March 5, 1957 E. L. SHARTS 2,783,933

CONTAINERS HAVING FLAP HOLD-DOWN MEANS

Filed June 15, 1956

Fig. 1.

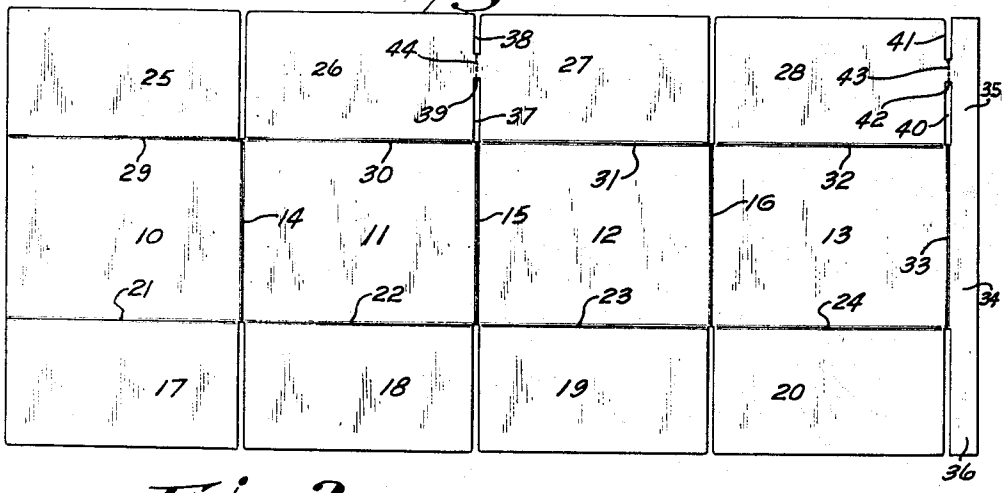


Fig. 2.

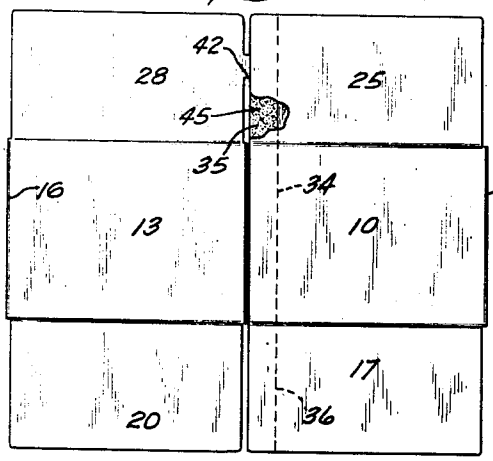


Fig. 3.

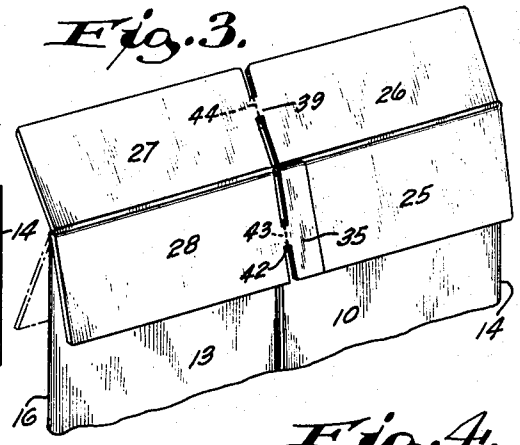


Fig. 4.

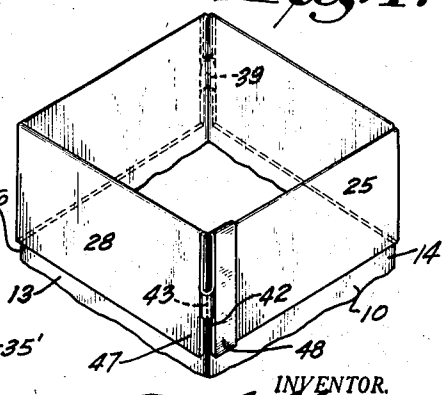
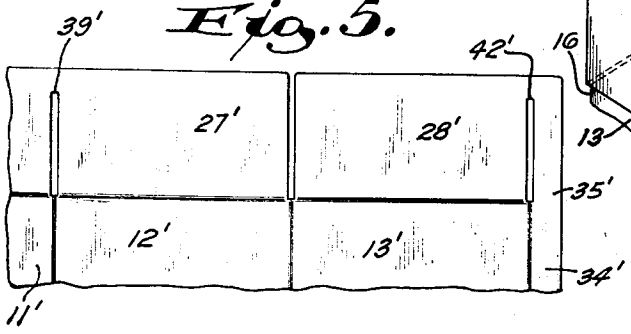


Fig. 5.



