Dec. 6, 1927. 1,651,848

C. E. STEVENS

PAPER BOX AND BLANK

Filed Jan. 13, 1927

Fig. 1.

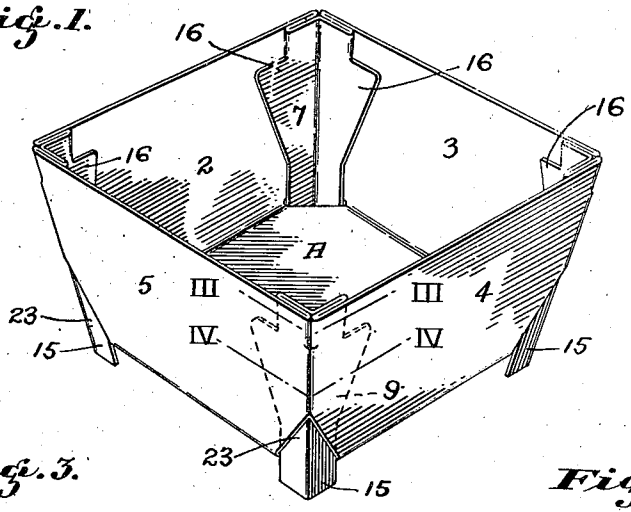


Fig. 3.

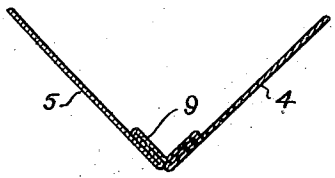


Fig. 2.

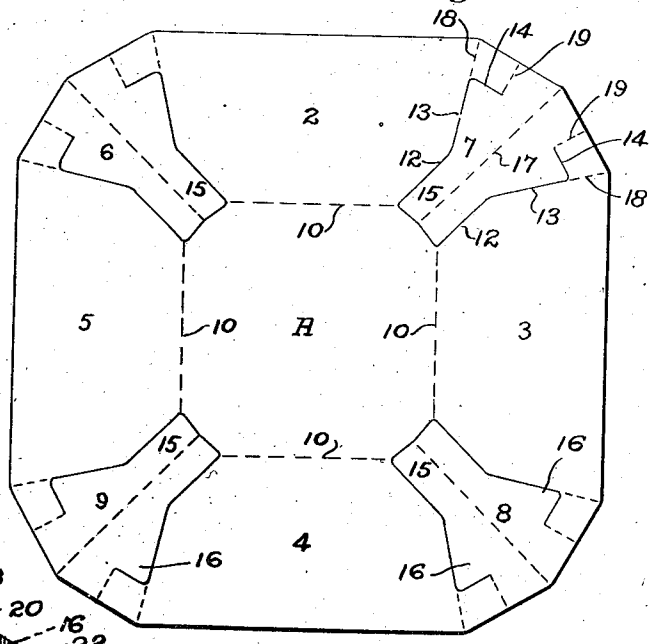


Fig. 4.

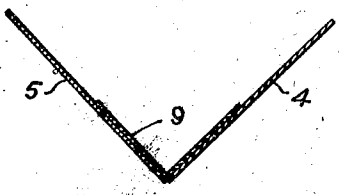
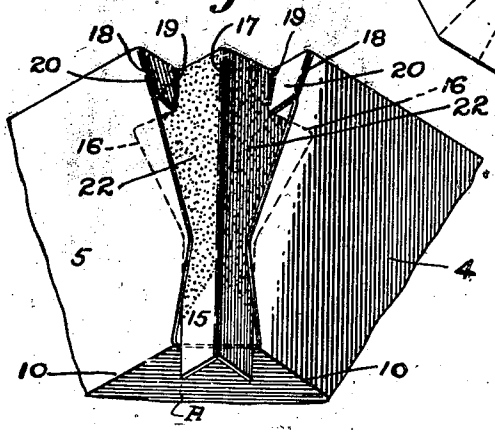


Fig. 5.



INVENTOR.
Charles E. Stevens
BY Townsend Lyttle & Abbett
ATTORNEYS.

Patented Dec. 6, 1927. 1,651,848

UNITED STATES PATENT OFFICE.

CHARLES E. STEVENS, OF SAN RAFAEL, CALIFORNIA.

PAPER BOX AND BLANK.

Application filed January 13, 1927. Serial No. 160,837.

This invention relates to foldable paper boxes and has particular reference to that type known as berry boxes, etc.

The object of the present invention is to generally improve and simplify the construction and operation of boxes of this character; to provide a blank which may be cut from stock such as cardboard or the like with a minimum of waste; to provide a blank which readily lends itself to printing operations and which when folded to form a box, presents a smooth exterior surface for displaying the printed matter; to provide a blank and box which may be compactly piled for shipment either in the blank or folded box form; to provide a box of the folded blank type whereby a single integral blank is scored and cut by a die or the like and then folded and glued to form sides, legs and a bottom section; to provide a blank which is so cut and scored that substantial double-ply reenforced corners are formed during the cutting operation and further to provide a blank which is adapted to be folded and glued by machine operation. The invention is shown by way of illustration in the accompanying drawings in which:

Figure 1 is a perspective view of the paper box when completed,

Figure 2 is a plan view of the blank from which the paper box is formed,

Figure 3 is an enlarged cross section of one corner of the box taken on the line III—III of Figure 1,

Figure 4 is an enlarged cross section of one corner of the box taken on the line IV—IV of Figure 1,

Figure 5 is a perspective view of one corner of the box showing the position of the corner member and the sides just before the folding or assembling operation is completed.

