UNITARY CONTAINER HAVING A HINGED PANEL WITH A TRAY CONFIGURATION

Inventor: Raymond A. Heisler, 657 Dakota Trl., Franklin Lakes, N.J. 07417

Filed: Mar. 9, 1973

Appl. No.: 339,591

U.S. Cl. .......... 15/257.06, 206/216, 220/315, 220/60 R

Int. Cl. ................. B65d 43/10, B65d 43/16

Field of Search ........... 206/1,7, 1,8, 1,9, 216, 206/223; 220/4 A, 31 S, 60 R, 90; 15/257.05, 257.06

References Cited

UNITED STATES PATENTS

891,085 6/1908 Leahy...................... 220/4 B
2,940,200 6/1960 Endlich...................... 4/1/4
3,149,747 9/1964 Burgess...................... 220/60 R
3,278,007 10/1966 Weber...................... 206/1,8
3,602,939 9/1971 Schoenholz................ 15/257.06
3,757,388 9/1973 Wolny...................... 24/113 MP

ABSTRACT

This invention pertains to a unitary container preferably generally rectangular in configuration. This container has one side or panel portion thereof hinged to the remainder of the container. This side or panel portion of the container is configured so that in its open condition there is provided a rimmed tray which may be used as a paint storage tray such as used with rollers and the like. The rim portion of the traytype side portion is adapted to fit within the rectangular remaining portion of the container. This remaining portion of the container provides the storage area. There is provided also an engaging tongue and groove portion which provides the seal of the container after initial use. The container in its initial condition has outwardly extending flange portions which are sealed to each other to provide a hermetic and fluid-tight seal of the container for storage, shipping and to prevent unwanted tempering.

11 Claims, 5 Drawing Figures
UNITARY CONTAINER HAVING A HINGED PANEL WITH A TRAY CONFIGURATION

BACKGROUND OF THE INVENTION

1. Field of the Invention
With reference to the classification of art as established in the U.S. Patent Office this invention pertains to the general Class entitled, "Metallic Receptacles" (Class 220) and the subclass thereunder of "closures — snapping" (subclass 060).

2. Description of the Prior Art
Paint retaining pans or containers, of course, are well known and usually these containers are provided with removable lids or covers. Paint trays are also well known, the trays commonly used with paint retain a shallow portion or supply of paint which is spread out so as to permit a shallow entry into the paint by a paint roller, brush or pad-type applicator. These paint trays are generally made of stamped sheet metal although molded plastic trays are, of course, also well known. Combinations of a paint tray and container have been suggested, as for example, with a container and roller pan as never issued in U.S. Patent No. 2,777,142 to LO VERDE as issued on Jan. 15, 1957. This combination container and tray, like others that are known, has not provided means for storing the initial quantity of paint until time for use. Combination trays and containers, as shown and known, provide a tray and container in which the balance of paint not in the tray is stored while the tray is being used.

In the present invention the one-piece combination container and tray is constructed so that in its initially sealed state the container retains the desired quantity of paint which, for example, may be one gallon. After filling with paint the pan portion which provides one side of the container is moved to close the container. Both the container portion and tray portion are provided on three mating sides with a flange portion when the container is closed may be sealed by heat or by sonic welding or solvent sealing to provide a hermetic and fluidtight seal of the container. At the time for use, the customer removes the outer rim portion from the container and with the container laid more or less flat it may be opened to expose the contents of the container. With the tray portion laid flat and preferably supported by a handle portion carried thereon, the inside of the cover portion provides a roller tray. When it is desired to discontinue use of the tray, the paint in the tray cover is caused to be flowed into the container after which the tray side is folded to being a tongue and groove seal means into a closed condition to seal the container and the contents thereof.

SUMMARY OF THE INVENTION
This invention pertains to the unitary construction of a molded container in which one-half of the container provides a retainer for the contents which is anticipated to be paint and the like.

