

April 22, 1930.

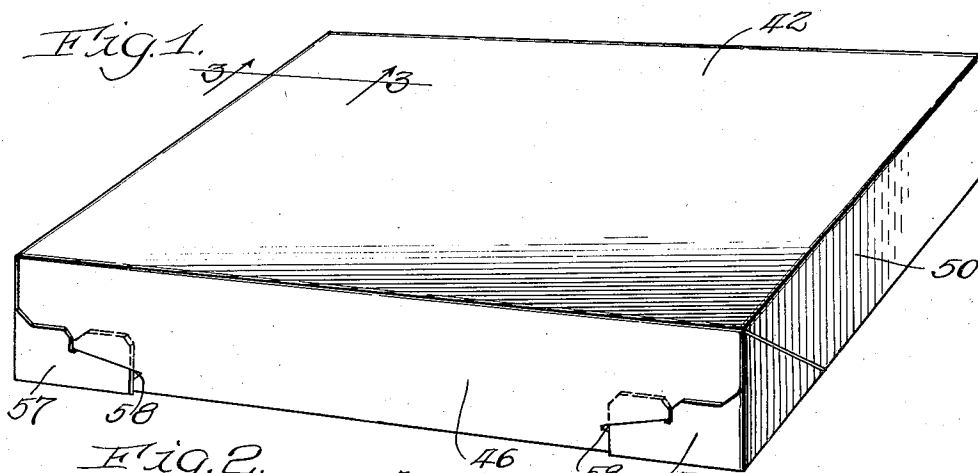
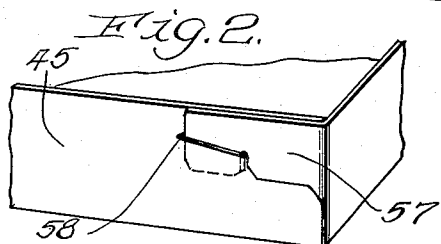
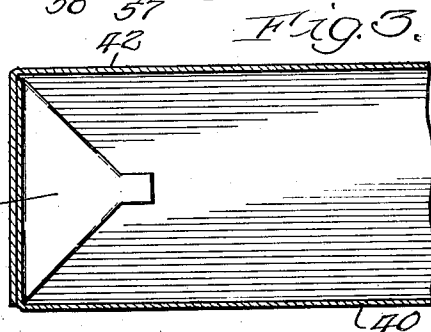
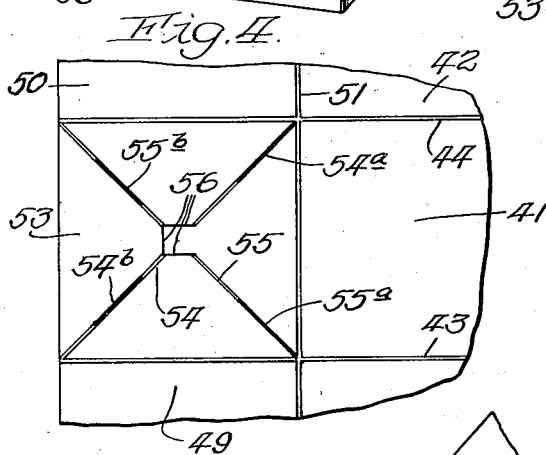
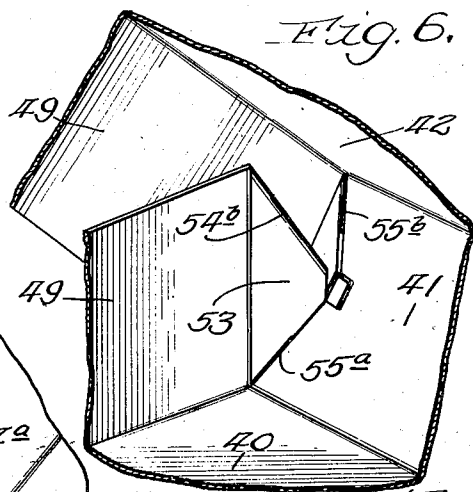
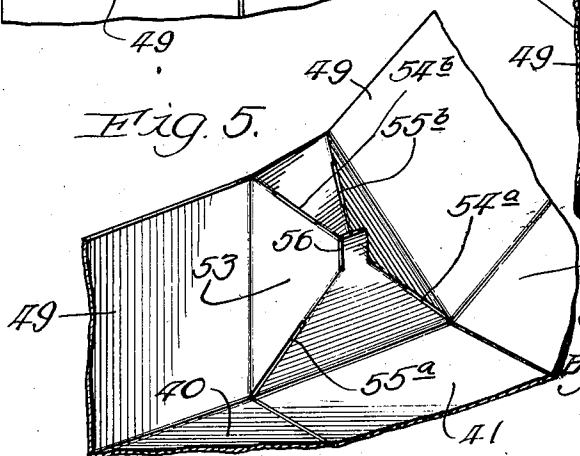
S. BACHMANN

