June 21, 1955 J. ARGODALE 2,711,281

CONTAINERS

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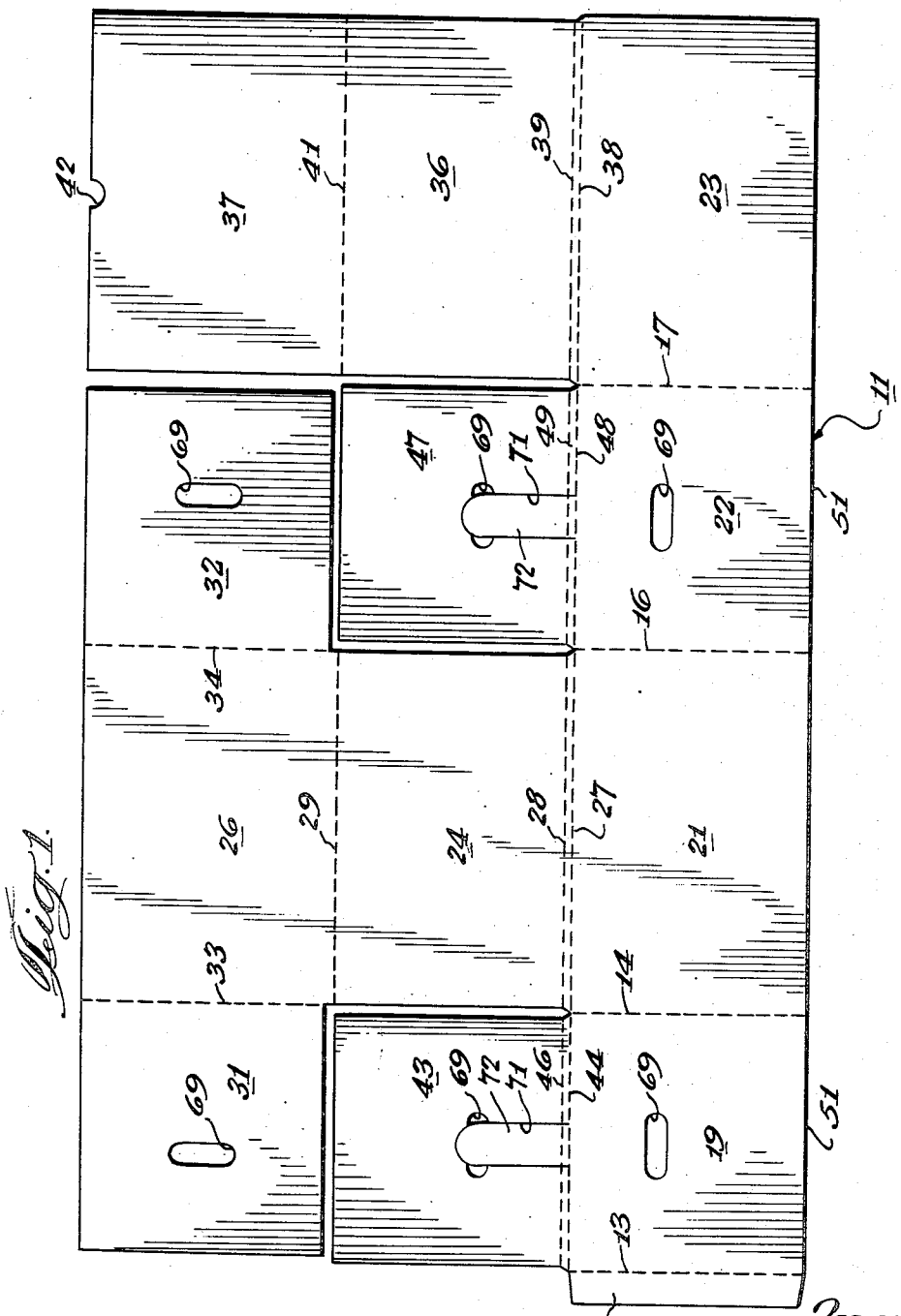


Fig. 1.

