June 7, 1949. K. T. BUTTERY 2,472,516

CARTON

Filed July 12, 1946 2 Sheets-Sheet 1

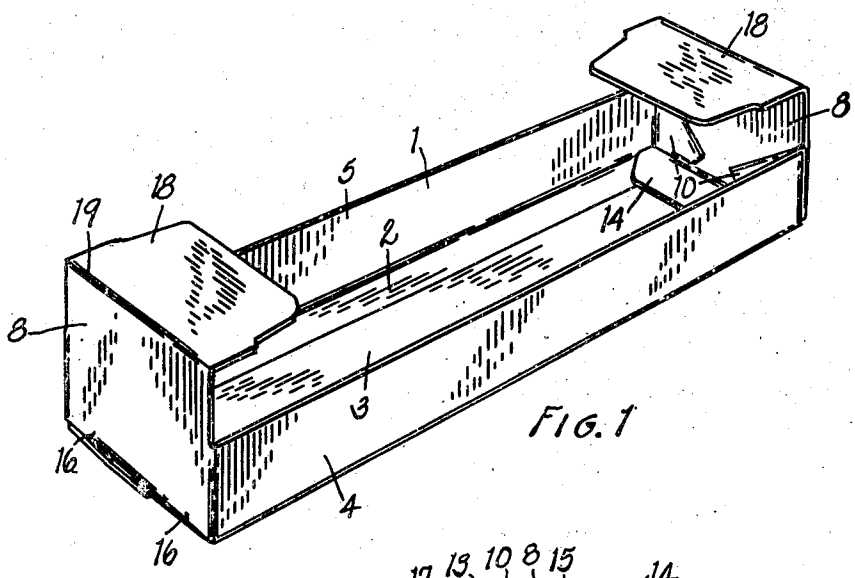


FIG. 1

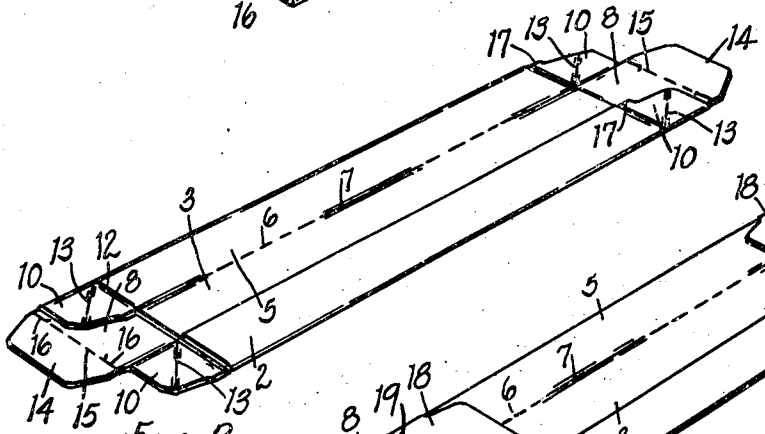


FIG. 2

FIG. 3

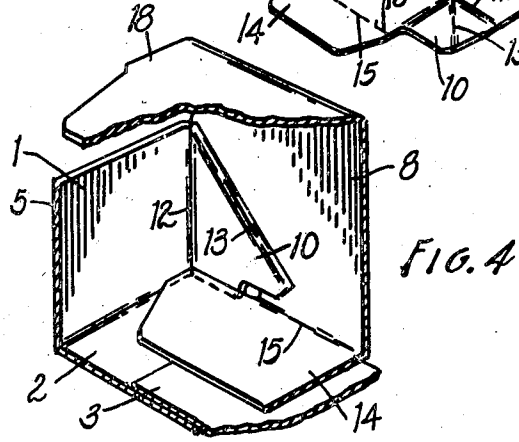


FIG. 4

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CARTON

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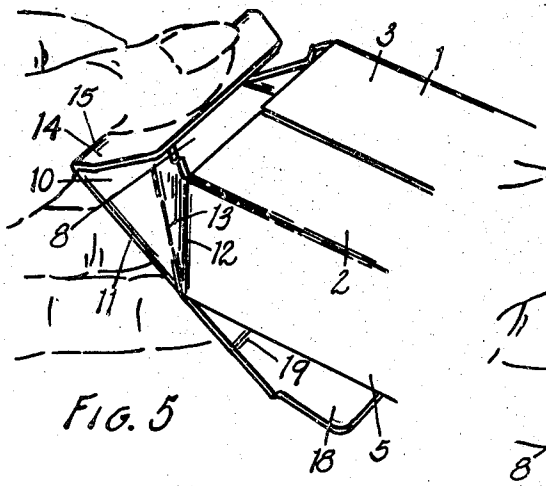


FIG. 5

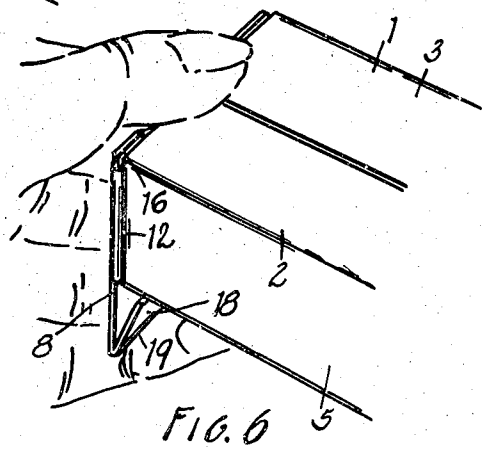


FIG. 6

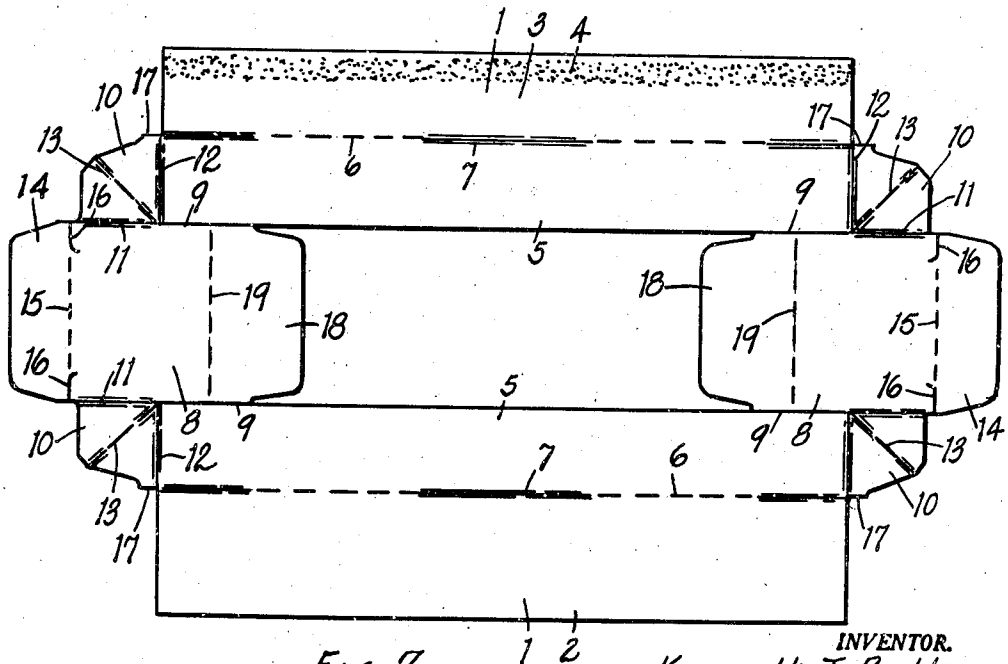


FIG. 7

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UNITED STATES PATENT OFFICE

2,472,516

CARTON

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Application July 12, 1946, Serial No. 683,029

6 Claims. (Cl. 229—30)

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The main objects of this invention are:

First, to provide a collapsible box or carton which may be formed of a single blank and one in which the parts are associated so that the box may be quickly set up or erected and one in which the parts are very effectively retained in position when the box is erected.