Referring to the drawings, in detail, and particularly Figure 2, which is a plan view of the blank from which the box is formed, A indicates the bottom portion of the box, 2, 3, 4 and 5 the side sections and 6, 7, 8 and 9 the corner members. These members serve three functions: First that of reenforcing and strengthening the corners of the box, when folded and assembled as shown in Figure 1; secondly that of receiving the glue or adhesive which secures the corners of the box and third: that of forming extensions or legs whereby the box is supported. The blank is substantially square in shape and may be cut with standard dies or the like from paper stock, such as cardboard, etc. During the same operation, the bottom portion A is formed by scoring the blank along the dotted lines indicated at 10. These score lines also form the lower edges of the side sections 2, 3, 4 and 5. The corner members 6, 7, 8 and 9 are cut along the lines indicated at 11—11, 12—12, 13—13 and 14—14. The cut sections 12—12 are substantially parallel and at right angles to the cut section 11 and forms the legs generally indicated at 15. The cut sections 13 are on a flare or angle with relation to the cut sections 12 and the cut sections 14 are substantially at right angles to the cut sections 12 so as to form overlapping flaps 16 whereby the corners of the box are reenforced and secured.

The corner members are centrally scored along the score lines indicated at 17 and scores are also formed at the points indicated at 18—18 and 19—19. Tie strips 20 are thus formed between the corner sections and the side sections which retains the corner members in position while the paper stock is in a blank state and also during the folding and gluing operation as will, hereinafter, be described.

In actual operation, the blank is folded, glued and assembled by machine operations, but as the machine per se will form the subject matter of a separate application, a description thereof is thought unnecessary, sufficeth to say that the side sections 2, 3, 4 and 5 are bent upwardly to assume the position shown in Figures 1 and 5 by bending them on the score lines 10. During the upward bending of the side sections, the corner sections 6, 7, 8 and 9 are also bent upwardly and they are, at the same time, bent longitudinally on the central score lines 17 and also the score lines 18 and 19, as clearly shown in Figure 5. Glue is applied on the exterior surface of the corner members, as indicated by stippling at 22 in Figure 5 and when the corner members are forced against the ends of the side sections, the exterior surfaces of the corner members and the inner surfaces of the side sections unite and the assembling and gluing of the box is completed. The cutting of the corner members in the manner described forms triangular openings in the bottom of the box, as indicated at 23, through which the lower ends of the corner members project during the folding operation to form the legs 15. These openings also serve another function, to-wit: that of permitting a

certain amount of ventilation which is more or less essential when certain kinds of fruits are being packed and shipped. Further ventilation may be obtained by slotting the sides of the box but as this is common, illustration thereof has been eliminated.

When a square box such as shown in Figure 1 is being made, the blank provided will be substantially square in outline. If a hexagonal-shaped box is employed, the outline will be substantially hexagonal, that is, the invention is by no means limited to a square-shaped box, as it is obvious from the drawings submitted that hexagonal-shaped boxes and the like may be obtained by slightly changing the shape of the blank. In any instance, it will be noted that the blank may be cut from stock with a minimum of waste and that comparatively simple dies may be employed as stripping and punching operations are entirely eliminated when forming blanks such as here illustrated. Economy of material is thus obtained, die costs and maintenance is also reduced. The box obtained is materially reenforced by the corner members and is further reenforced by the glue interposed between the surface of the ends of the side sections and the exterior surfaces of the corner sections.

The supporting legs projecting below the bottom of the box are formed from the same material and stock and without waste and ventilating openings are formed in the bottom which also serve the function of permitting the legs to protrude. A box of this character lends itself readily to machine operations thereby further reducing costs and the box also lends itself to nesting and compact piling both in the blank and in the assembled condition. All surfaces formed are smooth and unobstructed and as such may be printed and the printed matter may be displayed to advantage.

While certain features of the present invention are more or less specifically described, I wish it understood that various changes may be resorted to within the scope of the appended claims. Similarly that the materials and finishes of the several parts employed may be such as the manufacturer may decide or varying conditions or uses may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. A device of the character described, comprising a single sheet of cardboard, said sheet being scored to form a solid bottom section and a plurality of integral side and corner sections, said side sections adapted to be folded upwardly when forming a box and said corner sections being partialy cut and integrally connected at the upper end with the side sections adapted to be folded over the ends of the side sections to form reenforced corners, the lower ends of the corner sections being extended through the cuts to form projecting supporting legs.

2. A device of the character described, comprising a single sheet of cardboard, said sheet being scored to form a solid bottom section and a plurality of integral side and corner sections, said side sections adapted to be folded upwardly when forming a box and said corner sections being partially cut and integrally connected at the upper ends of the side sections, the integral portions being doubled and folded over the ends of the side sections to form reenforced corners, and the lower ends of the corner sections projecting through the blank from the interior and extending below the bottom section to form supporting legs.

3. A device of the character described, comprising a single sheet of cardboard scored to form a solid bottom section and a plurality of integral side and corner sections, the side sections being folded upwardly when forming a box and said corner sections being partially cut and integrally connected at the upper ends with the side sections, the integral connecting portions being doubled and folded over the ends of the side sections to form reinforcing corners, and the lower ends of the corner sections projecting through the blank from the interior of the box and extending below the bottom section to form supporting legs, said corner sections being provided between the folded upper ends and the projecting legs with flaps projecting laterally beyond the folded upper ends of the corner sections and overlapping the side sections and adapted to be secured to the same.

CHARLES E. STEVENS.