

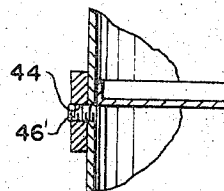
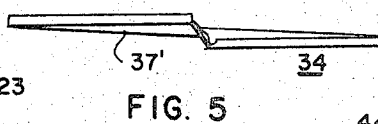
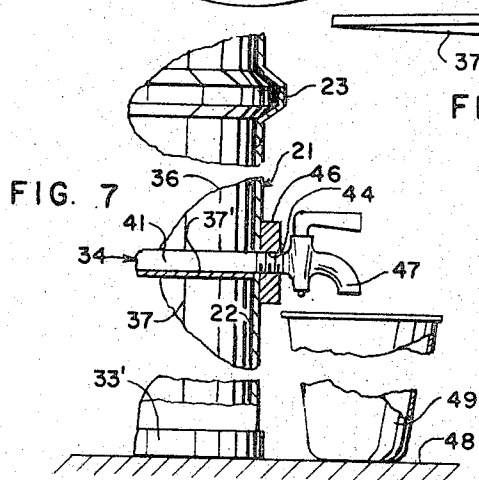
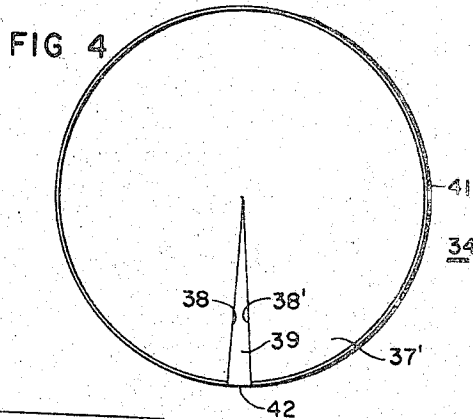
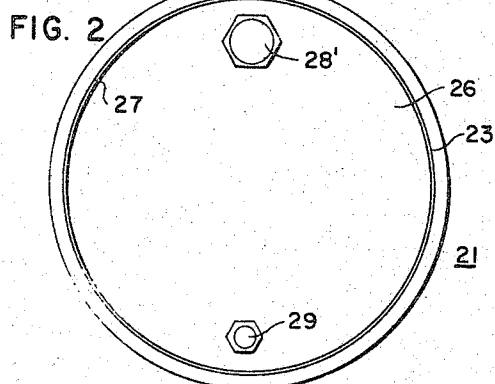
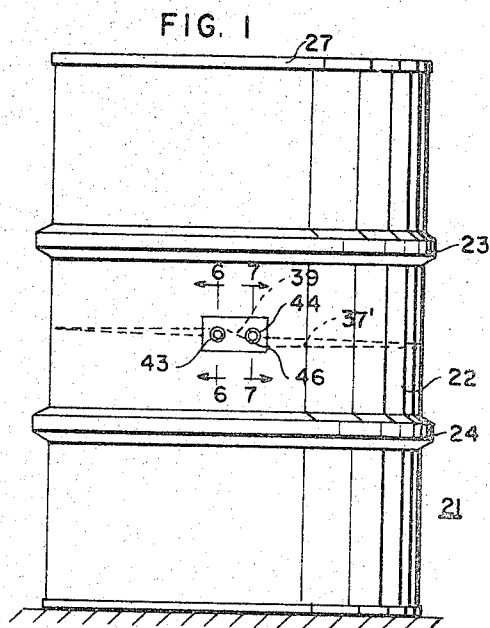
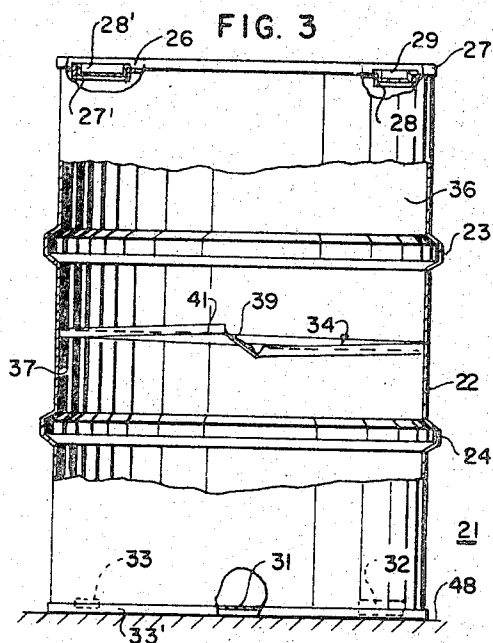
Jan. 6, 1970

