Dec. 27, 1949 W. G. ANDERSON, JR 2,492,454

FOLDING PAPER BOX

Filed Nov. 17, 1947 3 Sheets-Sheet 1

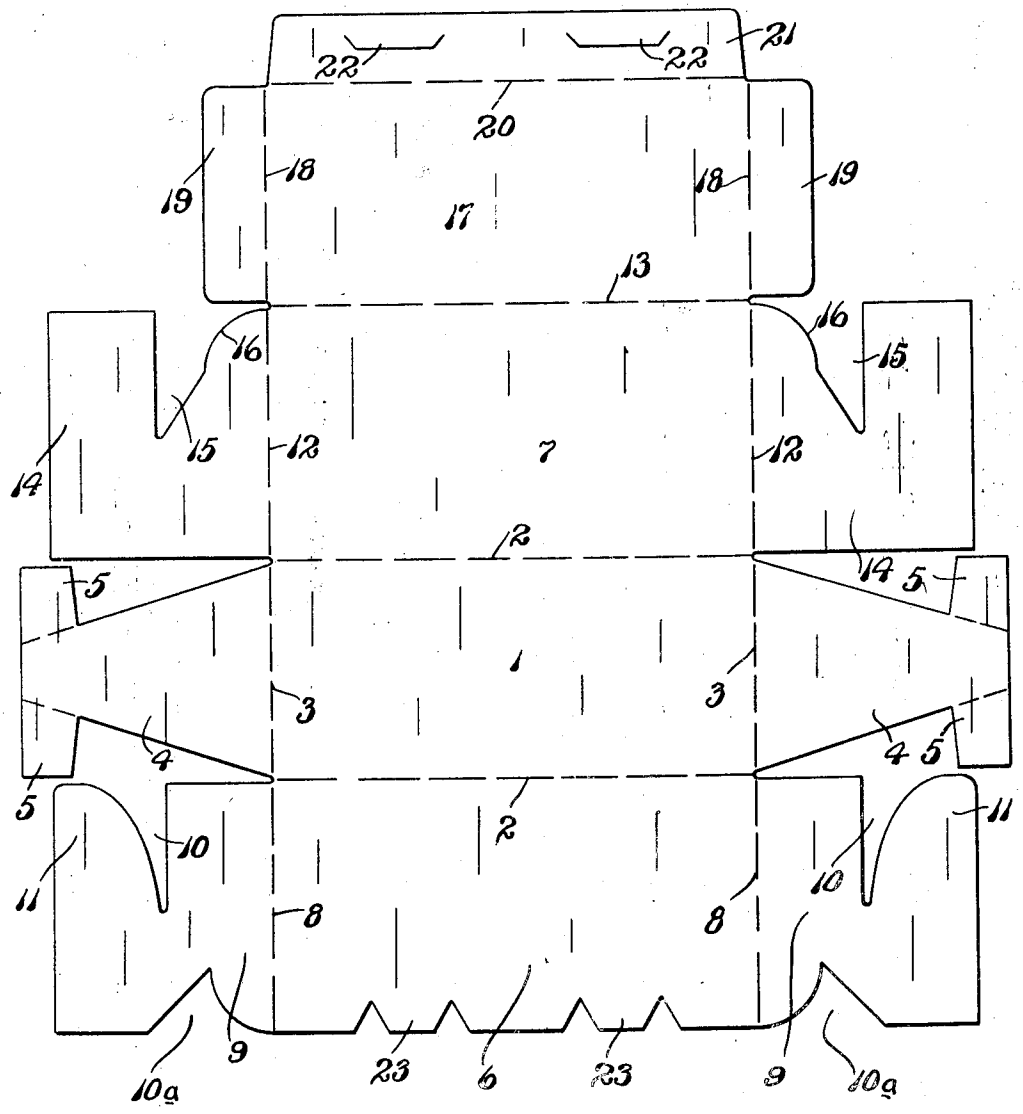

FIG. 1.