A cover member which is attached to the container half by a molded hinge is shaped like a paint tray and has its inside surface provided with ribs. An outer dam or rim and a support in the form of a pivoted handle is provided on this tray portion. Outer flanges formed on both portions of the container are adapted for heat, ultra sonic or solvent sealing of the container halves to each other. A relief groove formed in both flanges is adapted for and permits tearing away of this outer flange seal at the time of use.

In addition to the above summary the following disclosure is detailed to insure adequacy and aid in understanding of the invention. This disclosure, however, is not intended to prejudice that purpose of a patent no matter how it may later be disguised by variations in form or additions of further improvements. For this reason there has been chosen a specific embodiment of the one-piece container having a hinged panel having a tray-like configuration as adapted for use in storing and using paint and the like and showing a preferred means for constructing the container as a one-piece molding.

This specific embodiment has been chosen for the purposes of illustration and description as shown in the accompanying drawings wherein:

BRIEF DESCRIPTION OF THE DRAWINGS
FIG. 1 represents an isometric view of a one-piece container and tray with the tray side opened to retain a shallow supply of paint for a paint roller;

FIG. 2 represents an enlarged partly diagrammatic view of the near side of the container and cover tray and showing in particular the hinged construction and the tongue and groove sealing means, a portion of the tray side being shown in section to illustrate the construction of the cover.

FIG. 3 represents a side or plan view of the container and showing the cover and a handle attached thereto for carrying the container and with the handle adapted for supporting the tray when in an open condition; FIG. 4 represents an end view of the assembled unit of FIG. 3, this view taken on the line 4—4 of FIG. 3, and

FIG. 5 represents the container of FIG. 4 with the cover side swung into a tray usable condition and with the handle providing the support for the side providing the tray formed unit.

In the following description and in the claims various details will be identified by specific names for convenience; these names, however, are intended to be generic in their application. Corresponding reference characters refer to like members throughout the several figures of the drawings.

The drawings accompanying, and forming part of, this specification disclose certain details of construction for the purpose of explanation but it should be understood that structural details may be modified in various respects without departure from the concept and principles of the invention and that the invention may be incorporated in other structural forms than shown.

DESCRIPTION OF THE PREFERRED EMBODIMENT
Referring now in particular to FIGS. 1—5 and the combination container and roller tray there is disclosed a unitary member which is a generally rectangular unit. This unit includes a retainer half 10 which is of a determined depth. This retainer portion has three sides of its open top provided with an outer flange 12. This rim portion extends outwardly from the three unattached sides of the retaining half 10. Formed in the rim portion 12 and extending outwardly therefrom is tongue portion 14. Exterior of this tongue portion is a groove 16 which provides a weakened continuous line portion in rim 12.
This relief 16 is designed so that flange 12 is attached by a very thin portion which permits tearing removal of the extending flange portion outwardly of the groove 16. A cover or side portion providing the tray member of the combination is identified as 20 and is attached to the retainer half portion 10 by means of a hinge portion 22. This tray portion side includes a flat panel 24 in which a plurality of ribs 26 are formed on the inside surface. These ribs extend from an upstanding rim portion 28 which provides the dam or retainer for the tray when the cover is used as the paint retaining tray. Outwardly of this rim 28 is a flange portion 30 which as seen in enlarged view in FIG. 2 is joined to flange portion 12 as a thin hinge. In this flange portion 30 is formed a groove portion 32 which is disposed to snugly engage the tongue portion 14 when the tray side 20 is in a closed condition.

Exterior of groove 32 is a relief groove 34 which is spaced to coincide with relief groove 16 when the container and cover are closed. Also preferably attached to the tray portion 20 is a handle 40 which is pivotally retained by means of socket or ear portions 42 to the tray portion 20. By means of detents formed in these ear portions and the handle 40, the handle may be retained in one of two or more positions.

ASSEMBLY AND OPERATION

It is to be noted in the construction of this combined container and tray that the combination may be made as a single molded unit. Such a combination not only provides an inexpensive combined container and tray but also with the integral hinge provides an easy way to return the paint in the tray to the container. The handle 40 and ear portions 42 may be made either as a separate unit with the handle inserted as a secondary operation or the handle may be made as an attached molded-in-place member with the handle hingedly attached to the cover. A detent also molded in the ear portions may provide means for the handle to be retained in the condition of FIG. 5. It is also contemplated that a detent portion may be molded in the cover of the container.

