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(54) Title: LID WITH HINGED COMPARTMENTS FOR JOINT COMPOUND CONTAINER

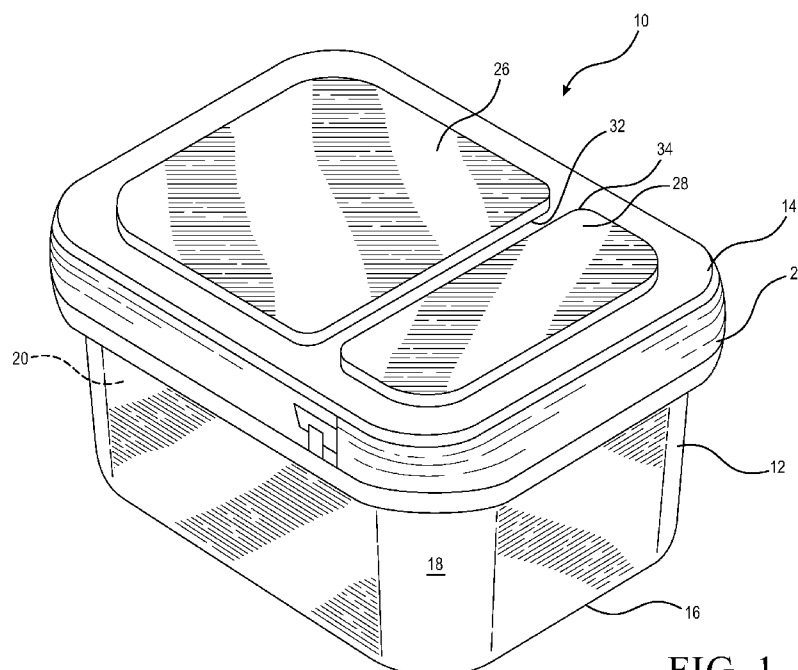


FIG. 1

(57) Abstract: A container and lid assembly is provided, including a main container (12) defining a chamber (20) with a base joint compound (22); and a container lid (14) constructed and arranged for closing the main container, the lid having a main hinged lid door (26) openable to provide access to the chamber; and at least one supplemental lid door (28) hinged to the lid and openable to a supplemental compartment (30), the supplemental compartment being isolated from the chamber.



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *with international search report (Art. 21(3))*

LID WITH HINGED COMPARTMENTS
FOR JOINT COMPOUND CONTAINER

RELATED APPLICATION

5 This application is a Non-Provisional of, and claims 35 USC 119 priority from, US Application No. 62/426,813 filed November 28, 2016, the contents of which are incorporated by reference herein.

BACKGROUND

10

 The present invention relates generally to container closures with compartments, and more specifically to containers designed to package compositions such as joint compound, which are activated by separately packaged additives for improved operation.

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 Walls and ceilings made from gypsum wallboard are conventionally constructed by attaching the wallboard panels to framing members or studs, and filling and coating the joints between the panels with a specially formulated paste composition called a joint compound. Joint compounds may be supplied as powdered compositions (to be mixed with
20 water at the jobsite) or may be premixed with water at the factory to yield a ready mixed (or paste) joint compound. A paste joint compound (Taping grade) is placed within and over the joint formed by the abutting edges of the wallboard panels, and a paper reinforcing tape is embedded in the joint with the joint compound which is then permitted to dry. Alternately, the reinforcing
25 tape may be of non-cellulose composition, but of a size and shape similar to strips of paper joint tape. Alternately, the reinforcing tape may be of a fiberglass weave requiring the use of chemically setting type joint compounds. When the joint compound is dry, a second joint compound (Topping or Finishing grade) is applied over the joint, and it too is permitted to dry. It is
30 usually necessary for a third application of a joint compound and, after the

third coat is dry, it may be lightly sanded and may be conventionally finished with a decorative material (paint, texture or wallpaper) then applied to the wall. All three coats of joint compound may alternately be applied with an All Purpose grade of joint compound.

5 Ready mixed joint compound is typically supplied to the customer in either cardboard cartons or plastic pails in units having volumes of 3.5 to 4.5 gallons (13.25-17.03L) for large applications, or 1 to 3.5 quarts (0.95-3.3L) for smaller applications. Joint compound is supplied at a viscosity typically higher than what is applied at the jobsite. This allows the contractor
10 to mix in additional water using a power drill and mixing paddle to achieve the desired application viscosity.

