Oct. 13, 1931. E. H. LUPTON 1,827,593

FOLDING BOX

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FIG. 1.

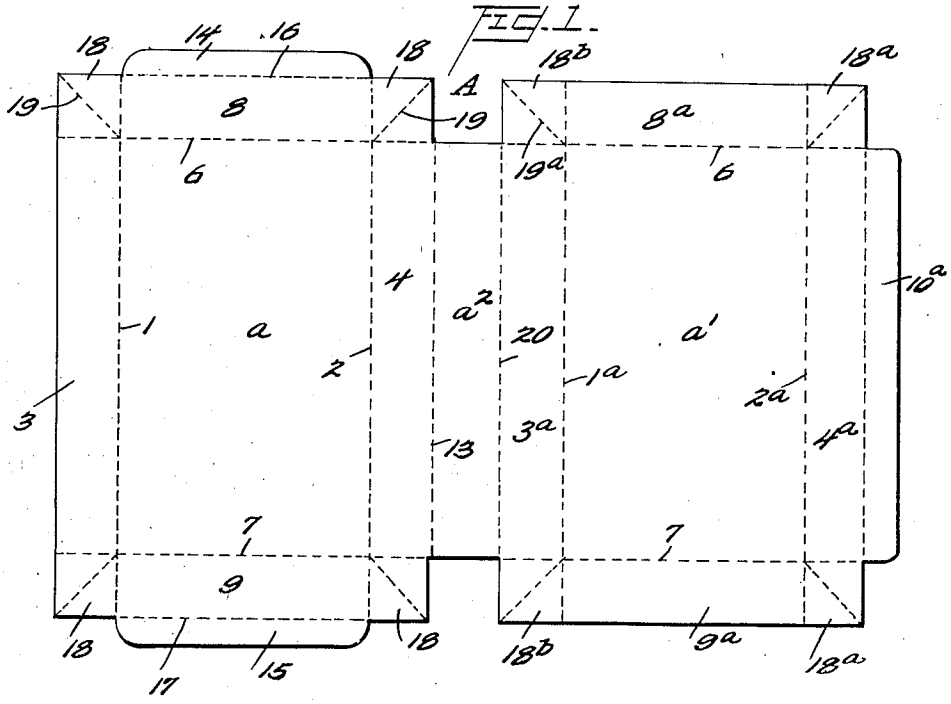

FIG. 3.

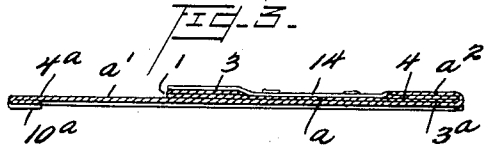

FIG. 2.

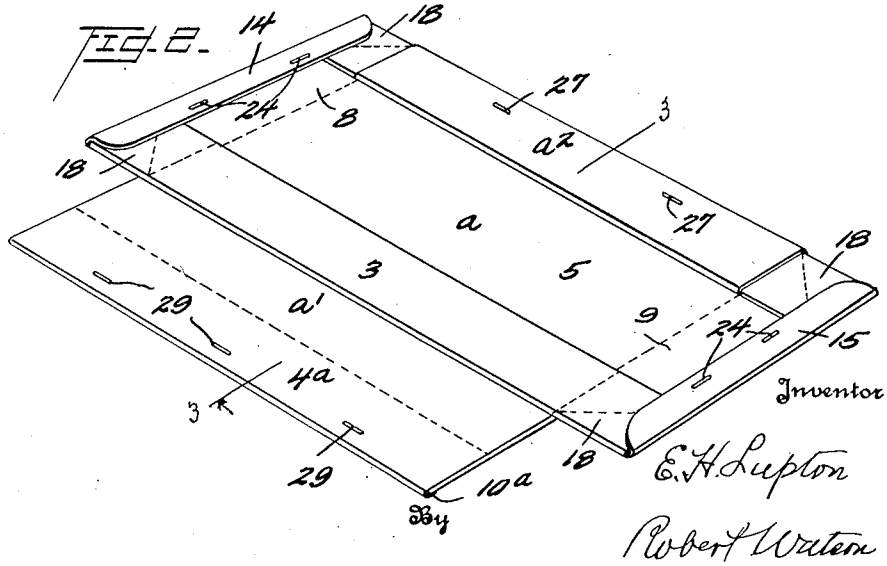

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FIG. 4.

