

Jan. 2, 1962

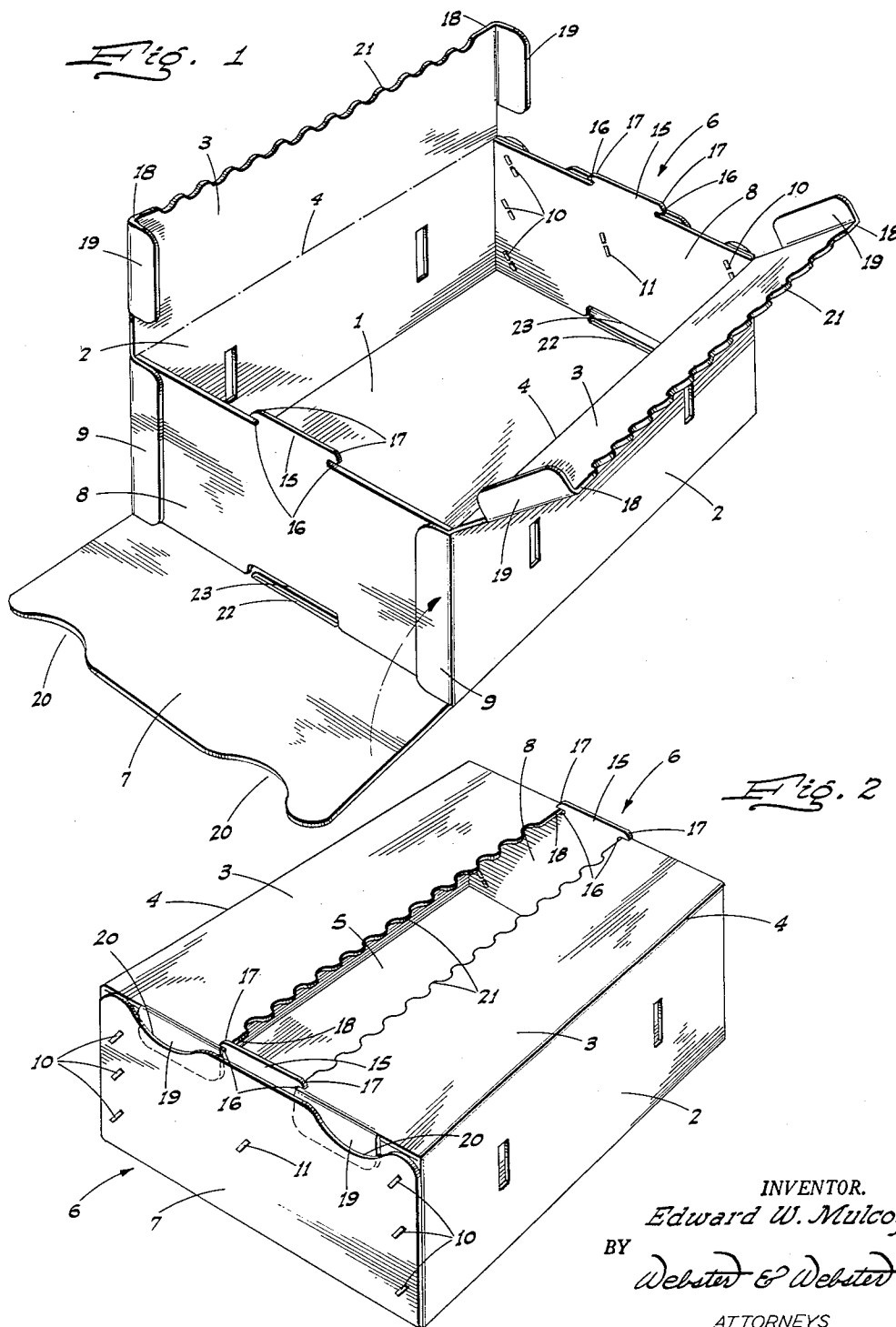
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3,015,431