Second, to provide a box or carton of this character which is well adapted for the display of merchandise—for example, fruit and various bakery products.

Third, to provide a structure having these advantages which may be very economically produced from comparatively light stock and at the same time is quite rigid when set up.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a carton embodying the features of the invention fully set up.

Fig. 2 is a bottom perspective view of the collapsed carton.

Fig. 3 is a top perspective view of the collapsed carton.

Fig. 4 is an enlarged fragmentary perspective view of the erected carton.

Fig. 5 is a fragmentary perspective view illustrating certain stages of the erection of the carton by the preferred method.

Fig. 6 is a fragmentary perspective view illustrating the succeeding stage in the erection of the carton.

Fig. 7 is a plan view of the blank.

The embodiment of the invention illustrated is formed of a single blank and comprises a bottom designated generally by the numeral 1 and made up of bottom members or sections 2 and 3. These members or sections 2 and 3 are disposed at the ends of the blank. The blank is folded upon itself to bring these sections into overlapping relation and they are secured in that relation by adhesive 4.

The side walls 5 are hingedly joined to the inner edges of the bottom members 2 and 3 as they lie in the blank by the scores 6 and slits 7, the slits 7 being provided to facilitate folding and to minimize the tendency for the side walls to bulge or swing outwardly when the box is erected.

The end walls 8 are disposed between the inner edges of the side walls as viewed in the blank

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and separated from their inner edges by slits 9. The ends of the end walls and the ends of the side walls are connected by corner members 10 hingedly secured to the end walls at 11 and to the side walls at 12. These corner members are diagonally scored at 13 to permit folding of the corner members on the inner sides of the end walls as is shown in Figs. 1 and 4.

The end walls are provided with tucking flap extensions 14 hingedly connected thereto at 15 desirably by a series of spaced slits. These tucking flaps are adapted to be tucked between the folded corner members and the bottom.

The tucking flaps are provided with slits 16 at the ends of their hinge connections to the end walls, these slits being engageable with lugs 17 provided therefor to coact therewith, these lugs being formed on the bottom edges of the corner members or the corner members being formed to provide these lugs.

The end walls desirably extend substantially above the side walls and are provided, in the preferred embodiment, with wrapper supporting flaps or extensions 18 connected thereto by the weakened or hinge lines 19. It will be observed that the extra height of the end walls and their wrapper supporting flaps are formed from stock in the blank between the side walls.

With the blank cut and scored as illustrated and folded to bring the bottom members into overlapping relation, the bottom members being secured in this relation, a tubular structure is provided such as shown in Figs. 2 and 3.

To erect the carton, pressure is applied to the opposite edges of the folded carton, as shown in Fig. 2, preferably with the carton in inverted position. The end walls may be simultaneously swung to erected position and the locking flaps 14 inserted by grasping as indicated in Fig. 5, thrusting inwardly upon the end walls, desirably both ends simultaneously, and when the flaps 14 are completely inserted the lugs 17 snap into slits or slots 16 locking the box in erected position. This same movement will turn the wrapper supporting flap inwardly. The carton may then be turned to upright position and filled. Commonly, a transparent wrapper is wrapped around the filled carton, the inturned wrapper supporting flaps serving to effectively support the ends of the wrapper during wrapping and facilitating the wrapping.

My improved carton is economical to produce and may be folded to the tubular form shown in Figs. 5 and 6 by types of folding and gluing machines now in extensive use.

The structure is economical in material and even when formed of comparatively light stock is quite strong and rigid. It is not likely to accidentally collapse.

I have illustrated and described the invention in a tray type of container such as is extensively used in the packaging of tomatoes and certain other fruits and vegetables and bakery products. It should be understood, however, that it is capable of a very wide range of adaptations in the matter of size and proportions and these depending quite largely on particular uses.