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CONTAINERS HAVING FLAP HOLD-DOWN MEANS

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1 Claim. (Cl. 229—37)

This invention relates to improvements in containers having flap hold-down means.

In the process of filling the conventional shipping container with merchandise, the top flaps are usually in the way. This is particularly objectionable when hand-filling is being carried out. Patent No. 2,718,348 discloses a carton wherein bridging connections are left between certain of the top flaps so that the flaps may be held down while the carton is being filled. The arrangement shown in this patent is, however, quite objectionable in that it is necessary to first take the knocked-down blank and apply pressure at the opposed fold lines to open up the blank into rectangular form, and it is then necessary to re-collapse the container on the other pair of corner score lines in order to bring the bridging members to positions intermediate the width of the knocked-down blank so that the top flaps can be folded down into parallelism with the main panels. Thus, an extra manual operation is necessary for each box which greatly increases the handling costs.

It is a general object of the present invention to provide an improved container having flaps with hold-down means wherein the top flaps may be folded down into parallelism with the body panels while the knocked-down container is in original received condition, it being unnecessary to first reversely fold the knocked-down blank.

A more specific object of the invention is to provide a container having flaps with hold-down means, and having a glue flap or connecting flap at one end of the blank, wherein said connecting flap is extended at the top of the container so that as to be alongside the end edge of an adjacent closure flap, the fold line between said connecting flap extension and closure flap being only partially cut to leave a bridging connection, and there being a similar diametrically opposed bridging connection when the blank is opened.

A further object of the invention is to provide a construction as above described, wherein the bridging connections are preferably located inwardly of the free edges of the flaps as to facilitate grasping of the flap corners when it is desired to break the said bridging connections before closing the box.

A further object of the invention is to provide a construction wherein the bridging connections may be additionally weakened by perforations or the like to facilitate the manual breaking thereof.

Other objects of the invention are to provide an improved container having flaps with hold-down means which is inexpensive to manufacture, which is simple to handle, which effectively holds the flaps down during filling, and which is relatively easy to close.

With the above and other objects in view, the invention consists of the improved container having flaps with hold-down means, and all of its parts and combinations, as set forth in the claim, and all equivalents thereof.

In the accompanying drawing, illustrating two complete embodiments of the invention, in which the same

reference numerals designate the same parts in all of the views:

Fig. 1 is a plan view of a blank embodying the improved features;

Fig. 2 is a plan view of the blank of Fig. 1 after the ends have been secured together, the blank being in knocked-down shipping condition;

Fig. 3 is a fragmentary perspective view showing how the top closure flaps of the blank of Fig. 2 can be folded down before the blank is opened out;

Fig. 4 is a fragmentary perspective view showing a container with the flaps in held-down condition ready for filling; and

Fig. 5 is a fragmentary plan view of a blank like that of Fig. 1, but showing a modification.

Referring more particularly to the drawing, Fig. 1 shows a blank for forming a more or less standard slotted container. The blank includes first, second, third and fourth main body panels **10**, **11**, **12** and **13** respectively. The panels **10** and **11** are foldable relative to one another on a corner line of scoring **14**, the panels **11** and **12** are foldable relative to one another on a line of scoring **15**, and the panels **13** are foldable relative to one another on a line of scoring **16**. Bottom closure flaps **17**, **18**, **19** and **20** are foldably connected to the lower edges of the panels **10**, **11**, **12** and **13** respectively, on horizontal score lines **21**, **22**, **23** and **24**. First, second, third and fourth top closure flaps **25**, **26**, **27** and **28** respectively are foldably connected to the upper edges of the panels **10**, **11**, **12** and **13** respectively, on top horizontal score lines **29**, **30**, **31** and **32**.

