Feb. 14, 1939. C. F. McALEER 2,146,833

BOX OR CONTAINER

Filed July 11, 1938 2 Sheets-Sheet 1

Fig. 1

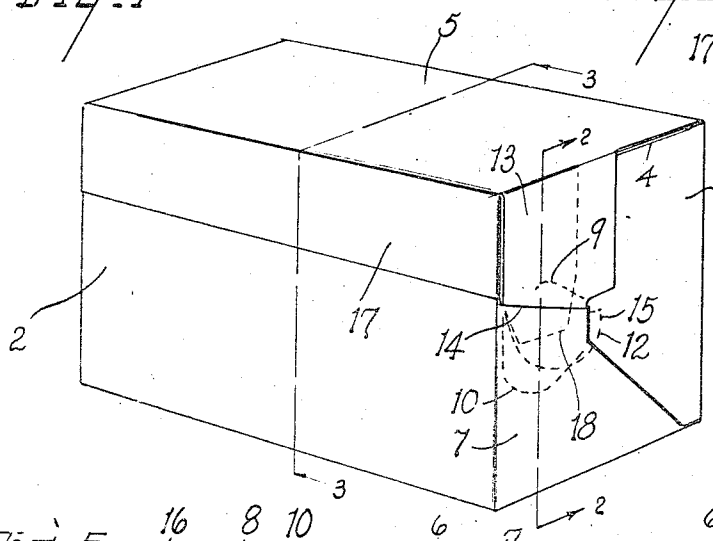


Fig. 3

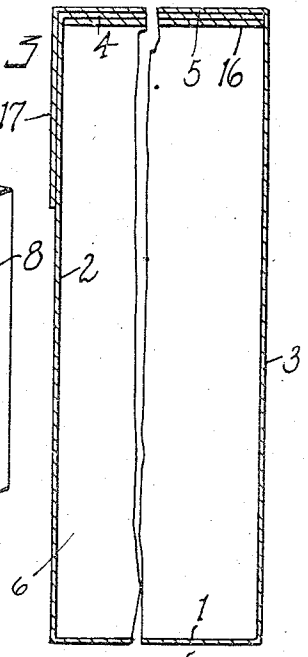


Fig. 6

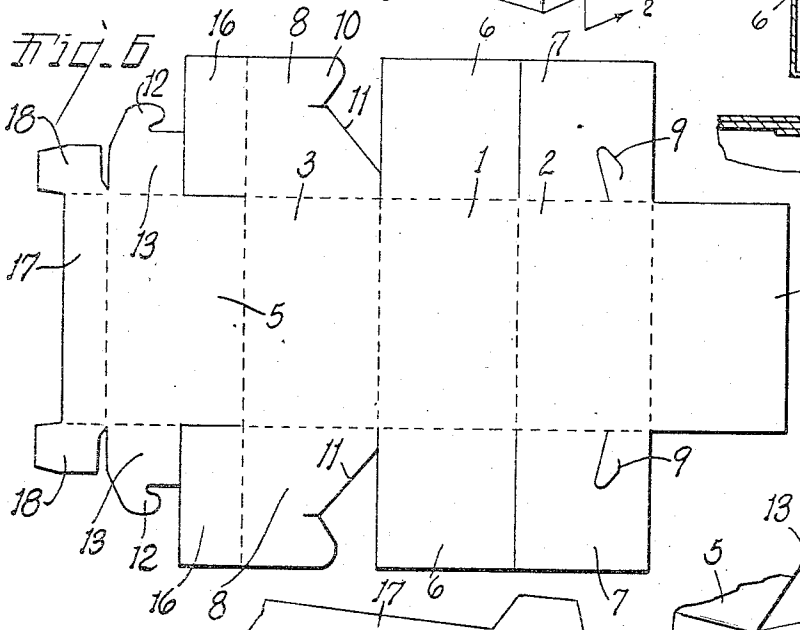
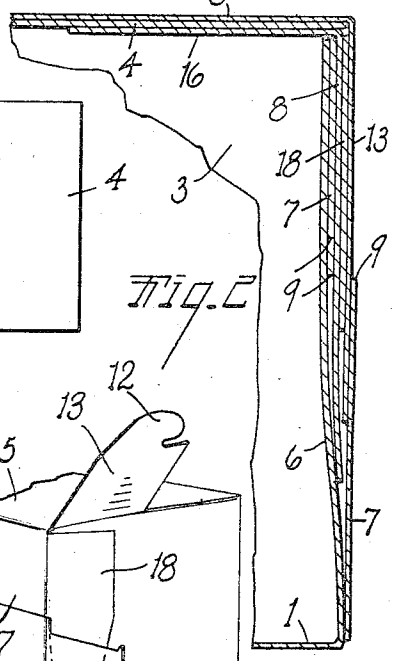


