C. W. LEWIS.

COLLAPSIBLE BOX.

APPLICATION FILED MAR. 22, 1916.

1,341,429.

Patented May 25, 1920.

2 SHEETS—SHEET 1.

Fig. 1,

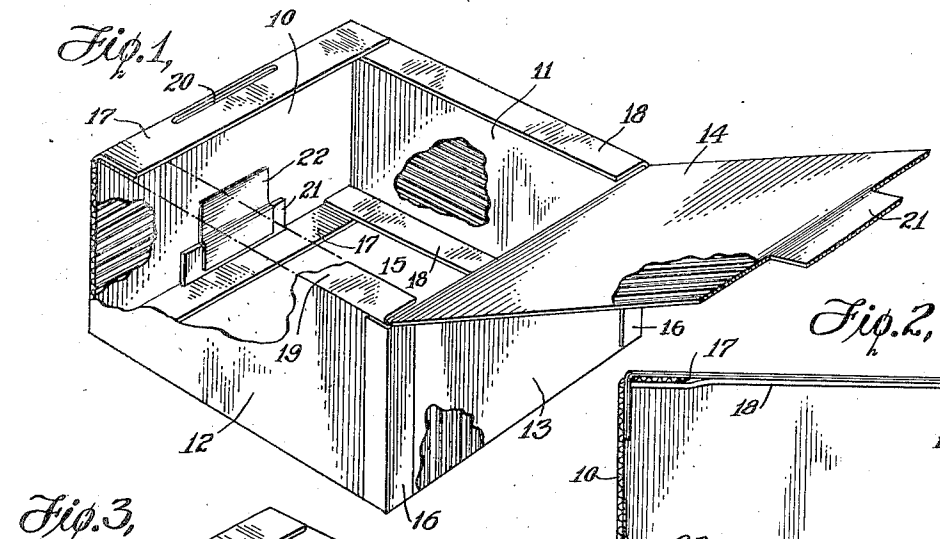


Fig. 2,

Fig. 3,

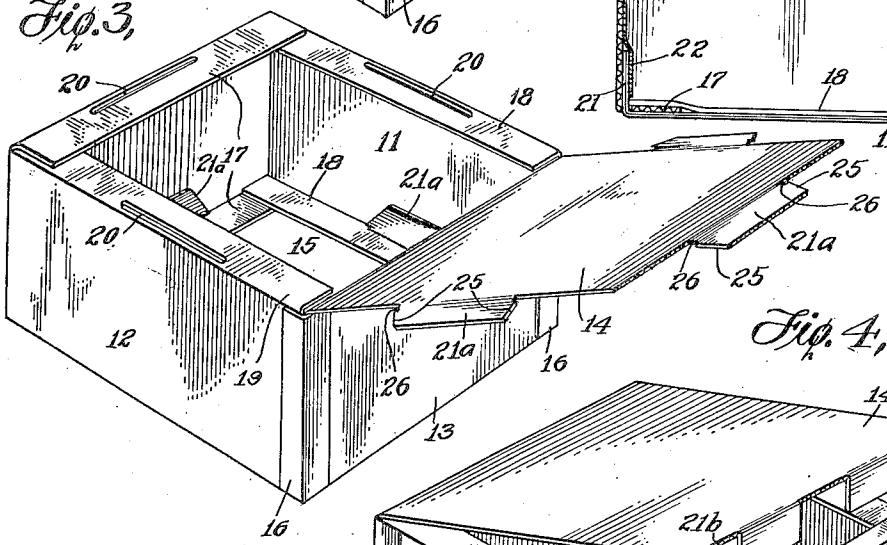
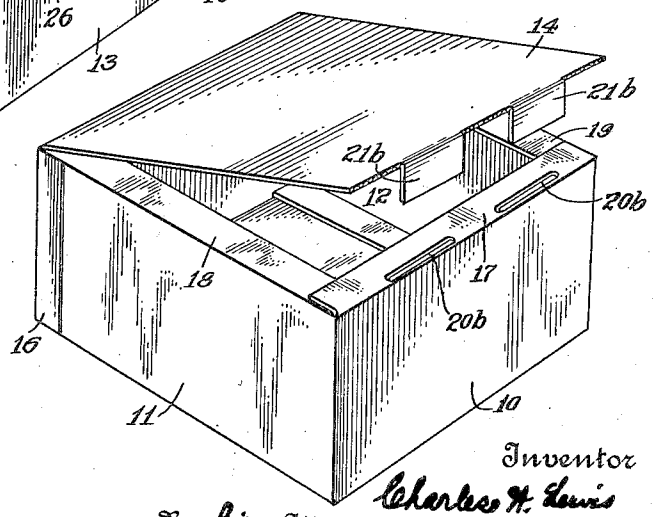