In the molding of the container and cover in the open condition of FIG. 1, the flange portion 28 is made with an extending tab portion 50 which extends forwardly of the cover panel 24 and joins the container half 10 just inside of tongue 14 so that as the tray cover is swung into retaining condition this portion 50 tucks inwardly to insure that paint running down from the tray portion 24 is fed only into and returned only into the container portion 10. To initially fill the tray 20 the container is arranged as in FIG. 1 and then half 10 is tilted toward the tray so that a determined amount of paint is flowed into the tray. After use of the tray cover portion 20 is completed, the cover is lifted and folded toward and to the container portion 10 and with the tab portion 50 tucked inwardly the rim portion 28 slides within the confines of the container 10. The tongue 14 is caused to enter into the groove 32 to act as an initial seal for the paint in the container.

When initially filling the container the portion 10 is filled, the cover 20 is brought to the portion 10 and the tongue 14 is moved into groove 32 after which the extending ear portions 12 and 30 are caused to be sealed together by ultra sonic sealing, heat sealing or solvent sealing. With the container thus hermetically sealed until time for use, the container may be shipped, stored, etc. At the time for use the weakened portions 16 and 34 are utilized and after an initial cut into this weakened area has been made as with a knife at the hinge portion area these extending and sealing rim portions 12 and 30 are removed from the container. At this point the seal and the retaining of the cover 20 to the container half 10 is only by means of the tongue and groove 14 and 32. One corner of the flange portion containing the tongue and groove is then pried open and then the cover is released so as to be tilted back to its open condition as in FIG. 1 at which time the handle portion 40 is swung into its supporting condition of FIG. 5. The container 10 and the handle 40 may then be placed upon a relatively flat surface whereupon a paint roller 60 or a brush or the like may be used by the operator to dip into the paint in the tray in a conventional and normal manner.

Although the container is shown as rectangular in configuration that does not mean that other shapes such as square, hexagonal and the like may not be used. It is only necessary that a hinge attachment be provided to retain the cover to the container half. The tongue and groove retaining means for securing the cover after the pull tab is removed is a preferred arrangement. However, it is also contemplated that other type securing means may be used such as a snap-on type of rim.

The plastic for the combination container may be one of several in common use for storing paints and the like. Whatever the plastic composition used, it is contemplated that it will be moldable and at least semirigid and substantially impervious to the material which is stored therein. Since most paint rollers are less than nine inches in length the tray width may be just a little more than the length of the roller or brush. The ribs on the inner or under side of the cover member 20 may be eliminated and buttons, a grain or pebble surface effect or any other desired surface susceptible to molding may be provided to give the roller a gripping and spacing surface.

The unitary construction of the above-described container with the hinged tray secured to the container not only utilizes the container body as a paint retaining means but also the tray portion attached to the container by an integral hinge and side retainers on the tray contain the paint in a manner not found in other known combinations. For example, a metallic paint container as seen in U.S. Pat. No. 3,139,646 to VERNON as issued on July 7, 1964 has a combined tray and container but the tray member does not provide a reclosing means for the container when some or most of the paint remains and the container needs to be reclosed. In another metallic container and tray combination as depicted in U.S. Pat. No. 3,602,939 to SCHOENHOLZ and issued on Sept. 7, 1971 the tray which is depicted as a unitary extension of the container body is fixed within the container. The closure member is a separate member which is mounted in a single groove formed around the open side of the container. The constructional arrangement in these two patents leaves the initially filled and sealed container subject to unwanted accidental spillage when a mishandled container has a wall accidentally dented inwardly. The above illustrated and described combined container and tray being of a plastic having a resilient recovery ability and having a sealed flange is capable of sustaining quite a blow before a rupture of the container is developed.
For example, the sealed container as depicted is contemplated to withstand the four foot drop test standard usually made for filled containers. The tear strip used therewith insures that the filled container has not been tampered with prior to purchase and use.