G. K. DAVIDSON
DISPENSING CONTAINER

3,488,694

Filed Dec. 20, 1967

3 Sheets-Sheet 1



INVENTOR.
GERALD K. DAVIDSON
BY *Pearce & Schaeperclaus*

Attorneys

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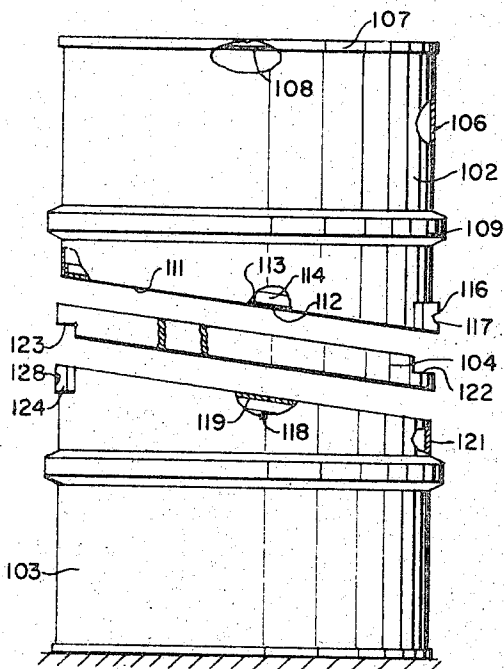