1,755,722

FOLDING BOX

Filed Oct. 20, 1927

4 Sheets-Sheet 1



Inventor:
Siegward Bachmann,
By *[Signature]* Attorney

April 22, 1930.

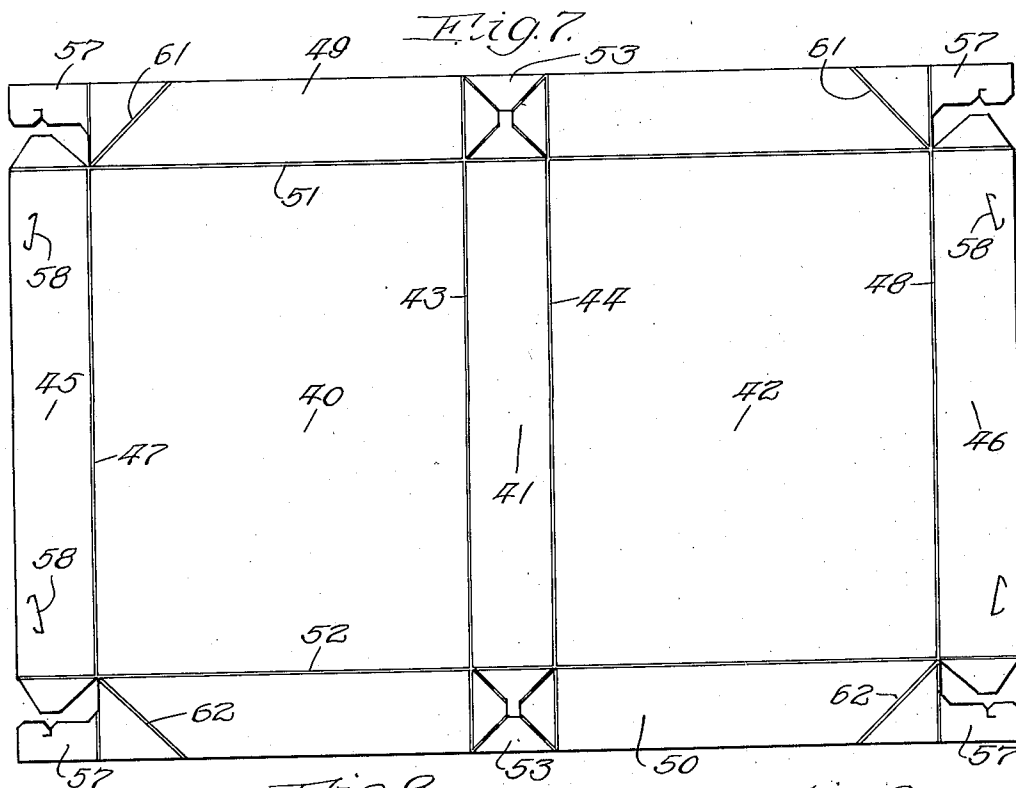
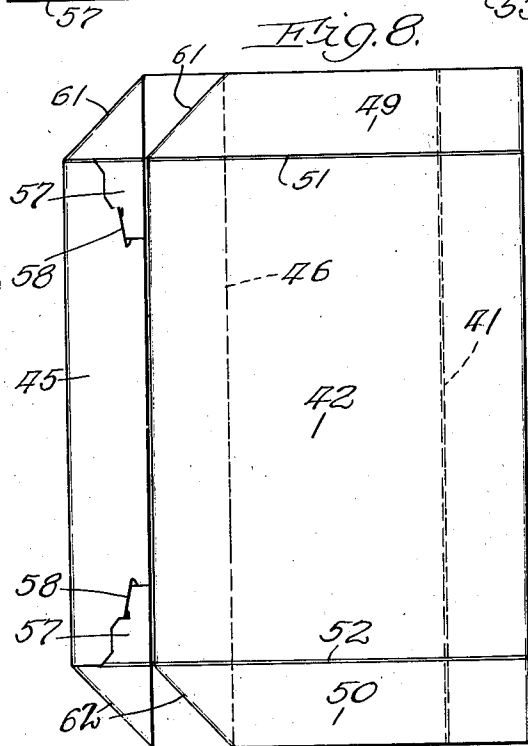
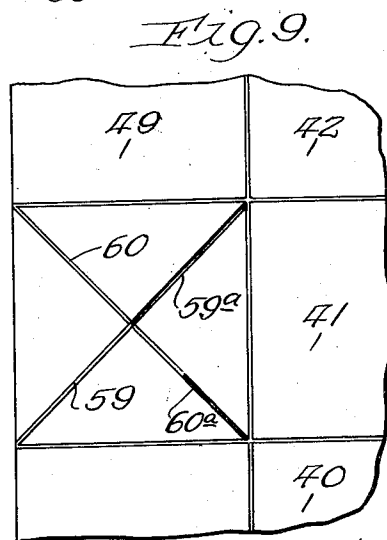
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1,755,722

