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CARTON

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FIG. 1

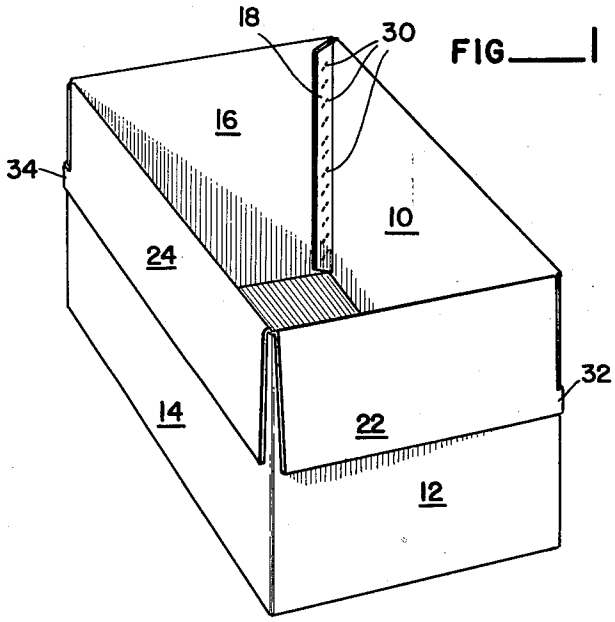
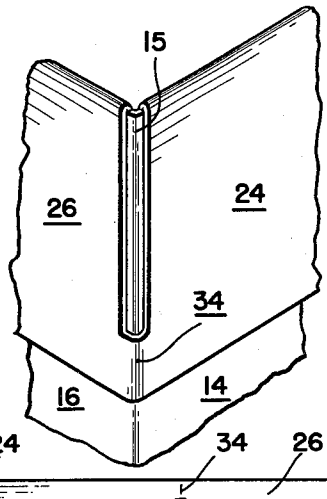