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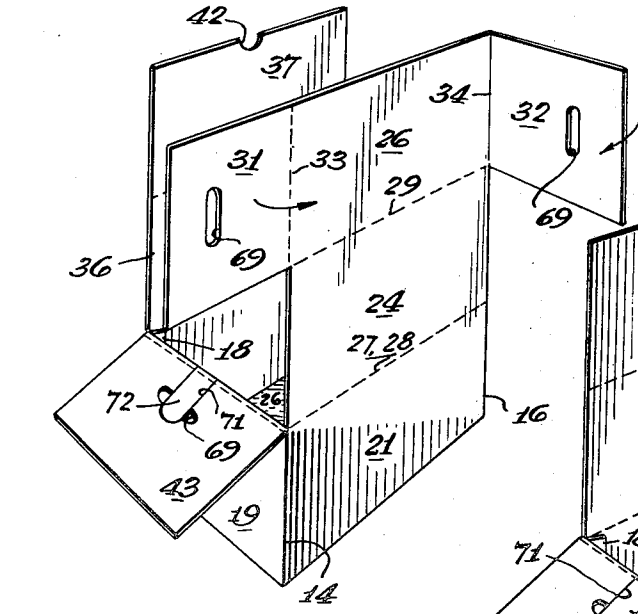


Fig. 2.

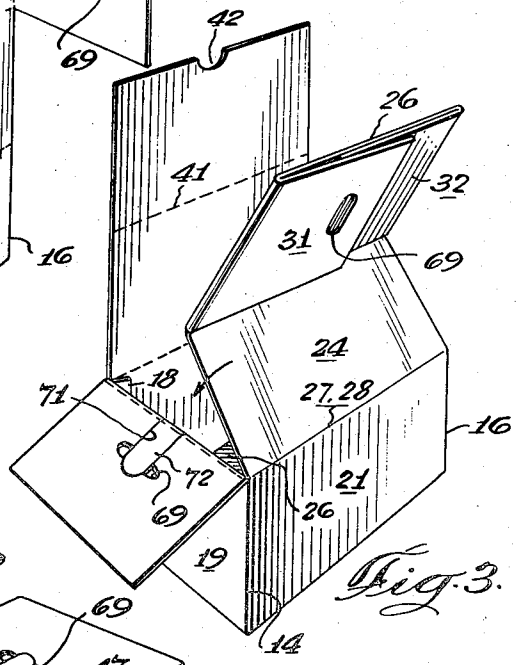


Fig. 3.

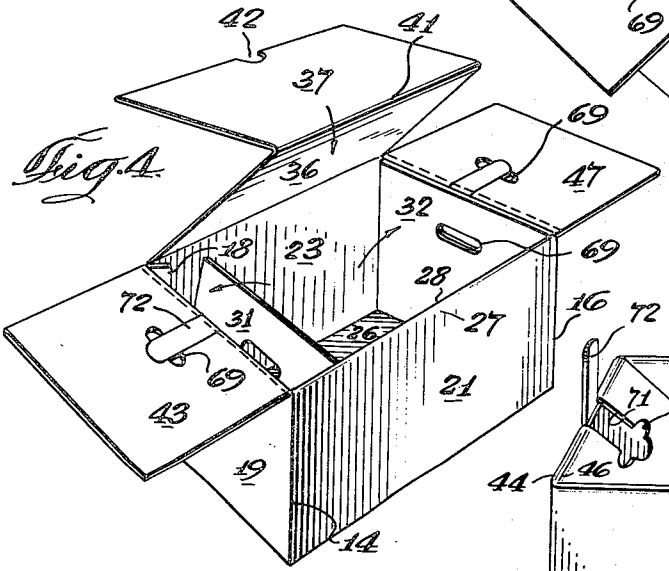


Fig. 4.