FOLDING BOX

Filed Oct. 20, 1927

4 Sheets-Sheet 2



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April 22, 1930.

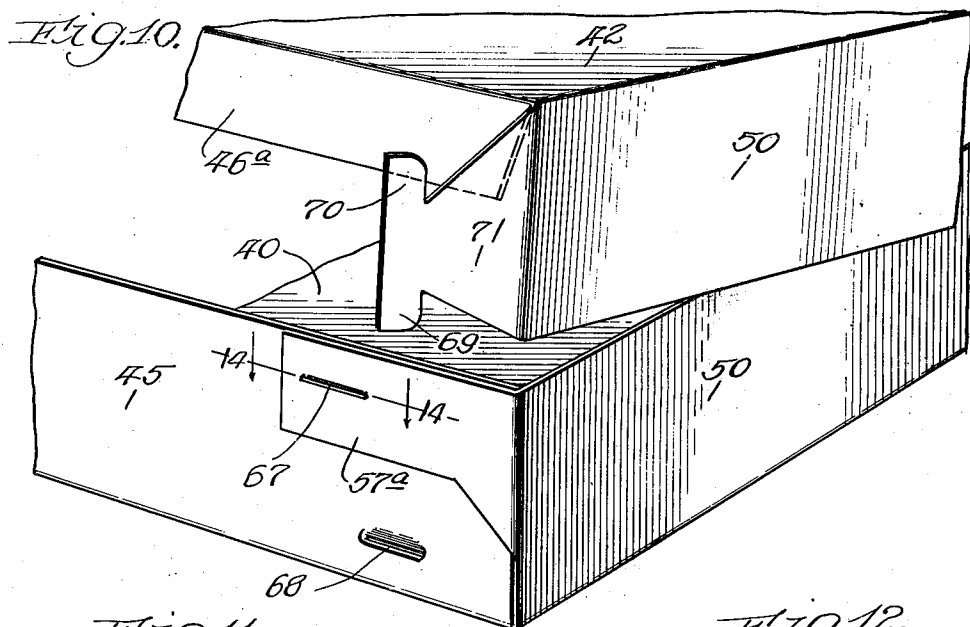
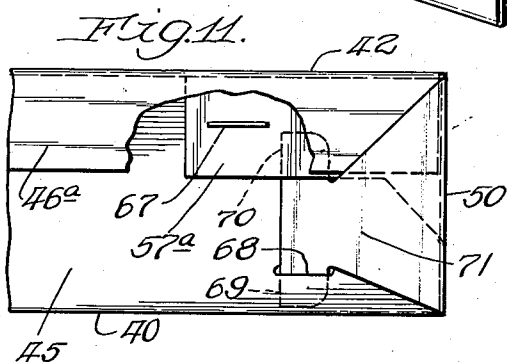
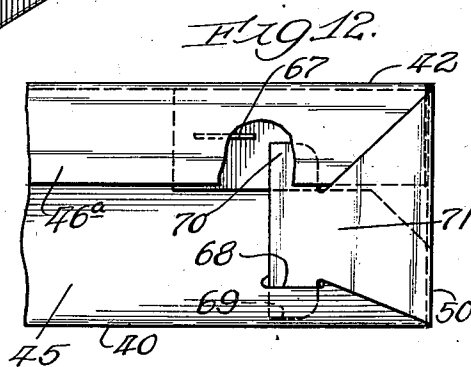
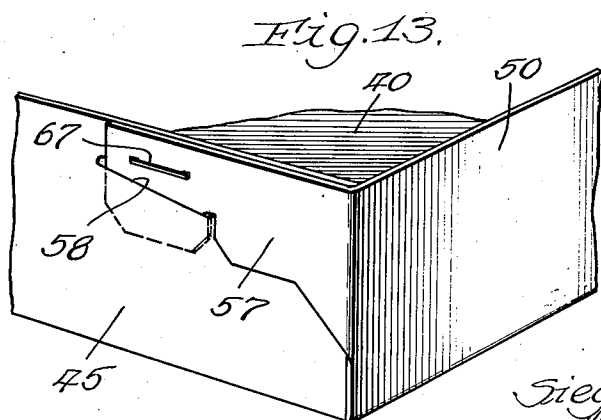
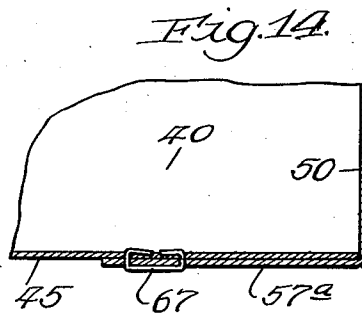
S. BACHMANN

