

Oct. 11, 1960

E. L. ARNESON

2,955,737

CORNER LOCK BOX

Filed Sept. 2, 1958

2 Sheets-Sheet 1

Fig. 1

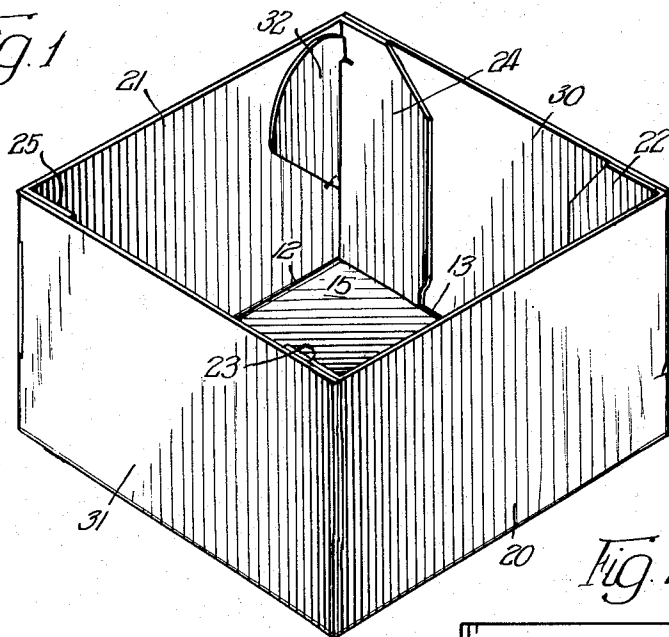


Fig. 2

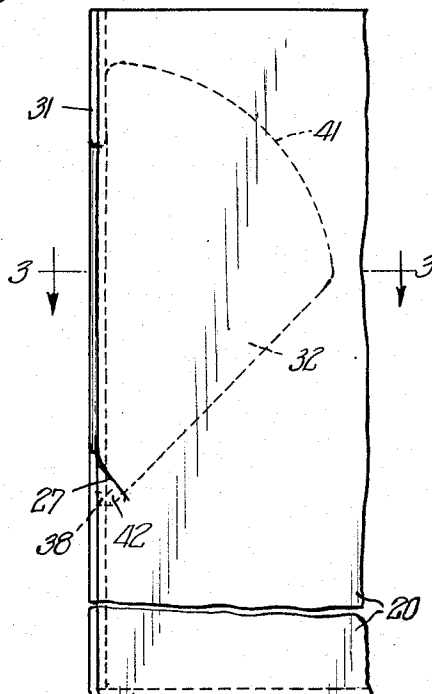
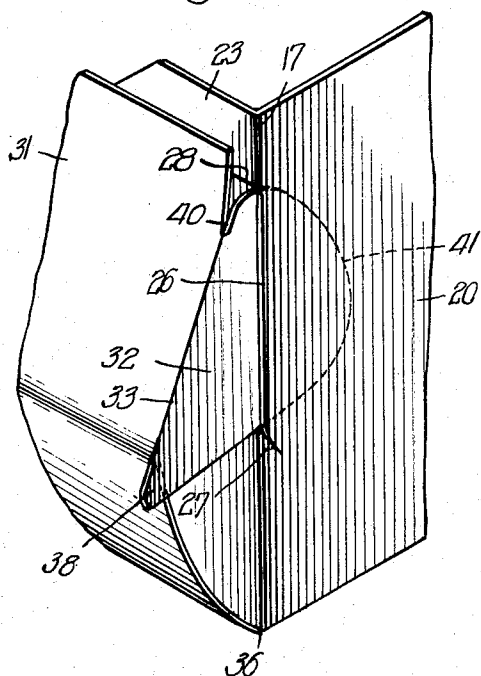


