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DISPENSING CONTAINER FOR CORROSIVE LIQUIDS OR THE LIKE

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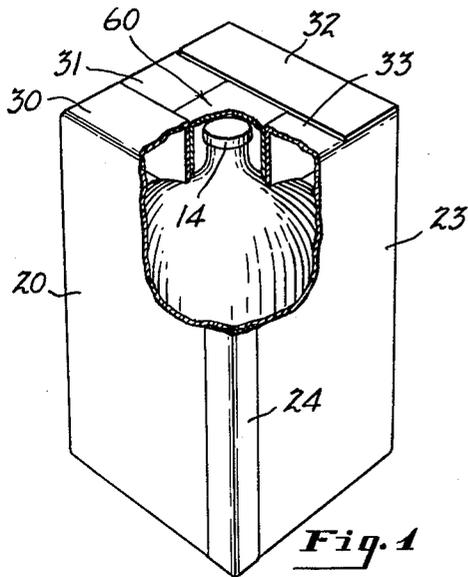


Fig. 1

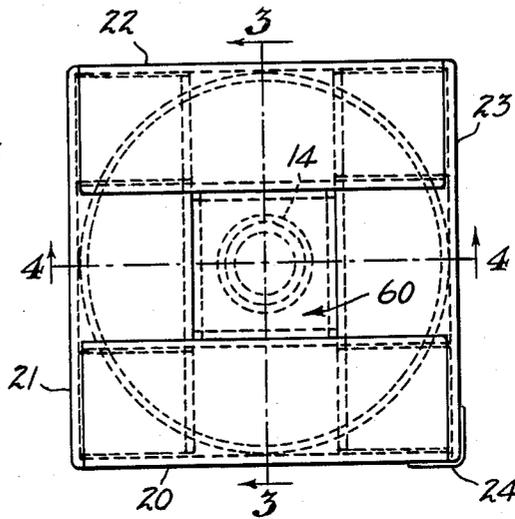


Fig. 2

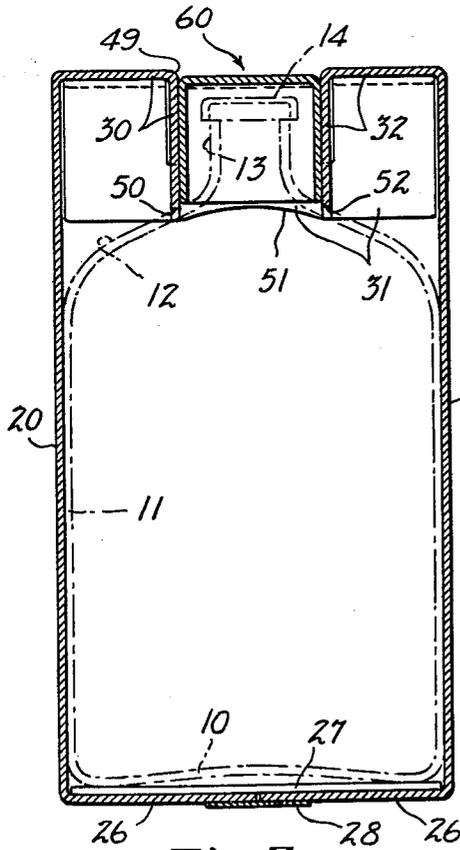


Fig. 3

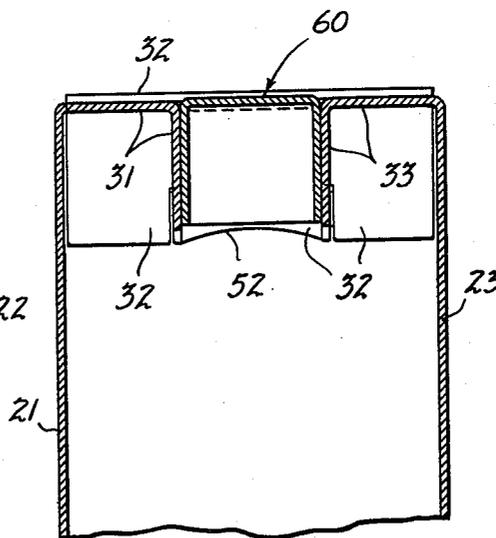


Fig. 4

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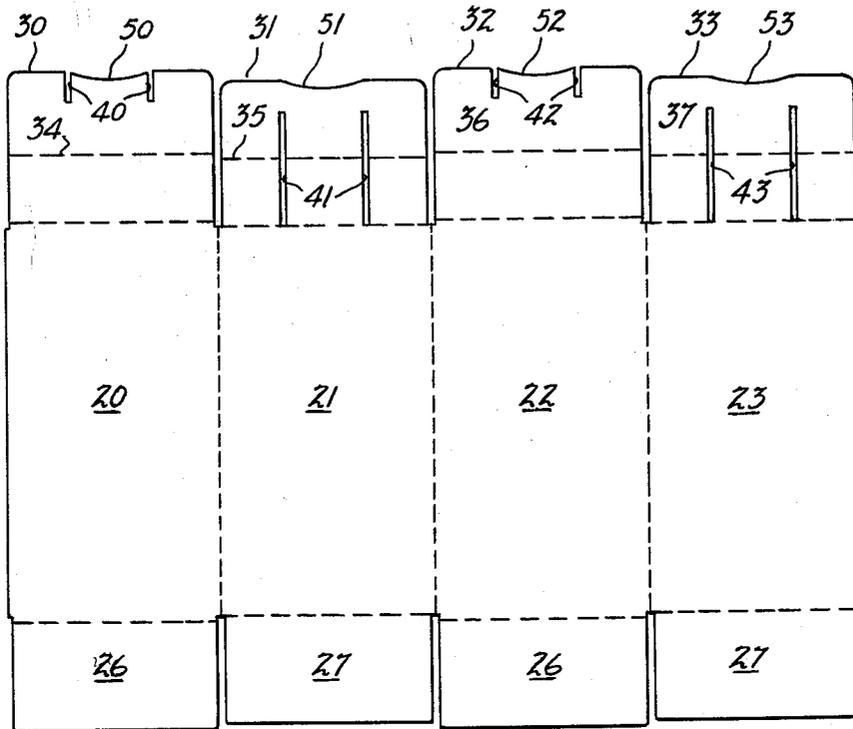
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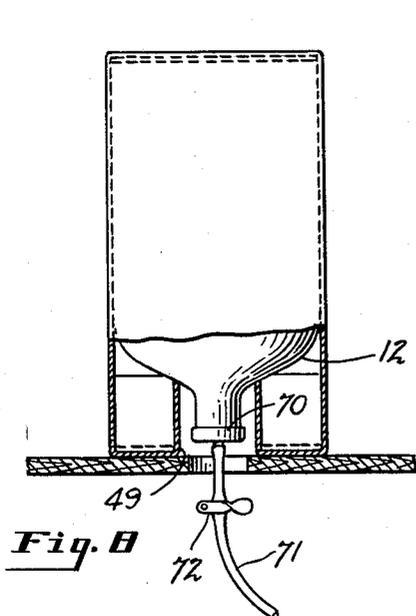
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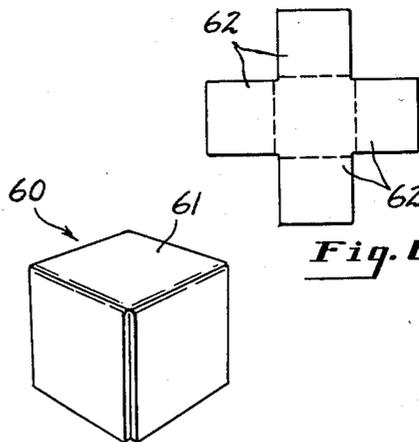
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**Fig. 5**



**Fig. 8**



**Fig. 7**

**Fig. 6**

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## DISPENSING CONTAINER FOR CORROSIVE LIQUIDS OR THE LIKE

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2 Claims. (Cl. 206—46)

This invention relates to a dispensing container for battery electrolyte or other corrosive liquids or the like.

It has become widespread practice to ship batteries to retailers, such as service stations and others, in a "dry" condition. When the battery is sold, electrolyte liquid is added to it by the retailer.

An object of the present invention is to provide a dispensing container for liquids, such as the battery electrolyte, which forms a self-contained dispenser and which maintains the more fragile portions of the container in a condition where they are protected by paperboard at all times while the container is in the hands of the user.

A more particular object of the invention is to provide a combined glass and paperboard container for battery electrolyte and the like which is strong and inexpensive and which is stable and secure in either an upright or inverted position.

An example of the invention is described below and in the accompanying drawings in which:

Figure 1 is a perspective view, partly broken away, of a dispensing container provided according to the invention.

Figure 2 is a plan view of the structure shown in Figure 1.

Figure 3 is a cross-section in elevation taken from plane 3—3 of Figure 2, the glass portion of the structure being shown in phantom for greater clarity.

Figure 4 is a partial elevation and cross-section taken from the plane 4—4 in Figure 2, the glass portion of the structure being omitted for clarity.

Figure 5 is a plan view of a blank from which the majority of the paperboard portions of the dispensing container may be formed.