FIG. 17

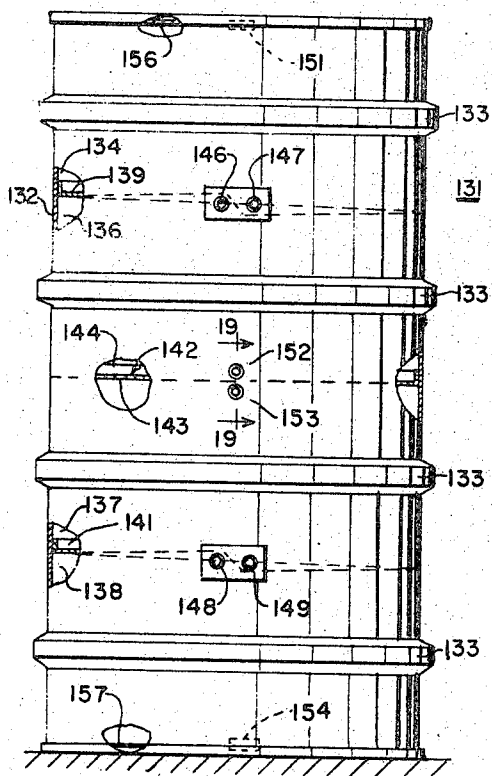


FIG. 18

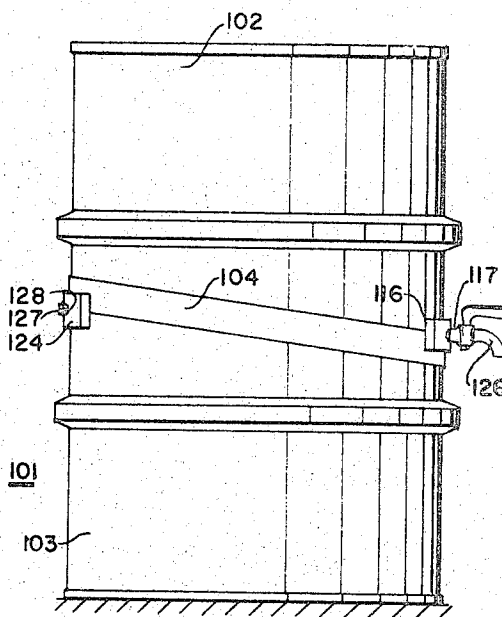


FIG. 16

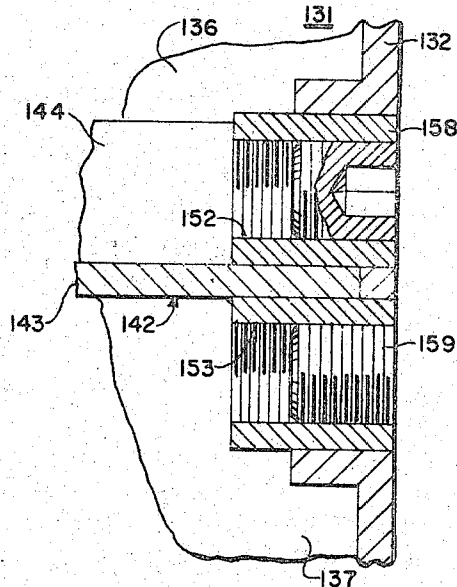


FIG. 19

INVENTOR.
GERALD K. DAVIDSON
BY *Pearce & Schaeperclaus*

Attorneys

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3,488,694

DISPENSING CONTAINER

Gerald K. Davidson, Highland Heights, Ky., assignor of one-half to Isidore A. Berman, Cincinnati, Ohio

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7 Claims

ABSTRACT OF THE DISCLOSURE

A cylindrical container which is divided into sections by a generally transverse wall with discharge openings for mounting a faucet or the like on opposite sides of the transverse wall, the container being adapted to rest on either end with the discharge openings spaced above a surface on which the container rests.

This invention relates to dispensing containers. More particularly, this invention relates to compartmented dispensing containers for liquids and the like.

An object of this invention is to provide a container which dispenses material from a point spaced above a supporting surface therefor.

A further object of this invention is to provide a container which can be rolled from place to place readily and which, when placed on end, is in position for dispensing.

Briefly, this invention provides a container having a bottom face and a top face, on both of which the container can rest. The container is divided into sections by a generally transverse wall with discharge openings for mounting a faucet or the like on opposite sides of the transverse wall. The transverse wall can have a helical edge extending for substantially a single convolution, the discharge openings being at ends of the helical edge and adjacent each other. Preferably, the container is substantially right circular cylindrical in shape so that it can be rolled to a dispensing location where it can be set on end in position for dispensing materials. Appropriate filler openings and vent openings can be provided on both sides of the transverse wall so that the container has two separate compartments, both of which can be filled with liquid material, granular material, powdered material or the like and from both of which the material can be dispensed. Appropriate plugs are provided for the filler openings and the vent openings for use when the container is being rolled into position and to retain contents of one of the compartments while material is being dispensed from the other compartment or the other compartment is being filled.

The above and other objects and features of the invention will be apparent to those skilled in the art to which this invention pertains from the following detailed description, and the drawings, in which:

FIG. 1 is a view in front elevation of a dispensing container constructed in accordance with an embodiment of this invention;

FIG. 2 is a top plan view of the container shown in FIG. 1;

FIG. 3 is a view in front elevation thereof partly broken away to reveal details of construction;

FIG. 4 is a plan view of a transverse divider thereof removed from the container;

FIG. 5 is a view in front elevation of the divider illustrated in FIG. 4;

FIG. 6 is a view in section taken on the line 6—6 in FIG. 1 on an enlarged scale;

FIG. 7 is a view in section taken on the line 7—7 in FIG. 1 on an enlarged scale with a dispensing faucet being shown mounted in a dispensing opening;

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FIG. 8 is a view in side elevation, partly broken away and in section, of a dispensing container constructed in accordance with another embodiment of this invention;

