

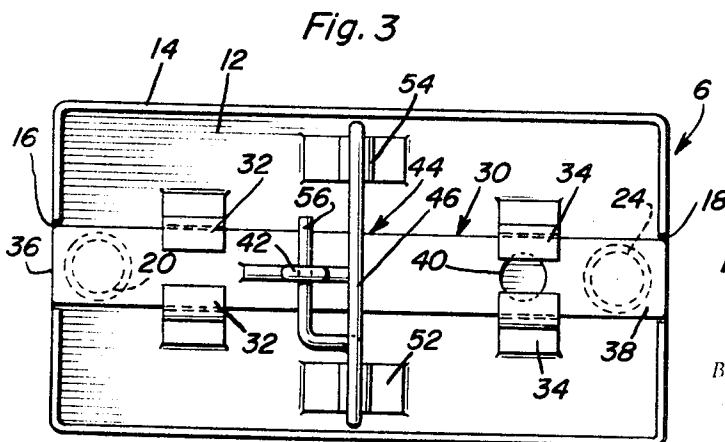
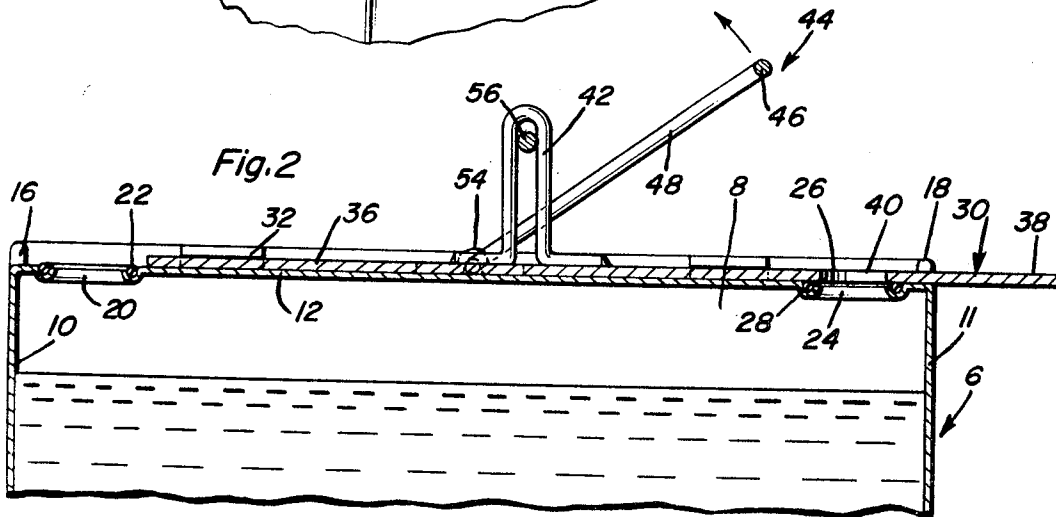
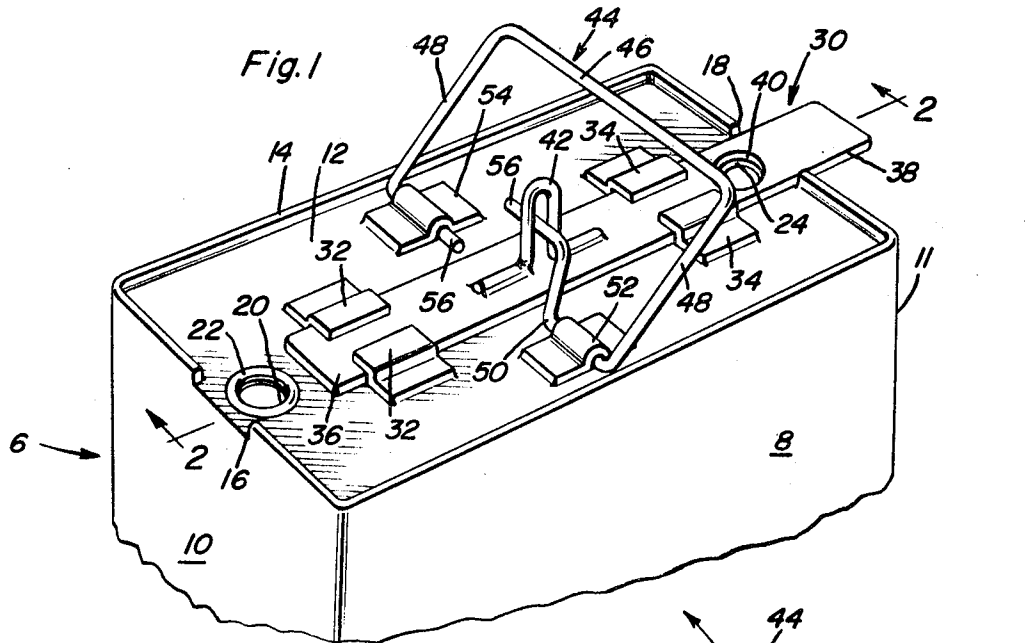
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POUR SPOUT AND VENT CONSTRUCTION

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POUR SPOUT AND VENT CONSTRUCTION

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ABSTRACT OF THE DISCLOSURE

A liquid storing and dispensing container has a top wall provided at one end with a first opening providing a pouring spout and at the other end with a second opening providing an air vent. A valve plate is accessibly slidable atop the wall and normally covers both openings. By sliding the plate properly a venting port therein can be registered with the air vent. A U-shaped handling bail is pivotally bracketed in place and has a crank arm operatively connected with a push-pull link carried by a median portion of and serves to open and close the valve plate.