Figure 6 is a plan view of a blank from which a secondary portion of the paperboard structure may be formed.

Figure 7 is a view of the secondary paperboard structure in its erected position.

Figure 8 is a view of the dispensing container shown in Figure 1 inverted and supported on any suitable flat surface or member for use as a dispenser.

The illustrated dispensing container comprises a glass bottle having a bottom 10, cylindrical sides 11, curved shoulders 12 and a central neck 13 defining a bottle mouth on which is received a removable cap 14. The cylindrical sides 11 of the bottle are received against the four upright paperboard side walls 20—23 which are hingedly connected to their adjoining corners as shown, the two free side edges being hinged by means of a tape 24, as shown, or alternatively being connected by a stapled flap or by other equivalent means. The tube comprising the walls 20—23 has a first end wall against which the bottom 10 of the bottle is received. This first end wall comprises a pair of outer flaps 26 which are hinged to the side walls 20 and 22, respectively, and a pair of inner flaps 27 which are hinged to the walls 21 and 23. The flaps are held closed by the tape 28, as

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shown. Other equivalent end wall means may be provided.

At the opposite end from the first end wall of the tube which comprises the walls 20—23, there is provided a combined end wall and spacer structure which includes a first pair of foldable flaps 31 and 33 that are continuations of the opposite parallel upright side walls 21 and 23 and which are hinged to the ends of the side walls 21 and 23. The combined end wall and spacer structure also includes a second pair of foldable flaps 30 and 32 that are continuations of the other two upright side walls 20 and 22 of the paperboard tube and that are hinged to the ends thereof and interlock with the flaps 31 and 33. Each of the flaps 30—33 is of a width corresponding to that one of the upright side walls 20—23 to which it is hinged.

Each of the first pair of flaps 31, 33 has a fold line, 35 and 37, respectively, parallel to its hinged edge and spaced therefrom a distance less than half the distance between its hinged edge and the opposite upright side wall to provide an end wall portion and a spacer portion in each flap. Thus the flap 31 has an end wall portion between its hinged edge and the end fold line 35 and a spacer portion between the fold line 35 and the edge of the flap. The flap 33 has an end wall portion between its hinged edge and the fold line 37 and a spacer portion between the fold line 37 and the edge of the flap.

Each of the flaps 31 and 33 has a pair of parallel slots 41 and 43, respectively, extending from its hinged edge across its end wall portion and partially across its spacer portion. In the assembled condition of the container, each of the slots 41 is aligned with a corresponding one of the slots 43.

The second pair of flaps 30 and 32 have fold lines 34 and 36, respectively, dividing them into end wall portions and spacer portions. The end wall portion of the flap 30 extends between its hinged edge and its fold line 34, and the spacer portion of the flap 30 extends between the fold line 34 and the edge of the flap. The end wall portion of the flap 32 extends between its hinged edge and the fold line 36, and the spacer portion of the flap 32 extends between the fold line 36 and the edge of the flap.

The end wall portion of the second pair of flaps 30 and 32 are on the outer side of the end wall portion of the first pair of flaps 31 and 33. The spacer portions of the second pair of flaps 30 and 32 are positioned in the spaced slots 41 and 43. The spacer portions of the second pair of flaps 30 and 32 include notches 40 and 42, respectively, which are formed in the flap edges and which are spaced to receive the spacer portions of the first pair of flaps 31 and 33.

It will be seen that the end wall portions of the flaps 30—33 do not extend over the center of the corresponding end of the container so that there is provided a central opening 49. The spacer portions of the flaps 30—33 extend from the end wall portions of these flaps to engage against the curved shoulders 12 of the glass bottle and the mouth of the bottle is located on the inner side of the central opening 49. The edges of the flaps 30—33 are preferably curved in shallow arcs 50—53 so that the bottle is snugly received against the flaps.

A paperboard closure 60 is received in the central opening 49. The closure 60 comprises a central panel 61 filling the central opening 49 and a plurality of flaps 62 hinged to the central panel 61 and extending inwardly therefrom and being engaged against the curved shoulders 12 of the bottle. As seen in Figures 3 and 4, the central panel 61 preferably lies in the plane of the end wall formed between end wall portions of the flaps 30—33. The closure 60 may be held in place for shipping by paper tape or the like (not shown) adhered across

the end wall portions of one or more of the flaps 30-33 and also across the central panel 61.