FIG. 9 is a view in section taken on the line 9—9 in FIG. 8;

FIG. 9A is a view in section taken on the line 9A—9A in FIG. 9;

FIG. 10 is a perspective view of a valve operating member of the container illustrated in FIGS. 8 and 9;

FIG. 11 is a plan view of a transverse divider of the container illustrated in FIGS. 8 and 9 removed therefrom;

FIG. 12 is a view in front elevation of the transverse divider shown in FIG. 11;

FIG. 13 is a view in side elevation, partly broken and in section, of a dispensing container constructed in accordance with another embodiment of this invention;

FIG. 14 is a plan view of a transverse divider of the container shown in FIG. 13 removed therefrom;

FIG. 15 is a view in front elevation of the transverse divider illustrated in FIG. 14;

FIG. 16 is a view in side elevation of a container constructed in accordance with a further embodiment of the invention;

FIG. 17 is an exploded view in side elevation showing sections of the container illustrated in FIG. 16, parts being broken away to reveal internal construction;

FIG. 18 is a view in side elevation, partly broken away and in section, of a container constructed in accordance with a further embodiment of this invention; and

FIG. 19 is a view in section taken on the line 19—19 on an enlarged scale, in FIG. 18.

In the following detailed description, and the drawings, like reference characters indicate like parts.

In FIGS. 1, 2, and 3 is shown a container or barrel 21 having a generally cylindrical wall 22 provided with outwardly extending circular ribs 23 and 24 on which the container can be rolled in a conventional manner. An upper end of the wall 22 is closed by a top closure plate 26 (FIG. 2) attached to the wall 22 by an appropriate bead 27 in the usual manner. The plate 26 is provided with a filler opening 27' (FIG. 3) and a vent opening 28, the filler opening normally being closed by a filler plug 28' and the vent opening 28 normally being closed by a vent plug 29. The bottom of the wall 22 is closed by a bottom plate 31, which is provided with a filler opening 32 and a vent opening 33, which are similar in construction to the openings in the top closure plate and which are normally closed by a closure plug and a vent plug, respectively (not shown). The plate 31 is attached to the wall 22 by a bead 33'.

A transverse divider 34 divides the container 21 into an upper chamber 36 and a lower chamber 37. The transverse divider 34, as shown in FIGS. 4 and 5, includes a main plate portion 37' of substantially circular shape which is split along intersecting lines 38 and 38' (FIG. 4) which also intersect an edge thereof and remove a narrow generally triangular section therefrom. The main plate portion 37' is so shaped that the outer edge thereof is substantially helical in shape with edges of the split being joined by a sloping sector plate section 39. The helical edge is substantially co-axial with the wall 22 so that, no matter which end of the container is up, the uppermost face of the transverse plate 34 slopes downwardly toward the sloping sector plate section 39. A flange 41 on the helical edge is attached to the interior of the wall 22, as by welding, to attach the transverse wall thereto. A curved edge 42 of the sector plate section 39 can engage the wall 22, and a seal therebetween can be formed, as by a solder joint, not shown.

As shown in FIG. 1, openings 43 and 44 are provided

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in a plate 46 which is attached to the outside of the wall 22, as by welding, and overlies the portion of the wall opposite the sector shaped section 39. The openings 43 and 44 also extend through the wall 22 and communicate with the compartments 37 and 36, respectively, adjacent intersections of the sloping sector section 39 and the main plate portion 37' of the transverse divider 34. The ribs of the container, one of which is shown at 23 in FIG. 7, extend outwardly further than the plate 46 so that the ribs protect the plate when the container is rolled from place to place with its axis horizontal and the ribs engaging a supporting surface.