The present invention relates to liquid or equivalent material discharging and pouring means for a container in which the liquid or material is confined and stored for dispensing and pertains, more particularly, to an improved pouring spout and air venting orifice or opening for a self-contained wall of the container.

It is common practice in the field of invention herein under advisement to provide a container wherein one wall, the top for example, embodies a liquid dispensing and pouring hole or spout and a complementary air vent, said top wall being also provided with a valving plate or equivalent blade-shaped valve element which is slidingly and guidingly mounted, which normally covers the pouring and venting facilities and which is readily openable and closable. An early prior art example characterized by the facilities stated is disclosed in Oerzen Patent No. 479,015 and a more recent example is shown in Hacmac's liquid dispensing device Patent 2,193,232. Reference to either or both of these prior patents will serve, generally speaking, to categorize the general state of the art to which the present invention relates.

An objective in the instant matter is to structurally, functionally and in other practical ways improve upon the stated reference patents and other analogous adaptations which need not, it is believed, be set forth here.

In carrying out the principles of the present invention the container, an oil or gasoline can for example, is provided with a flat top wall marginally encompassed by an upstanding lip-like flange. Median portions of the transverse end flanges are notched and the wall inwardly thereof is provided with spaced openings. Both openings are provided with accompanying O-rings which serve as suitable sealing gaskets for a simple slidingly mounted valving plate.

To the ends desired a first opening or port provides a pour spout and the imperforate end portion of the valving plate normally covers and closes the same. A second port or opening provides the air vent and, hereagain, a solid or imperforate portion of the valving plate normally covers the vent. This end portion of the slide valve or plate is also provided with an orifice which, when the pour opening is uncovered, registers with the vent to provide the desired venting and easy pouring action desired when the can or container is bodily lifted and tilted to discharge its contents in a well-known dispensing manner.

A further improvement resides in the provision of a pivoted handle. More specifically the handle comprises an inverted U-shaped wire bail whose limbs are hingedly bracketed atop the wall of the container. At least one limb

is provided with a crank operatively connectible with a link carried by the median portion of the valving plate whereby the handle is capable of use in carrying the container with both ports closed, or sliding the valve plate to an open position preparatory to pouring and dispensing the contents of the can or container.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a fragmentary perspective view showing the specially constructed top wall of a can-type container for oil, gasoline or the like, the valve plate being shown in open position and the handle tilted from left to right in a manner to slide the valve to assume and maintain its open position.

FIG. 2 is a view in section and elevation taken approximately on the plane of the section line 2-2 of FIG. 1.

And FIG. 3 is a top plan view on a smaller scale of the structure illustrated in FIG. 1 but with the valve plate slid from right to left and assuming its normal port closing position.

Referring to the views in detail the container comprises a conventional-type storing and dispensing can which is here shown as of general rectangular form and which is denoted, generally speaking, by the reference numeral 6. The side walls are denoted at 8 and the end walls at 10 and 11, respectively. The top wall which here is of special construction is denoted by the numeral 12 and is encompassed by an upstanding marginally located flange 14 constituting a rim. The flanged portion of the end wall 10 is provided with a cutout or notch 16. A similar notch 18 is provided in the right hand end wall 11. A first opening or hole is provided inwardly of the left hand wall 10 with an opening 20 which provides a simple pouring spout. The marginal edge is fashioned to provide an endless receiving and retaining channel for an O-ring 22. This opening 20 is referred to herein as the first opening or pouring spout. A similar opening 24 is provided inwardly of the right hand end wall 11 and hereagain the marginal portion of the opening is fashioned into a suitable endless channel 26 containing an O-ring 28 thus providing an air vent and a sealing gasket therefor.

The valve plate or element is denoted by the numeral 30 and comprises a relatively narrow elongated strip member. This strip member has spaced apart portions thereof slidingly and guidingly mounted in properly paired left and right hold-down brackets 32 and 34 respectively. The imperforate end portion 36 of the valving plate is slidably cooperable with the pour hole or spout 20. The other end portion 38 of the valving plate and which is projectable through and beyond the notch 18 when the valve is open, serves to normally cover the gasket-equipped vent 24. This end portion is provided with an orifice or port 40 which is selectively registrable with the vent 24. The central or median portion of the plate is provided with an inverted U-shaped link or member 42 which serves a purpose to be hereinafter described.