It is believed that this disclosure will enable those skilled in the art to embody or adapt the invention as may be desired and therefore these contemplated adaptations are not illustrated or described.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A collapsible box formed of a single blank scored and slit to provide hingedly connected bottom and side and end walls, the bottom comprising complementary bottom members disposed at the ends of the blank and overlapped and adhesively secured together, the side walls being hingedly connected in the blank to the inner edges of the bottom members, the end walls being disposed in the blank between the inner edges of the side walls, said side walls and end walls being connected only by foldable corner members, said corner members being foldable upon the inner sides of the end walls, the end walls being of greater width than the side walls and having tucking flaps at their outer edges in the blank, the tucking flaps being disposed between the bottom and the lower edges of the corner members when the box is erected, there being slits at the ends of their hinge connections to the end walls, the corner members having lugs engaging said slits when the end walls are erected, the end walls being provided with wrapping supporting flaps on their inner edges in the blank, the portions of the end walls which extend above the upper edges of the side walls and the said wrapping supporting flaps being formed of stock between the inner edges of the side walls in the blank.

2. A collapsible box formed of a single blank scored and slit to provide hingedly connected bottom and side and end walls, the bottom comprising complementary bottom members disposed at the ends of the blank and overlapped and adhesively secured together, the side walls being hingedly connected in the blank to the inner edges of the bottom members, the end walls being disposed in the blank between the inner edges of the side walls, said side walls and end walls being connected only by foldable corner members, said corner members being foldable upon the inner sides of the end walls, the end walls having tucking flaps at their outer edges in the blank, the tucking flaps being disposed between the bottom and the lower edges of the corner members when the box is erected, there being slits at the ends of their hinge connections to the end walls, the corner members having lugs engaging said slits when the end walls are erected.

3. A collapsible box formed of a single blank cut and scored to provide hingedly connected bottom and side and end walls, the bottom comprising complementary bottom members overlapped and secured together, the bottom members being disposed at the outer sides of the blank and hingedly connected to the bottom edges of the side walls, the upper edges of the side walls being spaced in the blank to correspond to the width of the bottom, the end and side walls being connected at their adjacent ends by diagonally foldable corner members foldable upon the inner sides of the end walls, the end walls having tucking flaps at their outer edges in the blank inserted beneath the folded corner members and between the bottom and the folded corner members when the box is erected, the corner members and tucking flaps having inter-engaging parts when the walls are erected.

4. A collapsible box formed of a single blank cut and scored to provide hingedly connected bottom and side and end walls, the bottom comprising complementary bottom members overlapped and secured together, the bottom members being disposed at the outer sides of the blank and hingedly connected to the bottom edges of the side walls, the upper edges of the side walls being spaced in the blank to correspond to the width of the bottom, the end and side walls being connected at their adjacent ends by diagonally foldable corner members foldable upon the inner sides of the end walls, the end walls having tucking flaps at their outer edges in the blank inserted beneath the folded corner members and between the bottom and the folded corner members when the box is erected.

5. In a collapsible box formed of an integral blank scored and slit to provide hingedly connected bottom and side and end walls, the bottom comprising complementary bottom members disposed at the outer sides, the side members being hingedly connected in the blank to the inner edges of the bottom members, said side and end walls being connected by foldable corner members, the end walls having flaps at the outer edges thereof in the blank adapted to overlappingly engage the bottom and having extensions on the inner ends thereof formed of stock between the inner edges of the side walls in the blank.

6. In a collapsible box formed of an integral blank scored to provide hingedly connected bottom and side and end walls, the bottom comprising complementary bottom members disposed at the outer sides of the blank, the side members being hingedly connected in the blank to the inner edges of the bottom members, said side and end members being connected by foldable corner members connecting the end edges of the side and end walls, said foldable corner members in the blank having diagonally disposed scored folding lines extending divergingly outward from the intersections of the end edges of the side and end walls.

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