J. R. MYERS.

FOLDING BOX.

APPLICATION FILED JAN. 18, 1916.

1,188,092.

Patented June 20, 1916.

5 SHEETS—SHEET 1.

Fig. 1.

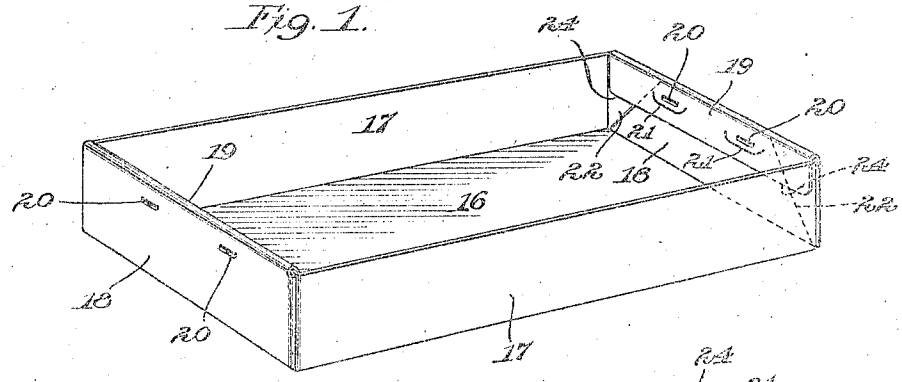


Fig. 2.

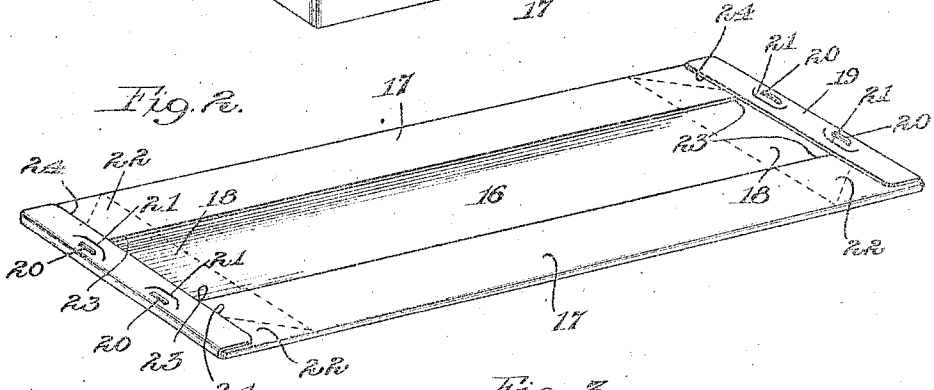
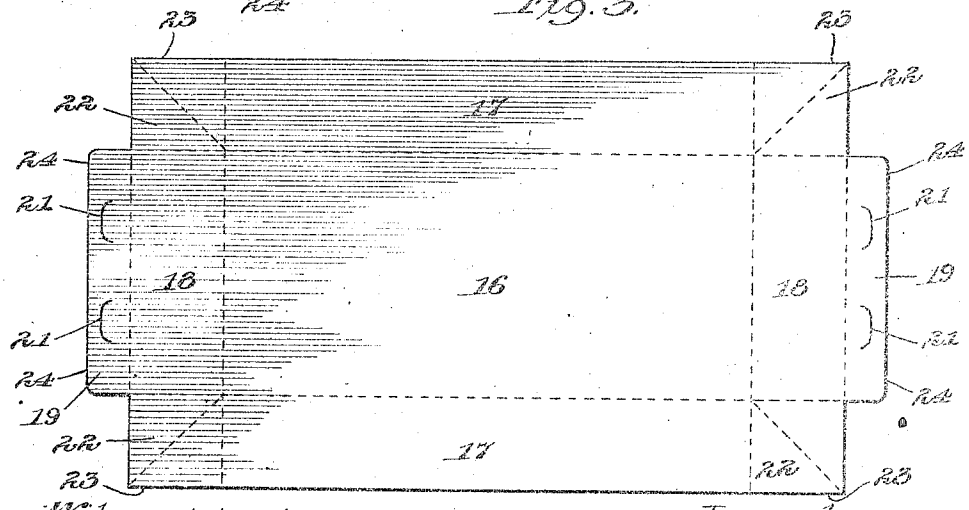


Fig. 3.