Fig. 2



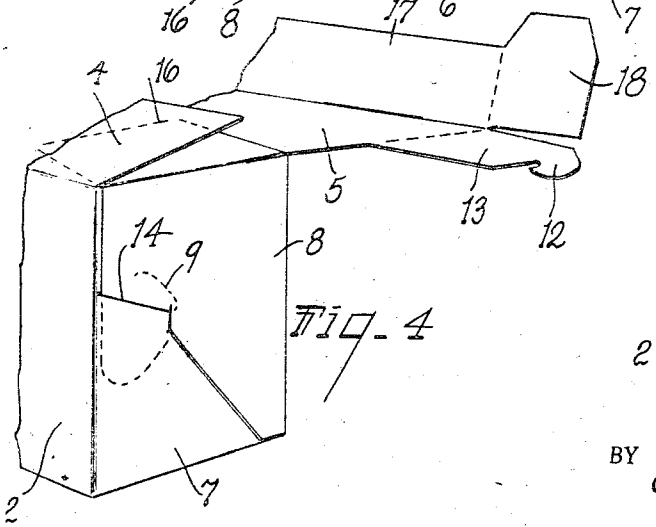


Fig. 4

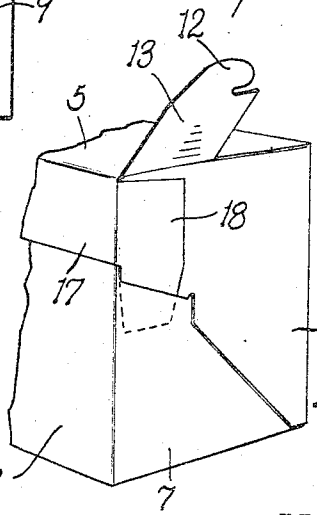


Fig. 5

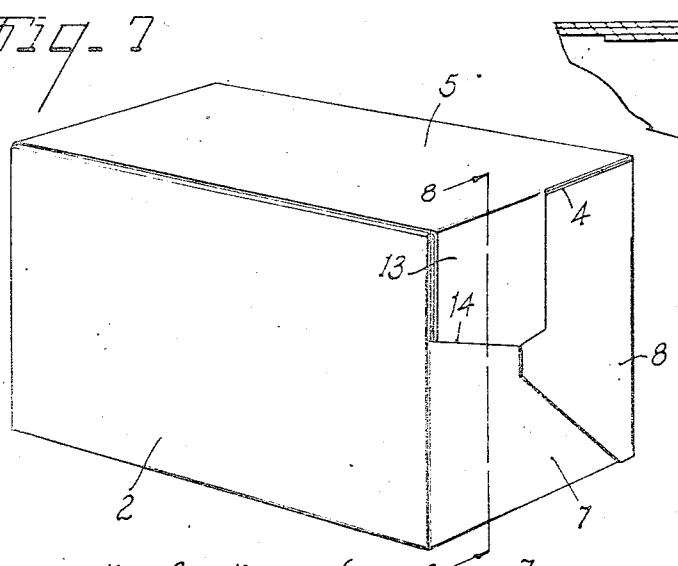
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Feb. 14, 1939. C. F. McALEER 2,146,833

