Oct. 9, 1923. 1,470,141

W. D. BRYSON

FOLDING BOX

Filed June 17, 1922

Fig. 1.

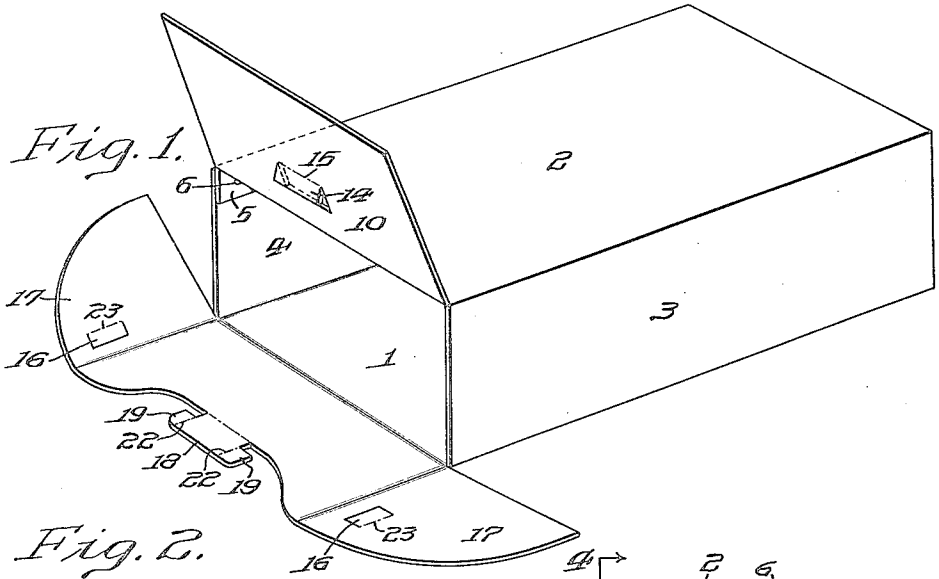


Fig. 2.

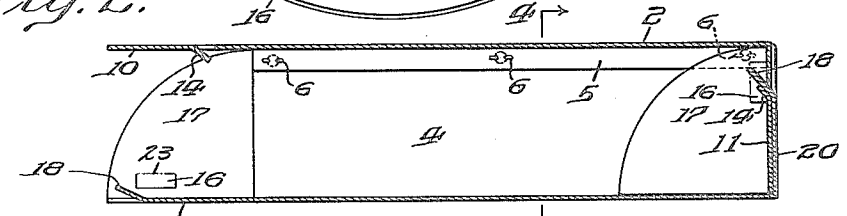


Fig. 3.

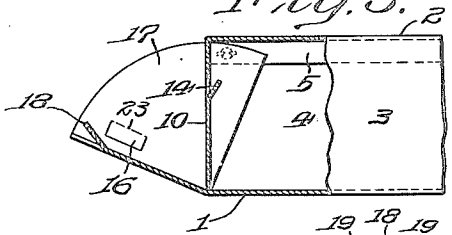


Fig. 4.

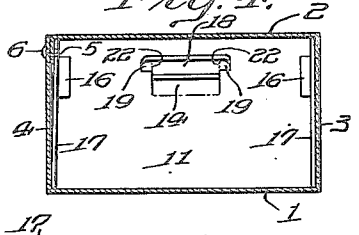
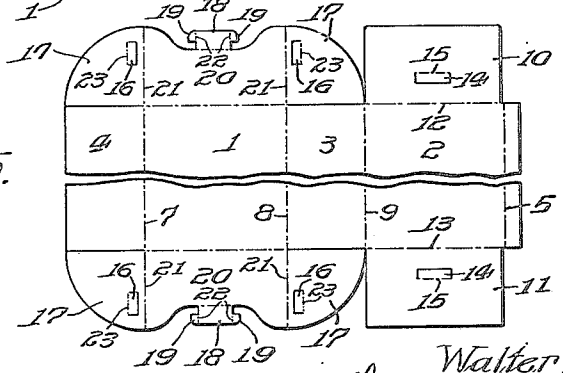


Fig. 5.



INVENTOR

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WITNESS

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UNITED STATES PATENT OFFICE.

WALTER D. BRYSON, OF RIDLEY PARK, PENNSYLVANIA, ASSIGNOR TO FIBRE CONTAINER COMPANY, A CORPORATION OF PENNSYLVANIA.

FOLDING BOX.

Application filed June 17, 1922. Serial No. 569,018.

To all whom it may concern:

Be it known that I, WALTER D. BRYSON, a citizen of the United States, and a resident of Ridley Park, county of Delaware, and State of Pennsylvania, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to foldable boxes which may be used for shipping or storage purposes.

A principal object of my invention is to provide a box which may be constructed from a unitary piece of suitable material such as manila chip fibre board, the blank being made by a suitable die whereby the parts may be folded into proper relation to form the completed box.

A further object of my invention is to provide a folded box of sufficient rigidity in which articles of considerable weight, such as shoes, may be shipped in individual boxes by express or parcels post and the box and contents be preserved from damage or breakage in the rough handling to which they may be subjected.

A further object of my invention is to provide a box which upon being folded may be secured into closed position by the engagement of parts integral with the blank.

A further object of my invention is to provide a box from which the contents thereof may not be removed without mutilation of the box.

The invention further includes all of the various objects and novel features of construction and arrangement hereinafter more definitely specified and described.