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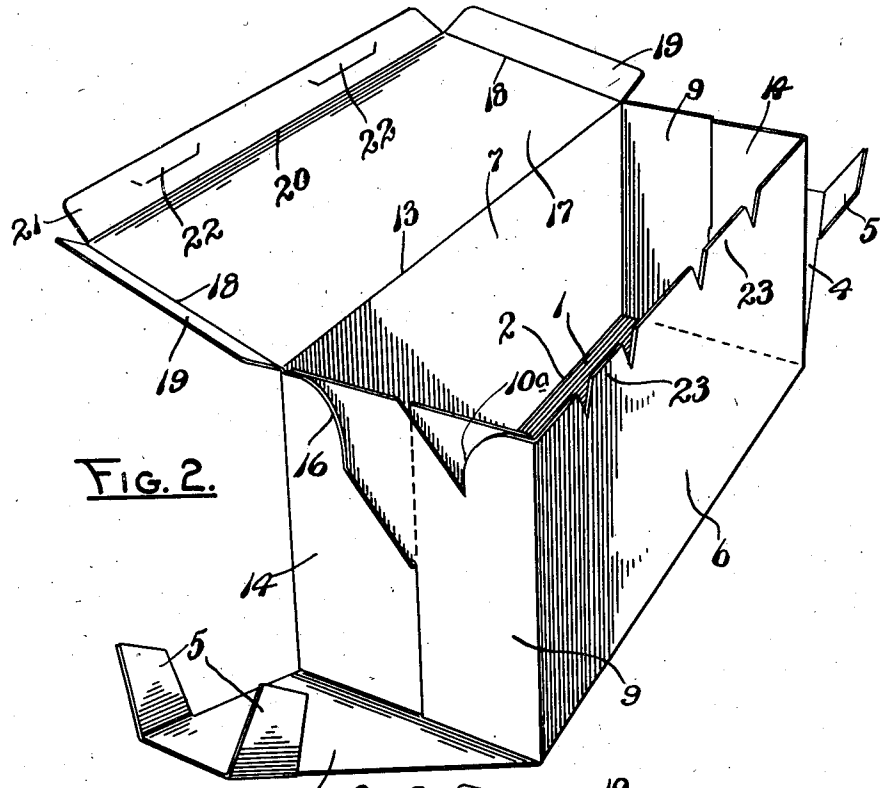

FIG. 2.

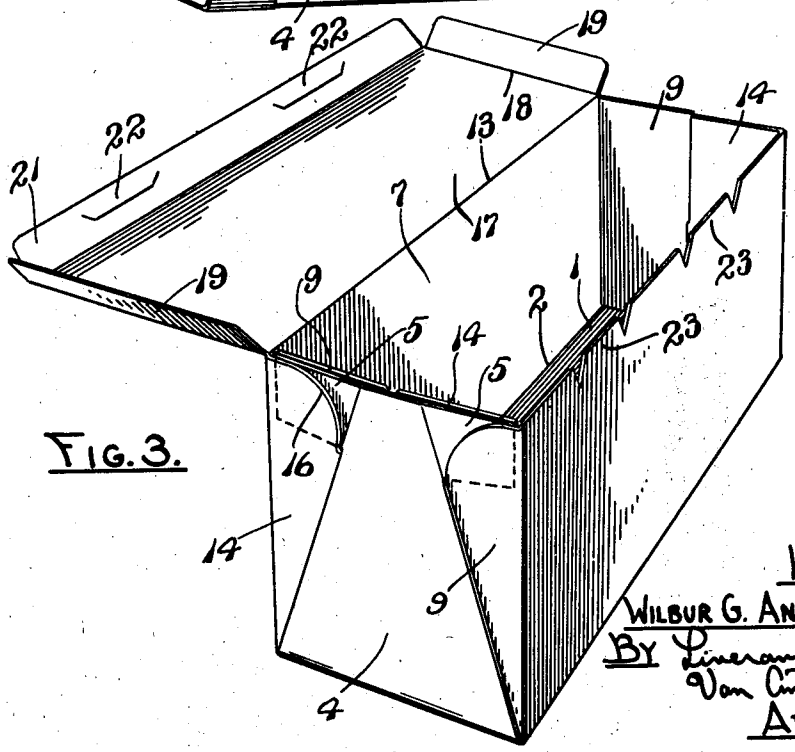

FIG. 3.