When the container 21 is not set up to dispense material from one of the chambers, the openings 43 and 44 can be closed by plugs 46', one of which is shown in FIG. 6. When both of the openings 43 and 44 are closed by the plugs 46', the container 21 can be turned to a position (not shown) where the axis thereof is horizontal, and the container can readily be rolled to a location where material is to be dispensed from one of the chambers, and the container can be stopped at a position where one of the openings 43 and 44 is at the top of the container. One of the plugs 46' can then be removed and a faucet 47 (FIG. 7) can be mounted in the opening from which the plug has been removed. Then the container can readily be set on end, as shown in FIG. 7, with the faucet 47 being spaced above a surface 48 on which the container 21 rests so that a vessel 49 to receive material from the chamber 36 can rest on the surface 48 below the faucet 47 as shown in FIG. 7.

The chamber 36 can be emptied through the faucet 47 when the faucet is in the position shown in FIG. 7, and, since the main plate portion 37' of the transverse divider 34 slopes downwardly toward its intersection with the sloping sector section 39, adjacent which the opening 43 is positioned, substantially all the contents of the chamber 36 can be dispensed through the faucet 47.

The beads 33' of the lower end of the container 21 is substantially in a plane perpendicular to the axis of the container 21 so that when the container 21 rests on the bead 33', the axis is upright. The main plate portion 37' of the transverse divider 34 is substantially co-axial with the wall 22 of the container 21 but the edge of the main plate portion 37' extends helically along the wall 22. The vent plug 29 (FIG. 3) can be loosened sufficiently to permit air to enter the chamber 36 to replace the contents as the contents are dispensed.

When the chamber 36 has been emptied or when material is to be dispensed from the other chamber 37, the air vent plug 29 can be tightened, the container 21 can again be disposed with its axis horizontal, and the faucet can be transferred from the opening 44 to the opening 43, one of the plugs 46' being removed from the opening 43 and placed in the opening 44. Then the container 21 can be set on its other end, and the contents of the chamber 37 can be dispensed through the faucet 47.

In FIGS. 8-12 inclusive is shown a dispensing container 51 having a side wall 52 (FIG. 8), outwardly extending circular ribs 53 and 54, an upper closure plate 56, and a lower closure plate 57, the closure plates being attached to the wall 52 by beads 58 and 59, respectively. Each of the closure plates is provided with a filler opening 61 and a vent opening 62, which are normally closed by plugs (not shown). The foregoing structure can be similar to that of the dispensing container described hereinabove. A transverse divider 63 is mounted inside the wall 52 coaxially therewith. A main plate portion 64 of the divider 63 is provided with a split 65 along a major portion of a diameter thereof, and the main plate portion is shaped as shown in FIG. 12 with the edge of the main plate portion 64 extending substantially helically. A flange 66 along the edge of the main plate portion is attached to the wall 52 to mount the divider thereon. A curved plate 67 (FIG. 9) is mounted on the outer face of the wall 52 opposite the

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ends of the main plate portion 64. The transverse divider 63 divides the interior of the container into chambers 67' and 68. A cup-shaped discharge housing 68' is mounted in aligned openings 69 and 71 in the plate 67 and the wall 52 and extends into the interior of the container 51 between ends of the main plate portion 64 of the transverse divider 63. An upright plate portion 72 of the transverse divider, which is of substantially triangular shape connects edges of the main plate portion inwardly of the housing 68'. An upright edge 72' of the upright plate portion 72 abuts an inner end wall 72'' of the housing and is sealed thereto by a solder joint or the like. Openings 73 and 74 (FIG. 9A) are provided in the side wall of the housing 68' and communicate with the chambers 67' and 68, respectively.