The sliding valve plate 30 while capable of being manually slid left to right for opening and closing purposes is preferably mechanically operated in conjunction with the handle means. The latter means is denoted generally at 44 and comprises a substantially U-shaped wire or equivalent bail which has a bight portion 46 and a pair of lateral limbs 48. The terminal inwardly bent portion 50 is hingedly mounted by a bearing bracket 52 on the top wall 12. A similar bearing bracket 54 serves to hingedly or pivotally mount the turned-in terminal portion 56 of the limb 48. The turned-in portion 50 is here provided with a suitably angled crank 56 which is operatively associated with the

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link 42. Accordingly, the link 42 and crank 56 provide an operating connection between the handle or bail 46 and the slidable or shiftable valving plate 30.

With reference to FIGS. 1 and 2 and then FIG. 3 it will be seen that the linking or operating connection between the bail or handle 44 and the valving plate is such that the handle can assume a novel upstanding or right angular position for carrying purposes as shown in FIG. 3 at which time the imperforate portions of the valving plate cover the pour spout or hole 20 and venting hole 24. Then when it is desired to dispense or discharge the contents of the can, the latter is lifted and tilted in the customary dispensing and pouring manner. Simultaneously or subsequent to the can tilting step, the handle 44 is tripped from left to right which functions to slide the valve plate from the normal closed can-carrying position of FIG. 3 to the open position shown in FIG. 1. The position of the opened can in its tilted state is not herein shown and is believed to be self-evident.

It is submitted that the invention well serves the purposes for which it is intended and compared to known prior art adaptations, constitutes an improvement in the art. Accordingly, a more extended description is deemed to be unnecessary.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In combination, a container having a top wall provided with a first opening constituting a container contents pouring spout, a second opening complementary to said first opening and constituting an air vent, a valve plate accessibly and slidably mounted on said top wall and having imperforate portions normally covering and closing both of said openings, said plate having a single venting port located inwardly of one end portion so that when the other end of the plate, which is adjacent said first opening, is slid to a position which uncovers said first opening, said venting port is then lined up and registered with said vent, a carrying handle comprising an inverted U-shaped bail embodying a bight portion constituting a handgrip and a pair of limbs, mounting brackets fixed atop said top wall, said limbs having end portions pivotally joined to their respectively cooperable brackets, an operating connection comprising a crank arm carried by one of said limbs and a link fixed on a median portion of said valve plate, said crank arm having an end portion oriented and cooperatively connected with said link.

2. The structure according to claim 1, and wherein said container comprises a can, said top wall being flat, said first and second openings being located at the respective end portions of said top wall, the top surface of said wall having plate attaching brackets located in an area between said first and second openings, said valve plate being elongated and fitted flatwise atop said top wall and slidably and guidingly mounted in said plate attaching brackets.

3. The structure according to claim 2, and wherein said plate attaching brackets are paired, there being a

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first pair adjacent and complementary to said first opening, and a second pair spaced from said first pair but adjacent and complementary to said second opening, said valve plate being narrow compared to the width of said top wall and of a length commensurate with the length of said top wall.

4. In combination, a container having a flat horizontal top wall marginally encompassed by upstanding flange means constituting a rim, said top wall being provided adjacent one end portion of said rim with a first opening constituting a pouring spout, said one end portion having a clearance notch in alignment with said spout, a second opening complementary to said first opening and constituting an air vent, said flange means having an end portion provided with a clearance notch adjacent to and in alignment with said vent, said top wall being provided inwardly of the respective first and second openings with attaching brackets, a valve plate accessibly and slidably mounted on said top wall and having imperforate portions normally covering and closing the aforementioned first and second openings, said plate having a single venting port located inwardly of one end portion of the plate so that when the other end portion of the plate, which is adjacent said first opening, is slid to a position which uncovers said first opening, said venting port is registered with said vent, the respective outer end portions of said valve plate being normally aligned with and seated in the respectively cooperable clearance notches, an inverted U-shaped bail embodying a handgripping bight portion and a pair of complementary limbs, said limbs having end portions pivotally joined to mounting brackets fixed atop said top wall, and an operating connection between said valve plate and one of said limbs.

5. The combination defined in and according to claim 4 and wherein said operating connection comprises a crank arm having a free terminal end portion, and a link fixed on a median portion of said valve plate, the free end portion of said crank arm being operatively connected with said link in a manner that when the handle is swung from a normal vertical valve plate-closing position to a valve plate-opening position the aforementioned venting port is retentively lined up with said vent.

6. The combination defined in and according to claim 5 wherein the marginal edge portions of said first and second openings are provided with endless receiving and retaining channels, each channel having an O-ring seated and retained therein in a manner that the O-rings provide sealing gaskets for the surface portions of the valve plate which are cooperable therewith.

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