Witnesses:

F. S. Gull

B. G. Richards

Inventor,

Joseph R. Myers,

by Joshua R. H. Lowe

his Attorney

J. R. MYERS.

FOLDING BOX.

APPLICATION FILED JAN. 18, 1916.

1,188,092.

Patented June 20, 1916

5 SHEETS—SHEET 2.

Fig. 4.

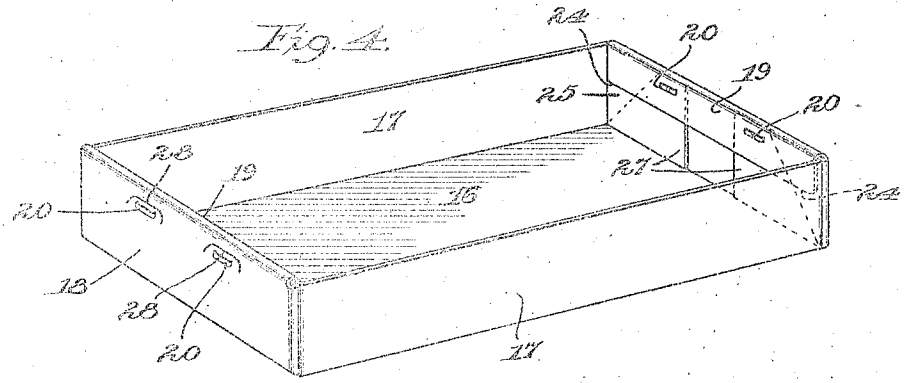


Fig. 5.

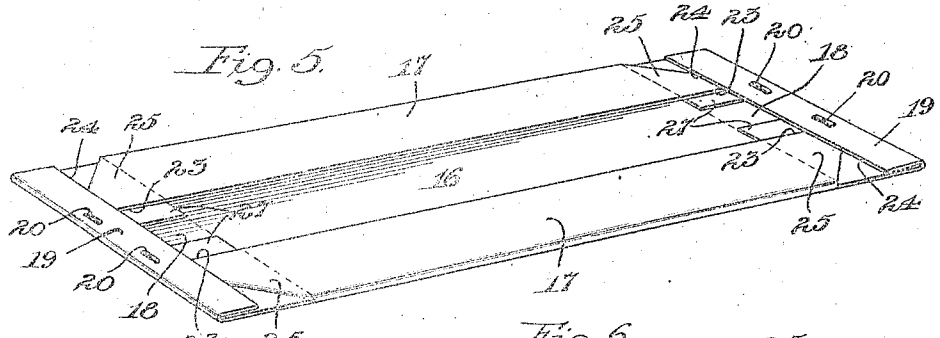
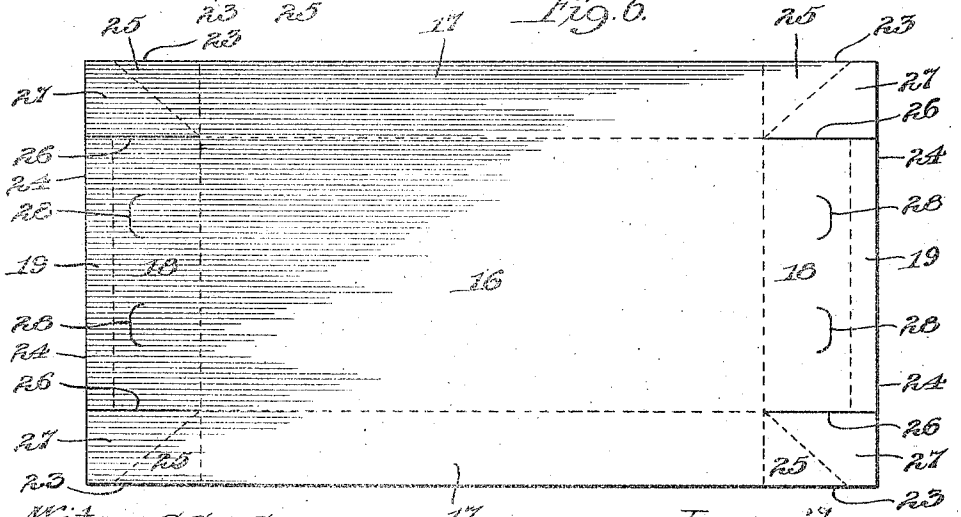


Fig. 6.



