

Sept. 20, 1960

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2,953,292

CHIPBOARD BOX

Filed Feb. 9, 1959

2 Sheets-Sheet 1

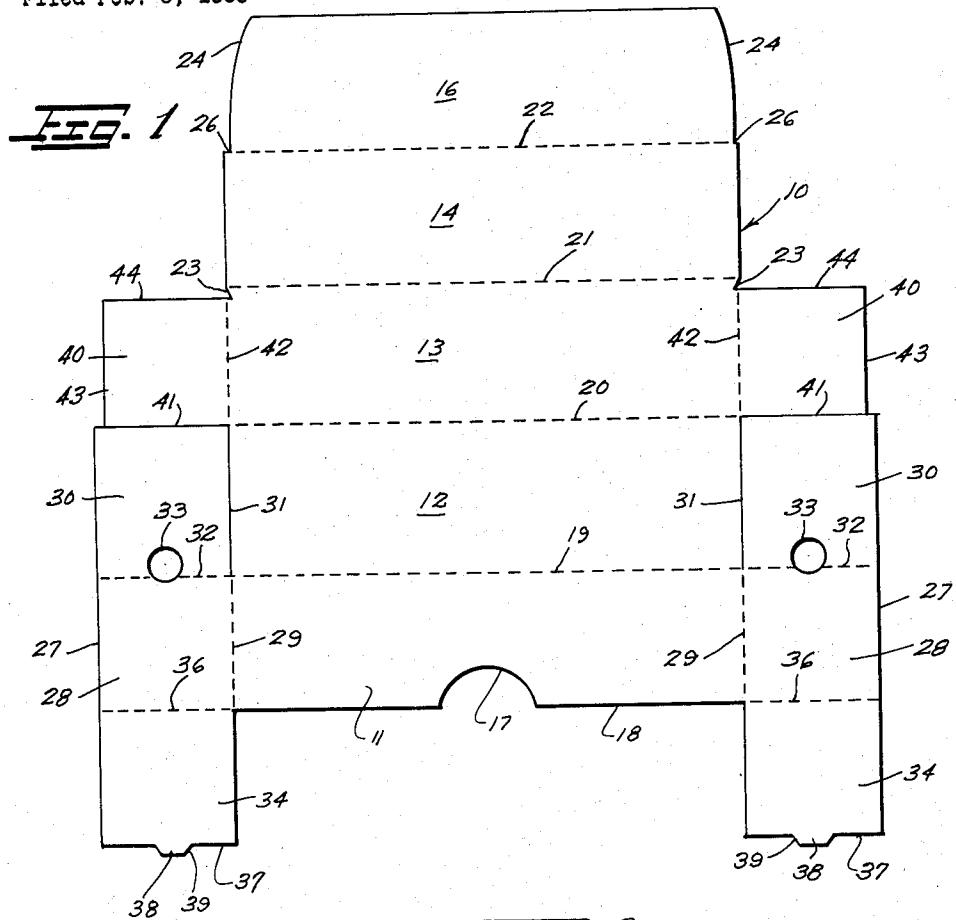
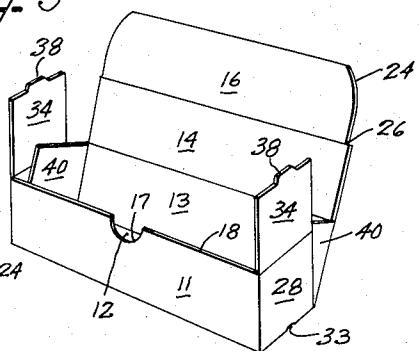
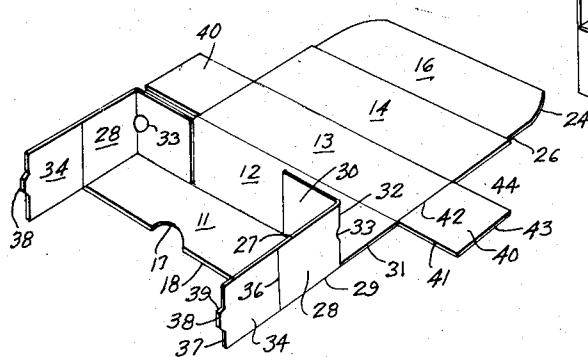


