

Feb. 13, 1962

K. M. SCHUBERT
CORRUGATED CONTAINER

3,021,044

Filed June 24, 1959

2 Sheets-Sheet 1

FIG. 1

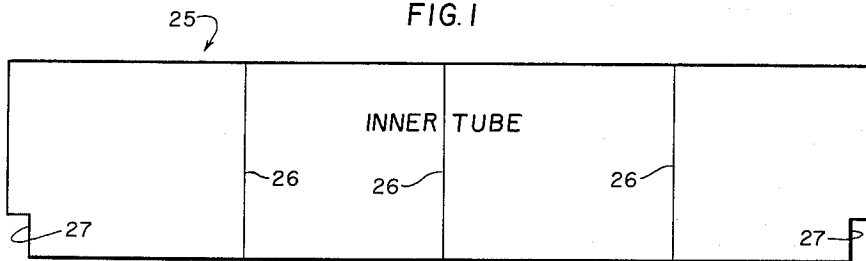


FIG. 2

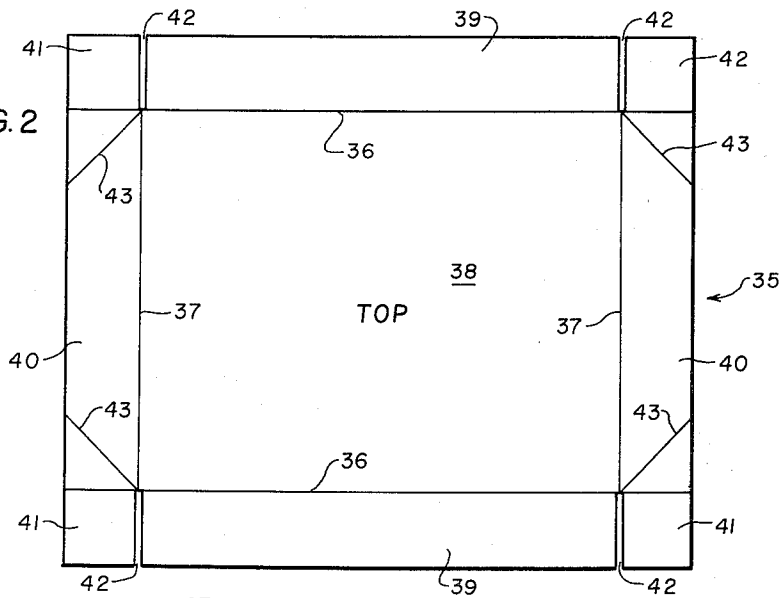
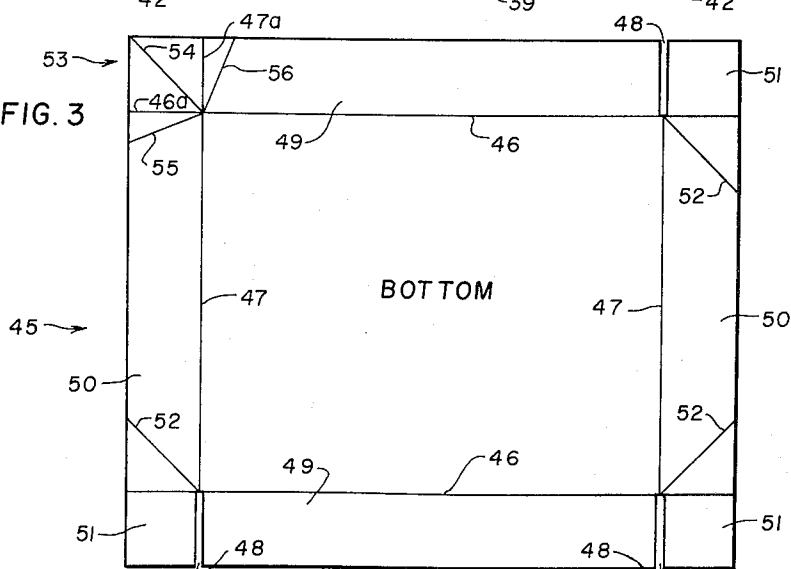