Witnesses:

H. S. Bull

B. G. Richards

Inventor,

Joseph R. Myers,

by Joshua R. H. Potts

his Attorney.

J. R. MYERS.

FOLDING BOX.

APPLICATION FILED JAN. 18, 1916.

1,188,092.

Patented June 20, 1916.

5 SHEETS—SHEET 3.

Fig. 7.

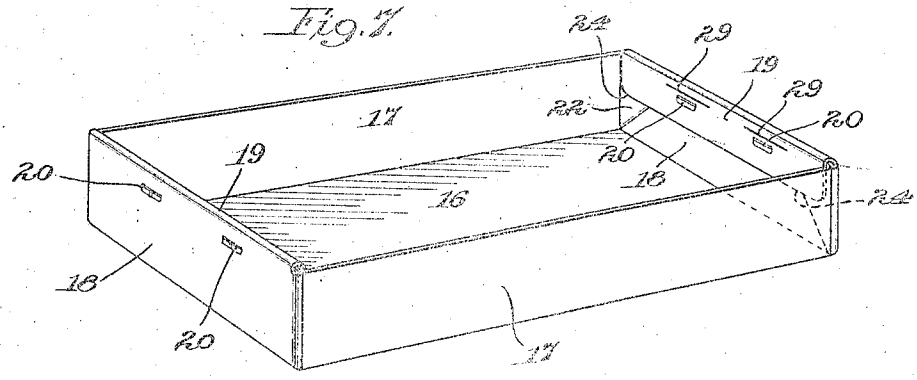


Fig. 8.

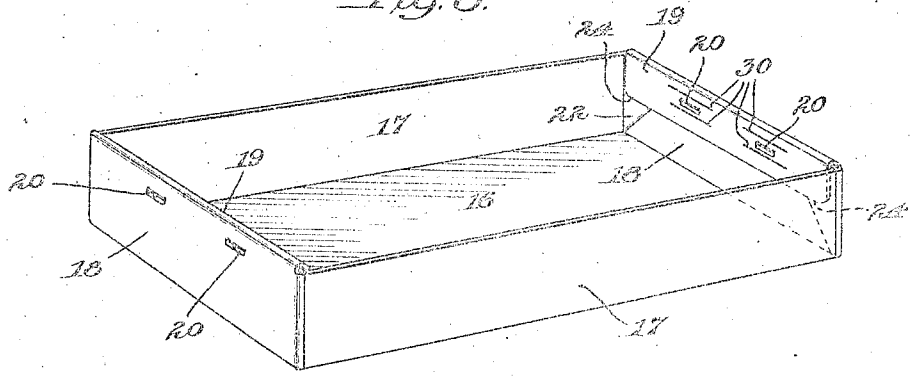
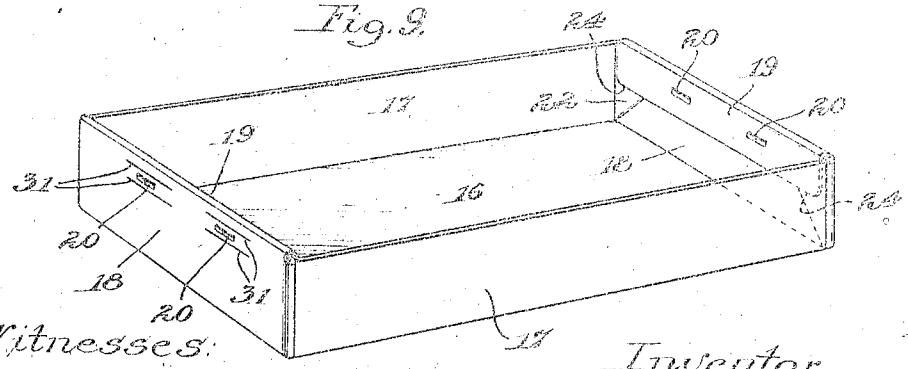


Fig. 9.



