

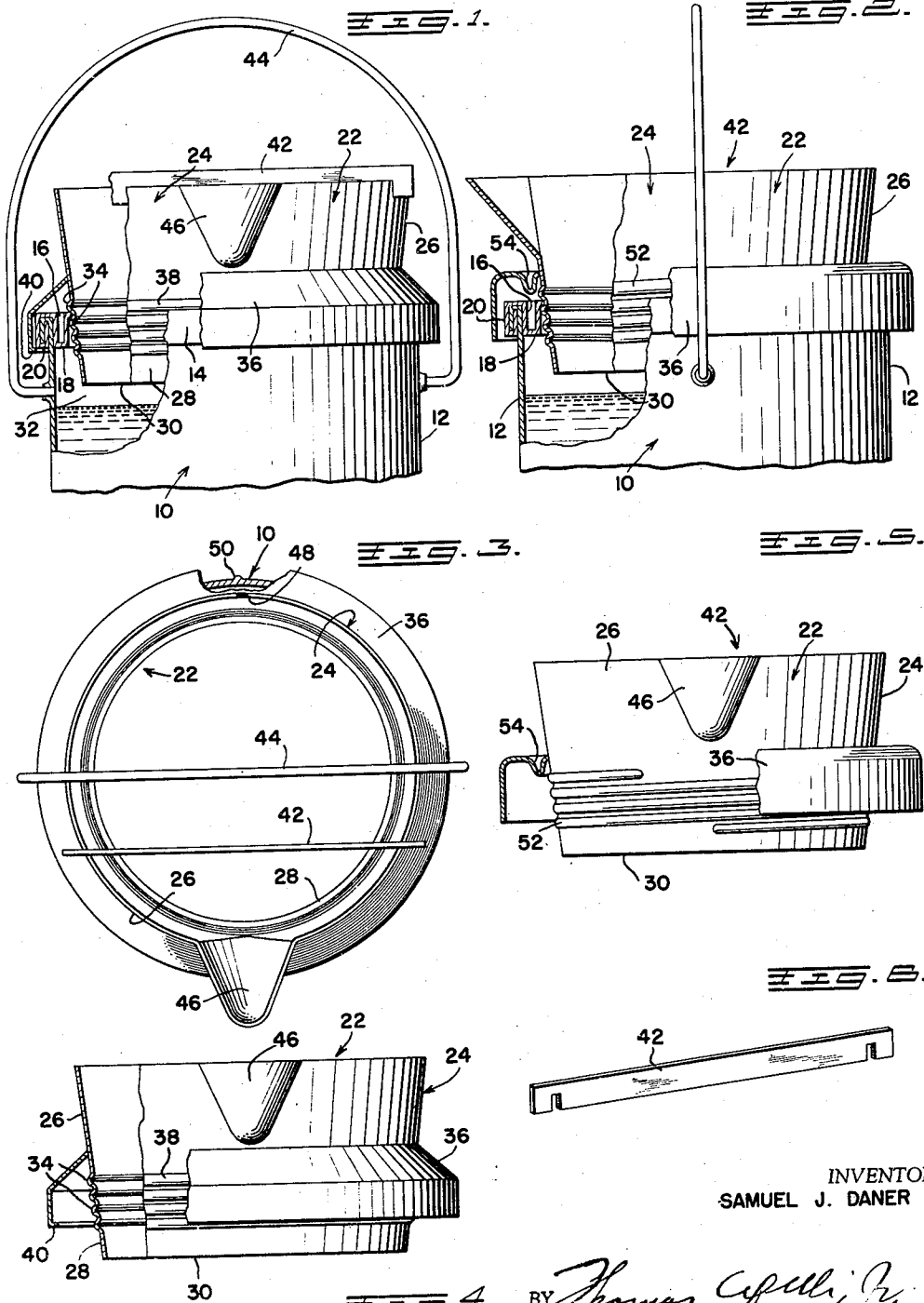
June 3, 1958

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2,837,256

COMBINED MIXING AND POURING CAN GUARD

Filed May 25, 1955



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2,837,256

COMBINED MIXING AND POURING CAN GUARD

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Application May 25, 1955, Serial No. 510,943

8 Claims. (Cl. 222-568)

The present invention relates to attachments for round friction top cans, and more especially to a combined mixing and pouring can guard therefor.

An object of this invention is to provide a detachable device which will securely engage in the opening at the top of such cans and thereby prevent the contents of the cans from getting into the groove conventionally found in such cans.

Another object of this invention is to permit easy mixing and pouring of the contents of such cans without spillage, either into the groove, or on the outside of the cans, or on objects surrounding the cans. Spillage is particularly pronounced where mechanical or electrical stirrers are employed with known containers.

A further object of this invention is to provide a suitable combined mixing and pouring can guard of the type described that will be economical to manufacture and use.

