E. J. HAINES.

COLLAPSIBLE BOX.

APPLICATION FILED FEB. 12, 1915.

1,158,046. Patented Oct. 26, 1915.

Fig. 1.

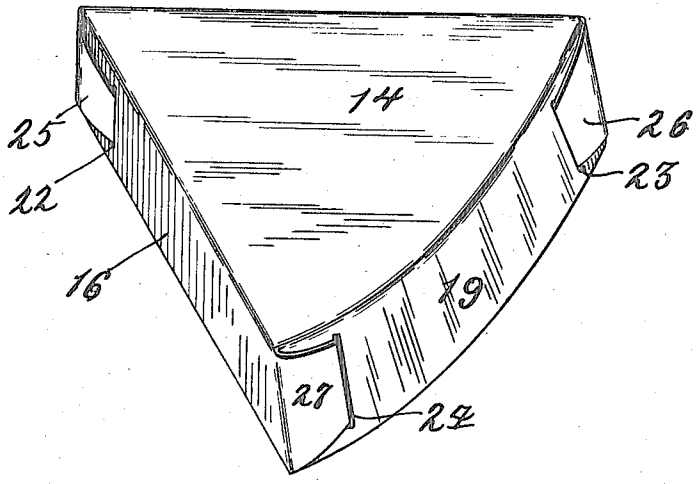


Fig. 2.

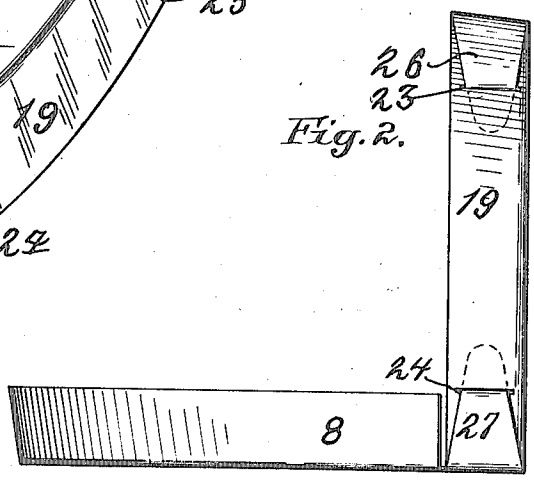
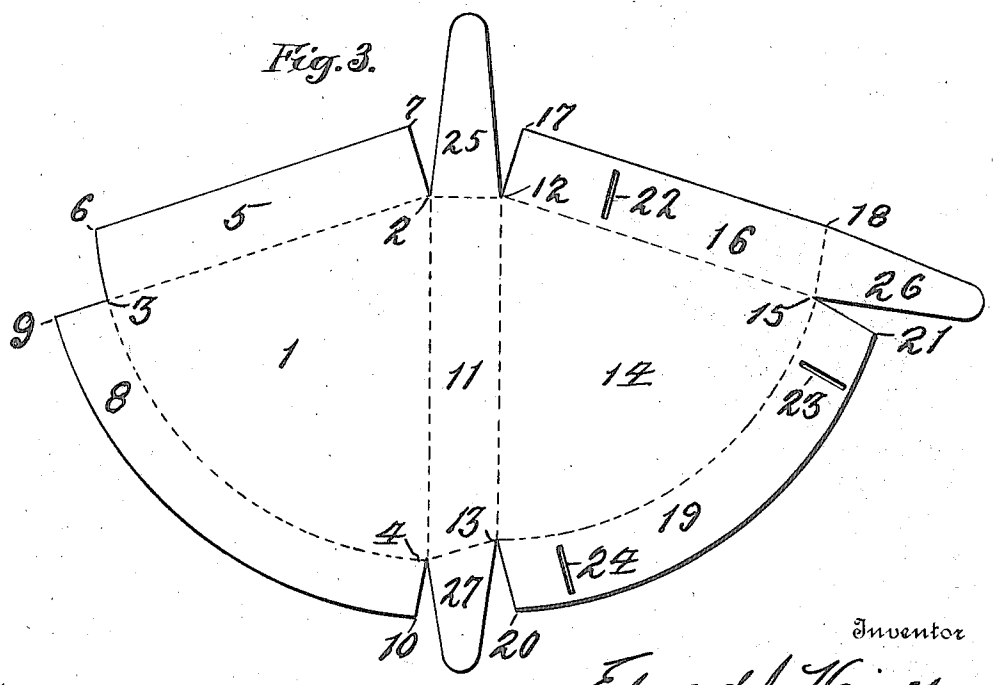


Fig. 3.



Witnesses

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COLLAPSIBLE BOX.

1,158,046. Specification of Letters Patent. Patented Oct. 26, 1915.

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To all whom it may concern:

Be it known that I, EDWARD J. HAINES, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Collapsible Boxes, of which the following is a specification.

This invention relates to improvements in the manufacture of collapsible boxes or shipping packages from flexible sheeted material, and the object thereof is to form a box in the general outline of a sector of a circle from a single flat blank so as to provide a box in which some peculiarly shaped articles of merchandise such as pieces of pie, etc., may be placed for temporary transportation, and as the box is to be formed from a single flat blank, the blanks themselves before being fashioned into boxes occupy a minimum amount of space.

A further object is to make a strong, durable and cheap shipping package for an object having the general shape of a sector of a circle.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the matter hereinafter claimed.

In the drawings in which similar reference numerals indicate like parts in the different figures, Figure 1, is a perspective view of a box embodying this invention; Fig. 2, shows the box in its assembled position with the cover or closure member in its open position; and, Fig. 3, is a plan view of a blank from which the box shown in Fig. 1 is formed.