1,755,722

FOLDING BOX

Filed Oct. 20, 1927

4 Sheets-Sheet 3



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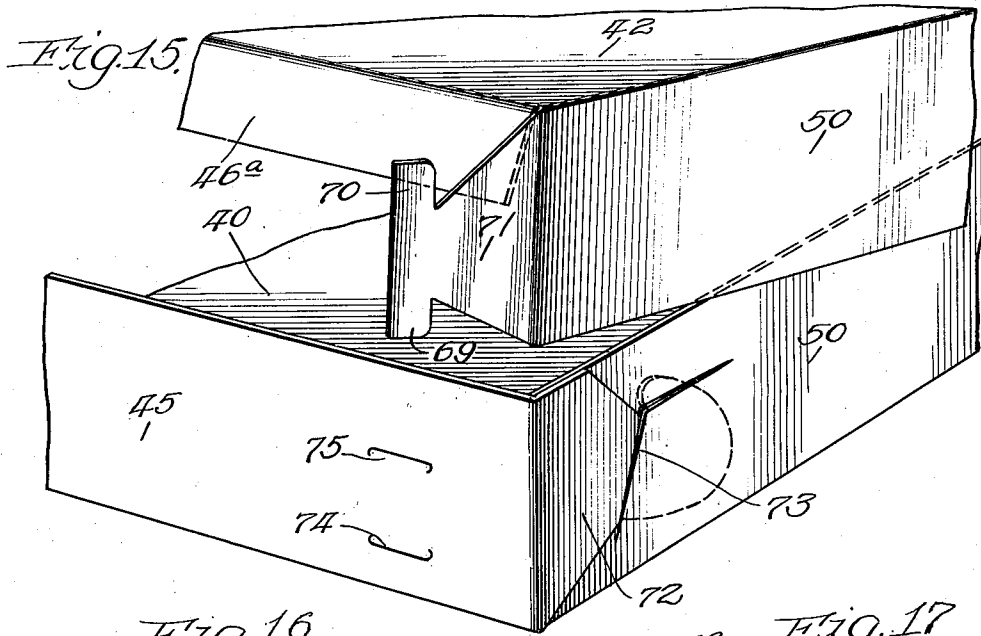
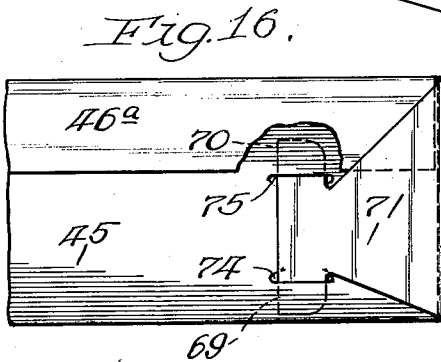
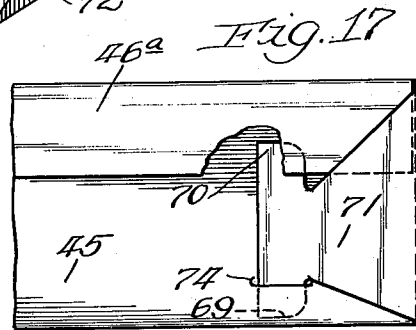
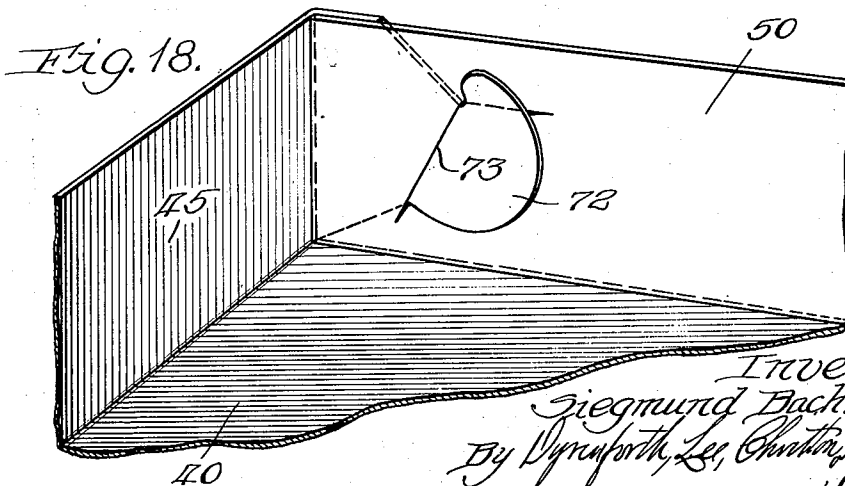
S. BACHMANN

1,755,722

FOLDING BOX

Filed Oct. 20, 1927

4 Sheets-Sheet 4



Inventor:
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By Wynneforth, Lee, Chatterbox, Wiles,
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UNITED STATES PATENT OFFICE

SIEGMUND BACHMANN, OF CHICAGO, ILLINOIS

FOLDING BOX

Application filed October 20, 1927. Serial No. 227,479.

This invention relates to folding boxes and is fully described in the following specification and shown in the accompanying drawings, in which:

Figure 1 is a perspective view of a box embodying one form of the invention;

Fig. 2 is a partial perspective view of one corner of the box;

Fig. 3 is a partial enlarged section on the line 3—3 of Fig. 1;

Fig. 4 is a partial developed view showing the creased hinges about which the ends of the box are folded;

Figs. 5 and 6 illustrate two steps of the operation of folding the box about these hinges;

Fig. 7 is a top view showing a creased blank before being folded;

Fig. 8 is a similar view showing a blank partially folded and in a form which is particularly desirable for shipping;

Fig. 9 is a view similar to Fig. 4 showing a modified form of corner hinge;

Fig. 10 is a partial perspective view of a box showing a form of corner fastening;

Fig. 11 is a front elevation of the corner fastening of Fig. 10 when completely assembled;