The foregoing and other objects of this invention have been attained in accordance with my present invention, wherein I provide a combined mixing and pouring can guard for round friction top cans of the type which has a concentric groove and inner and outer peripheral beads in the top rim, said guard comprising an annular member having an upstanding wall with at least its lower portion inwardly tapering downwardly, a plurality of annular projections on the outer side of said lower portion whereby to frictionally engage the inner peripheral bead throughout its circumference between vertically-adjacent annular projections, and an annular collar projecting outwardly from the outer surface of said upstanding wall, said collar being spaced above said annular projections whereby to overlie the rim of the can when the annular member is inserted therein.

While my device has application in general with round friction type cans of the type described, it will be described in detail herein with particular relation to its use with paint cans.

It is common knowledge that in mixing and using the contents of paint cans some paint invariably enters the groove in the top rim and runs down the outside of the cans, causing a messy condition both as regards the cans and their surroundings. The paint which enters the groove prevents the closing of the can when the cover is placed thereon, thereby facilitating the entry of air into the cans and consequently resulting in the formation of the well-known and disadvantageous skim on the top of the paint and, at times, even in the total loss of the contents due to oxidation and evaporation.

Efforts have been made to overcome these and other disadvantages inherent in conventional cans of the type described. Such suggestions for eliminating these disadvantages generally are impracticable, too expensive, or inadequate to overcome the problem.

By my present invention I have, as aforesaid, succeeded in providing an efficient and economical device, which is practical at the same time.

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With the foregoing in mind, my invention consists of certain novel features of construction and combinations and arrangements of parts which will be more fully hereinafter described, and which will become apparent from the following description taken in connection with the accompanying drawings in which like characters represent like parts throughout and which form a part hereof.

In the drawings:

Fig. 1 is a side elevation, partly in section, partly broken, of a preferred embodiment of my novel device attached to a container, the latter being shown in part;

Fig. 2 is similar to Fig. 1 but without the brush wiper-rest and shows another embodiment of my novel device, the can having been moved 90° from the position shown in Fig. 1;

Fig. 3 is a top plan view of the novel device with container shown in Fig. 1, being partly broken away to show the centering means of my device;

Fig. 4 is a side elevation of the novel device shown in Figs. 1 and 2, and is partly broken away and partly in section;

Fig. 5 is a side elevation of the embodiment of my novel device shown in Fig. 2, and is also partly broken away and partly in section; and

Fig. 6 is a perspective view of a removable brush wiper-rest which can be employed with my novel device, as shown in Figs. 1 and 2.

Referring to the drawings, in particular to the form of the invention shown in Figs. 1, 3 and 4, the can 10 is of the well-known friction top type having upstanding round wall 12 at the upper end of which is a rim 14 having a groove 16 and inner 18 and outer 20 peripheral beads.

My novel guard 22, in the form shown in Figs. 1, 3 and 4, comprises an annular member 24 having an upstanding wall 26. At least the lower portion 28 of this wall 26 has a taper, extending inwardly and downwardly.

The purpose of the just-mentioned taper is to enable the device 22 to engage frictionally with conventional cans, which vary in size openings somewhat, even though the capacity of the cans may be the same. It is therefore obvious that the lower peripheral edge 30 of the guard 24 should be smaller in diameter than the smallest size opening for the particular capacity for which the device is designed. By actual measure, the difference in openings 32 in 14 different makes of round 1-gallon cans has been found to be about 1/4" in diameter between the smallest and the largest openings.

On the outer side of the lower portion 28 of my guard 22 are annular projections 34 extending around the device. The projections 34 are spaced at small intervals from each other, e. g., 1/8" to 1/4", but these intervals may vary according to the size of the device.

Located above these annular projections 34 on the outer surface of the wall 26 is an annular outstanding collar 36. The collar 36 is so located as to permit the device 22 to be inserted in frictional engagement into the can 10 and still overlie the rim 14 of the can 10. In practice the location of the collar 36 has been found to be about 1/4" above the topmost annular projection 38, but this distance may be greater or smaller depending on the size of the device, spacing of the intervals between projections, etc. The collar 36 is shown in Figs. 1 and 4 as having a downward taper extending radially from the center of the device. To increase the frictional engagement of the device 22 with the can 10 a bead 40 is provided at the outer edge of the collar 36, for engagement with the outer peripheral bead 20 of the can 10.

A removable bar 42 for brush wiping and brush rest purposes is shown, both in assembled condition on my device Fig. 1 and in unassembled condition in Fig. 6.

My device is so constructed that when in position the conventional handle found on all gallon cans will clear the device in all positions of the handle. This is very important especially when carrying or moving the can when the device is in position to be used.

A pouring spout 46 in the upper part of the wall 26 of my device is also provided. In order to aid in centering the device in place on the can 10 a suitable mark 48 is placed on the device 22 so as to overlie the conventional vertical seam 50 in the wall of the can 10.