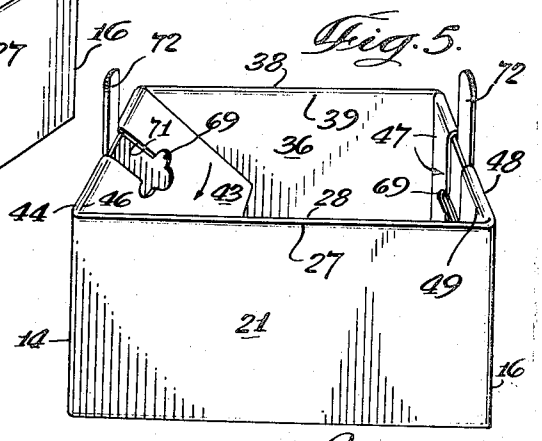


Fig. 5.

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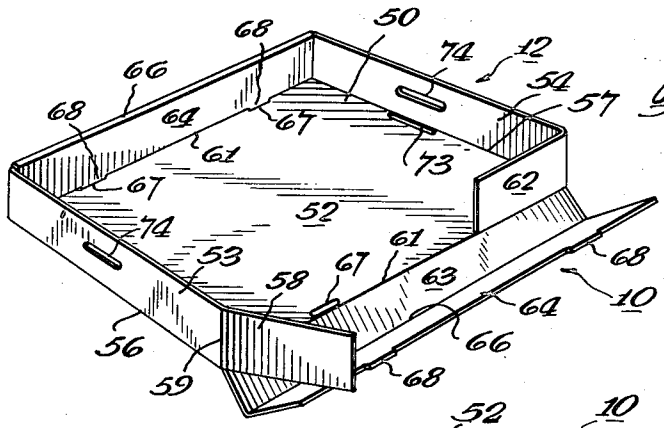


Fig. 6.

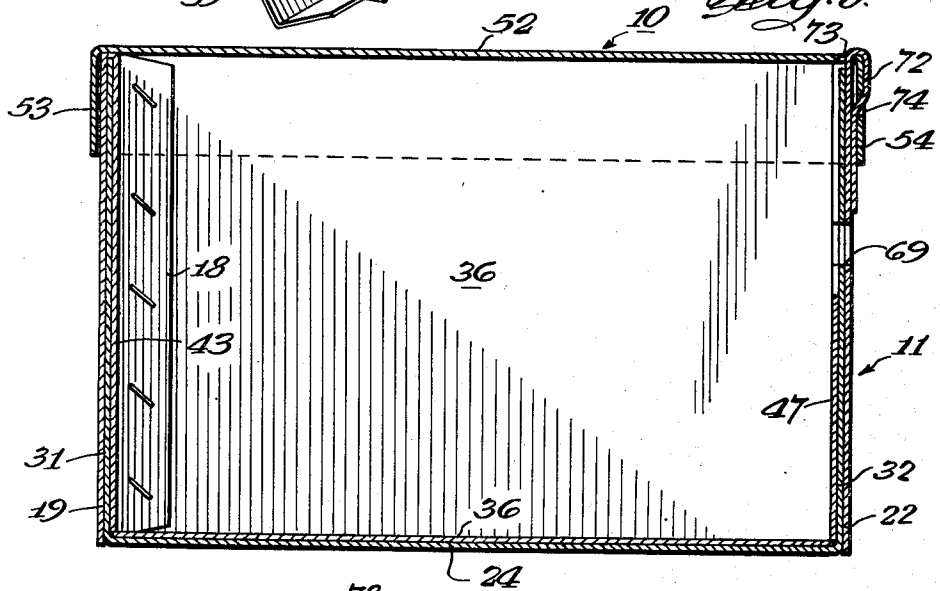


Fig. 8.