FIG. 3

FIG. 2



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2 Sheets-Sheet 2

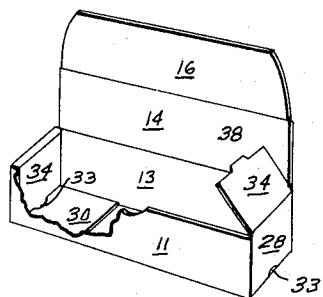


FIG. 4

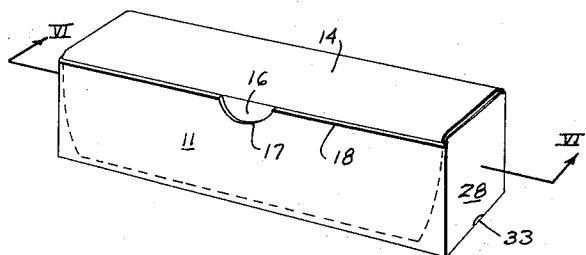


FIG. 5

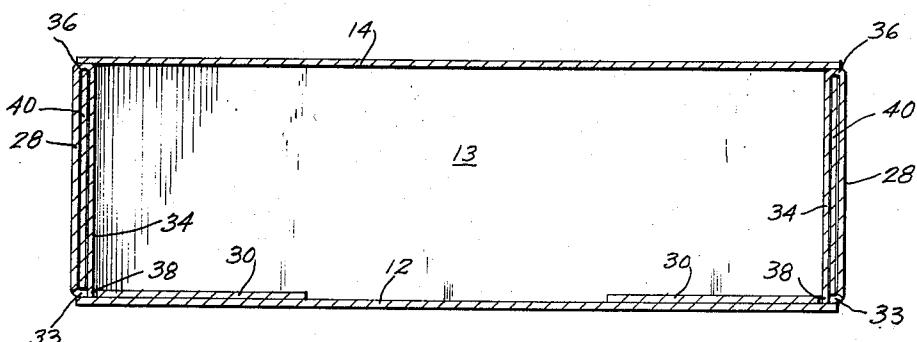


FIG. 6

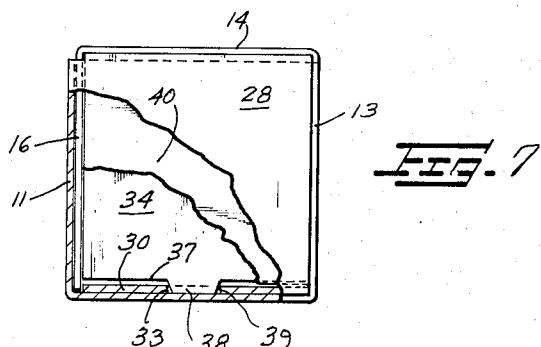


FIG. 7

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CHIPBOARD BOX

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1 Claim. (Cl. 229—16)

This invention relates generally to one-piece foldable boxes and more particularly relates to a foldable chipboard box having a one-piece blank characterized by the utilization of a three panel side flap which is simultaneously scored and punched to provide a bottom locking panel having an aperture formed therein adjacent the lower margin of a center wall panel so that an upper locking panel coextensive in length with the center wall panel and having a marginal lug formed thereon will effect a locked-together assembly of the box panels when the lug is received and seated in the aperture.

It is an object of the present invention to provide an improved chipboard box which can be economically manufactured from a one-piece blank and wherein locking apertures are formed automatically by the same die cutting operation as is used to cut and score the box blanks.

Yet another object of the present invention is to provide a foldable box with an improved locking arrangement.

Many other features, advantages and additional objects of the present invention will become manifest to those versed in the art upon making reference to the detailed description which follows and the accompanying sheets of drawings in which a preferred structural embodiment of a box incorporating the principles of the present invention is shown by way of illustrative example.

On the drawings:

Figure 1 is a development of a one-piece blank used to construct the box of the present invention;

Figure 2 is a somewhat reduced view but showing the blank of Figure 1 with the side panels moved into an initial assembly position;

Figure 3 is a view of the box of Figures 1 and 2 but in a more advanced stage of assembly;

Figure 4 is a view similar to Figure 3 and with parts broken away to illustrate details of the locking procedure effected in accordance with the use of the box of the present invention;

Figure 5 is a view of the assembled box of the present invention;

Figure 6 is a cross-sectional view taken on line VI—VI of Figure 5; and

Figure 7 is an end elevational view with parts broken away and with parts shown in cross-section to further illustrate additional details of construction of the box of the present invention.

As shown on the drawings:

The principles of the present invention find a particularly useful application when employed in connection with the fabrication and production of so-called "chipboard" boxes, the term "chipboard" being understood to apply to any board stock sheet material of a density and rigidity characteristic of a board stock as opposed to corrugated material. Thus, the blanks from which the boxes of the present invention are formed preferably constitute

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a board stock sheet material including ordinary chipboard, chipboard having a backing or a filler with a liner, or so-called pasted chipboard laminated to afford extra thickness. A blank made of such material is indicated in Figure 1 generally by the reference numeral 10.

In accordance with the principles of the present invention, the die cutting process is carried out to afford simultaneous cutting, scoring and punching. Thus, the blank 10 is not only cut to the proper configuration, but the desired cut lines are formed in the blank, as well as the proper scoring lines to divide the blank into a plurality of panels disposed in a predetermined pattern. Moreover, material is actually stripped out of suitable apertures provided in accordance with the principles of the present invention.

Thus, it will be noted that the blank 10 is particularly characterized by the provision of an enlarged center section including five separate panels identified for convenience herein as a front panel or wall 11, a bottom panel or wall 12, a rear panel or wall 13, a top panel or wall 14 and a closure flap 16.