The dispensing container will be normally shipped in the position shown in Figure 1. When it is to be used by the retailer or other end user, the closure 60 is removed and the cap 14 is then removed to be replaced by a dispenser cap 70 provided with a flexible dispensing hose 71 and a spring clamp 72 of a conventional type for controlling flow. The dispensing container is then inverted to the position shown in Figure 8 and is placed on a flat surface, such as a shelf or any bracket provided with an opening through which the hose 71 can be extended. The end of the hose 71 is fastened in an elevated position when the dispenser is not in use. When the contents of the bottle are exhausted, the dispensing cap 70 and its associated hose are removed and the bottle is washed out with water and recapped with the cap 14 for disposal or return. Thus, it will be seen that the dispensing container is adapted to support the electrolyte-containing bottle in dispensing position for convenient use by the retailer and also at all times the relatively fragile bottle is protected by paperboard and may remain so protected even when it is returned or otherwise disposed of by the user.

The invention is not necessarily limited in scope to all the details of the above disclosure. For example, one aspect of the invention contemplates in certain instances the use of bottles made from polyethylene and other similar materials rather than glass, although the contribution of the invention is perhaps most significant in connection with the use of glass bottles.

What is claimed is:

1. A dispensing container for battery electrolyte and the like comprising a bottle having a body with a bottom, cylindrical sides, curved shoulders and a central neck defining a bottle mouth, a rectangular paperboard tube having four upright side walls hingedly connected at their adjoining corners and against which the cylindrical sides of said bottle are received, said tube having a first end wall against which the bottom of the bottle is received, a combined end wall and spacer structure at the end of said tube opposite to said first end wall, said combined end wall and spacer structure being formed by a first pair of foldable flaps that are continuations of opposite parallel upright side walls of said tube and that are hinged to the ends of said upright side walls and a second pair of flaps that are continuations of the other two remaining upright side walls of said tube and that are hinged to ends thereof and interlocked with the flaps of the first pair, each of said flaps being of a width corresponding to that of the upright side wall to which it is hinged, each flap of said first pair having a fold line parallel to its hinged edge and spaced therefrom a distance less than one half the distance between its hinged edge and the opposite upright side wall to provide an end wall portion between said fold line and said hinged edge and a spacer portion hinged to the end wall portion at said fold line, each flap of said first pair having two parallel slots extending from its hinged edge across its end wall portion and partially across its spacer portion, the slots of the two flaps of said first pair being aligned, the flaps of said second pair having end wall portions that are on the outer side of the end wall portions of the flaps of said first pair and spacer portions hinged to their bottom portions, positioned in the spaced slots of the flaps of said first pair and having notches in their edges spaced to receive the spacer

portions of the flaps of the first pair, said end wall portions providing the tube with a second end wall having a central rectangular opening, said spacer portions extending from said second end wall and being engaged against the curved shoulders of said bottle, the mouth of said bottle being located on the inner side of said central opening, whereby when the dispensing container is inverted the bottle is supported in dispensing position by said spacer portions and at all times while the dispensing container is in the hands of the user the bottle may be protected by paperboard.

2. A dispensing container for battery electrolyte and the like comprising a glass bottle having a body with a bottom, cylindrical sides, curved shoulders and a central neck defining a bottle mouth, a removable cap on said mouth, a rectangular paperboard tube having four upright side walls hingedly connected at their adjoining corners and against which the cylindrical sides of said bottle are received, said tube having a first end wall against which the bottom of the bottle is received, a combined end wall and spacer structure at the end of said tube opposite to said first end wall, said combined end wall and spacer structure being formed by a first pair of foldable flaps that are continuations of opposite parallel upright side walls of said tube and that are hinged to the ends of said upright side walls and a second pair of flaps that are continuations of the other two remaining upright side walls of said tube and that are hinged to ends thereof and interlocked with the flaps of the first pair, each of said flaps being of a width corresponding to that of the upright side wall to which it is hinged, each flap of said first pair having a fold line parallel to its hinged edge and spaced therefrom a distance less than one half the distance between its hinged edge and the opposite upright side wall to provide an end wall portion between said fold line and said hinged edge and a spacer portion hinged to the end wall portion at said fold line, each flap of said first pair having two parallel slots extending from its hinged edge across its end wall portion and partially across its spacer portion, the slots of the two flaps of said first pair being aligned, the flaps of said second pair having end wall portions that are on the outer side of the end wall portions of the flaps of said first pair and spacer portions hinged to their bottom portions, positioned in the spaced slots of the flaps of said first pair and having notches in their edges spaced to receive the spacer portions of the flaps of the first pair, said end wall portions providing the tube with a second end wall having a central rectangular opening, said spacer portions extending from said second end wall and being engaged against the curved shoulders of said bottle, the mouth of said bottle being located on the inner side of said central opening, a paperboard closure received in said central opening, said closure comprising a central panel filling said central opening and a plurality of flaps hinged to said central panel and extending inwardly therefrom and being engaged against the curved shoulders of said bottle.

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