The blank consists of a piece of relatively thin sheet material, such for instance, as card board, or the like, and is cut into proper shape and provided with certain fold or score lines on which various portions are bent in forming the box, all the portions of the box are formed from a unitary piece of material. The portion which forms the bottom of the body of the box consists of a main portion 1 provided with scorings on which lines the material is folded or bent. The outline of the bottom of the body of the box is scored on the portion 1 and the material is bent on the lines 2—3, 3—4, and 4—2. Extending from the score line 2—3 is a side-forming member 5 provided with ends 3—6 and 2—7 and an outer edge 6—7. The side-forming portion 5 is bent up on the score line 2—3 into a position approximately at right angles with respect to the bottom of the body portion 1. The end of the bottom 1 is bounded by a score line 3—4 in the arc of a circle so that the general form of the box is in the form of a sector of a circle and outside the two line 3—4 is an end-forming member 8 provided with edges 3—9, 9—10 and 10—4. As the material of the box is a pliable and soft material, this end-forming member may be bent up at right angles with respect to the bottom, so that the lines 6—3 and 9—3 are approximately in contact. The opposite side of the box consists of a portion 11 bounded on one side by the score line 2—4, at the end by the score line 2—12 and on its opposite end by score line 12—13 and on its opposite side by the score lines 12—13. This side member 11 is adapted to be bent up on the score line 2—4 and the width of the portion 11 is equivalent to the width of the portion 5. When the portion 11 is bent up at right angles to the portion 1, the score line 2—12 will be approximately in contact with the edge 2—7 of the member 5. The cover of the box comprises a portion 14 bounded along one side by the score line 12—13 and along the opposite side by the score line 12—15 and on the end by the score line 13—15, this latter score line being in the arc of a circle. The side of the cover 14 which is to overlap the side wall 5 of the body portion consists of a portion 16 the end of which is cut on the line 12—17, one side along the line 17—18 and the opposite end scored along the line 15—18. This portion 16 is adapted to be bent up at right angles to the portion 14 or approximately so. The end of the cover of the box constitutes a portion 19 which has edges 13—20, 20—21 and 15—21. This end-forming portion is arranged to be bent up at right angles and overlap the portion 8. The side forming portion 16 is provided with a transverse slit 22 and the end-forming member 19 of the cover with two slits 23 and 24. Extending from the score line 2—12 and integral with the entire blank is a tongue 25; extending from the score line 15—18 is a tongue 26; and

from the score line 4—13 a tongue 27. These tongues are all preferably tapered and their free ends rounded and tapered.

The box is set up by bending the cover-forming portion upwardly along the score line 12—13 until it is at approximately right angles with respect to the portion 11; the side-forming member 16 of the cover 14 is then bent inwardly at right angles to the cover 14 until the end 12—17 approximately coincides with the score line 2—12. The tongue 25 is then inserted in the slit 22, after which the end-forming member 19 of the cover 14 is bent up at right angles to the cover so that the end 13—20 thereof coincides approximately with the score line 4—13. The tongue 26 is then bent on the score line 4—13. The tongue 26 is then bent on the score line 15—18 and inserted in the slit 23 and the tongue 27 bent up on the score line 4—13 and inserted in the slit 24. The parts are then in the position shown in Fig. 2, after which the cover and the side-forming member 11 of the bottom are swung over, bending at the score line 2—4 as a hinge, and the side 16 of the cover telescopes the side 5 of the body portion 1 and the end 19 of the cover telescopes the end 8 of the body portion 1 and the box will then be in substantially the condition shown in Fig. 1.

It will be apparent that the blanks shown in Fig. 3 can be easily and cheaply made and be piled or nested ready for use, and by very slight manipulation a convenient box such as is shown in Fig. 1, may be formed therefrom for the reception of such peculiarly-shaped articles of merchandise as pieces of pie. It is contemplated that the material from which the boxes will be constructed will be so cheap that after being used once the box can be discarded, thereby insuring a clean, sanitary receptacle for use, without employing the same for reuse, although it is entirely possible to reuse the device, if desired.

I claim:—

1. A collapsible box formed from a unitary blank and comprising a body member the lower wall of which is in the form of a sector of a circle and provided with side walls radiating from a common center, an end wall in the arc of a circle, a cover comprising an upper wall in the form of a sector of a circle and integral with one of the side walls of the body member, said cover provided with a side wall arranged to telescope the free side wall of the body and provided with a transverse slit and further provided at one end with a projecting tongue, said cover provided with an end wall formed in the arc of a circle and arranged to telescope the end wall of said body, said wall provided with two transverse slits, integral tongues projecting from opposite ends of the side wall of the body to which the cover is connected, said tongues adapted to be inserted in said slits to hold the walls of the cover in position to telescope the walls of the body.

2. A collapsible box formed from a unitary blank and comprising a body and a cover, the lower wall of the body and the upper wall of the cover formed in the shape of sectors of a circle, said body provided with two side walls one of which is provided at opposite ends with projecting tongues and further provided with one end wall in the arc of a circle, said cover connected along one side to the side wall bearing said tongues, said cover provided with one side wall, said side wall provided with a transverse slit and a projecting tongue at one end, said cover further provided with one end wall, said lateral wall provided with two transverse slits, all of said slits adapted to receive said tongues for holding the walls of said cover in position to telescope the end and free side wall of the body.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

EDWARD J. HAINES.

Witnesses:
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A. L. MCCLINTOCK.