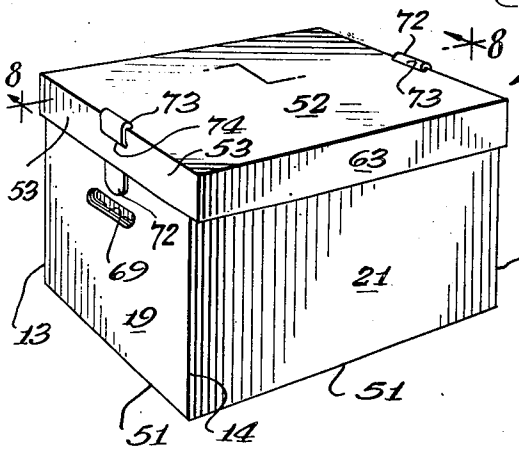


Fig. 7.

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2,711,281

CONTAINERS

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Application July 16, 1952, Serial No. 299,157

1 Claim. (Cl. 229—37)

This invention relates generally to improvements in containers and more particularly to a container for holding produce such as apples, potatoes or the like.

One of the objects of this invention is to afford a container for heavy produce such as apples or potatoes, which container is characterized by side, end and bottom panels of at least double thickness all formed from a single cut and scored sheet.

Another object is to provide such a container wherein the sheet is cut and scored in such a fashion that all of the assembling is done by folding operations through the top opening thereof, in contrast to containers of the prior art wherein the assembling is done by operations in which the panels are folded into position partly from the top and partly from the bottom, or in which the container body consists of two pieces, one of such pieces making a single thickness body, and the other of such pieces being thereafter added to give both wall and stacking strength.

Another salient object is to provide a container body made from a single cut and scored sheet in which the top edges of the container body are characterized by folded over panels which both greatly enhances the appearance and gives good resistance to wear and abrasion occasioned in the handling of the contents thereof.

A further object is to afford a container body wherein good strength in a vertical direction, which aids greatly in stacking of the containers one on top of the other, is achieved by providing an exposed cut edge all around the outer panels at the bottom thereof, the folded over inner panels providing the wall reinforcement not being required to be subjected to all of the stacking loads.

Still another object comprehends in a container of the class described the provision of locking members formed from inner reinforcing end panels which cooperate with a container cover or closure to hold the body and the cover securely together, such locking members providing in the locking position suitable openings in the end panels for convenient carrying of the container.

Other objects and important features of the invention will be apparent from a study of the following specification taken with the drawings which together illustrate a preferred embodiment of the invention and what is now considered to be the best mode of practicing the principles thereof. Other embodiments may be suggested to those having the benefit of the teachings herein and it is therefore intended that the invention not be limited by the precise embodiment herein shown, and such other embodiments as may fall within the purview of the subjoined claim are therefore intended to be reserved.

In the drawings:

Fig. 1 is a plan view of a cut and scored sheet for making a container body for a container according to the present invention;

Fig. 2 is a perspective view showing one of the steps taken in folding the blank of Fig. 1 to construct the container body;

Fig. 3 is a perspective view similar to Fig. 2 showing another step;

Fig. 4 is a perspective view similar to Figs. 2 and 3 showing a still further step;

Fig. 5 is a front perspective view showing the final step in assembling the container body;

Fig. 6 is a perspective view showing the manner of assembling the cover for the container body of Figs. 1 to 5;

Fig. 7 is a perspective view showing the container body with the cover locked thereto; and

Fig. 8 is a cross section through the completely assembled container body and cover of Fig. 7 taken along the planes 7—7 thereof and showing the details of the locking tab for holding the cover to the container body.

Referring now to the drawings, the container according to the present invention is referred to generally by the reference numeral **10** and includes a container body **11** and a cover or top closure **12** therefor. The container body **11** is formed from a substantially rectangular cut and scored sheet as seen in Fig. 1, and is scored along score lines **13**, **14**, **16** and **17** to provide a stitch flap **18**, an outside end panel **19**, and outside side panel **21**, an outside opposite end panel **22**, and an opposite side panel **23**. The stitch flap **18** may be stapled or otherwise secured to the right hand end of the side panel **23**, and in such a fashion so that when the stitch flap **18** is secured it is concealed on the inside of the side panel **23**.