SHIPPING BOX

Filed Aug. 24, 1959

2 Sheets-Sheet 1



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3,015,431

SHIPPING BOX

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2 Sheets-Sheet 2

Fig. 3

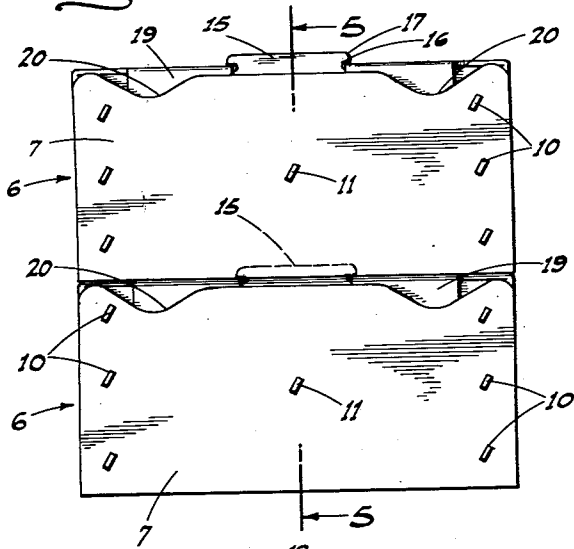


Fig. 4

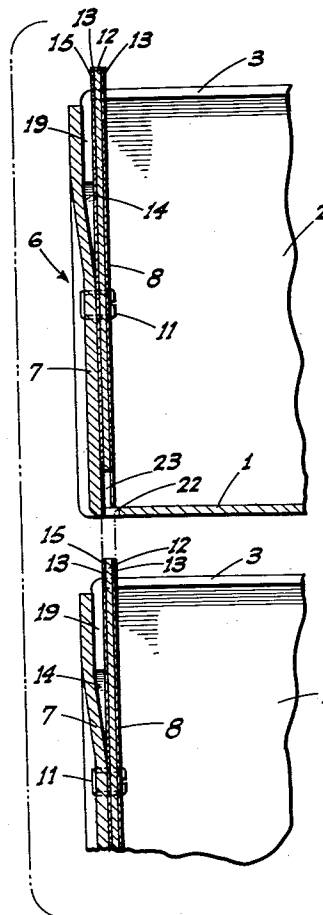
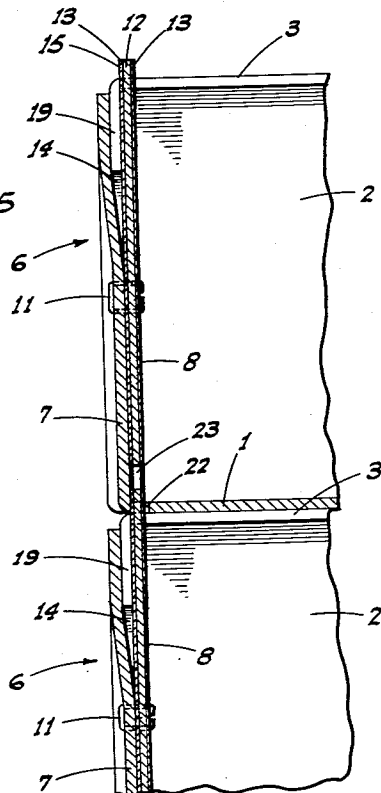


Fig. 5



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3,015,431 SHIPPING BOX

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3 Claims. (Cl. 229—45)

This invention is directed to, and it is a major object to provide, a novel shipping box for produce such as fruit and vegetables; the box being essentially of stiff fiberboard type.

Another important object of the invention is to provide a novel arrangement for snap-engaging and manually releasably securing the cover flaps of the box in closed position.

An additional object of the invention is to provide the box with novel end panel assemblies which not only enhance the rigidity and strength of the box, but also embody the aforesaid securing arrangement for the cover flaps as well as means forming pockets for the reception of intumed protective tabs included on the ends of said cover flaps.

A further object of the invention is to construct the box in a manner so that when one box is stacked on another, they are inter-engaged against accidental lateral displacement.

It is also an object of the present invention to provide a shipping box which is designed for relative economy of manufacture and ready assembly.

A still further object of the invention is to provide a practical, reliable, and durable shipping box, and one which is exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims:

In the drawings:

FIG. 1 is a perspective view of the box; the cover flaps being open, and the parts at one end being shown in the course of assembly.

FIG. 2 is a perspective view of the completed box, and with the cover flaps closed.

FIG. 3 is an end elevation of two of the boxes in inter-engaged stacked relation.

FIG. 4 is an enlarged fragmentary sectional elevation of the corresponding end portions of two boxes disposed in vertically spaced but adjacent relation preparatory to inter-engagement and stacking thereof.

FIG. 5 is a similar view but shows such end portions when the boxes are stacked as in FIG. 3.

Referring now more particularly to the drawings and to the characters of reference marked thereon, the produce box—which in the main is formed of heavy duty fiberboard—comprises a bottom 1, upstanding side panels 2 and longitudinal cover flaps 3 hinged as at 4 to the upper edges of the side panels 2 for movement between open and closed positions. The transverse width of the cover flaps 3 is somewhat less than one-half the width of the box so that when such cover flaps are closed, a viewing or inspection slot or gap 5 exists therebetween.

The ends of the box are closed by end panel assemblies, each of which is indicated at 6.

Each end panel assembly 6 is comprised of an outer end panel 7 and an initially separate inner end panel 8; such end panels 7 and 8 being disposed in substantially matching relation.

The bottom 1, side panels 2, cover flaps 3, and outer end panels 7 are in integral relation; i.e. are formed from a single blank of heavy duty fiberboard.