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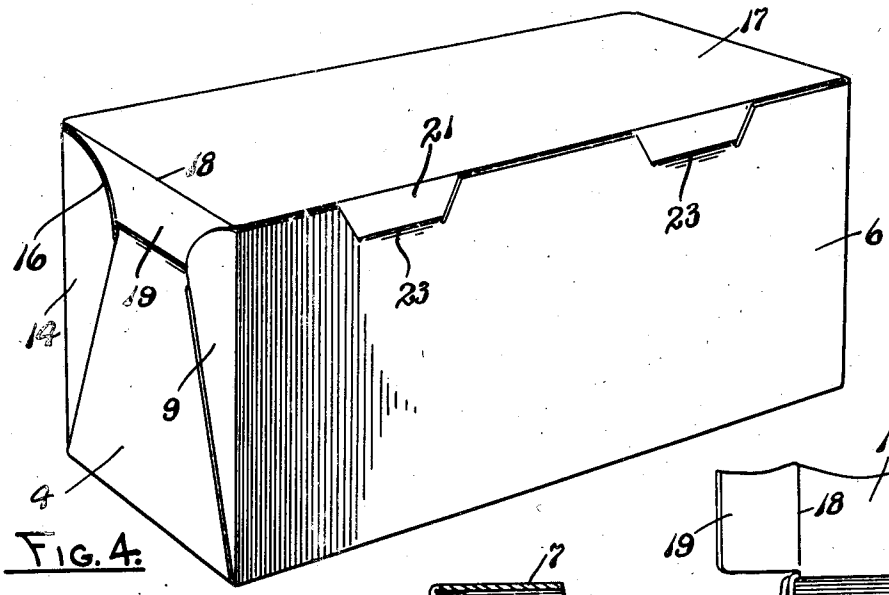

FIG. 4.

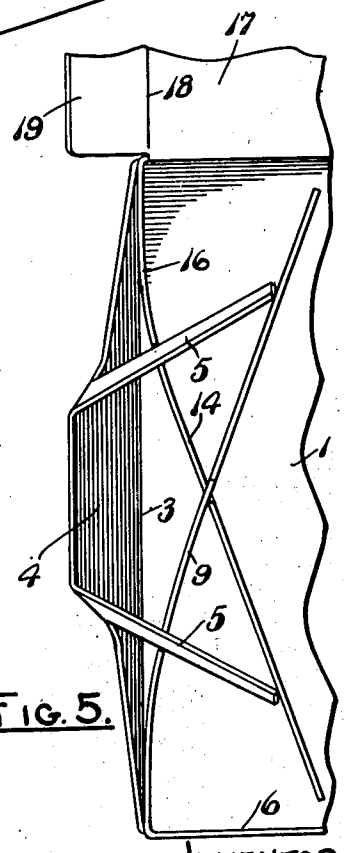

FIG. 5.

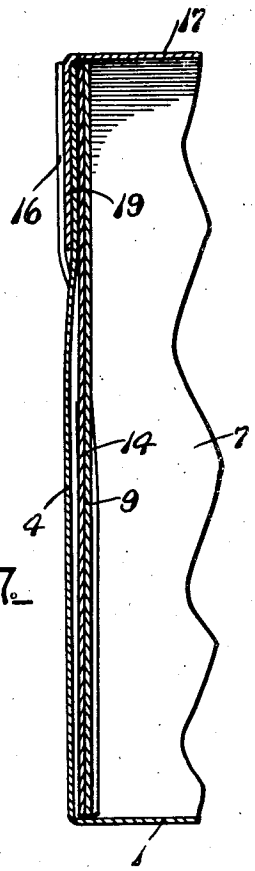

FIG. 7.

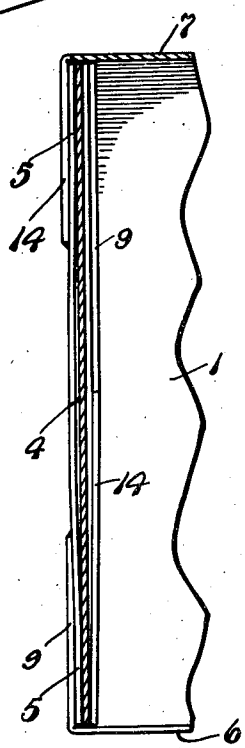

FIG. 6.

