-convex shape of the suction cup to a requisite degree which will assure full air-sealing engagement of the free marginal edge portion 24 of the same with said surface, as best shown in Figure 4. The outer edge of the suction cup may be substantially abruptly beveled at 25 to facilitate vacuum gripping engagement of the marginal portion 24 of the suction cup with the flat surface, over an area which is somewhat wider than line contact.

The arrangement is such, with particular regard to the positions of flange 15 and rib 23, that in the operative condition shown in Figure 4, engagement of the cap 14 with said flat surface S will prevent full flattening of the suction cup, so that some atmospheric air will be retained under the same. This makes it possible to utilize a relatively large suction cup for greater stability of support of a dish 10, for example, and yet make it possible to break the vacuum when desired by manipulating the dish with a lesser degree of manual effort. Moreover, the rib 23 serves a second purpose of preventing the dish 10 from being tilted to any substantial degree in normal use thereof, as by an animal feeding from the same.

In use of the improved dish, in the condition best shown in Figures 1 and 3, it may be simply placed upon a flat, smooth surface S without necessarily applying downward pressure, in which case the peripheral rib 23 on the underside of the dish will be effective to hold the generally concavo-convex shape of the suction cup as the weight of the dish tends to flatten the same against the surface into the full suction gripping position shown in Figure 4.

Modifications of the invention may be resorted to without departing from the spirit thereof or the scope of the appended claims.

What is claimed is:

1. A feeding dish of the character described, comprising a container having a bottom wall, a cylindrical member affixed to said bottom wall and having an out-turned annular flange spaced therefrom to define an annular channel, a concavo-convex suction cup of flexible elastic material having a central opening entirely through the

3

suction cup defining an annular portion complementally received in snug air-sealing relationship within said annular channel and about said cylindrical member to have said annular flange extending within said suction cup, whereby the suction cup is removable from said member by yieldingly distorting said annular portion over said annular flange and said annular flange limits downward movement of said container with respect to a flat supporting surface, said bottom wall having a peripheral rib outwardly concentric with said cylindrical member and positioned substantially closer to said flange than to the peripheral edge of said suction cup to engage the suction cup adjacent said cylindrical member, to maintain the cup-shaped form of the suction cup upon the same being flattened against the supporting surface.

2. A feeding dish as set forth in claim 1, wherein the thickness of said peripheral rib is proportioned with respect to the spacing of said annular flange from said

4

bottom wall to provide a clearance between the supporting surface and the under side of the suction cup in the area coextensive with the rib, in the downwardly limited position of the container.

5 3. A feeding dish as set forth in claim 1, wherein the outer marginal portion of said suction cup is abruptly beveled to a sharp edge at the convex side thereof, whereby said marginal portion tends to conform flatly against said supporting surface upon initial contact of the suction
10 cup with the same.

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