FIG. 2



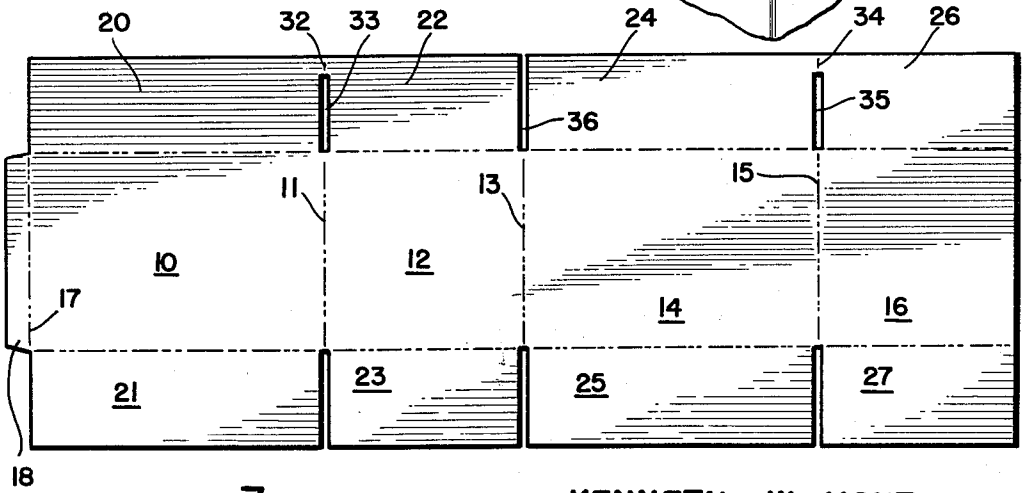


FIG. 3

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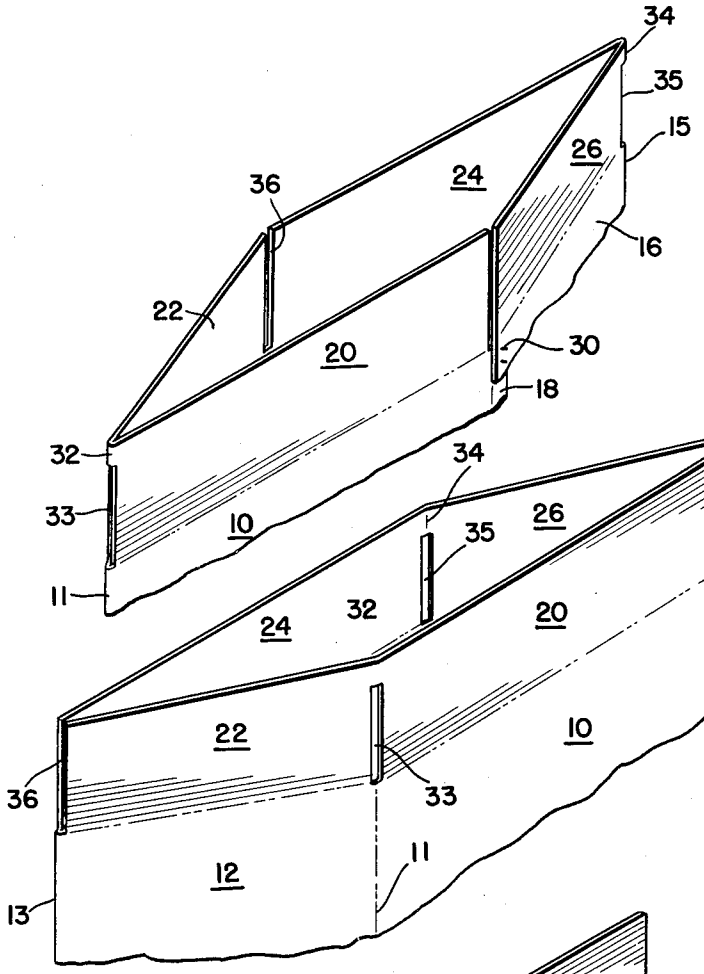


FIG. 4

FIG. 5

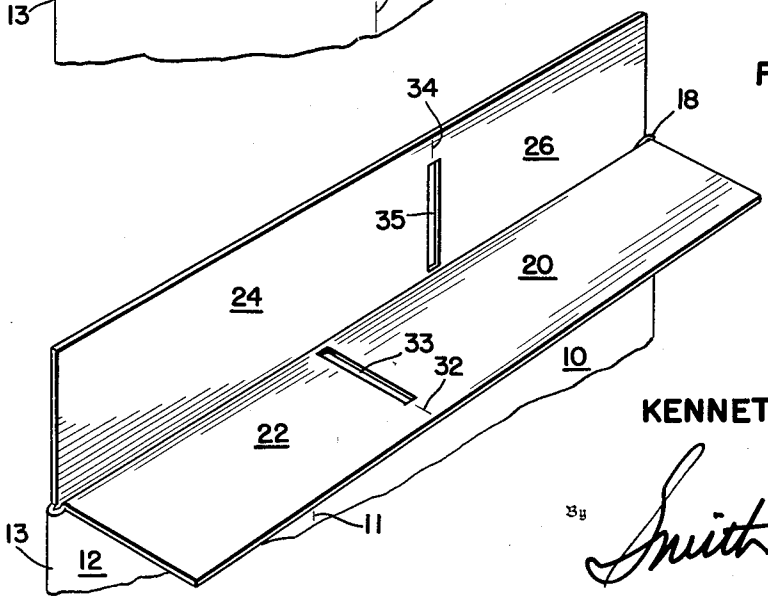


FIG. 6

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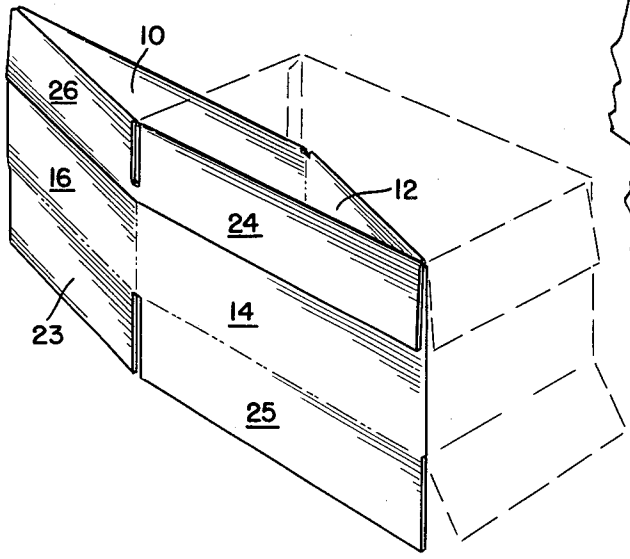
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FIG. 7