 Ready Mix joint compound production is typically accomplished by blending the wet and dry ingredients in a mixer until smooth, adjusting the viscosity to a desired level through water addition, then filling and sealing
15 containers to be shipped to customers. This process can be disrupted by use of ingredients which thicken very rapidly and take longer periods of time to fully wet out and drop in viscosity, leaving the combined wet and dry ingredients in the mixer competing for water through the typical mixing cycle and at a higher than desired viscosity. The above process results in
20 mechanical limitations and problems such as binding of the wet mixer and overloading of the mixer motor. The higher than desired viscosity at the completion of the mixing cycle affects the ease of pumping and moving the material out of the mixing system and through the packaging line and also interferes with the lidding and closing of the container.

25 Thus, there are mechanical limitations on the types of raw materials that can be used within a typical wet mixing system for manufacturing ready mix joint compound. Depending on the particular product requirements, including long pre-use shelf life, fast setting, low viscosity of application and others, several options have been proposed to
30 provide joint compounds with separated additives that enable the user to obtain enhanced or more desirable joint compound performance characteristics when the mixture is finalized just prior to application. US Patent No. 6,476,099, incorporated by reference, discloses the addition of surfactant additives to joint compound to generate performance with improved

cracking, improved shrinkage and reduction of surface finish defects after application to wallboard surfaces. US Patent Nos. 6,228,163 and 5,746,822 also incorporated by reference, disclose joint compounds formulated with a base joint compound that is relatively inert until an extra additive is provided,
5 functionally serving as an activator.

US Patent No. 8,822,566, incorporated by reference, discloses providing a nonhomogeneous formulation of an additive with a ready mix base joint compound for ultimate mixing by the user on the jobsite.

Thus, there is a need for an improved joint compound package
10 that provides the user with the ability to incorporate additives as desired prior to use.

SUMMARY

The above-listed needs are met or exceeded by the present lid
15 with hinged compartments for a joint compound container, which features an inset compartment on the lid constructed and arranged for containing any separate additive conventionally used in joint compound formulation. In a preferred embodiment, a main hinged lid door provides access to a main container chamber enclosing the base joint compound. At least one
20 secondary storage compartment is integrally formed with the lid and has a separate, secondary hinged lid door. It is preferred that the two hinged lids have their hinges adjacent each other on the lid, so that the respective hinged lid doors open away from each other. Additives contemplated for the secondary storage compartment include but are not limited to accelerators,
25 retarders, activators, pigments, adhesion promoters and dust reducers.

More specifically, the present invention provides a container and lid assembly, including a main container defining a chamber with a base joint compound; and a container lid constructed and arranged for closing the main container, the lid having a main hinged lid door openable to provide access to
30 the chamber; and at least one supplemental lid door hinged to the lid and openable to a supplemental compartment, the supplemental compartment being isolated from the chamber.

In a preferred embodiment, hinges of the main hinged lid door and the at least one supplemental hinged lid door are adjacent each other on the container lid, and are further preferably parallel to each other. Further, the respective doors are snap-fit upon the lid. It is contemplated that the at least one supplemental compartment is integrally formed, as by molding, with the container lid. It is further preferred that the chamber has a base joint compound, and the at least one supplemental chamber has an additive for use with the base joint compound. Suitable additives are taken from the group consisting of retarders, accelerators, activators, pigments, adhesion promoters and dust reducers.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top perspective view of the present container and lid;
FIG. 2 is a fragmentary top perspective of the present lid; and
FIG. 3 is a top perspective view of a plurality of containers equipped with the present lid.

DETAILED DESCRIPTION

Referring now to FIGs. 1-3, the present container and lid assembly is generally designated 10, and is contemplated as referring to a package for a settable composition, such as ready-mix type wallboard joint compound, which is well known in the art. Included in the assembly is a main container 12 and a lid 14. Such containers 12 are conventionally made of plastic, however coated cardboard with plastic liners is also an acceptable construction. As is known in the art, the main container 12 is typically provided in sizes ranging from volumes of 3.5 to 4.5 gallons (13.25-17.03L) for large applications, or 1 to 3.5 quarts (0.95-3.3L) for smaller applications. The lid 14, also preferably made of plastic, with other materials contemplated.