Connected to the endmost panel **13** and foldable on a corner score line **33** is a glue flap or connecting flap **34** to be used in forming the manufacturer's joint. In customary procedure the glue flap terminates at the score lines **32** and **24**. It is a novel feature of the present invention, however, to have the upper end of the glue flap extended a substantial distance, preferably the full length of the closure flap **28**, as shown by the extension **35**. The lower end of the glue flap **34** may be similarly extended as at **36** but this latter extension is unimportant as far as the present invention is concerned. During slotting of the blank the original connected edges of the flaps **26** and **27** are only partially separated by slots **37** and **38**, leaving a bridging connection **39**, and the original connection between the glue flap extension **35** and the flap **28** is only partially separated by the slots **40** and **41**, leaving a bridging connection **42**.

In addition to being scored in alinement with the slots **40** and **41**, the bridging connection **42** may be weakened by any suitable means as by a line of perforations **43**. Also, in addition to being scored in alinement with the slots **37—38**, the bridging connection **39** may be weakened by any suitable means such as perforations **44**. This weakening, while facilitating the breaking of the bridges after the container has been filled, is not essential, but is a convenience when heavy stock is used.

The blank of Fig. 1 is partially assembled for shipment to the user in the knocked-down form of Fig. 2 by folding the blank of Fig. 1 on the score lines **14** and **16** to bring the free edges of the panel **10** and flaps **17** and **25** into superimposed position on the connecting flap **34** and its extensions **35** and **36**. In the construction illustrated, the end edge of the flap **25** is glued to the connecting flap extension **35** as indicated at **45**, the end edge of the flap **17** is glued to the extension **36**, and the free edge of the panel **10** is glued to the connecting flap **34**. If desired, stitching may be used in lieu of the gluing. By thus providing an extension **35** on the connecting flap **34**, it has been made possible to locate a bridging connection, such as the connection **43**, at the corner of the blank where the manufacturer's joint is located.

Inasmuch as the manufacturer's joint is always intermediate the edges of the knocked-down container as in Fig. 2, it is merely necessary for the user to take the blank in the form which it comes (the form of Fig. 2), bend the flaps down into parallelism with the body panels according to the procedure illustrated in Fig. 3, and then open up the carton to the assembled form of Fig. 4, where the bridging connections **43** and **44** serve to hold the flaps **25** to **28** down, in an out of the way position while the box is being filled.

In the hold-down construction of the prior art, heretofore referred to, it is necessary to first reversely fold the knocked-down blank before the procedures of Figs. 3 and 4 can be carried out. This is an extra and time consuming step which must be perfomed manually.

After the boxes have been filled it is merely necessary to grasp the lower flap corners, such as the corners **47** and **48**, and pull upwardly on them until the bridge, such as the bridge of Fig. 4, is broken. Where there are lines of weakening, such as the lines **43**, this breaking is facilitated.

By having the bridges located intermediate the length of the flaps and inwardly of the free edges thereof, it is much easier to grasp the corners **47** and **48**. Furthermore, any short slotting segments may be used for the slots **37** and **40** without worrying about the exact length, as the exact distance of the bridges from the horizontal fold lines is unimportant. However, it is also practical, but somewhat more troublesome, to manufacture the container with the bridging connections **42'** and **49'** located adjacent the edges of the flaps, if desired, as in Fig. 5. In this fragmentary view the same reference numerals as those used in Fig. 1 are employed for corresponding parts, except that prime marks have been added.

From the above it is apparent that a container having a hold-down flap feature has been provided which may be prepared for hand filling with a minimum of effort, the box being so constructed that the bridging connections can be easily broken when it is desired to close the box.

Various changes and modifications may be made without departing from the spirit of the invention, and all of such changes are contemplated, as may come within the scope of the claim.

What I claim is:

A knocked-down carton having foldably connected fist, second, third and fourth main body panels; bottom closure means foldably connected to the lower edges of said main body panels; first, second, third and fourth top closure flaps foldably connected on alined score lines to the upper edges of said first, second, third and fourth main body panels respectively; a connecting flap integral with and foldable from an edge of said fourth body panel and secured to an overlapping portion of said first body panel intermediate the width of the knocked-down carton to form the manufacturer's joint; said connecting flap having an extension extending beyond the alined score lines for the top closure flaps and along the adjacent edge of the fouth top closure flap, said extension being secured to an overlapping portion of said first top closure flap; a breakable bridging connection between said extension and said fourth top closure flap, there being a slot between said bridging connection and the score line for said flap; and a breakable bridging connection between said second and third top closure flaps whereby the top closure flaps may be folded down into parallelism with the main body panels while the box is in its original knocked-down condition to be held in said position by the bridging connections when the box is opened out for filling, there being a slot between said last-mentioned bridging connection and the score lines for said closure flaps.

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