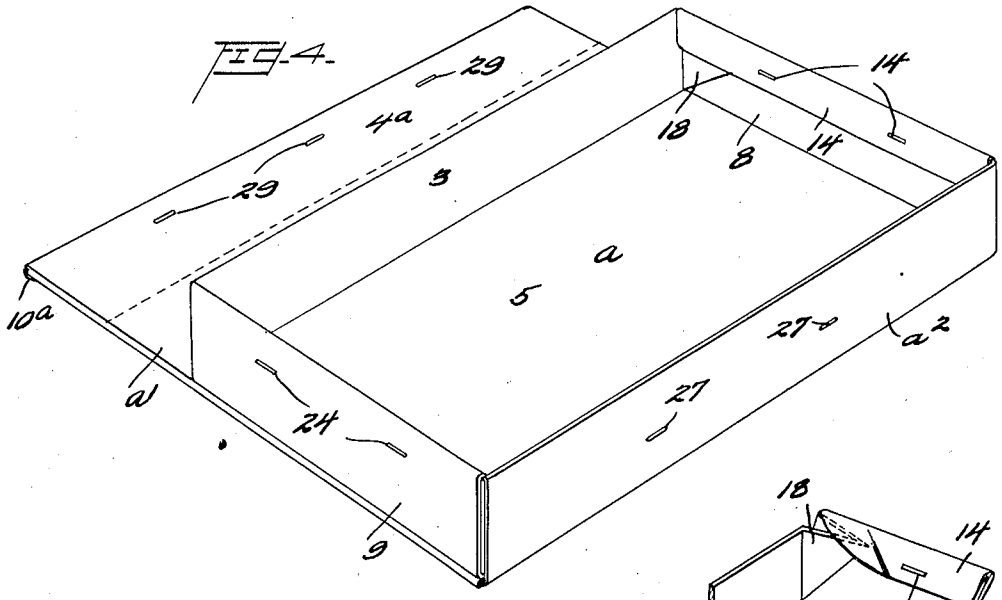

FIG. 7.

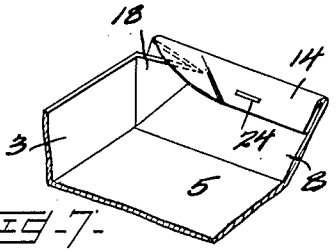

FIG. 5.

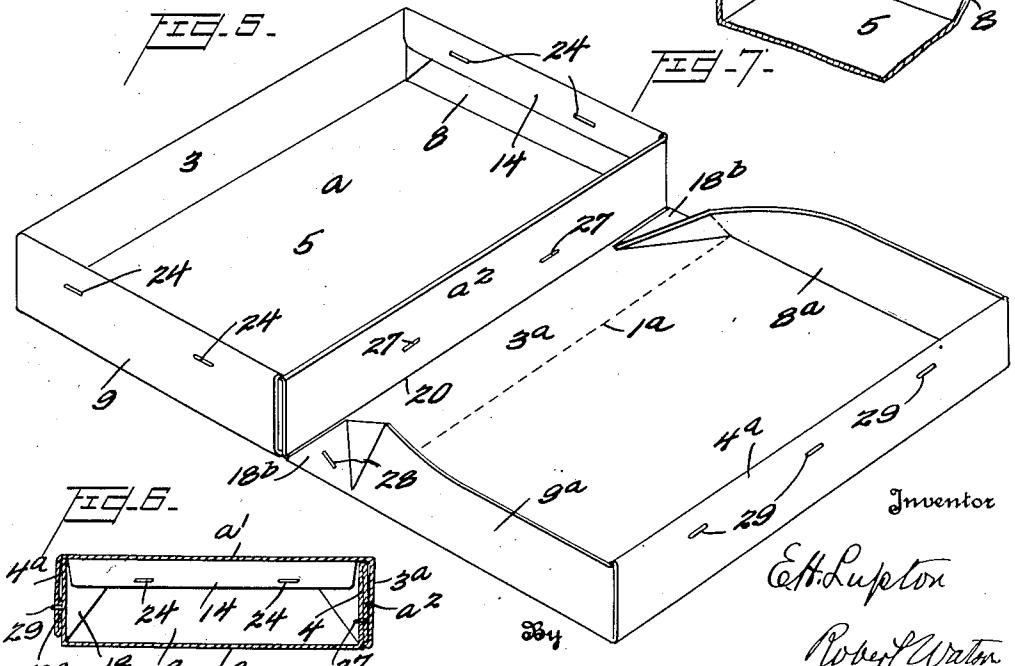

FIG. 6.

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UNITED STATES PATENT OFFICE

ELMER H. LUPTON, OF BALTIMORE, MARYLAND

FOLDING BOX

Application filed August 7, 1930. Serial No. 473,609.

This invention relates to folding boxes made of paper stock and suitable for containing suits, coats, etc.

The purpose of the invention is to provide a box with attached cover which can be quickly set up or knocked down, which will fold flat for shipment, and which will occupy a small space on the counter while the goods are being packed in the boxes.

A box of the type to which the present invention relates is illustrated in my Patent No. 1,718,204 dated January 18, 1929. The box in the patent referred to is formed from a single blank comprising portions which form the top and bottom of the box respectively. The bottom portion has two side flaps under which the corner pieces on the end of the bottom portion fold and the top portion is connected to the bottom portion by a hinge piece projecting from one of its side walls and by a flap on this hinge piece which is connected to a side flap on the bottom portion.

In the present invention all of the flaps above mentioned, except the one on the top portion, are omitted, thus effecting a saving in material, and the corner pieces on the bottom portion, instead of folding under the side flaps, as in said patent, fold under end flaps which are shorter than the side flaps.

