May 21, 1929. G. D. SULLIVAN 1,714,471

FOLDING BOX

Filed Feb. 19, 1927 2 Sheets-Sheet 1

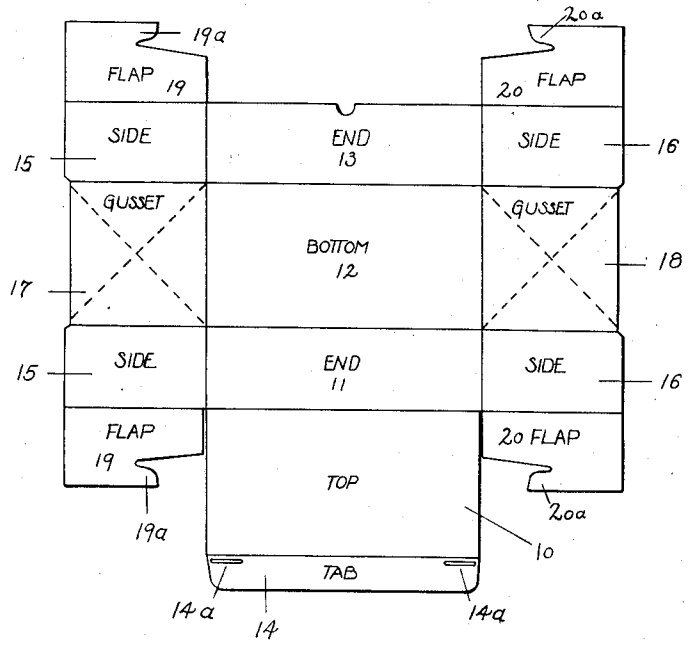


FIG-1

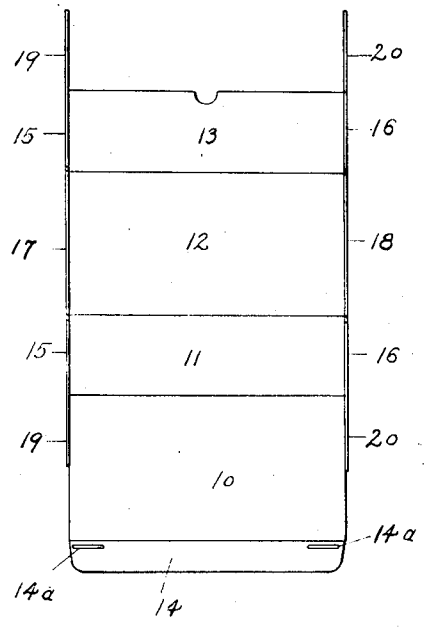


FIG-2

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Filed Feb. 19, 1927 2 Sheets-Sheet 2

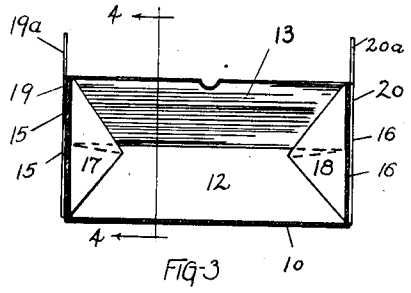


FIG-3

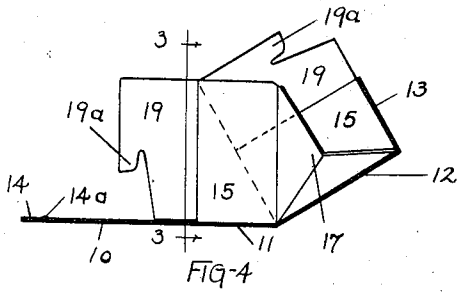


FIG-4

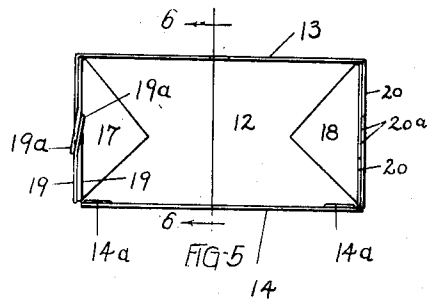


FIG-5

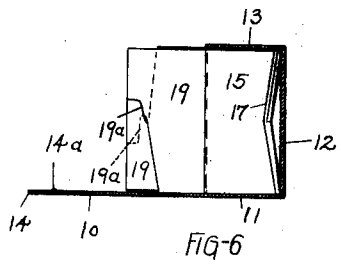


FIG-6

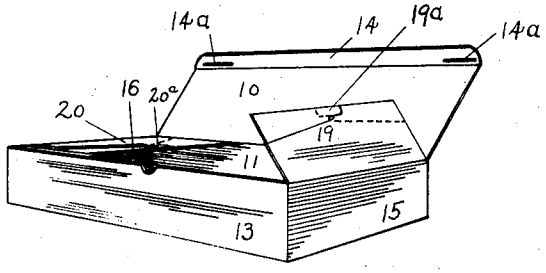


FIG-7

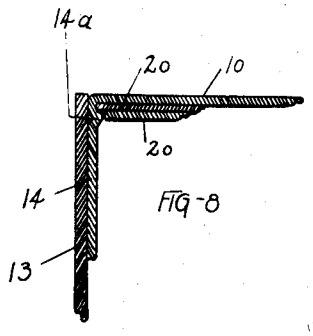


FIG-8

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Patented May 21, 1929. 1,714,471

UNITED STATES PATENT OFFICE.