Referring now to the main container 12, a floor 16 is preferably integrally joined to a generally vertically extending sidewall 18 to define a chamber 20 (shown hidden). Most preferably, the sidewall 18 is slightly inclined, and wider near the lid 14 or drafted to facilitate both injection molding as well as stacking of empty containers in warehouses prior to being filled with

the desired composition, here a base joint compound 22 (shown hidden FIG. 3). The properties of base joint compound 22 are well known in the art. Most preferably, the base joint compound 22 is the ready mix type.

5 The container lid 14 is constructed and arranged for closing the main container 12, and has a peripheral edge 24 provided with a lip or clip formation to facilitate the lid closing the main container until a user desires access to the joint compound 22 as is known in the art. Included on the lid 14 is a main hinged lid door 26 openable to provide access to the chamber 20; and at least one supplemental lid door 28 hinged to the lid and openable to a
10 supplemental compartment 30 (FIG. 2). It is especially preferred that the supplemental compartment 30 is isolated from the chamber 20. Also, the supplemental compartment 30 is preferably integrally formed with the container lid 14, as by injection molding, thermoforming or the like.

Both the main lid door 26 and the supplemental lid door 28 are
15 provided with hinges, respectively 32 and 34. Any sort of hinge is considered suitable for the hinges 32 and 34, including integral "living" hinges, separate molded pin and socket or snap-fit formations, and the like which are well known in the art of molded container closures. The hinges 32 and 34 are preferably adjacent each other on the lid 14, and more preferably are parallel
20 to each other. As such, the respective lid doors 26, 28 open away from or opposite each other.

As is depicted in FIGs. 1-3, the main door 26 has a significantly larger surface area than the supplemental door 28. In the case of multiple supplemental doors 28, each such door is contemplated as being smaller than
25 the main door 26.

A joint compound additive 36 (shown hidden, FIG. 2) is the preferred ingredient for placement in the supplemental compartment 30. The additive 36 is taken from the group consisting of retarders, accelerators, activators, pigments, adhesion promoters and dust reducers. However,
30 other additives 36 are contemplated, as well as each supplemental compartment 30 potentially containing different additives. Further, the additive 36 is optionally packaged in pouch to be opened separately by the user for incorporation into the base joint compound 22, or is provided in granular or loose format, for distribution with a spoon or scoop (not shown).

Another option is that the pouch is water soluble and dissolves upon mixing in the base joint compound 22.

Referring now to FIG. 3, a plurality of the containers 10 are depicted, in various sizes or volumes, and with the lid 14 in various orientations. It is also contemplated that the containers 10 are provided with a handle 38, preferably generally “U”-shaped and pivotally mounted to the wall 18. While other materials are contemplated, the handle 38 is preferably made of plastic.

While a particular embodiment of the present lid with hinged compartments for a joint compound container has been described herein, it will be appreciated by those skilled in the art that changes and modifications may be made thereto without departing from the invention in its broader aspects and as set forth in the following claims.

CLAIMS:

1. A container and lid assembly, comprising:
a main container defining a chamber with a base joint compound; and
a container lid constructed and arranged for closing said main
container, said lid having a main hinged lid door openable to provide access
5 to said chamber; and at least one supplemental lid door hinged to said lid and
openable to a supplemental compartment, said supplemental compartment
being isolated from said chamber.
2. The container and lid assembly of claim 1, wherein hinges of
said main hinged lid door and said at least one supplemental hinged lid door
are adjacent each other on said container lid.
3. The container and lid assembly of claim 2, wherein said hinges
are parallel to each other.
4. The container and lid assembly of claim 1, wherein said main
hinged lid door and said at least one supplemental hinged lid door engage
said lid in a snap-fit configuration.
5. The container and lid assembly of claim 1, wherein said
supplemental compartment is integrally formed with said container lid.
6. The container and lid assembly of claim 1, wherein said main
hinged lid door is larger in area than a single said at least one supplemental
hinged lid door.
7. The container and lid assembly of claim 1 wherein said chamber
has a base joint compound, and said at least one supplemental chamber has
an additive for use with said base joint compound.

8. The container and lid assembly of claim 7, wherein said additive is taken from the group consisting of retarders, accelerators, activators, pigments, adhesion promoters and dust reducers.