Witnesses:

H. S. Duell.

B. J. Richards

Inventor,

Joseph R. Myers,

by Johnson & Johnson

his Attorneys.

J. R. MYERS.

FOLDING BOX.

APPLICATION FILED JAN. 18, 1916.

1,188,092.

Patented June 20, 1916

5 SHEETS—SHEET 4.

Fig. 10.

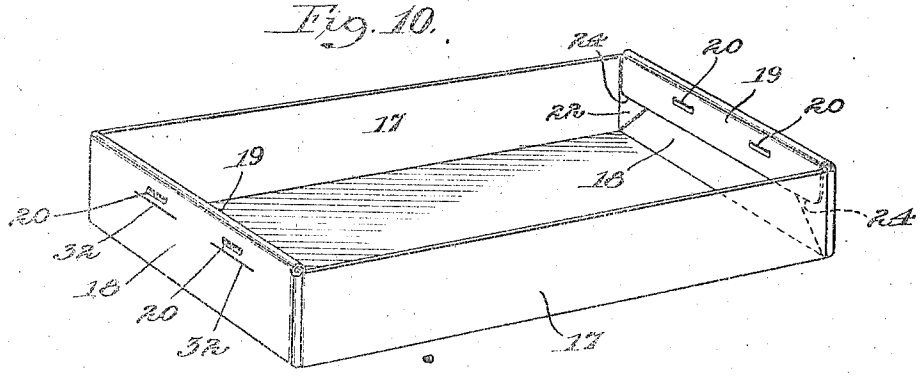


Fig. 11.

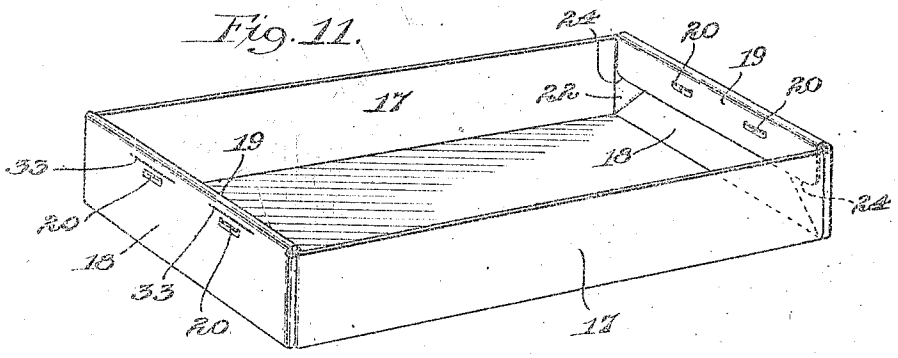
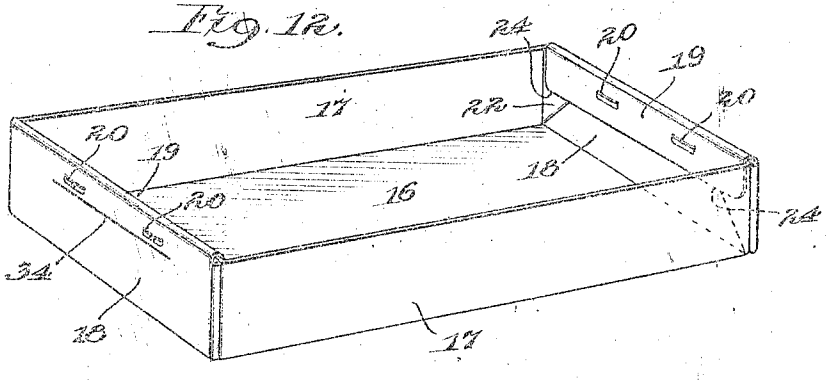


Fig. 12.