In the accompanying drawings,

Fig. 1 is a plan view of the blank from which the box is made, the dotted lines showing the creases in the blank to permit of folding;

Fig. 2 is a perspective view of the box, folded for shipment;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a perspective view of the box with the bottom section set up for filling and the top section folded;

Fig. 5 is a similar view, with the top section unfolded and ready to be closed over the bottom section;

Fig. 6 is a transverse section through the closed box; and,

Fig. 7 is a perspective view of a corner of the box, showing the manner in which the corner pieces fold under the adjacent end flap.

Referring to Fig. 1 of the drawings, A indicates the blank from which the box is made, as a whole, a indicates the portion of the blank which forms the bottom part or section of the box, and a' indicates the portion of the blank which forms the top section of the box. These sections are connected by a part a^2 which, in the completed box, forms a hinge-piece. The bottom section a is creased longitudinally on parallel lines, as indicated at 1 and 2, so that the parts 3 and 4 may be turned upwardly at right angles to the central part 5 of the section, to form side walls. This section of the blank is also creased transversely, near its ends, as shown at 6 and 7, so that the adjacent parts 8, 9 may be turned upwardly at right angles to the base 5 to form end walls. Flaps 14 and 15 project from the end walls 8 and 9, respectively, and these flaps may be folded over the end walls along lines 16 and 17. The corner pieces 18 of the bottom section, where the side and end walls meet, are creased diagonally, as shown at 19, so that each corner piece may fold inwardly against the inner side of the adjacent end wall when the box is set up.

The top section a' of the blank is not provided with end flaps corresponding to the flaps 14 and 15 of the bottom section, but is provided with a side flap $10a$. Thus, the top section has parallel longitudinal creases 1^a and 2^a to form the side walls 3^a and 4^a, and it has the creases 6 and 7 near its ends to form the end walls 8^a and 9^a. The corner-pieces 18^a and 18^b are also creased diagonally, as shown at 19^a and are adapted to fold inwardly against the adjacent side walls. The side wall $4a$ is creased at 12^a to form a side flap 10^a. The hinge section a^2 projects from the side wall 3^a and can be bent at an angle to said side wall along a creased line 20. The hinge section a^2 is of approximately the same width as the side walls of the box and it is connected to the side wall 4 of the bottom along a creased line 13.

In forming the box from the blank described, the end flaps 14 and 15 are folded inwardly against the end walls and secured thereto by stitches 24, the ends of each flap being free, so that the corner-pieces 18 may be folded under the ends of the flap and

when the end wall is pulled outwardly, its corner-pieces will be released from the flap and can unfold and lie flat, as shown in Fig. 2. The hinge piece a^2 is folded along the crease line 13 and laid against the outer side of the side-wall 4, and is secured thereto by stitches 27, at or near the crease line 20.

The corner-pieces 18^b of the top section each have one fold secured to the side wall 3^a by suitable means, such as stitches 28, and the flap 10^a of the top section is folded inwardly over the side wall 4^a and secured thereto by stitches 29. The manner in which the corner-pieces fold under the end flaps is shown in Fig. 7, wherein the corner-piece 18 is shown partly unfolded. By raising the free end of the flap 14 the corner-piece can be released from the flap or folded beneath it against the end wall.

In Fig. 2 of the drawings the box is shown collapsed with the bottom section resting upon the top section. When the box is to be folded, it is laid in the form shown in Fig. 2, on a counter or suitable support, and the bottom section is set up, as shown in Fig. 4, by rocking the side walls 3 and 4 outwardly and raising the end walls 8 and 9 the end portions of the end flaps 14 and 15 being raised simultaneously to permit the corner-pieces to fold thereunder. When the box is filled, it is lifted and the top section is swung outwardly upon the counter and its side wall 4^a and end walls 8^a and 9^a are raised, as shown in Fig. 5, the corner-pieces between the end walls and the side wall 4^a being tucked under the free ends of the flap 10^a. The top section is then swung over the bottom section a^2 and the side wall 3^a, and also bending along the crease 1^a. In this operation, the corner-pieces 18^b fold automatically against the side wall 3^a of the top section. When the box is closed, the side and end walls of the top section fit closely around the corresponding walls of the bottom section, as shown in Fig. 6.

To knock the box down, it is merely necessary to swing the cover outwardly, as shown in Fig. 5, and press the end walls of the bottom part outwardly, thus releasing the corner-pieces from the flaps, and the side walls of the bottom part then fold inwardly. The side wall 4^a of the top part is pressed outwardly and the end walls then fold inwardly.

What I claim is:

A folding box formed from a single blank, comprising top and bottom sections and a hinge piece connecting said sections, both sections having side and end walls and diagonally creased corner-pieces, the bottom section having inwardly turned flaps on its end walls and said hinge-piece being folded downwardly against and secured to one of its side walls, one side wall of the top section having an inwardly turned flap, the other side wall of the top section being without a flap and hinged directly to the lower edge of the hinge section, the corner pieces on the bottom section adapted to fold against the end walls of the bottom section and the corner pieces of the top section adapted to fold against the side walls of the top section and the ends of the various flaps folding over the adjacent corner pieces, the flaps being fastened at their central portions to their adjacent walls and the ends of the flaps being free.

In testimony whereof I affix my signature.

ELMER H. LUPTON.