Terms such as “left”, “right”, “up”, “down”, “bottom”, “top”, “front”, “back”, “in”, “out” and the like are applicable to the combination container and tray shown and described in conjunction with the drawings. These terms are merely for the purposes of description and do not necessarily apply to the position in which this combination container with integrally attached tray-like cover may be constructed or used.

While a particular configuration has been shown and described it is to be understood that the container is not limited thereto since modifications may be made within the scope of the accompanying claims and protection is sought to the broadest extent the prior art allows.

What is claimed is:

1. A unitary plastic container having an attached, tray-like cover, said combination container, when closed, being adapted to retain fluid material such as paint and the like, the combination container including: (a) a retainer portion of selected configuration and depth and having an open-top configuration with a rim portion therearound except for a substantially straight edge portion; (b) a tray-like cover member having a substantially flat mid portion, said cover integrally attached to the retainer at the substantially straight edge and providing with this attachment a hinged connection which permits the cover to be swung around this hinge and from and to the container opening, this tray-like member having an upstanding rim portion extending around that edge portion not forming the hinge attachment, this upstanding rim portion providing a fluid retaining means and being configured so as to fit within the opening of the container when the tray-like member is swung to the container opening to close the opening, and (c) a cooperative fluid retaining means formed in that portion of the rim around the opening of the container and in the edge portion of the tray-like cover except that attached portion of the container and cover forming the hinge.

2. A unitary plastic container as in claim 1 in which the fluid retaining means is a tongue and groove arrangement with the tongue formed in one of the two members and the groove formed in the mating member.

3. A unitary plastic container as in claim 2 in which an additional and continuous outwardly extending and attached flange portion is formed on the rim portion of the container and also on the tray-like cover, said attached flange portion when the cover is folded to lie on the container being brought into a nearly contiguous relationship permitting a hermetic seal of the container to be achieved by sealing these outwardly extending flange portions to each other by means such as sonic welding, heat sealing, solvent sealing and the like.

4. A unitary plastic container as in claim 3 in which the attached flange portion is outwardly of the tongue and groove fluid retaining means and adjacent the tongue and groove portions the flange portion has a shallow groove formed to provide a weakening of the flange along a line thereof to permit this outwardly sealed portion to be pulled from the inner flange in the manner of a tear strip.

5. A unitary plastic container as in claim 4 in which the tongue is carried in the rim portion of the container and the groove is carried on the rim of the tray with the tongue being a press fit in the groove.

6. A unitary plastic container as in claim 1 in which the upstanding retaining rim portion around the tray-like cover is substantially normal to the midportion of the tray member and extends into and is connected to the rim portion of the container with that portion of this connected retaining rim which lies in a plane substantially coincident with the hinge when the tray-like member is fully opened being formed so as to fold inwardly when the tray member portion is moved to a closed fluid retaining condition.

7. A unitary plastic container as in claim 1 in which there is a pivoted handle attached to the outer surface of the tray-like cover and there is provided means for retaining this handle at a selected position in relation to said tray-like member so as to support the open tray-like member in a substantially horizontal position when the container is placed on a horizontally disposed supporting surface.

8. A unitary plastic container as in claim 7 in which the handle is attached to the tray-like member as a molded hinge and the means for retaining the handle at a selected position is a projection molded on the tray-like member and contoured so as to provide a holding detent of the handle.

9. A unitary plastic container as in claim 7 in which the handle is inserted into socket stanchesions molded on the tray-like member and the means for retaining the handle at a selected position is a detent formed in at least one of said stanchesions.

10. A unitary plastic container as in claim 1 in which the container and cover are generally rectangular in shape.

11. A unitary plastic container as in claim 1 in which the inner surface of the tray-like cover member is formed with rib-like shallow projections extending generally at right angles to the hinge folding line and for a substantial width of the flat portion of this tray-like member.

* * * * *