BOX OR CONTAINER

Filed July 11, 1938 2 Sheets-Sheet 2

Fig. 7



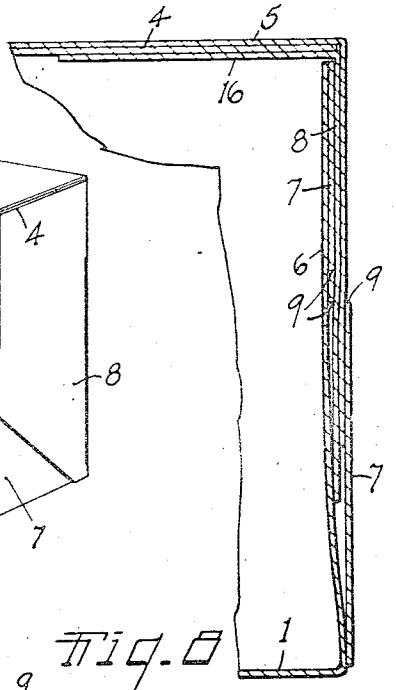


Fig. 8

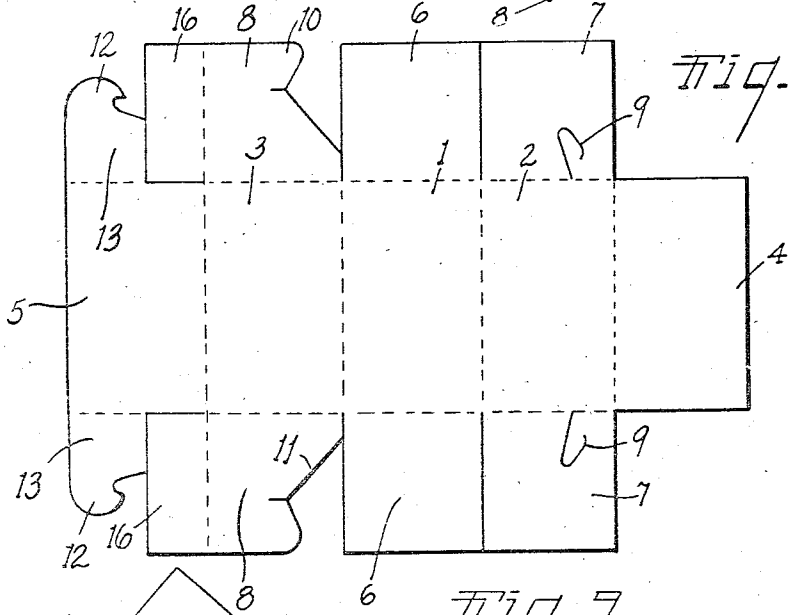


Fig. 9

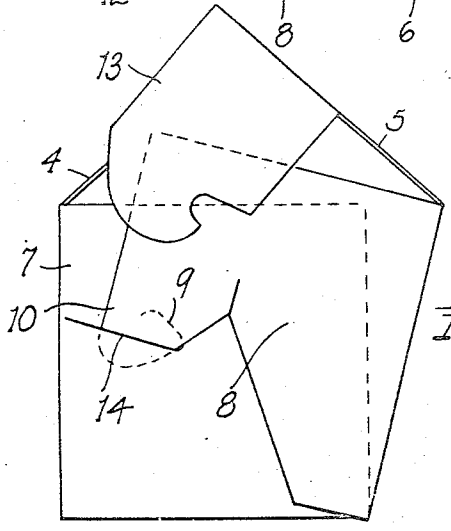


Fig. 10

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Patented Feb. 14, 1939 2,146,833

UNITED STATES PATENT OFFICE

2,146,833

BOX OR CONTAINER

Charles F. McAleer, Kalamazoo, Mich., assignor to Sutherland Paper Company, Kalamazoo, Mich., a corporation of Michigan

Application July 11, 1938, Serial No. 218,601

7 Claims. (Cl. 229—36)

This invention relates to improvements in boxes or containers.

The main objects of this invention are:

First, to provide a box or container which is well adapted for use as a shipping box or container and one that can be set up or closed without the aid of glue or adhesives.

Second, to provide a box or container having these advantages which when closed is very secure and has no open or gapping joints.