The steps of making the container body **11** are best seen with reference to Figs. 2 to 5 inclusive, and in forming the container body **11** all of the steps take place in such a fashion that the folding is done by operations from the top of the side panels **22** and **23** and from the top of the end panels **19** and **22**.

The side panel **21** is formed integrally with an inner reinforcing side panel **24** and a bottom panel **26**, panel **24** being folded with respect to the side panel **21** along a pair of score lines **27** and **28**, while panel **26** is folded with respect to the panel **24** along a score line **29**.

The bottom panel **26** is provided with flaps **31** and **32**, panel **31** being adapted to be folded with respect to panel **26** along a score line **33**, while panel **32** is adapted to be folded with respect to the bottom panel **26** along a score line **34**.

As seen in Fig. 2 and Fig. 3, flaps **31** and **32** are folded against the bottom panel **26** and panel **24** is folded against the inner face of the side panel **21**. When the bottom panel **26** is in position the flaps **31** and **32** are folded back upwardly against the outer end panels **19** and **22**, respectively, to provide intermediate reinforcing panels for the end panels **19** and **22**.

The opposite side panel **23** is continuous with a pair of panels **36** and **37**, panel **36** being folded with respect to the side panel **23** along score lines **38** and **39**, while panel **37** is folded with respect to panel **36** along a score line **41**. As seen in Fig. 4, panel **37** is folded along the score line **41** with respect to the panel **36**, and panel **36** is folded down on its score lines **38** and **39** along the inside face of the side panel **23**. The panel **37** is then folded down into position atop the bottom panel **26** to provide an additional bottom reinforcing panel.

In order to facilitate the dismantling of the container body **11** when desired, the inside bottom reinforcing panel **37** has a cut out sector **42** adapted to be engaged by the fingers of the hand so that the inside bottom reinforcing panel **37** may be first lifted up prior to the reverse set of operations just described.

The end panel **19** is provided with an inner reinforcing panel **43** adapted to be folded with respect to the end panel **19** along score lines **44** and **46** and down into position against the intermediate reinforcing flap **31**, as seen more clearly in Fig. 5. The opposite end panel **22** is also

provided with an inner reinforcing panel 47 adapted to be folded with respect to the end panel 22 along score lines 48 and 49, and downward into position against the intermediate reinforcing flap 32.

It will be seen from the description thus far that the container body 11 is folded into its assembled position as seen in Fig. 5 by a series of operations making it unnecessary to turn the outside panels 19, 21, 22 and 23 to other than an original upright position. The placement of the inside reinforcing side panels 24 and 36, the bottom panel 26 and its inside reinforcing panel 37 and the intermediate reinforcing end flaps 31 and 32 is achieved by operations which take place in a direction from the top of the panels 19, 21 and 23 and in a downward direction at all times. The inside end panels 43 and 47 are likewise placed by folding operations which take place in a downward direction from the top of the container body.

The container body thus far described is also characterized by smooth unbroken upper surfaces defined by the score lines 44, 46; 27, 28; 48, 49. The double folded top edge defined by the aforesaid score lines enables the carton container body to be especially resistant to abrasion caused by handling the contents of the container and especially resistant to impact forces thereagainst.

The container body 11 is preferably formed from corrugated material, the corrugations running in a vertical direction when the container is placed as seen in Fig. 5. The outer panels 19, 21 and 23 at times may rest upon a cut bottom edge 51 of the container body 11, and since the corrugations run in a vertical direction, and since the body may rest along the cut edges 51, the container body 11 is able to withstand the loads incident to stacking same one on top of another.