FIG. 3



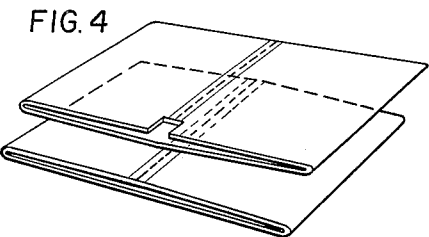
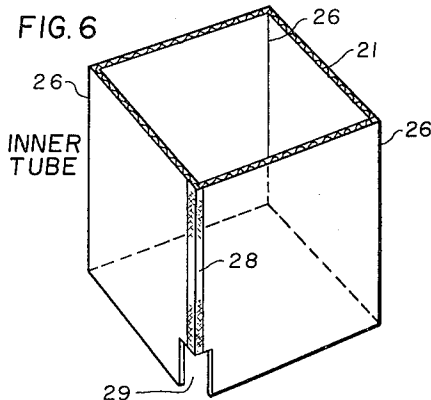
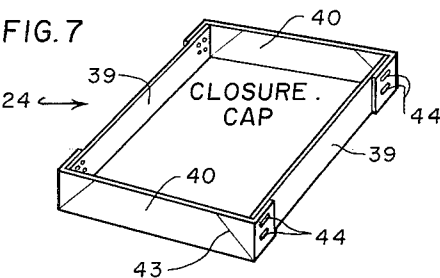
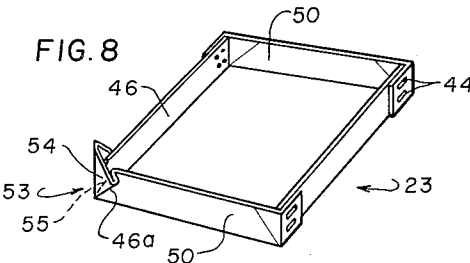
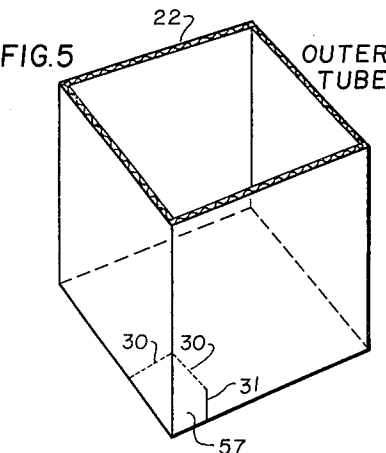
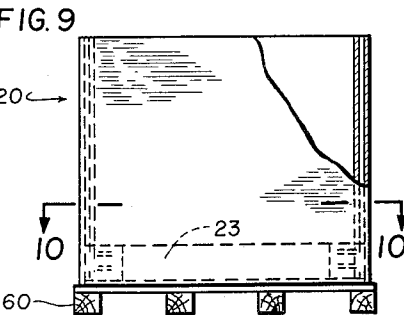
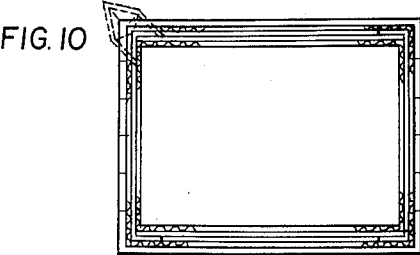
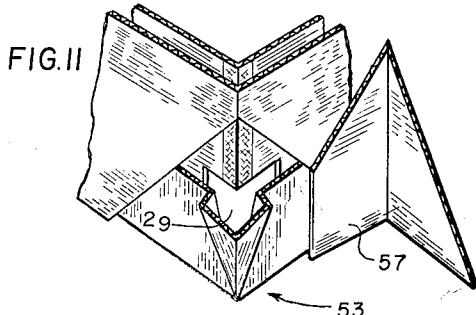
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3,021,044

CORRUGATED CONTAINER

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7 Claims. (Cl. 229—17)

This invention relates to fiber or paperboard containers and more particularly to such containers which are especially well suited for packing, storing and transporting relatively large amounts of free flowing materials.

In U.S. Patent No. 2,762,551, there is set forth a heavy duty container for packaging free flowing bulk commodities in granular, pellet or powder form in amounts of as much as 500 pounds or more and even as much as 2,000 pounds. As set forth in said patent, the container comprises a pair of caps one for the bottom of the container and one for the top. A pair of telescoped sleeves extend between the two caps, one inside the other, and serve frictionally to engage between them adjacent to their lower ends, the relatively short vertically extending peripheral walls of the bottom cap. The container is conveniently shipped flat and erected for use upon a pallet with which it is preferably thereafter handled. While such containers have proven to be both useful and economical in handling large quantities of bulk material, difficulty has been encountered in dispensing the material from the containers.

It is, therefore, a principal object of this invention to provide a bulk materials container of the foregoing construction with a readily accessible pouring spout which facilitates removal of the contents of the container without detrimentally affecting the capability of the container to maintain its contents secure against contamination and leakage during storage or shipment.