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UNITED STATES PATENT OFFICE

2,492,454

FOLDING PAPER BOX

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Application November 17, 1947, Serial No. 786,419

5 Claims. (Cl. 229—37)

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This invention relates to a folding paper box of a novel structure, which is made from a single sheet of paper material which, when folded into its closed position, is securely held against unfolding separation. Said box at its ends is strongly reinforced and the parts making up the ends of the box are securely interlocked by a novel construction. The box also has a cover provided with end flaps at its ends and a side engaging flap at its free edge, which is simply and easily interlocked and engaged with the ends and side of the box opposite that to which it is integrally and foldably connected. The box when in service is of a strong, sturdy character and may be used in shipping enclosed merchandise of relatively heavy weight. The immediate use for which the box has been designed is for the shipment of dressed poultry, particularly turkeys, and of a length, width and thickness for receiving such relatively large poultry which is of considerable bulk and weight. The box encloses and securely holds it, and there is positive assurance that no accidental or other disconnection and unfolding or opening of the box shall occur. The box may be made of a medium weight or gauge of paperboard, of a thickness approximating or less than one-sixteenth of an inch for the immediate present purposes for which it has been designed.

It is of course to be understood that the box is not limited to containing dressed poultry only, but is available for containing any other articles which are to be shipped of substantially the same or smaller bulk and weight.

An understanding of the invention may be had from the following description, taken in connection with the accompanying drawings, in which,

Fig. 1 is a plan of the flat blank of paperboard which when folded provides the enclosing box of my invention,

Fig. 2 is a perspective view illustrating the first steps of folding the blank into box form,

Fig. 3 is a perspective view showing the box body completely folded with the cover in open position,

Fig. 4 is a perspective view of the closed box,

Fig. 5 is a fragmentary plan view, somewhat enlarged, at one end of the box illustrating the manner of connecting the end members thereof,

Fig. 6 is a fragmentary horizontal section transversely of the box at one end thereof, and

Fig. 7 is a fragmentary longitudinal vertical section through one end of the box, said box in both Figs. 6 and 7 being with the top closed.

Like reference characters refer to like parts in the different figures of the drawings.

As shown in Fig. 1, a flat sheet of the desired strength of paperboard is cut and scored to provide bottom, sides, the end members and top of

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the box which is to be made. The bottom 1 of rectangular form has its side edge boundaries on parallel scored or fold lines 2, and its end boundaries on scored or fold lines 3 perpendicular to the lines 2. From each end of the bottom an end member 4 extends which progressively decreases in thickness outwardly as shown and at its outer end terminates in two laterally extending tabs 5 located generally at right angles to the length of the section 4 and of the bottom 1.

At one side edge of the bottom 1 a side 6 of the box, which may be termed the front side of it, extends, having the same length as the bottom (defined by fold lines 8), and of a width shown as greater than the width of the bottom, but which may be any desired width for the purpose for which the box is to be used. Its end boundaries are provided by scored or fold lines 8 in alinement with the end fold lines 3 of the bottom 1. From the opposite side edge, or to provide the rear side of the box, is a rectangular side 7 having the same width as the front side 6 and the same length as the bottom and the front side.

At each end of the front side 6 an end section 9 extends beyond the fold lines 8, which at its inner side and midway between its ends is slotted as indicated at 10, leaving an inner corner tab 11, the inner edge of which is of a curved or rounded form, the slot widening outwardly as shown. At the outer edge of each end member 10 is a notch 10a of the shape shown, the inner edge of which is of curved form and the outer edge disposed at an angle of approximately forty-five degrees to the length of the end member with which associated.

The rear side 7 has ends defined by scored or fold lines 12 in alinement with the fold lines 3 of the bottom. From each end of the rear side 7 beyond the fold lines 12, end members 14 extend which, like the end members 9, are of a generally rectangular form and each of which at its outer side is provided with a notch indicated at 15, the outer edge of which is parallel to the outer end of the member 14 and the inner edge of which is at an angle as shown at its inner portion, with a convex projection 16 positioned as shown, the inner ends of the edges of said projection 16 coming substantially to the scored or fold lines 13 which define the opposite side edge of the rear side 7. It will be noted that the end members 4, extending from the bottom 1, at their outer ends and at the outer edges of the tabs 5, extend a short distance beyond the outer edges of the end members 9 and 14 which are integrally connected with the front and rear box sides 6 and 7.

The top 17 of rectangular shape has substantially the same length and width as the bottom 1. It extends from the rear side 7 beyond the fold line 13. It has scored or fold lines at 18 at its

ends alining with the fold lines 3, 8 and 12, beyond which are rectangular tongues 19, one at each end of the top 17. At its outer edge the top is divided by scored or fold line 20, beyond which is a tongue 21 extending substantially the length of the top. In the body of said tongue 21 two slots are cut, the intermediate portions of which parallel the length of the tongue and each at each end has a short angularly disposed branch extending outwardly as shown, thereby providing tabs as indicated at 22. Directly opposite, the front side 6 at its free edge is notched at four spaced apart points with V-notches to provide tongues 23 which aline with the slots around the tabs 22. When the cover is closed, said tongues 23 pass through the slots underneath the tabs 22 as hereafter described.