Fig. 4,



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2 SHEETS—SHEET 2.

Fig. 6,

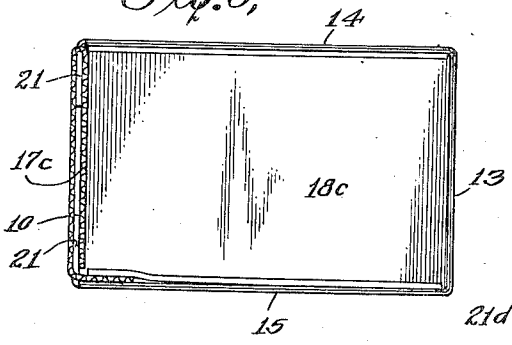


Fig. 7,

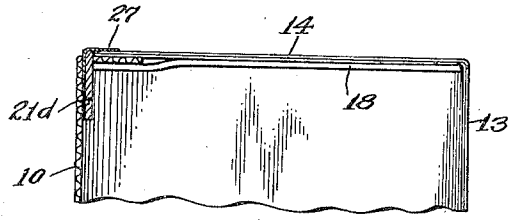


Fig. 5,

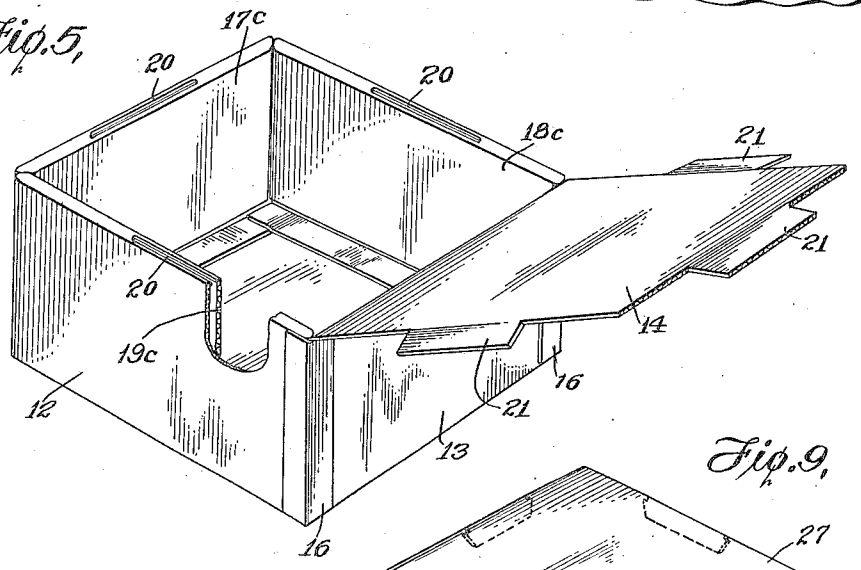


Fig. 9,

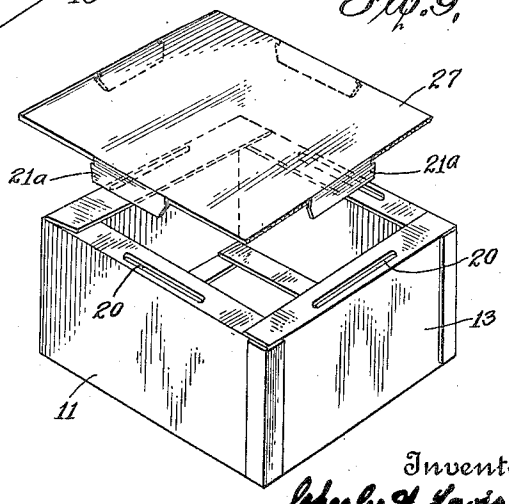
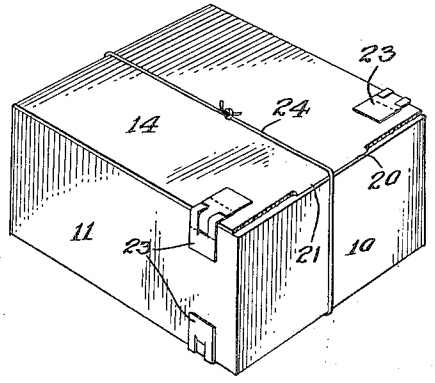


Fig. 8,



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UNITED STATES PATENT OFFICE.

CHARLES W. LEWIS, OF NEW YORK, N. Y.

COLLAPSIBLE BOX.

1,341,429. Specification of Letters Patent. Patented May 25, 1920.

Application filed March 22, 1916. Serial No. 85,761.

To all whom it may concern:

Be it known that I, CHARLES W. LEWIS, a citizen of the United States, and a resident of New York city, borough of Queens, in the county of Queens and State of New York, have invented certain new and useful Improvements in Collapsible Boxes, of which the following is a specification.

This invention relates to collapsible or knock-down boxes, particularly of the corrugated board type.

The present invention has for its main object to improve the construction of box such as disclosed in the patent to Warner, 659,943, of October 16, 1900, to make the box stronger, tighter and less liable to derangement.

The various further objects and advantages arising from the improved construction will more fully appear from the detailed description and the features of novelty will be particularly pointed out in the claims.

In the drawings illustrating the invention, Figure 1 is a perspective view of the improved box with the lid portions open.

Fig. 2 is a cross sectional elevational view of the box with the lids closed.

Fig. 3 is a perspective view of a modification illustrating one lid open.

Fig. 4 is a perspective view of another modification.

Fig. 5 is a perspective view, partially cut away, of a further modification with the lid open.