A further object is to provide such a container with a pouring spout which is of simple, economical, construction, which may be readily exposed and opened for use and which may be readily closed and resealed.

Further objects as well as advantages of the present invention will be apparent from the following description of a preferred embodiment thereof and the accompanying drawing in which—

FIGURE 1 is a plan view of the blank from which the inner sleeve is erected;

FIGURE 2 is a plan view of the blank from which the top cap is erected;

FIGURE 3 is a plan view of the blank from which the bottom cap is erected;

FIGURE 4 is a perspective view showing the inner and outer sleeves knocked down for shipment;

FIGURES 5, 6, 7 and 8 are perspective views of the fully erected outer and inner sleeves and top and bottom caps, respectively;

FIGURE 9 is an elevational view of the container constructed in accordance with the present invention and showing the container as normally used on a pallet but partially broken away and with the top cap removed;

FIGURE 10 is a cross-sectional view through the line 10—10 of FIGURE 9; and

FIGURE 11 is a fragmentary perspective view showing the spout open and ready for use.

Referring now to the drawings in detail, container 20 comprises an open ended inner sleeve 21, an open ended outer sleeve 22, a bottom cap 23 and a top cap 24, all of which may be formed from fiber or paper stock which preferably is the well-known corrugated paperboard having a corrugated medium sandwiched between inner and outer sheets of the paperboard. The inner sleeve 21 is erected from a rectilinear blank 25 formed with three fold lines 26 which define 3 of the corners of the inner

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sleeve 21. The opposite extremities of the blank 25 are cut away as indicated at 27 for a purpose which will be presently described so that when the ends of blank 25 are brought together and joined as by tape 28, an opening 29 is formed in one of the lower corners of the inner sleeve 21.

Outer sleeve 22 is formed from a blank (not shown) which is generally similar to blank 25 but in place of a cut-out is formed with a score line indicated at 30 and 31 adjacent the lower corner corresponding to the corner in which the opening 29 is formed in the inner sleeve 21. In addition the dimensions of the blank from which the outer sleeve 22 is formed are such that the outer sleeve 22 may telescope over the inner sleeve 21 and also the side walls of the bottom cap 23 as will be described.

Referring now to FIGURE 2, top cap 24 is formed from blank 35 in the usual way, that is to say, horizontal fold lines 36 and vertical fold lines 37 define the central panel 38 and opposite side and end wall forming members 39 and 40 respectively. Flaps 41 are formed by providing slots 42 at the opposite ends of each of the vertical fold lines 37. To facilitate shipment of the top cap 24 to the point of use, additional fold lines 43 are provided extending from the end of each of the slots 42 and to the edges of the side wall-forming members 40. The top cap 24 is of conventional construction and is erected from blank 35 in the usual way by folding up the side walls 39 and the end walls 40 along their respective fold lines and then securing the flaps 41 to the juxtaposed outer surface of the end portions of the side walls 39 by staples 44 as most clearly shown in FIGURE 7. The dimensions of blank 35 are such that when erected the top cap 24 will snugly fit over the open upper end of the outer sleeve 22.

The bottom cap 23 is formed from a blank 45, shown in FIGURE 3, formed with horizontal and vertical fold lines 46 and 47 and three slots 48 which together define side wall-forming members 49, end wall-forming members 50 and three flaps 51. As thus far described the blank 45 is similar to blank 35 but somewhat smaller so that the bottom cap 23 erected therefrom will fit over the bottom end of inner sleeve 21 and within the lower end of the outer sleeve 22. In addition, the blank 45 is formed with three fold lines 52, corresponding to fold lines 43 on the blank 35, to facilitate shipment of the erected bottom cap 23 in a knocked down condition. The fourth corner of blank 45, indicated generally at 53, is formed with three additional fold lines 54, 55 and 56. The fold line 54 extends diagonally in the corner 53 between the end portions of fold lines 46 and 47 indicated respectively at 46a and 47a. It will be noted that there is no slot formed in this corner 53, which is selected so that it will register, when container 20 is assembled, with the opening 29 formed in the inner sleeve 21 and the score lines 30 and 31 formed in the outer sleeve 22. Blank 45 is erected as was described in connection with blank 35 except that the spout-forming corner 53 is folded, as shown in FIGURES 8 and 10 so that the fold along line 54 forms a corner line of the erected bottom cap. The folds along lines 46a and 55 and along the lines 47a and 56 are formed to provide tucks or gussets on opposite sides of corner 53 and so that the material between each pair of fold lines lies generally flat against the exterior surface of the adjacent end wall 50 and the side wall 46. Thus, when the spout forming corner 53 is closed it extends above the upper edges of the walls 46 and 50 as most clearly shown in FIGURE 8.