Fig. 5



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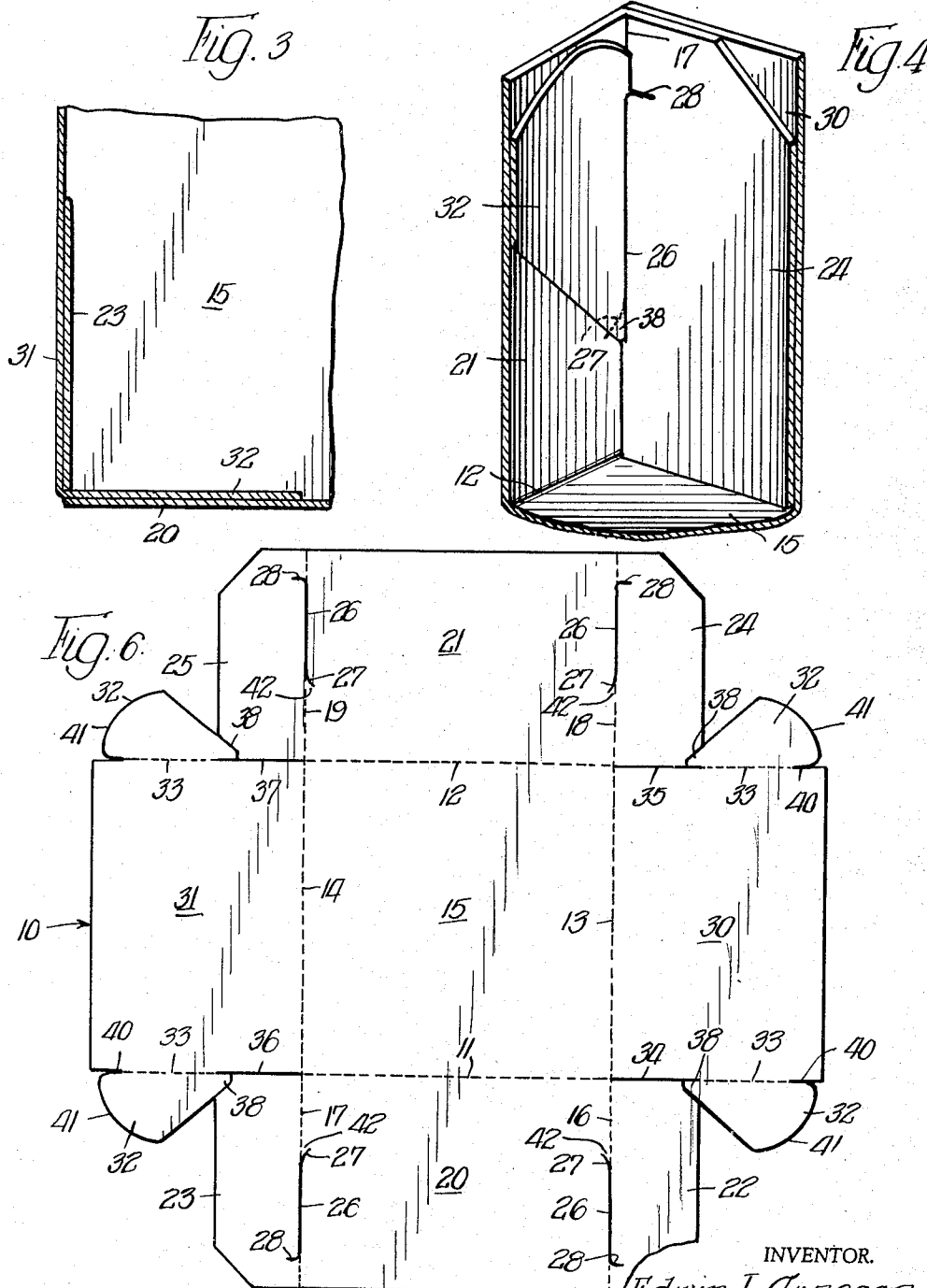
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CORNER LOCK BOX

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1 Claim. (Cl. 229—35)

This invention relates to containers and is more particularly concerned with improvements in a carton which is adapted for use in packaging various articles of merchandise.

It is a general object of the invention to fabricate from a cut and creased blank of paperboard material a rectangular carton which is adapted to be supplied to the user in blank form and which, when set up, is strong and sturdy and presents a neat and attractive exterior appearance.

It is a more specific object of the invention to provide a paperboard carton having side and end walls which are connected at adjacent ends by lock formations which may be readily engaged, when the carton is set up, and which are effectively concealed when the carton is closed.

It is a still further object of the invention to provide a paperboard carton having side and end walls which are connected at each corner by a panel member hinged to one of these walls and foldable into face engagement with the inside of the adjoining wall and with a slit provided at the hinge line which is adapted to receive a hinged locking tab provided on the end of the adjoining wall and adapted to be held in face engagement with the inside of the first wall when passed through the slit.

These and other objects and advantages of the invention will be apparent from a consideration of the carton which is shown by way of example in the accompanying drawings wherein:

Figure 1 is a perspective view of an open top carton body which illustrates the principles of the invention, the carton being in set up condition;

Figure 2 is a side elevation of a corner portion of the set up carton, to a larger scale;

Figure 3 is a fragmentary section taken on the line 3—3 of Figure 2;

Figure 4 is a perspective view showing the inside of the corner portion of the carton, to an enlarged scale;

Figure 5 is a perspective view of a corner portion of the carton illustrating the method of interlocking the corner connecting members; and

Figure 6 is a plan view of a paperboard blank which is cut and scored to provide the necessary panels for fabricating the carton of Figure 1.

Referring to the drawings, there is illustrated an open top tray-like container or carton body which incorporates therein the principal features of the invention and which may be used in the form shown or with a like member of slightly different size so that the two may be telescoped one within the other to form a two part telescoping box or carton.

The illustrated carton body is fabricated from a blank 10 of paperboard or other relatively flexible material of similar character which is cut and scored as shown in Figure 6. The blank 10 is provided with spaced parallel score lines 11 and 12 extending across the blank in one direction thereof and spaced parallel score lines 13 and 14 extending across the blank in a direction at right

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angles to the score lines 11 and 12, which score lines 11, 12, 13 and 14 define a bottom forming panel 15 in the center of the blank. The marginal portions of the blank which extend from the edges of the bottom wall panel 15 are cut and scored so that they are adapted to hinge on the score lines 11, 12, 13 and 14 into upstanding side and end wall forming relation to the bottom wall 15.