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The side panels 2 include intumed end flanges 9 which are disposed inwardly of the outer end panels 7 when the latter are folded upwardly to their erected position during formation of the box; the initially separate inner end panels 8 then being placed in position in adjacent facing relation to the outer end panels 7 but inwardly of the intumed end flanges 9.

Thereafter, a vertical row of staples 10 is driven through each end of the outer end panels 7, the intermediate intumed end flanges 9, and the adjacent portions of the inner end panels 8. Additionally, a central staple 11 connects the corresponding outer and inner end panels 7 and 8, respectively. This completes the end panel assemblies 6.

The initially separate inner end panels 8 are formed of composite sheet material comprised of an inner lamination 12 of wood veneer and outer laminations 13 of heavy duty kraft paper, or the like. The inner end panels 8 are thus quite stiff and when included in the end panel assemblies 6 assure of the stability and rigidity thereof as well as strengthening the entire box.

By reason of the fact that the intumed end flanges 9 are interposed between the outer and inner end panels 7 and 8, respectively, an upwardly opening pocket 14 is formed laterally inwardly of each such end flange 9; such pocket serving the purpose as will hereinafter appear.

The inner end panels 8 each include an integral upstanding tongue 15 which is vertically short but relatively wide horizontally; such tongues being disposed centrally between the side panels 2.

Each tongue 15 is undercut at the sides to form notches 16 which open in the direction of the side panels 2; the side portions of the tongues 15 above the notches 16 being downwardly and outwardly inclined to define rounded cam edges 17.

The cover flaps 3 are of such transverse width that upon movement of such flaps from open to closed position, free edge portions 18 of such flaps (and adjacent the ends thereof) contact and ride down the cam edges 17 and then snap-engage in the notches 16. This effectively but releasably locks the cover flaps 3 in closed position.

Such cover flaps 3 include intumed tabs 19 on the ends thereof, and upon closing movement of such flaps in the manner previously described, said tabs 19 are projected—in frictional engagement—into the pockets 14 formed between the outer and inner end panels 7 and 8, respectively; the tabs 19 thus providing a stabilizing, locating and protective means at the ends of the cover flaps 3. The outer end panels 7 are cut away in a rounded pattern and from the upper edge, as at 20; such cut-aways 20 being generally in the zone of the intumed tabs 19 when the cover flaps 3 are closed. The cut-aways 20 serve the purpose of facilitating entry of the intumed tabs 19 into the pockets 14 during closing movement of said cover flaps 3.

The edge portions 21 of the cover flaps 3 are scalloped—for ornamentation—between the free edge portions 18; the latter being straight for the purpose of snap-engagement in the notches 16 as previously described.

The bottom 1—at each end thereof and centrally between the side panels 2—is formed with an elongated slot 22 vertically aligned with the corresponding inner end panel 8; such slot 22 being of a length no less than the width of the tongues 15.

When one of the boxes is stacked in matching relation upon another, the tongue 15 of the lowermost box (which tongues extend above the closed cover flaps 3 thereof) project into the slot 22 of the uppermost box whereby said stacked boxes are maintained against acci-

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dental lateral displacement. Above each slot 22, the adjacent lower edge portion of the related inner end panel 8 is cut away or notched, as at 23, for reception of the tongue which projects through and extends somewhat above the slot 22.

A produce box constructed in the manner described is relatively light weight in comparison to its substantial strength and rigidity, the box being capable of withstanding the rough handling which sometimes occurs in transit.

Additionally, by reason of the particular manner in which the cover flaps 3 are maintained in closed position, such cover flaps—by merely manually grasping and pulling upwardly thereon—can be snap-disengaged in order to permit opening of such flaps for full viewing or inspection of the produce in the box; such cover flaps then being re-engageable if desired in the manner hereinbefore described.

From the foregoing description it will be readily seen that there has been produced such a shipping box as substantially fulfills the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the shipping box, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful and upon which Letters Patent is desired:

1. In a produce box including end panels, side panels, and cover flaps hinged along the upper edge of the side panels for movement between open and closed positions; a tongue integral with and upstanding from each end panel lengthwise thereof and intermediate the side panels; the tongues projecting above the cover flaps when the latter

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are closed; the box including a bottom having slots therein disposed in line with and adapted to receive the projecting tongues of the next lowermost box of a stack thereof.

2. A produce box, as in claim 1, in which the lower edge portions of the corresponding end panels are cut away immediately above said slots to accommodate the tongues projecting through said slots from such next lowermost box.

3. A produce box comprising in integral relation, a bottom, side panels, and outer end panels; initially separate inner end panels of relatively thick and stiff material as compared with the outer end panels, means securing the related end panels to each other and to the side panels, and upstanding tongues on the inner end panels; the bottom being slotted to align with and receive the corresponding tongues of the next lowermost box of a stack, and the inner end panels being cut away along their lower edges to accommodate the tongues projecting through the bottom slots.

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