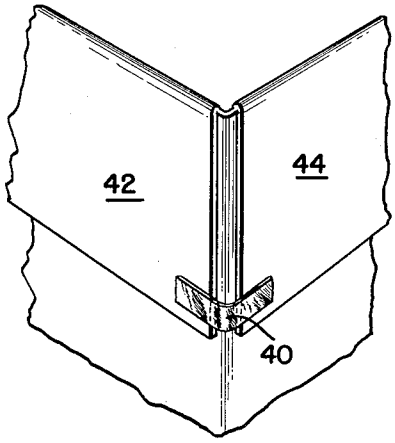


FIG. 8

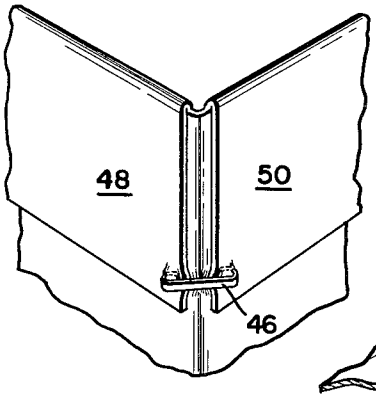
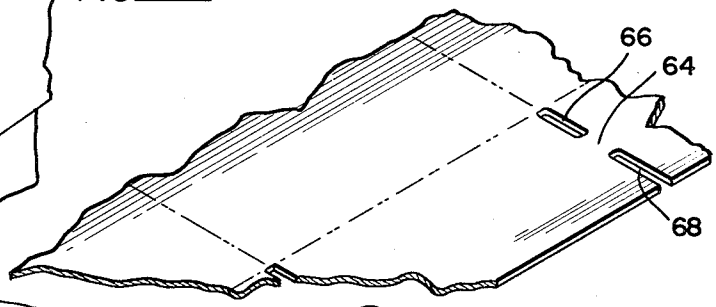


FIG. 9

FIG. 11



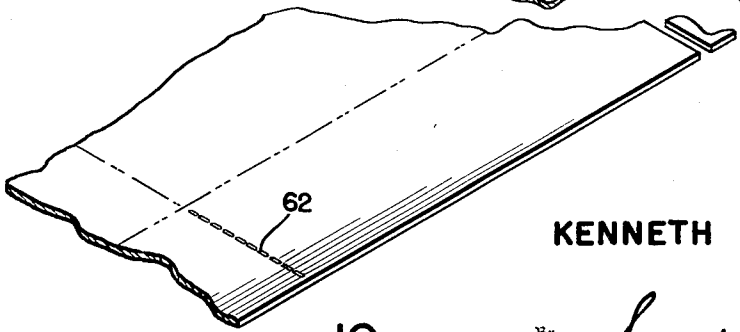


FIG. 10

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United States Patent Office 2,718,348 Patented Sept. 20, 1955

2,718,348

CARTON

Kenneth W. Montfort, Portland, Oreg., assignor to James W. Main, Bellevue, Wash.

Application June 25, 1951, Serial No. 233,329

5 Claims. (Cl. 229—37)

This invention relates to improvements in a carton and, more particularly, pertains to folding cartons of the type commonly used in the packaging and shipment of fruit, foodstuffs, canned goods and similar commodities.

It is customary in the carton manufacturing fields to cut carton blanks from large sheets of cardboard or corrugated board and to partially assemble them in the manufacturing plant. Such partially assembled blanks comprise a plurality of side and end walls hingedly joined together in a series and each being provided with closure flaps that in the fully erected carton serve to complete the shipping container. The walls of such blanks are arranged in end-to-end series and those at each end of the series are folded over the intermediate walls and joined together either by taping, stitching or stapling or in any other suitable manner. In this condition the units are shipped to customers who then complete erection of the carton and the closure of the bottom prior to filling. In this condition the carton is of the form of a rectangular parallelepiped having a closed end and an open end surrounded by the unsecured closure flaps. Much difficulty is encountered where the cartons are to be either hand-packed or mechanically packed due to the interference caused by the free flaps which get in the packer's way and obstruct and complicate the packing operation.

It is among the more important objects of this invention to provide a carton construction in which, when the carton is erected to the position that it is to be packed, the closure flaps are secured out of the way by being retained downward against the outer faces of the carton walls in a manner avoiding obstruction of the packing operation; to provide a carton construction in which flap retaining means is included, which automatically operates during the erection of the carton, and which requires no special skills or manipulations by a workman; to provide a carton construction in which flap retaining means may be included with minimum or no extra cost; to provide a carton construction having flap retaining means in which the flap retention is accomplished in the ordinary course of erecting the carton and without the application of retainers or the placement of the carton in a retaining frame.