In the accompanying drawings, in which like numerals designate like parts in the different figures, Figure 1 is a perspective view of the box with one end open; Fig. 2 is a longitudinal sectional view of the box with one end being shown as disposed at the beginning of the closing operation; Fig. 3 is a view of one end of the box, partly in longitudinal section, showing the disposition of the closure parts at an intermediate stage of the closing operation; Fig. 4 is a transverse section on the line 4—4 of Fig. 2; and Fig. 5 is a plan view of the blank before the same is folded, the points at which the blank is cut entirely through being indicated in full lines and those at which it is scored to facilitate the folding operation being indicated in dot and dash lines.

In the drawings, 1 is the bottom of the box, 2 the top and 3 and 4 the sides thereof; a stitching lap 5 is adapted to be stitched or fastened by staples 6 along the upper edge of the side 4.

The box is constructed from a blank of suitable material and I have found that manila chip fibre board with jute lining is a very satisfactory material, supplying desired rigidity and strength for the purposes of my invention. The blank is formed from a unit of the fibre board or other suitable material by a suitable die, the shape of the blank being shown in Fig. 5.

In the construction of the box from the blank the latter is first folded at the lines 7, 8 and 9 which have been scored in the blank by the die and then the stitching lap 5 is secured to the side 4 by the staples 6 or by any other suitable means, thereby forming a tube open at both ends. The portions 10 and 11 at the ends of the top 2 are bendable along the scored lines 12 and 13 and form parts of the means for closing the ends of the tube. The die also forms tongues 14 in the end flaps 10 and 11 which are bendable along the scored lines 15. Tongues 16 are similarly formed in the sector shaped corner pieces 17 and tabs 18 provided with ears 19 are formed on the end flaps 20.

The closures for one end of the tube to form the completed box are assembled as follows, it being understood that the other end of the tube is closed in a like manner. The corner pieces 17 are bent along the scored lines 21 and are inserted slightly within the tube, as shown in Fig. 3, and then the end flap 10 is brought into its closed position as also shown in Fig. 3; the ears 19—19 are then bent about the scored lines 22 so as to substantially lie flat on the tab 18 and the tongues 16 are bent slightly inwardly on the scored lines 23; the tongue 14 is bent inwardly of the tube to permit the insertion of the lock tongue 18 into the slot thus formed. The corner pieces 17 are then inserted into the tube into their final position as shown in Figs. 2 and 4 whereupon the ends of the tongues 16 which no longer lie in the plane of the corner pieces,

but, owing to the resiliency of the material have sprung away therefrom and toward the interior of the box, will form catches retarding the pulling out of the end flaps 20, the ends of the tongues 16 contacting with the inner surface of the end flaps 10. The wings or ears 19 of the tongue 18 after insertion through the slot as above described will, owing to the resiliency of the material, spring back substantially into the plane of the tab 18 thereby preventing the pulling open of the end flap 20 without destroying the box, the tongue 14 also by reason of its frictional contact with the tab 22 assisting in preventing the pulling open of the end 20.

It will be seen that after the ends of the tube have been closed in the manner aforesaid a container is formed which cannot be opened without so mutilating the box that it cannot again be used in the original manner and that if used at all supplementary fastening means would be necessary in order to keep the ends securely closed. By providing closure means of this type it will be seen that an effectual safeguard is afforded against surreptitious removal of the contents of the box inasmuch as the appearance of the box after it has once been opened would disclose that it had been tampered with.

While I have herein described with particularity a preferred embodiment of my invention, I do not thereby desire or intend to limit myself to the precise details of construction and arrangement of parts as the same may be modified and varied in minor particulars from those shown in the drawings and herein described without departing from the spirit and scope of the invention as defined in the appended claims.

Having thus described my invention, I claim and desire to protect by Letters Patent of the United States:

1. A box formed from a unitary blank of bendable material and comprising a top, a bottom and two sides, end members, provided with slots, extending from the top and adapted to be bent to close the end openings, bendable end members extending from the bottom, each comprising a central portion having a tab with bendable wings adapted to engage said slots against withdrawal, bendable corner portions, having tongues formed therein, on each side of said central portion and adapted to slide within the box, said tongues being adapted to contact with the interior of the box and provide resistance against withdrawal of said corner portions.

2. A box formed from a unitary blank of fibrous material, said blank being weakened along the lines of bending and comprising a top, bottom and two sides, bendable end members, provided with slots, extending from the top and adapted to close the end openings, bendable end members extending from the bottom, each comprising a central portion having a tab with bendable ears adapted to pass through said slots and be held against withdrawal therefrom, bendable sector-shaped portions, having tongues formed therein, on each side of said central portions and adapted to be inserted within the box, said tongues being adapted to contact against the interior surface of said first mentioned end members.

3. A box formed from a unitary blank of fibrous material, said blank being scored along the lines of bending, and comprising a top, a bottom and two sides, a flap carried by the top adapted to be secured to one of the sides, end members, provided with slots, extending from the top and adapted to be bent to close the end openings, bendable end members extending from the bottom, each comprising a central portion having a tab with bendable ears adapted to pass through said slots and be held against withdrawal therefrom, bendable sector shaped portions, having tongues formed therein, on each side of said central portions and adapted to slide within the box, said tongues being adapted to contact against the interior surface of said first mentioned end members.

In witness whereof, I have hereunto set my hand this 16th day of June, A. D. 1922.

WALTER D. BRYSON.