Third, to provide a structure of this character which may be shipped in the knock-down and readily set up by the user and is strong and rigid when set up even when formed of relatively light weight stock.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

Preferred embodiments of the invention are illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a box or container embodying my invention.

Fig. 2 is an enlarged fragmentary view in longitudinal section on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary view in transverse section on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary perspective view illustrating steps in setting up and closing the box or container.

Fig. 5 is a fragmentary perspective view illustrating succeeding steps in the closing of the container.

Fig. 6 is a plan view of the blank from which the container of the embodiment of Figs. 1 to 5 is formed.

Fig. 7 is a perspective view of a modified form or embodiment of my container closed.

Fig. 8 is an enlarged fragmentary view in longitudinal section on line 8—8 of Fig. 7.

Fig. 9 is a plan view of the blank of the embodiment of my invention shown in Figs. 7 and 8.

Fig. 10 is an end view illustrating steps in the setting up and closing of my improved box or container.

Referring to the accompanying drawings, my improved box or container as shown in the embodiment of Figs. 1 to 6 is formed from the integral blank of Fig. 6 and comprises the bottom 1, side walls 2 and 3 which constitute the front and rear walls of this embodiment, inner cover member 4 which extends from the outer edge of the side or front wall 2, and outer cover member 5 which extends from the outer edge of the side or rear wall 3. These wall members are all disposed in alignment.

The bottom 1 has inner end wall extensions 6, 6 at its ends while the front side wall 2 has outer side wall members 7, 7 at its ends which are overlapped by the outer side wall extensions 8, 8 on the ends of the rear side wall 3.

The end wall members 7 have slits or slots 9 therein, these being suitably shaped and positioned to receive the tongues 10 of the end wall extensions 8 when the end wall members 7 and 8 are brought into overlapping relation.

The inner side edges of the end wall members 8 are cut away at 11 to facilitate the interlocking engagement when in locking position and to provide joints between the same adapted to receive the tongues 12 on the outer top member extensions 13. These outer top member extensions or tucking flaps 13 extend from the ends of the outer top member 5 and are adapted to be tucked behind the edge 14 of the overlapping outer end wall members and engaged as shown by dotted lines at 15.

The outer end wall members 8 are provided with top extension flaps 16 on their outer side edges, these being adapted to fold within the cover members as is clearly shown in Fig. 2.

In this preferred embodiment, the outer cover member 5 is provided with a side wall flap extension 17 adapted to fold against the front side wall 2 when the box is erected. This member 17 is provided with offset end tucking flaps 18 which are adapted to be folded against the outer end walls prior to the folding down and tucking of the securing flaps 13.

The various members of the blank are separated by scoring as indicated by the dotted lines 19. This facilitates folding and insures folding along the desired lines and the several parts are swung or adjusted to their erected position.

In the embodiment of my invention shown in Figs. 7 to 10 inclusive, the side wall flap 17 and its tucking extensions 19 are omitted—otherwise the parts are the same as described and therefore further description is not needed.

My improved box or container is especially designed by me as a shipping box or container and one in which the joints between the several parts are all effectively closed in order to prevent gapping or opening of the joints as well as to effectively retain the contents.

In setting up and closing the box, the inner end members 6 are first swung to erected position, the side walls 2 and 3 are then swung to erected position and the outer end extensions 7 and 8 arranged in overlapping position and interlocked. In this position the box is ready to receive the contents.

In closing the box, the top flaps 16 are swung to closed position, the inner cover member 4 closed over the same, the outer cover member 5 swung to closed position, and the front wall overlapping flap 7 swung down and its flaps tucked into the joint 14 between the inner and outer end

wall members 7 and 8. The final step is the tucking or securing of the flaps 13.

The completely set-up box or container is very secure, capable of carrying substantial loads and, as stated, the joints are all effectively closed.

The embodiment of my invention shown in Figs. 7 to 10 inclusive is also a desirable structure but is somewhat less secure and rigid than the preferred embodiment and there is an exposed joint along the front edge of the top although there is no opening at that point.