Fig. 6 is a cross sectional elevational view of the form illustrated in Fig. 5, the lid being shown closed.

Fig. 7 is a fragmental cross sectional elevation illustrating the use of a separate attached tongue.

Fig. 8 is a perspective view of the box shown in Figs. 1 and 2, illustrated as closed, sealed and tied.

Fig. 9 is a perspective view of still another modification.

In the prior patent above referred to, a form of box is illustrated made in two pieces having the corrugations extending at right angles with respect to each other, one of which forms one side and two ends of the box, and the other of which forms the other side and the covers or lids of the box. The part having the covers is also provided with "tuck-flap" extensions which meet and abut one another when the box is set up.

According to the preferred forms of the present invention, the two piece construction is retained, one piece forming one side and the two ends of the box, and the other forming the other side and the covers and lids of the box, the corrugations in the respective pieces running at right angles to one another. However, to impart a maximum strength to the box with the use of a minimum material, and obtain a tight construction not easily deranged, I utilize a flap, tongue and slot construction in combination with the above, as will presently appear from the detailed description,

Referring to Figs. 1 and 2, the box is made up of two pieces of corrugated board with the corrugaions running preferably at right angles to each others. One of the pieces forms a side portion 10 and two ends 11 and 12 of the box, and the other of the pieces forms the other side 13 and the covers or lids 14, 15. The ends 11 and 12 are preferably joined with the side 13 by means of tapes 16 suitably gummed thereto, as will be readily understood.

