

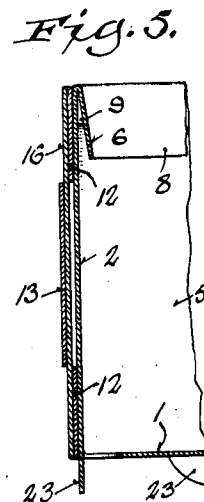
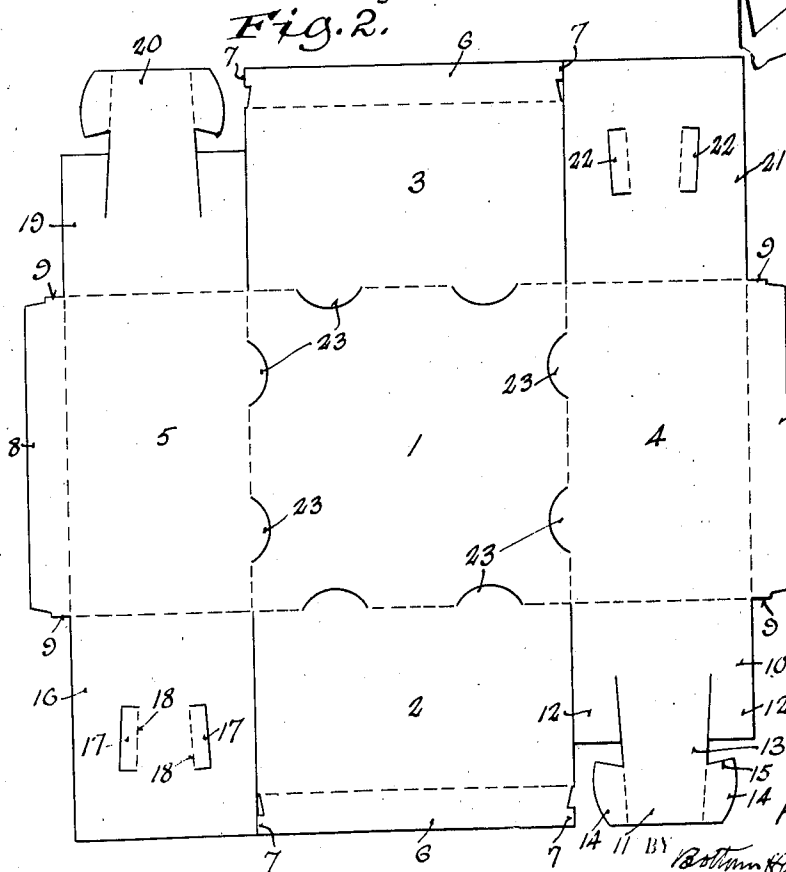
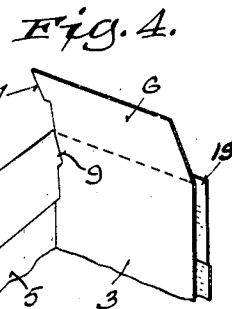
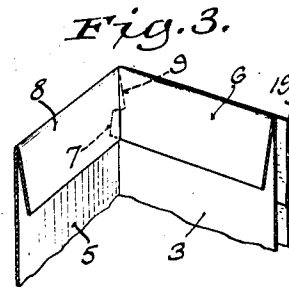
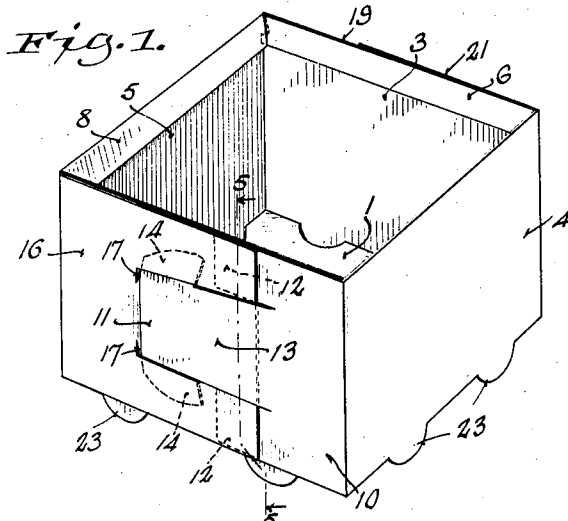
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F. GRAFFENBERGER

1,731,007

BOX

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UNITED STATES PATENT OFFICE

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BOX

Application filed May 28, 1924. Serial No. 716,378.

This invention relates to a box.

It relates particularly to a box which is cut from one piece of cardboard or stiff paper and folded into shape.