A cup-shaped discharge fitting 76 (FIGS. 9 and 10) is mounted inside the housing 68' in threaded engagement therewith. An opening 77 in the wall of the discharge fitting 76 can be aligned with the openings 73 and 74 to permit discharge of the contents of the chambers 67' and 68, respectively. In FIGS. 9 and 9A, the opening 77 is shown aligned with the opening 74 to permit discharge of contents of the chamber 67' into the hollow interior of the fitting 76 to be discharged from the outer end thereof. When material is not being discharged from the container 51, the discharge fitting 76 can be turned to bring a seal ring 78, mounted on the fitting 76, into engagement with the outer end of the housing 68'. An outwardly extending annular flange 79 on the fitting 76 engages the seal ring. Lugs 81 on the fitting 76 can be engaged with a wrench, not shown, for turning the fitting 76. When it is desired to dispense material from the chamber 68, the container can be inverted in position and the discharge fitting 76 can be turned to bring the opening 77 of the fitting 76 into alignment with the opening 73 of the housing 68' so that material from the chamber 68 can be discharged through the discharge fitting 76. As shown in FIG. 9, when the fitting 76 is in its open or material discharging position, an outer edge 82 thereof at which the material is dispensed is spaced outwardly of the wall 52 thereof so that a container (not shown) can be placed beneath the outer edge 82 to receive the material.

In FIG. 13 is shown a container 84, which can be generally similar in construction to the container described hereinbefore. However, a transverse divider 86, which is mounted inside a wall 86' of the container, has a main plate portion 86'', which is elliptical in shape. A flange 87 on the divider 86 is attached to the interior of the wall 86'. The divider 86 divides the container into chambers 87' and 87''. Plates 88 and 89 are attached to the outer face of the wall 86' of the container overlying portions of the main plate portion of the divider which are furthest removed from the ends of the container. A plug 92 is mounted in and closes an opening 93 in the plate 88. A faucet 94 is mounted in an opening 96 in the plate 89 and communicates with the interior of the chamber 87' adjacent the main plate portion 86'' of the transverse divider 86. A slot 97 (FIGS. 14 and 15) in the flange 87 receives the inner end of the faucet 94 (FIG. 13). When the container 84 is in the position shown in FIG. 13, the contents of the chamber 87' can be dispensed through the faucet 94. When it is desired to dispense contents of the chamber 87'', the container 84 can first be turned 90 degrees to bring the axis into horizontal position, and the faucet 94 can be removed from the opening 96 and can be replaced by a plug, not shown, which closes the opening 96. Then the container 84 can be rolled to the position at which material is to be dispensed and can be halted with the plate 88 facing upwardly. The plug 92 can be removed from the opening 93, and the faucet 94 can be mounted in the opening 93. Then the container 84 can be turned an additional 90 degrees to place it in position resting on a bead 97' thereof, whereupon contents of the chamber 87'' can be dispensed therefrom through the faucet.

In FIG. 16 is shown a container 101 formed of two con-

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tainer halves 102 and 103 joined together by a band 104. Details of construction of the container half 102 are shown in FIG. 17. The container half 102 includes a generally cylindrical wall 106 provided with a bead 107 at an upper end thereof which attaches an end closure plate 108 thereto. The bead 107 extends substantially in a plane perpendicular to the axis of the wall 106. Appropriate filler and vent openings, not shown, can be provided in the end closure plate 108. An outwardly extending rib 109 is formed in the wall 106. The lower end of the wall 106 terminates in a face 111 which intersects the axis of the wall 106 at an acute angle. A transverse divider 112 having a main plate portion 113 of elliptical shape closes the lower end of the wall 106. A flange 114 on the main plate portion 113 is attached to the interior of the wall 106. A plate 116 is mounted on the outer face of the wall 106 overlying the section of the diverter plate furthest removed from the end closure plate 108. An opening 117 in the plate 116 communicates with the interior of the container half 102.

The container half 103 can be similar in construction to the container half 102, the half 103 having a transverse divider 118 provided with a main plate portion 119 sloping at the same angle to the axis of a wall 121 thereof as the transverse divider 112. The container halves are mounted with the main plate portions of the transverse dividers thereof in face-to-face relation and with the band 104 surrounding the portions of the walls thereof adjacent the transverse dividers. As shown in FIG. 16, the band 104 is slotted at 122 and at 123 to receive the plate 116 and a similar plate 124, which is a part of the container half 103. The band 104 can be attached to the walls of the container halves, as by welding. As shown in FIG. 16, when contents of the container half 102 are to be dispensed, a faucet 126 can be mounted in the opening 117 of the plate 116. A plug 127 can be mounted in an opening 128 of the plate 124 to close the opening 128. When the contents of the container half 103 are to be dispensed, the position of the container can be inverted and the positions of the plug and faucet reversed in the manner described with relation to the other forms of containers.