These and other objects of the invention, as will become more apparent during the course of the following specification, are obtained in a principal form of the invention by forming a carton blank which includes four walls formed in an end-to-end series and each provided with flaps which, with the other similar flaps, form top and bottom closures for the carton. Certain of the flaps are joined together by bridging members which function during carton erection to insure the retention of adjacent pairs of flaps together so that they finally are disposed against the erected carton walls. The bridging members are of several forms as will be more fully shown and are easily severable when the carton has been packed to permit the closing of the carton.

The drawings accompanying this application show a preferred form of carton according to my invention and certain alternatives which may be employed. In those drawings:

Figure 1 is a perspective view of a carton according to the invention as it appears when erected;

Figure 2 is an enlarged fragmentary view in perspective of a carton corner showing the manner and means whereby certain closure flaps are retained against the walls;

Figure 3 is an inner face view of a carton blank typical of that from which the carton of Figure 1 is produced;

Figure 4 is a perspective view of a partially assembled and erected carton;

Figure 5 shows in perspective the carton of Figure 4 in a reversed position assumed during erection;

Figure 6 is a perspective view showing a still further position assumed during erection of the carton;

Figure 7 is a perspective view of yet another position assumed in the carton as it nears complete erection;

Figures 8 and 9 are enlarged fragmentary views of alternative flap retaining means that may be employed in connection with this invention; and

Figures 10 and 11 show fragmentarily alternative forms of blanks which may be employed in lieu of that of Figure 3.

Referring to the carton blank shown in Figure 3, it will be seen that a plurality of walls **10**, **12**, **14** and **16** are hingedly secured together in end-to-end series by a plurality of crease lines **11**, **13** and **15**. At the end of the series, attached to wall **10** by the crease line **17**, is an assembly tab **18**. Each of the side walls has a closure section or flap at each upper and lower edge. For example, flaps **20**, **21** on wall **10**, flaps **22**, **23** on wall **12**, flaps **24**, **25** on wall **14**, and flaps **26**, **27** on wall **16** are all closure sections. The flaps **21**, **23**, **25** and **27** will be considered the sections forming the bottom closure of the carton and flaps **20**, **22**, **24** and **26** will be referred to as the top closure sections. However, it will be apparent that such references are merely indicative of the location of the top and bottom closure sections with relation to the carton walls and which in a finished carton edges of the walls are to be considered the "top" and which the "bottom" of the carton. In certain instances, as when the carton is being packed so that flaps **21**, **23**, **25** and **27** will eventually appear at the top of the carton, flaps **22**, **24**, **26** and **28** would then be the bottom flaps or closures.

Walls **10** and **14**, being somewhat longer than walls **12** and **16**, are the side-walls of the carton and walls **12** and **16** are the end walls. In assembling a carton according to the usual practices wall **10** is folded on the crease line **11** to overlie wall **12** and a portion of wall **14**. In similar manner wall **16** is folded onto wall **14** and its free edge will overlap the tab **18** to which it may be secured by staples **30** or by taping or adhesively in manners well known, therefore thus not shown by drawings.

In the form of the invention disclosed in Figures 1 through 7, the flaps at the bottom of the carton are formed by having been slit apart in the blanking operation. However the top closure flaps are not all completely separated from each other. Flaps **20** and **22** are joined by a bridging member **32** and flaps **24** and **26** by another similar bridging member **34**. These bridging members are unremoved parts of the carton material that have not been cut away in forming the separating slits **33** and **35** respectively between pairs of flaps. Flaps **22** and **24** are separated by the slit **36** which is open ended.

When the carton blank has been partially assembled to the extent of the tab **18** having been secured to wall **16** the top end appears, partially expanded as in Figure 4. Bridge members **32** and **34** are folded and are disposed at the ends or corners of this sub-assembly. The assembler applies pressure at the opposed creases **11** and **15** between walls **10** and **12** and between walls **14** and **16** respectively, causing the carton walls to pass from the condition shown in Figure 4 to that of Figure 5 whereupon the wall arrangement is partially altered to the extent that top



said second and third side walls, said blank being parted so as only to partially separate said first and second closure sections on a line in extension of the hinged connection of said first and second side walls and so as only to partially separate said third and fourth closure sections on a line in extension of the hinged connection of said third and fourth side walls and leaving a readily severable bridging portion integrally connecting said first closure section to said second closure section and leaving a readily severable integral bridging portion integrally connecting said third closure section to said fourth closure section; and said blank having bottom closure means connected to the other common edge of said side walls.

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