5 An object of the invention is to provide an improved box provided with reinforcing strips at the top edges thereof, the strips being bent downwardly into the box and interlocking at their ends to make a rigid structure.

10 Another object is to provide a box having an improved lock to hold the box together.

Another object is to provide a box made from one piece of cardboard or stiff paper 15 the box being provided with an improved anchor lock and with portions to cooperate therewith to hold the box in shape, the parts being creased to facilitate operative engagement thereof.

20 Another object is to provide a piece of cardboard or stiff paper which is shaped and cut so that it may be folded to form a box having an improved lock to hold the box in shape.

Another object is to provide a piece of 25 cardboard or stiff paper which is so shaped and cut that it may be economically manufactured and readily folded to provide a box which is strong and durable.

30 Other objects and advantages will herein after appear.

For the purpose of illustrating the invention, an embodiment thereof is shown in the drawings in which:

Figure 1 is a perspective view of the box;

35 Fig. 2 is a plan view showing the manner in which the cardboard or stiff paper is shaped and cut to make the box shown in Fig. 1;

40 Fig. 3 is a detail perspective showing the manner in which the reinforcing strips are bent downwardly into the box and interlocked to hold them in assembled relation;

45 Fig. 4 is a detail perspective showing one of the reinforcing strips bent downwardly into the box and the other strip in position ready to be bent downwardly to interlock therewith in the manner shown in Fig. 3; and

50 Fig. 5 is a section on the line 5—5 of Fig. 1. The cardboard or stiff paper is shaped and

cut as shown in Fig. 2, to provide a bottom 1, sides 2 and 3, and ends 4 and 5.

The sides 2 and 3 are provided with reinforcing strips 6 having tongues 7 at the ends thereof.

55 The ends 4 and 5 are likewise provided with similar reinforcing strips 8 having tongues 9 at the ends thereof arranged to cooperate and interlock with the tongues 7, as hereinafter explained.

60 The end 4 is provided with a flap 10 cut and shaped to form a lock 11 and portions 12 at either side thereof, as shown.

The lock 11 comprises a shank 13 and ears 14 at the end thereof. The ears are creased, 65 as indicated by dotted lines. The inner end of each ear 14 is cut inwardly, as shown at 15, to provide an anchor lock.

The end 5 is provided with a flap 16 cut and arranged to be folded over to cooperate 70 with the lock 11 to hold one-half of the box in assembled position. The flap 16 is cut as shown, to provide portions 17 creased as indicated by the dotted lines 18. The portions 17 are bent inwardly along the creases 75 18 to provide slots through which the ears 14 of the lock 11 are inserted to securely hold one-half of the box in assembled position.

The end 5 is provided at the other end thereof with a flap 19 cut and shaped to form a 80 lock 20, similar to the flap 10 and lock 11.

End 4 is provided with a flap 21 cut to provide portions 22 arranged to cooperate with the lock 20 in the same manner in which the portions 17 and the lock 11 cooperate, as ex- 85 plained above.

The manner in which the cardboard or stiff paper, shown in Fig. 2, is folded to make the box shown in Fig. 1, will now be described.

90 The full lines of Fig. 2 represent cuts through the material, while the dotted lines represent creases made to facilitate the bending and shaping of the box into assembled position.

The sides 2 and 3 are first bent upwardly 95 at right angles to the bottom 1.

The ends 4 and 5 are then bent upwardly in a similar way.

The flaps 10 and 16 are then bent over against the side 2, the end of flap 16 being 100

slipped between the shank 13 of the lock 11 and the portions 12 at either side thereof, as shown in Figs. 1 and 5. The flaps 10 and 16 are thereby interlocked.

5 The ears 14 are bent inwardly along the creases, at right angles to the shank 13, and inserted through the slots provided by the portions 17. The ears 14 will then spread outwardly between the flap 16 and the side 2 to securely lock the flaps 10 and 16 together. 10 The ears 14, which are cut inwardly as shown at 15, anchor the lock 11 to the flap 16.

The flaps 19 and 21 are folded over against the side 3 and interlocked in a similar manner, and the lock 20 engaged with the slots provided when the portions 22 are bent inwardly. 15

The reinforcing strips 8 are then bent downwardly into the box, as shown in Fig. 4. 20 The reinforcing strips 6 are then bent downwardly into the box so that the tongues 7 snap into position back of the strips 8 and interlock with the tongues 9 thereof, as shown in Fig. 3. A simple and efficient reinforcement 25 is thereby provided for the upper edges of the box.

The bottom 1 may be cut, as shown in Fig. 2, to provide spacers 23 which extend outwardly, as shown in Figs. 1 and 5, when the box is assembled. When the boxes are 30 stacked, the spacers 23 of each box rest upon the box below and hold the boxes in spaced relation.