Witnesses:
A. S. Burr.
B. G. Richards.

Inventor,
Joseph R. Myers,
by Johnson & Stone
his Attorneys.

J. R. MYERS.

FOLDING BOX.

APPLICATION FILED JAN. 18, 1916.

1,188,092. Patented June 20, 1916.

5 SHEETS—SHEET 5.

Fig. 13.

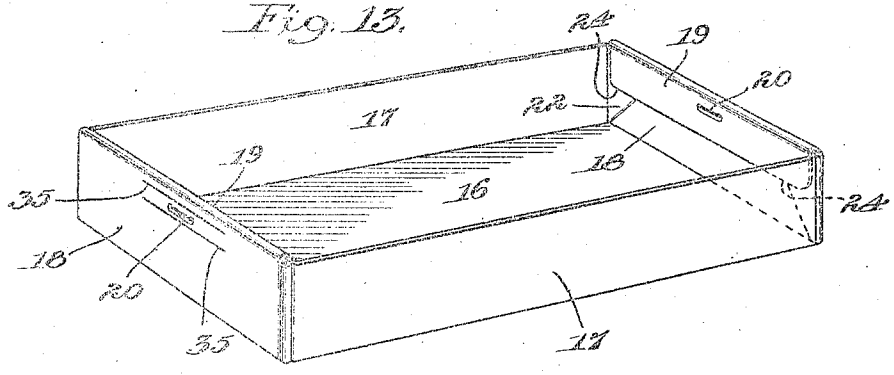


Fig. 14.

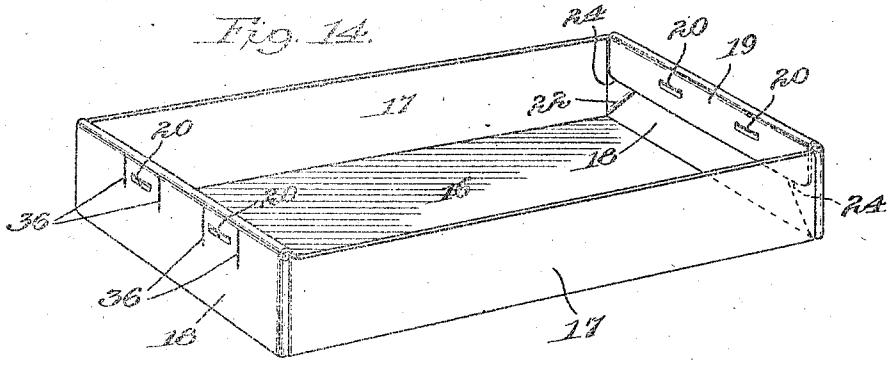
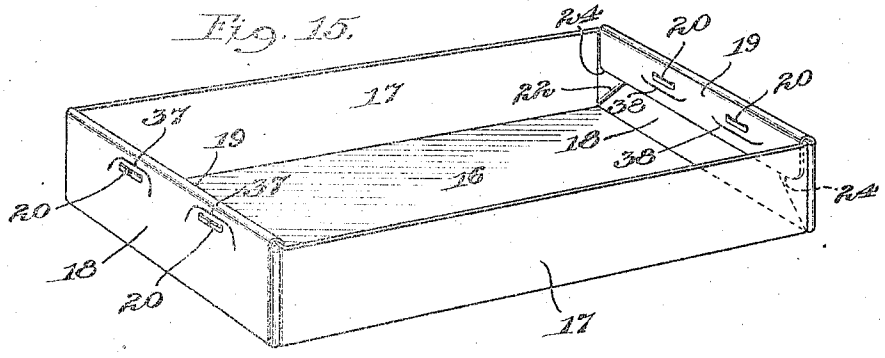


Fig. 15.



Witnesses:
F. J. Bull.
B. G. Richards

Inventor,
Joseph R. Myers,
by Joshua R. H. Pope
his Attorney

UNITED STATES PATENT OFFICE.