In the folding of the box to completed form, the front and rear sides 6 and 7 are turned upwardly toward each other and the end members 9 and 14 are interlocked by carrying the tabs at 11 through the slots at 15, the end portion of the end member 14 being located within the end member 9 and the end portion of the member 9, including the tab 11, being located within the end member 14. The ends are then completed by turning the members 4 upwardly and bending the tabs 5 on the dash lines indicated in Fig. 1, one of them passing through the slot or recess at 10*a* and underneath the end member 9 at the top of the box, while the other passes underneath that portion of the end member 14 at the concave curved projection 16 thereon. Said tabs are between the inner interlocked portions of the end members 9 and 14 and are inside of the outer portions thereof. This provides a secure interlocking connection of the three end members extending from the ends of the bottom 1 and the front and rear sides 6 and 7, with a substantially triple thickness of material at the ends of the box.

The cover is moved into closed position with the tabs 19 turned at right angles to the body 17 of the cover and coming at the outer sides of the upper ends of the sections 4 and of the tabs 5, but within the upper portions of the end members 9 and 14. The longitudinal tab or tongue 21 comes within the upper edge portion of the front 6 and the tongues 23 on said front are inserted through the slots which bound the tongues 22, making a secure connection as shown in Fig. 4. In the assembly and interconnection of the several end members at each end of the box, the material is sprung and distorted out of shape as much as may be necessary, as indicated in Fig. 5, but when the end parts are interconnected they will lie flat against each other.

The structure described is practical, useful, economical and strong and of a sturdy character. The blanks may be shipped flat, as in Fig. 1, and the folding to box form is quickly and easily accomplished.

The invention is defined in the appended claims and is to be considered comprehensive of all forms of structure coming within their scope.

I claim:

1. A box structure comprising, a rectangular bottom, vertical front and rear sides foldably connected thereto, a top foldably connected at the upper edge of the rear side, and end members extending from each end of the bottom and from each end of the front and rear sides, said end members connected with said sides overlapping

and having interlocking connection with each other, and the end members connected to said bottom extending upwardly and provided at their upper ends with oppositely extended generally horizontal tongues located between the overlapping portions of the end members connected with said front and rear sides of the box.

2. A structure as defined in claim 1, said top at each end having an end extension providing a flap the length of which is substantially equal to the width of the top, said flaps with the top in closed position extending therefrom between the upper overlapping portions of the end members connected to the front and rear sides of the box and over the upper ends of said end members connected with the bottom and covering the horizontal tongues connected therewith.

3. A structure as defined in claim 1, said top at its longitudinal free edge having a flap connected therewith having a length substantially equal to the length of the top, said last mentioned flap having slots therein, and the front of the box at its upper edge having upwardly extending tongues insertable through said slots with said longitudinal flap on the top located within the upper edge portion of said box front.

4. A paper box comprising, a rectangular bottom, rectangular front and rear sides integrally and foldably connected therewith to be located at right angles to the bottom, and ends each comprising three members, one integrally and foldably connected to each end of the bottom and to each end of each of the front and rear sides, said end members connected to said sides overlapping each other, one being vertically slotted from its upper end downwardly and the other vertically slotted from its lower edge upwardly for interlocking connection of said end members, each of said slots being widened at its outer end, and said end member connected to each end of the bottom extending vertically and decreasing in width upwardly and at its upper end portion having oppositely extending horizontal tongues receivable between the upper overlapping portions of said end members connected to the front and rear sides of the box.

5. A structure as defined in claim 4, and an integral top of rectangular form integrally and foldably connected at the upper edge of the rear side of the box, said top at each end having an end flap, the length of which is equal substantially to the width of the top, adapted to cover the upper end portions and the tongues of the end members connected with the box bottom and be located between the upper overlapping end portions of said end members connected with the front and rear sides of the box.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
556,675	Howe	Mar. 17, 1896
1,973,209	Hooker	Sept. 11, 1934

FOREIGN PATENTS

Number	Country	Date
493,410	Great Britain	Oct. 7, 1938