Fig. 12 is a view similar to Fig. 11 but without having the upper end of the tab tucked under the locking ear;

Fig. 13 is a view similar to Fig. 10 but showing a modified form of locking ear;

Fig. 14 is a section showing the wire stitch for retaining the corner locked;

Fig. 15 is a view similar to Fig. 10 but showing another form of corner lock;

Fig. 16 is a front elevation of the same with the corner tabs in locking position;

Fig. 17 is a view similar to Fig. 16 but showing the upper tab merely turned under the upper flap; and

Fig. 18 is an inner corner perspective of the lower portion of the box shown in Fig. 15.

The embodiment illustrated in Figs. 1 to 8 shows a folding box made from a previously prepared blank which is shown flat in Fig. 7 consisting of bottom, back and top portions 40, 41 and 42 respectively which are shown by creases 43 and 44 so that these portions

will readily bend about these creases. End flaps 45 and 46 are likewise formed on the ends and separated from the bottom and top portions by creases 47 and 48 respectively. End portions 49 and 50 are likewise separated from the portions forming the main body of the blank by means of creases 51 and 52.

The central end portion 53 lying opposite the back portion 41 and shown in detail in Figs. 4 to 6 is substantially square and crossed by diagonal creases 54 and 55. These are cut through at the inner ends 54^a and 55^a and are also preferably cut through at the intermediate points 54^b and 55^b. The center is relieved by means of cuts 56. The end portions 49 and 50 are provided at their outer extremities with ears 57 which are adapted to be folded about the flaps 45 and 46 as shown in Figs. 1 and 2 and to engage openings 58 therein so as to lock the corners in assembled position.

With the end portions 49 and 50 turned up at right angles with the top and bottom portions 40 and 42 and secured in this position by means of the ears 57, the portion 53 may be folded as shown in Figs. 5 and 6 by bending the box about the creases 43 and 44. The diagonal creases particularly those portions which are cut through as 54^a and 55^a enable the corner hinge to fold back upon itself so that it finally assumes the form shown in Fig. 3. This four-ply corner is of considerable importance as it makes an unusually strong box as it does not cause any of the material to be cut away as has so often been the cases in boxes heretofore constructed.

In Fig. 9 is shown a modified form of this former hinge in which are two diagonal creases 59 and 60, the inner ends of these being cut through at 59^a and 60^a as shown. This enables this corner hinge to fold over, the long cut portion 59^a being on the outside so as to make the necessary gap to permit it to fold. It assumes a position similar to that of the corner hinge in Fig. 3.

The end portions 49 and 50 are provided with diagonal creases 61 and 62 so that after the ears 57 are locked in the openings 58, the

flap portions 45 and 46 may be turned inwardly as shown in Fig. 8.

Thus it will be seen that a very convenient form of knock-down box is provided in which all except the end edges are doubled back so as to reinforce each other. These parts are so proportioned that the flaps 45 and 46 do not overlap each other in this folded position.

Referring now to Figs. 10 to 14, the ear 57^a is shown fastened to the flap 45 by means of a wire staple 67. Below this flap 57^a is an opening 68 which is adapted to receive the ear 69. The upper flap 46^a is much shorter than the flap 45, and the ear 70 passes under the ear 57^a so as to secure the box in the closed position. This locked position is shown in Fig. 11 while in Fig. 12 the ear 70 is pressed under the flap 46^a, the flap itself being held from springing outwardly by the portion 71 which carries the ear 70.

In Figs. 15 and 16 is shown a modification of this box in which an old form of locking ear 72 is employed which engages in a slot 73 in the end portion 50. This leaves the flap 45 plain and in this I have placed openings 74 and 75 for the ears 69 and 70 respectively of the cover portion. In locking this box the ear 70 is forced into the opening 75 and then the ear 69 bent down and forced into the opening 74 as shown in Fig. 16. While the opening 75 is desirable, it is not necessary and may be omitted as shown in Fig. 17. The friction between the ear 69 and the opening 74 will serve somewhat as a lock to retain these members in this position.