GERALD D. SULLIVAN, OF AKRON, OHIO, ASSIGNOR TO THE COLE FOLDING BOX COMPANY, OF AKRON, OHIO, A CORPORATION OF OHIO.

FOLDING BOX.

Application filed February 19, 1927. Serial No. 169,486.

This invention relates to boxes, and particularly folding boxes.

The general purpose of the invention is to provide an improved, one-piece, folding box blank including a top, end, bottom and other end arranged in a line through the center of the blank, sides on each side of the ends, gussets on the bottom and between the sides, locking flaps on the free ends of the sides arranged to lock the sides and ends toegther on each side of the box to hold the box in "set-up" condition, and a tab on the free end of the top adapted to be inserted between said other end and the flaps to close the box, said tab having projecting shoulder portions thereon adapted to engage the adjacent edges of the flaps to lock the top in closed position.

The foregoing and other purposes are attained by a box such as illustrated in the accompanying drawings. It is to be understood that the invention is not limited to the specific form thereof shown and described.

Of the accompanying drawings,

Figure 1 is a plan of a folding box blank embodying the invention;

Figure 2 is a plan thereof illustrating the first folding operation;

Figure 3 is a cross-section through the box during the third folding operation, the section being taken on line 3—3 of Figure 4;

Figure 4 is a section on line 4—4 of Figure 3;

Figure 5 is a plan illustrating the manner of locking the box in set up condition, one pair of flaps being shown locked and the other pair unlocked;

Figure 6 is a section on line 6—6 of Figure 5;

Figure 7 is a perspective view of the set-up box, one set of flaps being shown bent downwardly into its final position; and

Figure 8 is a section through the closed box adjacent one front corner thereof illustrating the locking of the top in place.

Referring to the drawings, the numeral 10 designates the top, 11 one end, 12 the bottom and 13 the other end of the box arranged in a line through the center of the blank.

The top 10 has on its free end a locking tab 14 formed with scored locking projections or shoulders 14^a, 14^a, the ends having sides 15 and 16 connected to the side edges thereof, diagonally scored gussets 17 and 18 being arranged on the side edges of bottom 12 and between the sides 15 and 16. The ends of sides 15 have thereon interlocking flaps 19, 19 and the ends of sides 16 have thereon interlocking flaps 20, 20, flaps 19 having interengaging hook members 19^a and flaps 20 interengaging hook members 20^a.

In folding the above blank, the parts 19, 15, 17, 15 and 19 and the parts 20, 16, 18, 16 and 20 are first folded upwardly as shown in Figure 2. The gussets 17 and 18 are then folded inwardly, first drawing the end 13 upwardly and then folding the bottom 12 forwardly and upwardly as illustrated in Figures 3 and 4. The sides 15 and flaps 19 and the sides 16 and flaps 20 on each side of the box will be in overlapped relationship at the completion of this operation.

The flaps 19, 19 and 20, 20 are now interlocked (Figures 5 and 6), thus holding the bottom sides and ends in set-up condition. The box is now turned over onto its bottom, the goods to be boxed is inserted, flaps 19 and 20 are folded inwardly over the contents of the box and tab 14 is folded downwardly and inserted between the end 13 and the forward edges of flaps 19 and 20, the scored shoulders 14^a passing under the forward edges of flaps 19 and 20 (Figure 8) to effectively lock top 10 shut, but permitting opening of the box without injury thereof.

It will be apparent from the foregoing that a simple but effective folding box construction has been devised. It will also be apparent that modifications of the invention may be resorted to without departing from the spirit thereof or the scope of the appended claims.

What is claimed is:

1. A folding box comprising a blank formed with a top, one end, bottom and other end in a line through the center thereof, a locking tab on the top, said tab having inwardly projecting shoulders thereon adjacent the top, sides on the side edges of the ends, foldable gussets on the side edges of the bottom and between the sides, and flaps on the end edges of the sides, the flaps on each side of the box being constructed to interlock with each other to set the box up, the projecting shoulders on the tab being adapted to engage under the edges of the flaps when inserted between said flaps and said other end to lock the top shut.

2. A folding box comprising a blank formed with a top, one end, bottom and other end in a line through the center thereof, a

locking tab on the top, sides on the side edges of the ends, foldable gussets on the side edges of the bottom and between the sides, and flaps on the end edges of the sides, the flaps on each side of the box being constructed to interlock with each other to set the box up.

3. A folding box comprising a blank formed with a top, one end, bottom and other end in a line through the center thereof, a locking tab on the top, sides on the side edges of the ends, foldable gussets on the side edges of the bottom and between the sides, and flaps on the end edges of the sides, the flaps on each side of the box having hook-like portions adapted to interlock with each other to set the box up.

4. In a folding box, folding parts adapted to form the body of the box, a closure for the box, flaps on the box foldable inwardly under the closure, and a locking tab on the closure insertable between a wall of the box and the flaps and having projections formed by scorings on the inner side thereof, said scorings engaging under edges of the flaps.

5. In a box construction, a body portion having a flap thereon foldable inwardly over the box opening, a closure foldable over said opening, and a tab on the closure, said tab having a projection provided by a scoring on its inner surface, said scoring engaging under the flap to releasably lock the closure over the opening.

GERALD D. SULLIVAN.