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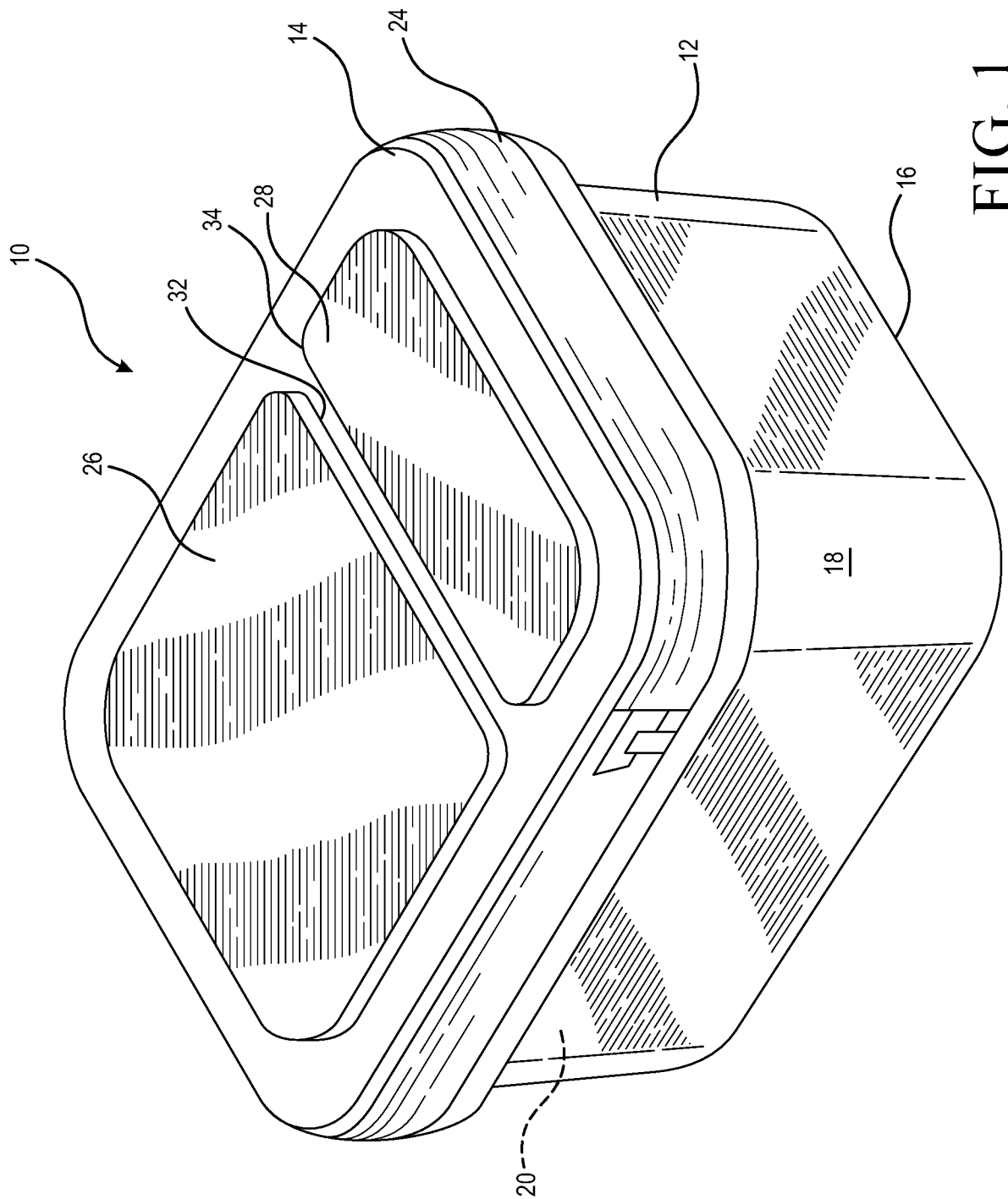