The front panel or wall 11 is characterized by a medially disposed cut-out portion 17 on the margin or edge 18, which cut-out portion 17 constitutes an access

25 recess to facilitate manipulation of the closure flap 16, as will be evident from the description which follows. At the opposite margin of the front panel or wall 11, there is provided a score line 19. Additional score lines 20, 21 and 22 are provided in the enlarged center section

30 between the respective panel or wall sections 12—16. It will be further noted that the area between the rear panel or wall and the top panel or wall indicated at 13 and 14, respectively, is characterized by the provision of cut-out indentations indicated at 23, which indentations afford

35 clearance and facilitate convenient assembly of the box. The closure flap 16 is also relieved on its side edges as at 24 and notched as at 26 to facilitate insertion of the closure flap into the interior of the box adjacent the front panel or wall 11 when the box is in assembled position.

The blank 10 is further characterized by the formation thereon of a three panel flap on each side of the front panel or wall 11. Since each of the three panel flaps is identical in structural characteristics, the same reference numerals will be applied to the structural features of both, thereby to clarify the disclosure. The three panel flap is indicated at 27 and comprises a center wall portion 28 integrally connected to the front panel or wall 11 along a transverse score line 29 and generally coextensive in dimensional size with the dimension of the panel or wall 11 along the length of the score line 29.

Each flap 27 further includes what may be referred to herein as a first bottom locking panel 30 separated from the bottom panel or wall 12 by a cut line 31 and integrally connected to the center wall panel 28 at the upper margin of the center wall panel 28 formed by a score line 32.

Each of the first upper locking panels 30 is particularly characterized by the formation therein of an aperture formed during the die cutting process and wherein the material is actually stripped out from the first upper locking panel 30. In this particular embodiment, the aperture is indicated as having been formed from a circular punching and, accordingly, the shape of the aperture is indicated as a circular opening 33. The aperture 33 is medially disposed adjacent the margin provided by the score line 32 and it will be noted that it is so arranged as to have the edge portions of the aperture 33 extending into the score line 32.

The flap 27 is further characterized by the provision of a lower locking panel 34 which projects beyond the margin or edge 18 of the front panel or wall 11 and which is

integrally connected to the center wall panel 28 along a score line indicated at 36.

The lower bottom locking panel 34 which extends away from the lower margin of the center wall panel 28 at the score line 36 is particularly characterized by the formation on its free marginal edge 37 of a medially disposed locking lug 38. It may be noted that the locking lug 38 is in longitudinal alignment with the aperture 33 and is preferably dimensioned to be complementary in size to the aperture 33. Thus, in the present embodiment, the locking lug has tapered side wall portions indicated at 39 dimensioned to be approximately the same as the diametral dimension of the circular aperture 33.

Extending outwardly from opposite sides of the rear panel or wall 13, is a one panel flap indicated at 40, 40. It will be noted that each panel 40, 40 is separated from an adjoining first or upper locking panel 30, 30 by a cut line 41, 41. Each flap 40 is integrally connected to the rear panel or wall 13 along a score line indicated at 42. The flap 40 is also cut on its outer edge 43 and on its upper edge, as indicated at 44, to be sufficiently relieved so that the flap 40 is of a smaller area than the center wall panel 28 which forms the side wall of the completed box, thereby facilitating assembly of the box panels.

In assembling the box, the three panel side flap 27 is first manipulated so that the first locking panel 30 is offset at 90° to the wall panel or side wall 28 along the score line 32 and is folded inwardly to overlie the bottom panel or wall 12. The center section is then folded and the flaps 40, 40 are turned inwardly in the manner shown in Figure 3 thereby to be positioned adjacent the side wall panels 28.

Each of the second locking panels 34 are then folded back upon the wall panel 28 as indicated in the manner of Figure 4 so that the second locking panel 34 is moved into the interior of the box to overlie the adjacent flap 40 and the side wall 28 with the locking lug 38 en-

tering the corresponding aperture 33 and securely locking the box in firm assembly. To close the box, the closure flap 16 is inserted interiorly adjacent the front panel or wall 11.

5 Although minor modifications might be suggested by those versed in the art, it should be understood that I wish to embody within the scope of the patent warranted hereon all such modifications as reasonably and properly come within the scope of my contribution to the art.

10 I claim as my invention:

A box comprising a one-piece blank made of board stock sheet material scored, stripped and cut to form a five panel center section forming front, bottom, rear and top walls with a closure flap, a first three panel flap 15 integrally hinged on each side of said front wall and each three panel flap forming a side wall integral with said front wall and first and second locking panels at the respective upper and lower margins of said side wall, and a second one panel flap on each side of said rear 20 wall, said panels being sequentially foldable into a position with said first locking panel of each three panel flap overlying said bottom wall and said one panel flap lying inwardly adjacent said side wall, said second locking flap foldable over the co-adjacent side wall and one panel 25 flap and into the inside of said box, each said three panel flap having a punched aperture formed therein in said first locking panel extending into the fold line between said first locking flap and the corresponding side wall, said second locking flap having a marginal lug formed 30 thereon received in said aperture to lock the box in assembled form.

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