The closure or cover 12 for the container body 11 is formed from a cut and scored sheet 50 including a central panel 52 having end flaps 53 and 54 which are folded along score lines 56 and 57 respectively. The end flap 53 is provided with tuck-in flaps 58 which are folded in on a score line 59 and along a score line 61. The end flap 54 similarly has tuck-in flaps 62 which are folded in along the score line 61 and so as to be embraced between side flaps 63 and 64 which are folded back upon themselves along a score line 66. The central panel 52 is partly sheared as at 67 to receive locking tabs 68 formed integrally with the flap 64 which locking tabs 68 are locked into the half sheared cut-outs 67.

The container body 11 is formed with end apertures 69 which are located in the end panels 19, 31 and 43 and the end panels 22, 32 and 47. When the container body 11 is assembled as seen in the several views, the apertures 69 fall into register to provide end hand holds for the container body 11.

The top closure 12 is adapted to be held to the container body 11 and to be locked into position thereon. To this end the inner reinforcing end panels 43 and 47 are punched along a line 71 to provide locking tongues 72. The central panel 52 of the top closure 12 is slotted as at 73 immediately adjacent to the flaps 53 and 54, and slots 74 are also provided in the flaps 53 and 54. In locking the top closure 12 the locking tongues 72 are held in a vertical position as seen in Fig. 5, and the top closure 12 is brought down into position atop the container body 11 with the locking tongues 72 extending up and through the slots 73. One of the locking tongues 72 is then folded over and around the outside of the end flap 54 as seen in Fig. 7, and then tucked into the slot 74 and between the flap 54 and the outer end panel 22. The opposite end of the container body 11 is also similarly arranged, the locking tongue 72 at such opposite end thereof being brought through the opening 74 and between the end flap 53 and the outer outside of the opposite end panel 19.

It will be seen from the description immediately foregoing that the closure 12 is securely locked to the container body 11, but may be removed readily when desired. The turned back locking tabs 72 for the cover 12 are formed integrally with body 11, thus making the provision of accessory locking flaps unnecessary.

The container according to the present invention presents many advantages, among which are the provision of a cut lowermost edge enabling the container to have good stacking properties; the provision of a smooth top edge making the container especially resistant to deformations along the top thereof; and the property of being assembled by folding operations which are done entirely from the top and without the need of turning the container body over. Another very important advantage lies in the provision of at least two thicknesses of material in forming the sides, ends and bottom of the container. The locking means is likewise formed without the need for any additional material, and the locking tabs may be formed at the same time the sheet is cut and scored.

While the invention has been described in terms of a preferred embodiment thereof, its scope is intended to be limited only by the terms of the claim here appended.

I claim:

A container for produce or the like formed from a substantially rectangular cut and scored sheet to provide a container body having opposite side and opposite end panels with lowermost cut edges, said container being characterized in the forming thereof by operations taking place in an entirely downward direction and into that portion of the container as defined by said opposing side and end panels, said opposing side and end panels having portions continuous therewith constructed and arranged as follows: a pair of panels continuous with one of said side panels which are folded into position downward from the top of the said one side panel to provide an inner reinforcing panel therefor and a bottom panel, said bottom panel having flaps extending therefrom which are folded individually into position against said end panels against the inner side thereof, a pair of panels continuous with the opposite one of said side panels which are folded downward into position from the top of said opposite side panel to provide an inner reinforcing panel therefor and a second bottom panel reinforcing said first named bottom panel and lying in position thereover, reinforcing panels extending from said opposite end panels which are folded downward against said flaps and having the ends thereof in abutting relationship with the overlying one of said bottom panels, all of the said panels which are folded downward from said side and end panels when folded into position thereby presenting a plurality of smooth coplanar folds at the top edges of such panels for resisting deformation of said container body, the bottom panel and the bottom reinforcing panel being coplanar with the lower cut edges of said opposite side and end panels whereby said bottom panels transmit the load of said packed container into a subjacent container, and whereby the lowermost cut edges of said opposite side and end panels afford good stacking quality of said container body.

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