While I have shown and described a few modifications of my invention it is to be understood that it is capable of many modifications. Changes therefore in the construction and arrangement may be made which do not depart from the spirit and scope of the invention as disclosed in the appended claims.

I claim:

1. In a box, a blank comprising bottom, back, top and flap sections hingedly connected together in series and divided by creases about which it may be folded, end sections at the ends of the first mentioned sections with fold-creases therebetween, each end section in line with the back section being substantially square and having creases extending diagonally, part of said creases being cut entirely through to permit this square section to fold like a hinge about the diagonal lines, the material being cut about the point where the two diagonals meet to avoid lapping of the material at said point.

2. In a box, a blank comprising bottom, back, top and flap sections hingedly connected together in series and divided by creases about which it may be folded, end sections at the ends of the first mentioned sections with fold-creases therebetween, each end section in line with the back section being substantially square and having creases extending

diagonally, part of said creases being cut entirely through to permit this square section to fold like a hinge about the diagonal lines, the material being cut about the point where the two diagonals meet to avoid lapping of the material at said point, the two inside ends of the diagonal creases being cut substantially to the inside corners.

3. A box comprising bottom, back, top and flap sections hingedly connected together in series, the flap section on said top section overlapping the flap section on said bottom section, said top section having depending end portions provided with extensions which overlap the flap section on said bottom section and the ends of the flap section on said top section and interlockingly engage said bottom section.

4. A box comprising bottom, back, top and flap sections hingedly connected together in series, the flap section on said top section overlapping the flap section on said bottom section, extensions on the sides of said bottom section and overlapping, and secured to, the flap on said bottom section, said top section having depending end sections provided with extensions which overlap the flap section on said bottom section and the ends of the flap on said top section and interlockingly engage with said extensions on said bottom section.

5. In a box, a bottom with end and flap sections integral therewith and separated by folding creases, an ear on the extremity of the end section adapted to fold about the end of said flap and to be secured thereto, a top section with end and flap sections secured thereto to form a corner, and an ear carried by an end section of said top section adapted to engage the first mentioned ear to lock the box in closed position.

6. A box comprising bottom, back and top sections and a flap section on said top section, all hingedly connected together in series, and extensions on said top section overlapping the ends of the flap on said top section and a side of said bottom section and having upwardly extending portions and downwardly extending portions interlockingly held in position.

7. A box comprising bottom, back and top sections and a flap section on said top section, all hingedly connected together in series, and extensions on said top section overlapping the ends of the flap on said top section and a side of said bottom section and having upwardly extending portions and downwardly extending portions interlockingly engaging said bottom section.

8. A box comprising bottom, back, top and flap sections hingedly connected together in series, the flap section on said top section overlapping the flap section on said bottom section, extensions on the sides of said bottom section and overlapping, and secured to, the flap on said bottom section, said top section

having depending end sections, and extensions on said top section overlapping the flap section on said bottom section and the ends of the flap on said top section, said second
5 named extensions having upwardly extending portions and downwardly extending portions, the flap of said bottom section being slotted, said upwardly extending portions interlockingly engaging with said first named
10 extensions and said downwardly extending portions interlockingly engaging the flap of said bottom section at the slotted portion thereof.

9. A box comprising bottom, back, top and
15 flap sections hingedly connected together in series, the flap section of said top section being relatively shallow, extensions on the end sections of said top section overlying the ends of said flap section on said top section and
20 having portions which extend upwardly from below the flap on said top section, said portions being interlockingly held in position.

10. A box comprising bottom, back, top and flap sections hingedly connected together in
25 series, the flap section of said top section being relatively shallow, extensions on the end sections of said top section overlying the ends of said flap section on said top section and having portions which extend upwardly from
30 below the flap on said top section and interlockingly engage said bottom section.

11. A box comprising bottom, back, top and flap sections hingedly connected together in
35 series, the flap section of said top section being relatively shallow, extensions on the end sections of said top section overlying the ends of said flap sections on said top section and having portions which extend upwardly from below the flap on said top section and to the rear
40 of said flap section, for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal this 17th day of October, 1927.

SIEGMUND BACHMANN.