The oppositely disposed marginal portions which are separated from the bottom wall panel 15 by the score lines 11 and 12 are scored on the lines 16, 17 and 18, 19, with the score lines 16, 18 and 17, 19 constituting aligned end extensions of the score lines 13 and 14, respectively, to divide these portions into side wall forming panels 20 and 21 and corner connecting flaps or panels 22, 23 and 24, 25. Identical locking slits 26 are provided in each of the hinge forming score lines 16, 17 and 18, 19 which separate the corner connecting panels 22, 23 and 24, 25 from the side wall panels 20 or 21. Each of the locking slits 26 has its major portion in the hinge or score line and an end portion 27 at its inner end which curves inwardly a short distance into the adjoining side wall panel. Each slit 26 has an angular extension 28 at its outer end which is cut a short distance into the adjoining corner connecting panel. The slits 26 are identical except for being rights and lefts.

The remaining marginal portions of the blank which are in oppositely disposed relation and which extend outwardly of hinge or score lines 13 and 14 are cut to form end wall panels 30 and 31 which are each provided along the opposite end edges thereof with identical locking tab formations 32, each of which is of generally triangular shape. Each locking tab 32 is connected to its end wall panel on a hinge forming score line 33 which terminates short of the inner and outer ends of the tab. The end wall panels 30 and 31 are freed from the adjoining corner connecting panels 22, 24 and 23, 25 by the cutting lines 34, 35 and 36, 37 which are in alignment with the score lines 11 and 12 and which extend outwardly of the ends thereof to the score lines 33. The cutting lines 34, 35, 36 and 37 are of a length corresponding approximately to the width of the corner connecting panels or flaps 22, 23, 24 and 25 so that a small triangular end section 38 of each locking tab extends outside of the cut edge of the end wall forming panels to which the tab is hinged and is cut from the adjoining corner connecting panel. At the other end of each corner connecting tab 32 a slit is cut on the line 40 which extends inwardly on the score line 33 and the outer portion of the tab 32 at this end is provided with an outwardly curved edge 41, the outer portion of which extends outwardly of the slit 40.

The carton body is set up by first hinging the side wall panels 20 and 21 into upstanding relation with the bottom wall forming panel 15 about the score lines 11 and 12. The corner connecting panels 22, 23, 24 and 25 are then folded inwardly into approximate alignment above the hinge lines 13 and 14. The end wall panels 30 and 31 are hinged upwardly about the score lines 13 and 14 while the corner locking tabs 32 are each turned inwardly about their hinge lines 33 and the upper end portions thereof are inserted in the locking slits 26, the end panels being bowed to permit this insertion, and the curved edges 41 facilitating the movement of the tabs 32 into the slits 26. The upper portion of each locking tab 32 is moved completely through the slit 26 and then forced upwardly along the inner face of the adjoining side wall panel by flattening out the end wall panel and bringing the latter into face engagement with the outer faces of the returned corner connecting panels. The lower end of each tab formation 32 is locked in position by engaging the end portion 38 thereof with the inside of the small triangular

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portion 42 of the side wall which is formed between the hinge line and the curved lower end section 27 of the slit 26. With this arrangement, the end wall panels 30 and 31 are locked in position at the corners by the concealed locking tabs 32, without detracting from the outside appearance of the carton.

The invention is illustrated as embodied in an open top tray-like carton body but it will be apparent that it is adapted to be incorporated in any multi-wall carton of this general type and that the carton may be made with closure flaps or a hinged cover on the side and end walls to form a completely closed container.

While specific materials and particular details of construction have been referred to in describing the form of carton illustrated, it will be understood that other materials and other details of construction may be resorted to within the spirit of the invention.

I claim:

In a carton having a bottom wall and side and end walls hinged to the opposite edges of said bottom wall, a corner connecting structure comprising a connecting panel at the end of a side wall which is foldable about a hinge forming crease line into inwardly extending upstanding face engaging relation with the adjoining end wall, said connecting panel having a slit therein extending along a portion of the hinge forming crease line, said slit having an upper end portion extending a short distance laterally into the connecting panel and a lower end portion extending

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diagonally downwardly into the adjoining side wall, and a locking tab formation of generally triangular form hinged to the end edge of the adjoining end wall which locking tab formation is slit on the hinge line at the top and bottom ends thereof, the distance between the end slits of the locking tab being approximately the same as the length of the slit in the corner connecting panels, and said locking tab formation having the top of the free edge thereof curved upwardly in an inward direction and then downwardly to a diagonal bottom edge portion which extends diagonally outward to the hinge line whereby the end wall may be flexed outwardly and the locking tab formation may be passed without folding through the slit in the corner connecting panel so as to be seated against the side wall with top and bottom end edge portions which are freed on the hinge line by the end slits therein having edge abutting engagement with the inside face of the corner connecting panel when the end wall is straightened.

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