FIG. 1

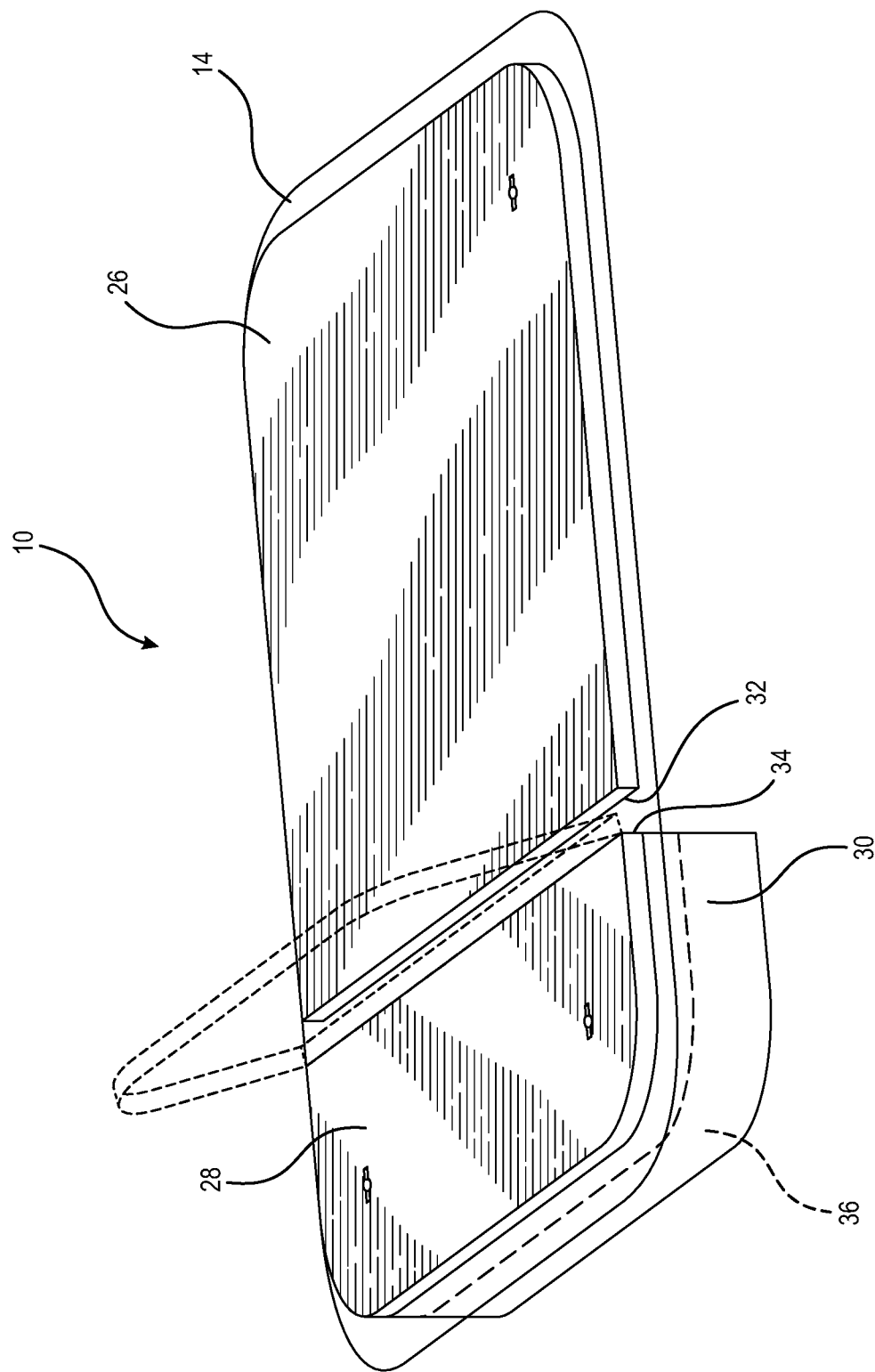


FIG. 2

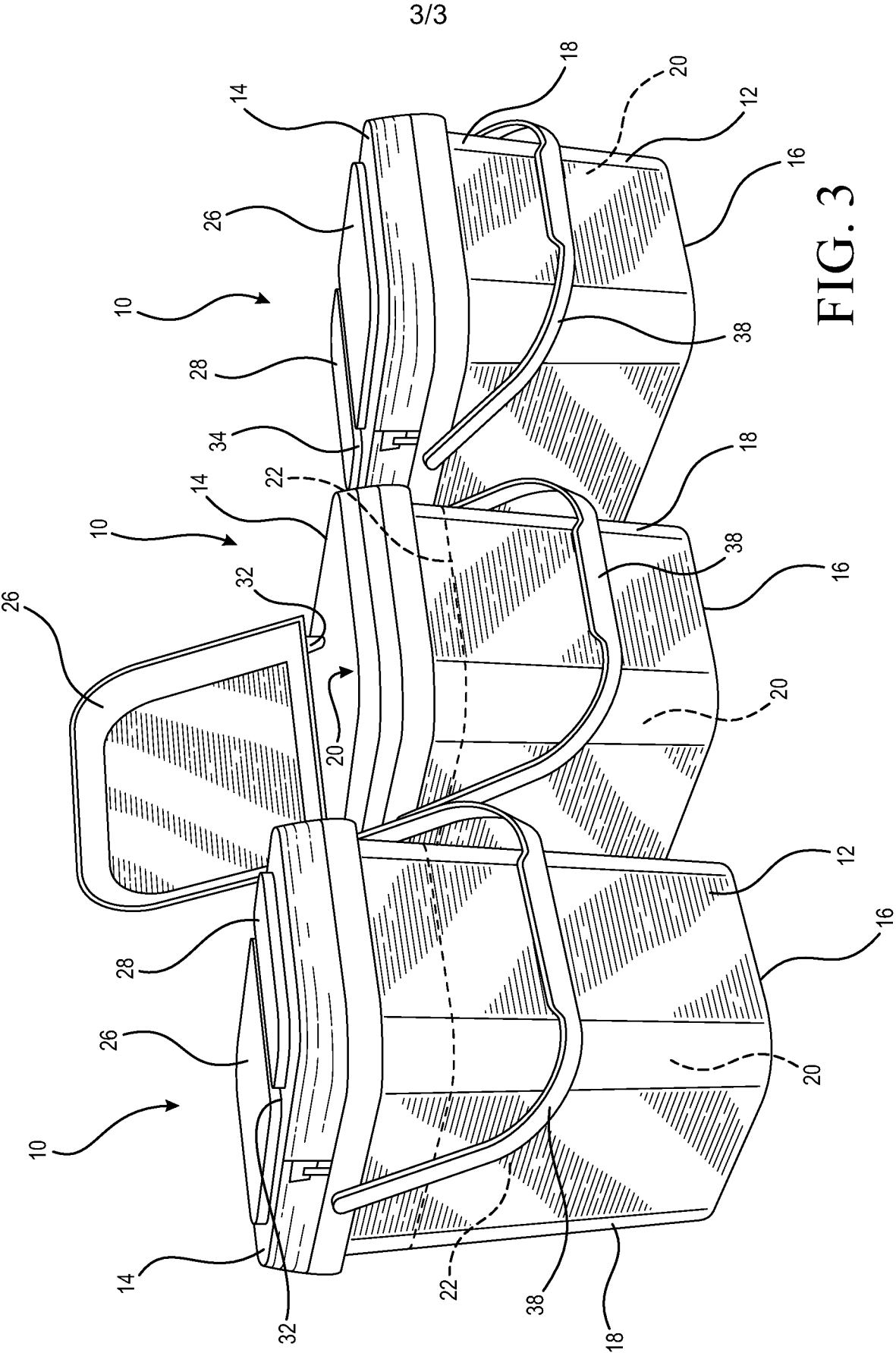


FIG. 3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2017/062982

A. CLASSIFICATION OF SUBJECT MATTER INV. B65D1/36 B65D81/32 B65D43/16 B65D1/24 ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) B65D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011/024942 A1 (LUBURIC FRANO [US]) 3 February 2011 (2011-02-03)	1,3-7
Y	the whole document -----	8
Y	US 2016/194124 A1 (SHELDON JOSHUA D [US] ET AL) 7 July 2016 (2016-07-07) the whole document -----	8
X	US 2008/277397 A1 (VOVAN TERRY [US]) 13 November 2008 (2008-11-13) the whole document -----	1,4,5,7
X	US 2011/226643 A1 (KATES RICHARD [US] ET AL) 22 September 2011 (2011-09-22) the whole document -----	1-4
X	FR 1 224 465 A (DOMEC & CIE) 24 June 1960 (1960-06-24)	1
A	the whole document -----	2-8
☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
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Date of the actual completion of the international search 2 February 2018		Date of mailing of the international search report 15/02/2018
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Pernice, Ciro

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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