JOSEPH R. MYERS, OF CHICAGO, ILLINOIS.

FOLDING BOX.

1,188,092. Specification of Letters Patent. Patented June 20, 1916.

Application filed January 13, 1916. Serial No. 72,716.

To all whom it may concern:

Be it known that I, JOSEPH R. MYERS, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Folding Boxes, of which the following is a specification.

My invention relates to improvements in folding boxes and has for its primary object the provision of an improved locking means for a folding box which will not readily break in use.

A further object is to provide an improved folding box which will automatically lock itself in distended condition upon mere distention thereof and is capable of economical manufacture.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a perspective view of one form of box embodying my invention shown in distended form, Fig. 2, a perspective view of the same shown in folded condition, Fig. 3, a plan view of the blank from which said box is made, Fig. 4, a perspective view of a modified form of construction shown in distended form, Fig. 5 a perspective view of the box shown in Fig. 4 in folded condition, Fig. 6, a plan view of the blank from which the box illustrated in Figs. 4 and 5 is made, and Figs. 7, 8, 9, 10, 11, 12, 13, 14 and 15 are perspective views of different modified forms of construction of the box.

The form of construction illustrated in Figs. 1, 2 and 3, comprises a box having a bottom 16, side walls 17 and end walls 18 all formed integrally with each other and from a single blank as shown. End walls 18 are provided at their tops with inwardly turned locking flaps 19 secured thereto by means of staples 20. Slits 21 are formed in each of the flaps 19 and extended under and partially around each of the staples 20 thus effecting a yielding connection between the flaps 19 and the corresponding end walls 18. The side walls 17 are provided with folding flaps 22 integrally connected therewith and also with end walls 18, said flaps 22 being creased for folding on a diagonal line as indicated to permit of the walls 17 being laid flat on bottom member 16 as indicated in Fig. 2 or folding diagonally on being distended in upright positions as indicated in Fig. 1. The flaps 22 are laid loosely and flat under the outer free ends of the flaps 19 as shown in Fig. 2. The staples 20 are passed through flaps 19 and end walls 18 inwardly beyond the inner edges of flaps 22. By this arrangement when the box is forced into distended form the different edges 23 of the flaps 22 will drag or slide under the corresponding edges 24 of the outer free portions of the flaps 19 forcing said portions outwardly from the corresponding walls 18 and permitting the flaps 22 to assume the positions indicated in Fig. 1, the ends of flaps 19 automatically closing over the folded flap 22 and locking the box parts in distended positions through the mere act of distending them. This construction may be readily made up in flat form on any ordinary stapling machine and thus is capable of economical manufacture.

In the form of construction illustrated in Figs. 4, 5 and 6 I employ a slightly different form of corner joint. In this instance the folded flap ends of the walls 17 are severed from the corresponding walls 18 along the lines 26 and are provided with extensions 27 extending beyond the length of the diagonal crease therein as indicated. The flaps 25 are folded into the corresponding end walls 18 and the corresponding flaps 19 secured thereover by passing rivets 20 therethrough and through the extensions 27 thus effecting a permanent connection between the flaps 25 and the corresponding end walls not present in the construction illustrated in Figs. 1, 2 and 3. In this instance slits 28 are formed in the end walls 18 over and partially around the staples 20 thus effecting a yielding connection between the flaps 10 and the corresponding end walls 18. The operation of this folding box is substantially the same as that already described. Here again the edges 23 on flaps 25 ride under the edges 24 on flaps 19 forcing the free ends of flaps 19 outwardly to permit and cause automatic engagement of the parts as indicated in Fig. 4.

In the form of construction illustrated in Fig. 7 a single horizontal slit 29 is formed in each of the flaps 19 over each of the staples 20 thus effecting a yielding connection as before. Otherwise the construction is identical with that illustrated in Figs. 1, 2 and 3.

In the construction illustrated in Fig. 8 a horizontal slit 30 is formed in each of the flaps 19 both below and over each of the staples 20. Otherwise the construction is the same as before.