As has been indicated, the container 20 may be readily shipped in a knocked down condition to the point of use to conserve shipping space. As most clearly shown in FIGURE 4, the inner and outer sleeves 21, 22 are readily collapsed along two of their opposite corners. The bot-

tom and top caps 23, 24 are also readily knocked down by pulling the upper edges of their end walls away from each other, thereby causing the side walls thereof to fold inwardly against the central panel. In the case of the bottom cap 23, the unfastened spout-forming corner 53 requires no additional fold lines to permit the bottom cap to be knocked down because when the end walls 50 are drawn away from each other the corner 53 opens to permit the adjacent side wall 46 to fold inward.

Container 20 is readily erected at the point of use by placing the bottom cap 23 upon a pallet 60 as shown in FIGURE 9. The inner sleeve 21 is opened and inserted within the upstanding walls of the bottom cap 23 with the opening 29 in registration with the spout corner 53. The outer sleeve 22 is then telescoped over the inner sleeve 21 and its lower end is brought down against the upwardly presented surface of the pallet 60 so that its lower interior surfaces engage exterior vertical surfaces of the side and end walls 46, 50 and the spout 53 of the bottom cap. The container 20 as thus assembled is now in the condition shown in FIGURE 9 and is ready for filling. When filled, the top cap 24 is placed over the open upper end of the container so that the interior surfaces of its side and end walls 39, 40 engage the upper end portions of the exterior surfaces of the walls of the outer sleeve 22. If desired, suitable binding may be utilized to further secure the assembled components of the container which is preferably stored or shipped with its contents without removing it from the pallet 60.

When it is desired to remove the contents of the container, the spout 53 is exposed by cutting along the score line 30 which is indicated by a printed dotted line on the exterior surfaces of the outer sleeve 22. When the score line 30 has been cut, a flap indicated at 57 is formed which is pulled back along the fold line 31, as shown in FIGURE 11, to expose the spout 53. When the spout 53 is opened, the opening 29 is exposed through which the contents of the container 20 may readily flow. After the desired amount of material has been removed the spout 53 may be folded back to its closed position and the flap 57 may be restored and secured in place by a tape having a permanently tacky adhesive thereon or by other suitable means.

It is to be noted that container 20 with spout 53 is economical to manufacture inasmuch as no additional materials or complex operations are required than would be used in forming the container without a spout. Further, the spout is of extremely simple construction which lends itself to ready and easy manipulation.

The terms and expressions which have been employed are used as terms of description and not of limitation, and there is no intention in the use of such terms and expressions of excluding any equivalents of the features shown and described or portions thereof, but it is recognized that various modifications are possible within the scope of the invention claimed.

I claim:

1. A container for shipping or storing material in bulk, comprising open ended inner and outer sleeves with the outer sleeve telescoped over and engirdling the inner sleeve, a top cap closing the upper ends of said sleeves, a bottom cap extending in the lower open end of said outer sleeve and closing the lower end of said inner sleeve, said bottom cap having upstanding walls juxtaposed with and extending between the opposed inner and outer surfaces of said outer and inner sleeves, said inner sleeve having an opening formed in the wall thereof adjacent to its bottom end, and said bottom cap having a plurality of gusset folds in an upstanding wall thereof extending over substantially the full height thereof and forming a collapsible spout in registration with said opening in the wall of said inner sleeve.

2. A container for shipping or storing material in bulk, comprising rectangular open ended inner and outer sleeves with the outer sleeve telescoped over and engirdling the

inner sleeve, a rectangular top cap closing the upper ends of said sleeves, a rectangular bottom cap extending in the lower open end of said outer sleeve and closing the lower end of said inner sleeve, said bottom cap having upstanding walls juxtaposed with and extending between the opposed inner and outer surfaces of said outer and inner sleeves, said inner sleeve having an opening formed in a corner thereof adjacent to its bottom end, and said bottom cap having a plurality of folds adjacent to a corner in its upstanding wall forming a collapsible spout in registration with said opening in the wall of said inner sleeve.