Extending from the free edges of the side 10 are flaps 17, and from the edges of the end portions 11 and 12 are the flaps 18 and 19. All of these flaps are bent inward when the box is set up.

Formed in the flap 17, closely adjacent the side 10, are slots 20, and extending from the corresponding edge of the covers or lids 14 and 15 are tongues 21 of a size to enter the slots 20 and snugly fit therein, as clearly appears from Fig. 2.

When the box is to set up, the bottom flaps 17, 18 and 19 are turned in, and the bottom cover or lid 15 closed in place, with the bottom tongue 21 passing through the corresponding slot, and the tongue may then be sealed in the interior by means of a sticker such as 22.

When the box has been packed, the top flaps 17, 18 and 19 may be turned in and the top cover or lid 14 is closed and the tongue 21 inserted into the slot 20. A sticker 23 may be used (Fig. 8) adjacent the free edge of the covers. A tying cord 24 may also be used which passes over the tongues 21, the latter presenting a curved surface and not a raw edge, thus contributing to the strength of the box.

It will be noted that by the interlocking engagement of the tongue and slot, sidewise movement of the cover is prevented and

vertical strength is contributed by the flaps 17 underneath the covers and the stiff side 10. The flaps 18 and 19 extending from the end pieces 11 and 12 also support the covers, and together with the flaps 17 form tight joints at all the edges.

In the modified form illustrated in Fig. 3, the flaps 18 and 19 are also formed with slots 20, and the covers 14 and 15 are formed with tongues 21^a having the tapering edges 25, terminating in the abrupt shoulders 26 at their base. Thus, when the cover is closed and the tongues 21^a are forced into the slots 20 past the shoulders 26, they are interlocked with the flaps, and the box is held rigidly in shape.

In the further modified form illustrated in Fig. 4, a plurality of tongues 21^b are provided on the extreme edges of the covers 14 and 15 to engage within corresponding slots 20^b formed on the flaps 17. Otherwise, the construction is the same as in the form illustrated in Fig. 1.

In the still further modified form illustrated in Figs. 5 and 6, the upper flaps 17^c, 18^c and 19^c are turned over clear into the interior of the box, and the slots 20 are disposed at the top of the bend, and the tongues 21 formed on the three edges of the cover 14 enter into the slots 20, as in the forms above illustrated.

In another modified form illustrated in Fig. 7, the tongues 21^d may be made separate from the cover and joined thereto by a suitably gummed tape 27. Thus, the tongue may be of some stiff material other than corrugated paper board.

In another modification illustrated in Fig. 9, the cover 27 is made in a separate piece and is formed with the tapering tongues 21^a on all four sides to enter into the slots 20. Otherwise the construction is the same as in the other forms illustrated.

It will be understood that in all of the forms described, the covers of the box may be readily sealed in place when the box is set up, and if desired a form of sealing sticker may be used which may be undone without tearing so as to comply with the postal regulations for parcels post. Such a sticker is shown in Fig. 8.

Many variations may, of course, be resorted to without departing from the spirit of the invention.

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

1. A collapsible box formed in two portions of corrugated paper board, one of said portions comprising a side and ends, flaps extending from the free edges of the side formed with slots adjacent to their junction with the side; the other of said portions comprising a side joined to the extremities of said ends and two lids, each provided with a tongue having tapering edges terminating in abrupt shoulders at its base adapted to be forced into an adjacent slot.

2. A collapsible box formed in two portions of corrugated paper board, one of said portions comprising a side and ends, flaps extending from the free edges of the side formed with slots adjacent to their junction with the side; the other of said portions comprising a side joined to the extremities of said ends and two lids, and a tongue having tapering edges terminating in abrupt shoulders at its base adapted to be forced into an adjacent slot, the corrugations in the member having the tongues extending in the direction of the length of the tongues.

Signed at New York, borough of Brooklyn, in the county of Kings and State of New York, this 8th day of March, A. D. 1916.

CHARLES W. LEWIS.

Witnesses:
C. E. POWELSON,
JOSEPH M. DAY.