In FIG. 18 is shown a container 131 constructed in accordance with a further embodiment of this invention and having a generally cylindrical wall 132 provided with ribs 133. The interior of the container is divided into four sections 134, 136, 137, and 138 by transverse dividers 139 and 141, each of which can be similar in construction to the transverse divider shown in FIG. 5, and a transverse divider 142, which can include a circular flat body 143 and a circumferential flange 144, the flange 144 being attached to the wall 132 of the container. The container is shown with plugs 146, 147, 148, and 149 closing discharge openings thereof. The container can be turned from the position shown to a position in which the axis is horizontal and can be rolled to a position where the contents are to be dispensed and can be halted with the plugs up. Then the plugs 147 and 149 can be removed and faucets (not shown) can be substituted for the plugs 147 and 149, whereupon the container can be replaced in the position shown in FIG. 18, and contents of the chambers 134 and 137 can be dispensed therefrom. Air vents 151, 152, 153, and 154 can be provided to prevent formation of a vacuum in one of the chambers. The air vents 151 and 152 are disposed in upper and lower end plates 156 and 157 of the container, respectively. The air vents 152 and 153 are disposed adjacent the transverse divider 142, as shown in FIG. 19, and can normally be closed by plugs 158 and 159, respectively. When contents of the chamber 137 are being dispensed, the plug 159 can be loosened to permit entry of air through the air vent 153. As will be apparent, the container 131 can be inverted and the faucets can be placed in the openings shown in FIG. 18 to be closed by the

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plugs 146 and 148 to permit dispensing of material from the chambers 136 and 138. The chambers can be filled through the openings in which the plugs 146, 147, 148, and 149 are shown.

Each of the containers shown can readily be rolled to a position where contents are to be dispensed. Each container is placed in dispensing position by turning on end in an operation which requires no lifting of the entire container and only a limited amount of strength. When the container is in dispensing position, the transverse divider slopes downwardly toward the discharge opening so that substantially all of the contents of each chamber can be dispensed.

The container constructions illustrated in the drawings and described above are subject to structural modification without departing from the spirit and scope of the appended claims.

What I claim as new and desire to secure by letters patent is:

1. A dispensing container which comprises a hollow cylindrical body, end closure plates at opposite ends of the body, means at opposite ends of the body for resting on a horizontal surface for supporting the container with the axis thereof upright, a transverse divider mounted inside the body intermediate the ends and dividing the body into chambers, and means adjacent the divider for dispensing material from each of the chambers when the container is in upright position, the transverse divider sloping transversely of the axis of the body and terminating adjacent each dispensing means and on the side thereof toward the end of the container on which the body rests when dispensing therethrough.

2. A dispensing container as in claim 1 wherein the transverse divider has a main plate portion which is substantially flat.

3. A dispensing container as in claim 1 wherein the transverse divider has an edge at the body which extends substantially helically along the body.

4. A dispensing container as in claim 3 wherein the means for dispensing material from the container includes a hollow cup-shaped housing received between ends of the helical edge of the divider, there being discharge openings on opposite sides of the divider extending through the cup-shaped housing and communicating with the interior of the chambers, and a discharge fitting mounted in the housing, the discharge fitting having an opening alignable with the housing openings for discharging material from the chambers.

5. A dispensing container as in claim 3 wherein the divider includes a main plate portion having a split extending transversely thereof and intersecting an edge and a second plate portion linking edges of the split.

6. A dispensing container as in claim 5 wherein the second plate portion extends substantially axially of the body.

7. A dispensing container as in claim 5 wherein the second plate portion extends transversely of the axis of the body.

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ROBERT B. REEVES, Primary Examiner
F. R. HANDREN, Assistant Examiner

U.S. Cl. X.R.

220—5, 22; 222—144.5