With special reference to Figs. 2 and 5, which show a modified form of my device, it can be seen that the annular projections are in the form of a helix 52 and that the collar 36 has a groove 54 therein to conform with the corresponding groove 16 in the rim 14 of the can 10. Also, the collar 36 in the modified form is shown extending outwardly horizontally.

The device of my invention is advantageously of flexible or resilient material, such as polyethylene, or other suitable plastic, of approximately $\frac{1}{16}$ " to $\frac{1}{8}$ " thickness. Other flexible, shape-retaining materials, such as thin metal, paper, rubber and the like, can also be used.

In using my novel device 22 the conventional lid (not shown) is removed from the can 10, exposing its contents. My novel member 22 is then inserted into the opening 32 of the can 10 with mark 48 being over seam 50 of the can 10. Since the diameter at the bottom of the lower edge 30 of my member 24 is less than that of the opening 32 in the can and the diameter at the topmost annular projection 38 is greater than that of the opening 32 in the can, it can be seen that by pressing down on the device it can be frictionally engaged with the can 10. This is accomplished in part as shown in Figs. 1 and 2 by vertically-adjacent projections 34 acting as stops for the inner bead 18 of the can 10. Additional friction engagement is obtained as a result of the engagement of bead 40 of the collar 36 with outer peripheral bead 20 of the can rim 14. Due to the flexibility of the material from which my device is made irregularities in the shape of the can opening 32 are compensated and close frictional engagement is attained.

It will now be obvious that my device 22 is securely engaged with the can 10, the groove 16 of the latter being protected by the collar 36 which overlies it. Mixing, with or without the addition of solvents, pigments, etc., can now be effected without spillage. The can may be transported to the site of work and, if desired, the brush wiper-rest 42 can be inserted. Should any paint spill it will be collected on the collar 36, leaving the groove 16 in the can 10 perfectly clean.

It is noteworthy that a removable brush wiper-rest 42 is preferable to one integral with the guard 22 as the former may be removed if maximum opening is desired, for example, when large brushes are used. The wiper-rest 42 eliminates the messy practice of wiping the brush on the rim of the can.

After the painting operation is complete and the device has been removed from the can, which is an easy operation with my device, the rim of the can is absolutely clean and the cover can be seated thereon.

The device may be cleaned in any conventional manner or, if desired, it may be discarded if made of expendable material such as paper.

The embodiment shown in Figs. 2 and 5 is employed in the same manner as the one shown in Figs. 1, 3 and 4, with one exception. Instead of only the downward force exerted in inserting the guard into the can, the guard is

also given a turning motion, thereby enabling the helical projection 52 to attain maximum frictional contact with the inner bead 18. The turn may either be clockwise or counterclockwise, depending on the direction of the helix.

In operation it is a simple matter to determine which way to turn: simply turn in one direction and if that is the wrong direction, then reverse the direction of turn.

Wherever the context so admits or requires the term "annular projections" herein is to be taken as including a single helical projection, i. e., the projection 52 as shown in Fig. 5.

The illustrated embodiments of the invention have been described in detail for the purposes of illustration. It is understood that various modifications in the details of construction and in the application of my invention can be made by those skilled in the art after understanding my invention without departing from the true spirit and scope of my invention as defined by the following claims.

I claim:

1. A combined mixing and pouring can guard for round friction top cans having a concentric groove and inner and outer peripheral beads in the rim, comprising an annular member having an upstanding wall with at least its lower portion inwardly tapering downwardly, annular projections on the outer side of said lower portion whereby to frictionally engage the inner peripheral bead throughout its circumference between vertically-adjacent annular projections, and an annular outstanding collar projecting from the outer surface of said upstanding wall spaced above said annular projections whereby to overlie the rim of the can when said member is inserted therein.
2. A device as defined in claim 1 wherein said outstanding collar is inclined downwardly.
3. A device as defined in claim 1 wherein said annular projections are helical in form.
4. A device as defined in claim 1 wherein said outstanding collar has an annular groove therein so as to conform with and overlie the channel and rim of the can when the device is inserted in the can.
5. A device as defined in claim 1 having a removable bar extending across the opening therein.
6. A device as defined in claim 1 for friction top cans as defined herein having pivoted handles, wherein said device is of such size as to be cleared by the handle during movement of the latter to any position.
7. A device as defined in claim 1 having a pouring spout formed in the upper part of the upstanding wall.
8. A combined mixing and pouring can guard for round friction top cans having a concentric groove and inner and outer peripheral beads in the rim, comprising an annular member having an upstanding wall with at least its lower portion inwardly tapering downwardly, annular projections on the outer side of said lower portion whereby to frictionally engage the inner peripheral bead throughout its circumference, and an annular outstanding collar projecting from the outer surface of said upstanding wall spaced above said annular projections whereby to overlie the rim of the can when said member is inserted therein.

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