In the construction illustrated in Fig. 9 a horizontal slit is formed in each of the walls 18 both over and below each of the staples 20.

In the construction illustrated in Fig. 10 a single horizontal slit 32 is formed in each of the walls 18 under each of the staples 20.

In the construction illustrated in Fig. 11 a single horizontal slit is formed in each of the walls 18 above each of the staples 20.

In the construction illustrated in Fig. 12 a single horizontal slit 34 is formed in each of the end walls 18 and extending under both of the staples 20 therein.

In the form of construction illustrated in Fig. 13 but a single staple is employed for securing each of the flaps 19 in position and a horizontal slit is formed in each of the end walls 18 both above and under said staple and extending considerable distances to either side thereof.

In the form of construction illustrated in Fig. 14 a vertical slit is formed in each of the end walls 18 on each side of each of the staples 20.

In the form of construction illustrated in Fig. 15 slits are formed in both the end walls 18 and the flaps 19, the slits in the end walls extending over and partially around the staples 20 and the slits in the flaps 19 extending under and partially around said staples.

The forms of construction illustrated in Figs. 7 to 15 inclusive are but a few of the modifications and arrangements by means of which my invention may be successfully carried into effect but I have selected these as illustrations of modifications which may be made and which will operate successfully. In each instance however it will be observed that one or more slits are provided in one or more of adjoining members 18 and 19 to effect a yielding connection therebetween, such yielding connection being necessary to permit of automatic locking coöperation of the parts as above described and dispensing with the necessity for any manipulations of the parts by the person distending the box. This connection also permits of the ready yielding of flaps 19 without breaking under manual manipulation if employed in boxes other than automatically locking ones.

While I have illustrated and described various forms of construction for carrying my invention into effect, these are capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be necessarily limited to any specific form of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. A folding box comprising adjoining walls; a locking flap at the top of one of said walls; a yielding connection between said flap and said one wall having greater flexibility than the normal flexibility of the bodies of said flap and one wall; and a folded flap on an adjoining wall engaging under said locking flap and coöperating therewith to effect automatic locking of the box parts in distended positions, substantially as described.

2. A folding box comprising adjoining walls; a locking flap at the top of one of said walls; a yielding connection between said flap and said one wall having greater flexibility than the normal flexibility of the bodies of said flap and one wall; and a diagonally folded flap on an adjoining wall engaging under said locking flap and coöperating therewith to effect automatic locking of the box parts in distended positions, substantially as described.

3. A folding box comprising adjoining wall members; a locking flap member at the top of one of said wall members; a connection between said flap member and the corresponding wall member, there being a slit in one of said members adjacent said connection; and a flap on the adjoining wall member engaging under said locking flap and coöperating therewith to effect automatic locking of the box parts in distended positions, substantially as described.

4. A folding box comprising adjoining wall members; a locking flap member at the top of one of said wall members; a connection between said flap member and the corresponding wall member, there being a slit in one of said members adjacent said connection; and a diagonally folded flap on the adjoining wall member engaging under said locking flap and coöperating therewith to effect automatic locking of the box parts in distended positions, substantially as described.

5. A folding box comprising adjoining wall members; a locking flap member at the top of one of said wall members; a connection between said flap member and the corresponding wall member, there being two parallel slits formed in one of said members on opposite sides of said connection; and a folded flap on the adjoining wall member engaging under said locking flap and cooperating therewith to effect automatic locking of the box parts in distended positions, substantially as described.

6. As a locking means for folding boxes, a wall member and a locking flap member at the top thereof; and a yielding connection

between said members having greater flexibility than the normal flexibility of the bodies thereof, substantially as described.

7. As a locking means for folding boxes, a wall member and a locking flap member at the top thereof; and a connection between said wall and flap members, there being a slit in one of said members adjacent said connection, substantially as described.

8. As a locking means for folding boxes, a wall member and a locking flap member at the top thereof; and a connection between said members, there being slits formed in one of said members on opposite sides of said connection, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH R. MYERS.

Witnesses:
JOSHUA R. H. POTTS,
HELEN F. LILLIS.