I have illustrated and described my improvements in practical embodiments thereof designed particularly for shipping boxes or containers. It is believed that this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

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

1. A box or container formed of an integral blank and comprising a bottom, side, and inner and outer top members disposed in alignment, the bottom having inner end wall extensions at each end thereof, the side wall members having coacting overlapping end wall members at each end thereof, the inner of said outer wall members being slotted, the outer of said outer wall members being partially cut away on their inner side edges and provided with locking tongues engageable with the slots of the inner of said outer end wall members, the outer of said outer end wall members having top flaps along their outer side edges lying within the said top members, the outer top member being provided with a side wall flap extension on its outer edge foldable against the side of the box, such side wall extension being provided with offset tucking flaps folded upon the outer end wall members and engageable in the joint of the overlapping outer end wall members, the outer top wall member being provided with end tucking flaps on its ends provided with locking tongues engageable in the joint of said overlapping outer end wall members and interlocking therewith.

2. A box or container formed of an integral blank and comprising a bottom, side, and inner and outer top members disposed in alignment, the bottom having inner end wall extensions at each end thereof, the side wall members having coacting overlapping end wall members at each end thereof, the inner of said outer wall members being slotted, the outer of said outer wall members being partially cut away on their inner side edges and provided with locking tongues engageable with the slots of the inner of said outer end wall members, the outer of said outer end wall members having top flaps along their outer side edges lying within the said top members, the outer top wall member being provided with end tucking flaps on its ends provided with locking tongues engageable in the joint of said overlapping outer end wall members and interlocking therewith.

3. A box or container formed of an integral blank and comprising a bottom, side, and inner and outer top members disposed in alignment, the bottom having inner end wall extensions at each end thereof, the side wall members having coacting overlapping end wall members at each end thereof, the inner of said outer wall members being slotted, the outer of said outer wall members being partially cut away on their inner side edges and provided with locking tongues engageable with the slots of the inner of said outer end wall members, the outer top member being provided with a side wall flap extension on its outer edge foldable against the side of the box, such side wall extension being provided with offset tucking flaps folded upon the outer end wall members and engageable in the joint of the overlapping outer end wall members, the outer top wall member being provided with end tucking flaps on its ends provided with locking tongues engageable in the joint of said overlapping outer end wall members and interlocking therewith.

4. A box or container formed of an integral blank and comprising a bottom, side, and inner and outer top members disposed in alignment, the bottom having inner end wall extensions at each end thereof, the side wall members having coacting overlapping end wall members at each end thereof, the inner of said outer wall members being slotted, the outer of said outer wall members being partially cut away on their inner side edges and provided with locking tongues engageable with the slots of the inner of said outer end wall members, the outer top wall member being provided with end tucking flaps on its ends provided with locking tongues engageable in the joint of said overlapping outer end wall members and interlocking therewith.

5. A box or container comprising a bottom, side, and inner and outer top members disposed in alignment, the bottom having inner end wall extensions at each end thereof, the side wall members having coacting overlapping interlocking end wall members at each end thereof, the outer of said outer end wall members having top flaps along their outer side edges lying within the said top members, the outer top member being provided with a side wall flap extension on its outer edge foldable against the side of the box, such side wall extension being provided with offset-tucking flaps folded upon the outer end wall members, the outer top wall member being provided with end tucking flaps on its ends engageable with the said overlapping outer end wall members.

6. A box or container comprising a bottom, side, and inner and outer top members disposed in alignment, the bottom having inner end wall extensions at each end thereof, the side wall members having coacting overlapping interlocking end wall members at each end thereof, the outer top member being provided with a side wall flap extension on its outer edge foldable against the side of the box, such side wall extension being provided with offset tucking flaps folded upon the outer end wall members, the outer top wall member being provided with end tucking flaps on its ends engageable with the said overlapping outer end wall members.

7. A box or container comprising a bottom, side, and inner and outer top members disposed in alignment, the bottom having inner end wall extensions at each end thereof, the side wall members having coacting overlapping interlocking end wall members at each end thereof, the outer of said outer end wall members having top flaps along their outer side edges lying within the said top members, the outer top wall member being provided with end tucking flaps on its ends engageable with the said overlapping outer end wall members.

CHARLES F. McALEER.