The sides 2 and 3 and the ends 4 and 5 have 35 been given these terms simply for the purpose of explaining the invention, and not because of their dimensions or the proportion which they may bear to each other. The sides may have the same dimensions as the ends to form 40 a square box, or they may have different dimensions to form a rectangular box.

The use of the flaps such as 10 and 16 is not limited of course to the holding of the sides of a box in assembled relation.

45 A lock such as 11, having portions 12 at either side thereof, may be used to lock a cover for a box in closed position.

In this case, a flap similar to 16 would be substituted for the reinforcing strip 8 of the 50 end 5 to provide a cover for the box, and a flap shaped and cut similar to the flap 10 would be substituted for the reinforcing strip 8 of the end 4, in substantially the manner shown and described in my co-pending application, Serial No. 568,554, filed June 15, 55 1922.

Various modifications may be adopted without departing from the spirit of the invention or the scope of the claims.

60 The invention claimed is:

1. A box blank cut and creased for folding to form a box, the blank comprising a bottom and two sides and two ends, said ends being provided with means to hold the box 65 in assembled position, said means compris-

ing a flap cut to form a lock and portions at either side of said lock, and a second flap arranged to interlock with said lock and said portions and provided with portions adapted to be bent to form slots arranged to receive 70 said lock.

2. A box blank cut and creased for folding to form a box, the blank comprising a bottom and two sides and two ends, said sides being provided with means to hold the box in assembled position, said means comprising a 75 flap cut to provide a lock and portions at either side thereof and a second flap cut to provide portions arranged to be bent to form slots therein, said lock having ears creased for bending and arranged for insertion 80 through said slots to lock said flaps together with said second flap interposed between the lock and portions of said first named flap.

3. A box blank cut and creased for folding 85 to form a box, the blank comprising a bottom and two sides and two ends, said sides being provided with two pair of flaps arranged to be folded against each of the said ends, one flap of each pair being cut and shaped to 90 form a lock having portions at either side thereof, the other flap of each pair being cut to provide portions arranged to be bent to form slots therein, said lock having ears creased for bending and arranged for insertion 95 through said slots to lock said flaps together and to hold the box in assembled position with said second flap interposed between the lock and portions of said first named flap.

4. A box blank cut and creased for folding 100 to form a box, the blank comprising a bottom and two sides and two ends, said ends being provided with two pair of flaps arranged to be folded against each of the said 105 sides, one flap of each pair being cut and shaped to form a lock having portions at either side thereof, the other flap of each pair being cut to provide portions arranged to be bent to form slots therein, said lock having 110 ears creased for bending and arranged for insertion through said slots to lock said flaps together and to hold the box in assembled position, each of the said sides and ends being provided with strips arranged to be bent downwardly into the box to reinforce 115 the upper edges thereof, the adjacent ends of said strips being provided with tongues arranged to interlock to hold the same in position.

5. A box comprising a bottom and two 120 sides and two ends, said sides being provided with two pair of flaps folded against said ends, one flap of each pair being cut and shaped to form a lock having portions at 125 either side thereof, the other flap of each pair being provided with slots, said lock co-operating with said slots to hold the box in assembled position, the end of said last-mentioned flap being interlocked between 130

said tongue and said portions at either side thereof.

5 6. A box comprising a bottom and two sides and two ends, said sides being provided with two pair of flaps folded against said ends, one flap of each pair having portions bent inwardly to provide slots, the other flap of each pair being provided with a lock having ears and portions at either side of said lock, said ears being inserted into said slots to lock said flaps together, said first-mentioned flap being interlocked between said lock and said portions at either side thereof.

10 7. In a box formed from a piece of folded material, means for holding said material in folded position and comprising a flap and a locking member overlapping the latter, said member comprising a shank and outwardly extending ears on each side thereof, portions partly cut out from said flap to provide slots, said ears being inserted into said slots and locking said member and said flap together, said portions being resilient and tending to return to their respective original positions in the plane of said flap and coacting with said ears to hold the same spread out in locking position.

15 8. A box of the character described comprising a bottom wall, side and end walls connected to the bottom wall and extending upwardly therefrom, pairs of flaps carried by the end walls and folded against the side walls, one flap of each pair having a lock consisting of a shank connected to the flap and ears at the outer end of the shank, the flap being slitted along the sides of the shank to provide locking portions adapted to underlie the other flap of the pair, the shank of the lock overlying this other flap of the pair, said other flap of each pair having slots to coact with the ears of the lock.

20 In witness whereof I have hereto affixed my signature.

25 FRIEDRICH GRAFFENBERGER.

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