3. A container for shipping or storing material in bulk, comprising open ended inner and outer sleeves with the outer sleeve telescoped over and engirdling the inner sleeve, a top cap closing the upper ends of said sleeves, a bottom cap extending in the lower open end of said outer sleeve and closing the lower end of said inner sleeve, said bottom cap having upstanding walls juxtaposed with and extending between the opposed inner and outer surfaces of said outer and inner sleeves, said inner sleeve having an opening formed in the wall thereof adjacent to its bottom end, said bottom cap having a plurality of folds in its upstanding wall forming a collapsible spout in registration with said opening in the wall of said inner sleeve, and means for defining a flap in said outer sleeve adjacent to the spout formed in said bottom cap for exposing said spout.

4. A container for shipping or storing material in bulk, comprising rectangular open ended inner and outer sleeves with the outer sleeve telescoped over and engirdling the inner sleeve, a rectangular top cap closing the upper ends of said sleeves, a rectangular bottom cap extending in the lower open end of said outer sleeve and closing the lower end of said inner sleeve, said bottom cap having upstanding walls juxtaposed with and extending between the opposed inner and outer surfaces of said outer and inner sleeves, said inner sleeve having an opening formed in a corner thereof adjacent to its bottom end, said bottom cap having a plurality of folds adjacent to a corner in its upstanding wall forming a collapsible spout in registration with said opening in the wall of said inner sleeve, and said outer sleeve having a score line formed therein adjacent to the corner thereof registering with the spout formed in said bottom cap for exposing said spout.

5. A container for shipping or storing material in bulk, comprising rectangular open ended inner and outer sleeves with the outer sleeve telescoped over and engirdling the inner sleeve, a rectangular top cap closing the upper ends of said sleeves, a rectangular bottom cap extending in the lower open end of said outer sleeve and closing the lower end of said inner sleeve, said bottom cap having a bottom member extending substantially in line with the lower end of said outer sleeve and having an inner surface engaging the lower end of said inner sleeve, said bottom cap having peripheral walls merging with said bottom member and extending between the opposed inner and outer surfaces of said outer and inner sleeves and retained therebetween solely by frictional engagement therewith, said inner sleeve having an opening formed in a corner thereof adjacent to its lower end, said bottom cap having a plurality of folds forming a collapsible spout in a corner thereof in registration with said opening in the wall of said inner sleeve, said outer sleeve having a score line formed therein adjacent to the corner thereof registering with the spout formed in said bottom cap for exposing said spout.

6. A container for shipping or storing material in bulk, comprising relatively shallow rectangular top and bottom caps each having an upstanding rectangular wall extending thereabout, the wall of said bottom cap including opposed side and end wall members, one of said end wall members being secured to the adjacent end portions of said side wall members by means of a flap forming an extension thereof, the remaining end wall of said bottom cap being secured to the adjacent end portion of one of

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said side wall members by means of a flap forming a continuation thereof, the other end of said remaining end wall member being integrally joined with the adjacent end portion of the other of said side wall members and forming a collapsible spout therewith, rectangular inner and outer collapsible sleeves of substantially greater depth than said caps, said inner sleeve having an opening formed adjacent to a lower corner thereof, said inner sleeve being adapted for insertion into and for frictional engagement with the walls of said bottom cap with said opening in registration with said collapsible spout, said outer sleeve being adapted for telescoping over said inner sleeve and the outer surface of the walls of said bottom cap and for frictionally engaging the same, said top cap being adapted to close the upper ends of said sleeves, and said outer sleeve having a score line formed therein for defining a flap for exposing said spout.

7. A container for shipping or storing material in bulk, comprising relatively shallow rectangular top and bottom caps each having an upstanding rectangular wall extending thereabout, the wall of said bottom cap including opposed side and end wall members, one of said end wall members being secured to the adjacent end portions of said side wall members by means of a flap forming an extension thereof, the remaining end wall of said bottom cap being secured to the adjacent end portion of one of said side wall members by means of a flap forming a con-

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tinuation thereof, the other end of said remaining end wall member being integrally joined with the adjacent end portion of the other of said side wall members at one of the corners of said bottom cap, said remaining end wall member and said other of said side wall members having mutually divergent fold lines formed therein adjacent to said one corner along which said remaining end wall member and said other side wall member are each foldable back along itself to form a tuck therein and thereby form a spout at said one corner, rectangular inner and outer collapsible sleeves of substantially greater depth than said caps, said inner sleeve having an opening formed adjacent to a lower corner thereof, said inner sleeve being adapted for insertion into and for frictional engagement with the walls of said bottom cap with said opening in registration with said one corner, said outer sleeve being adapted for telescoping over said inner sleeve and the outer surface of the walls of said bottom cap and for frictionally engaging the same, said top cap being adapted to close the upper ends of said sleeves, and said outer sleeve having a score line formed therein for defining a flap for exposing said one corner.

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