March 28, 1939. E. W. BONFIELD 2,151,733

CONTAINER

Filed May 4, 1936 3 Sheets-Sheet 1

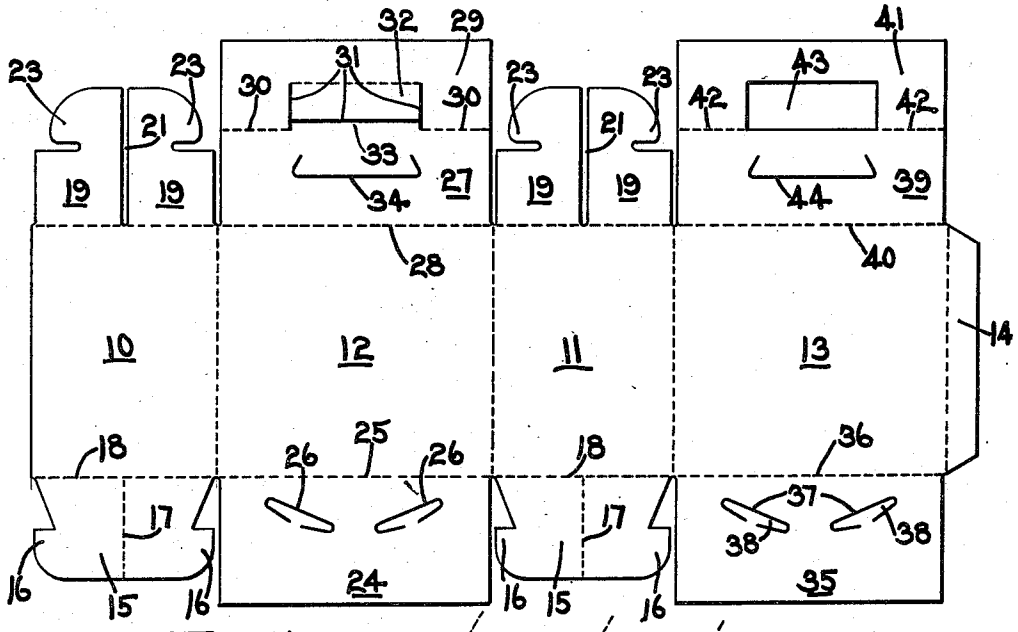

Fig. 1.

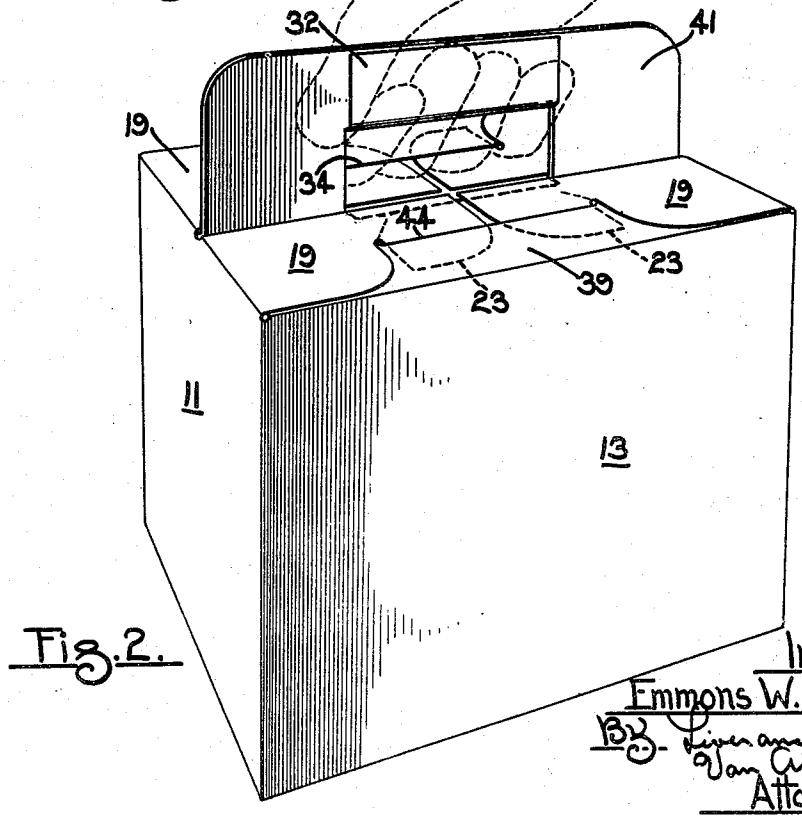

Fig. 2.

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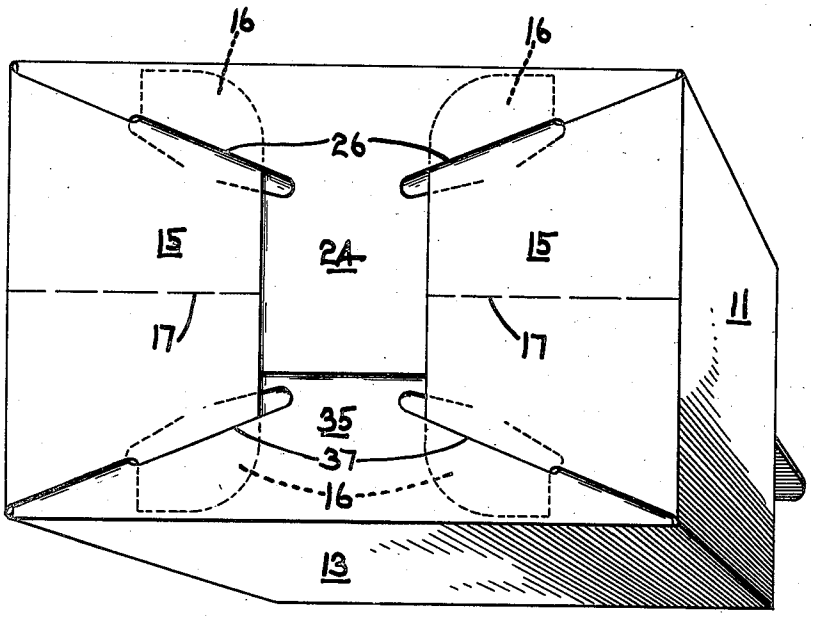

Fig. 3.

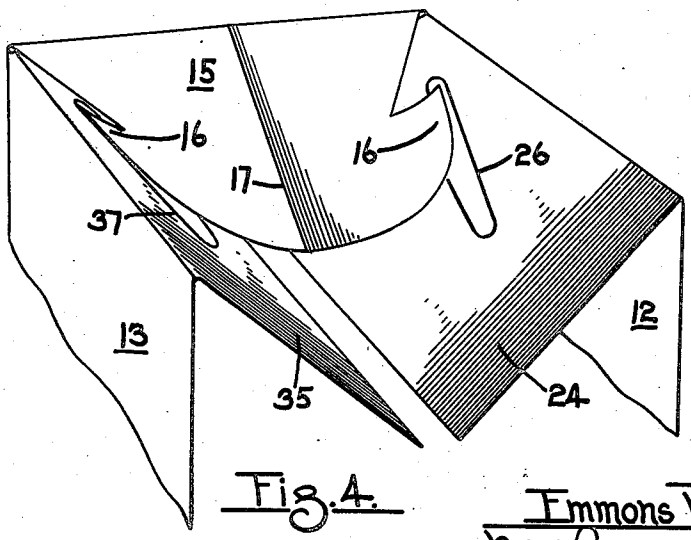

Fig. 4.

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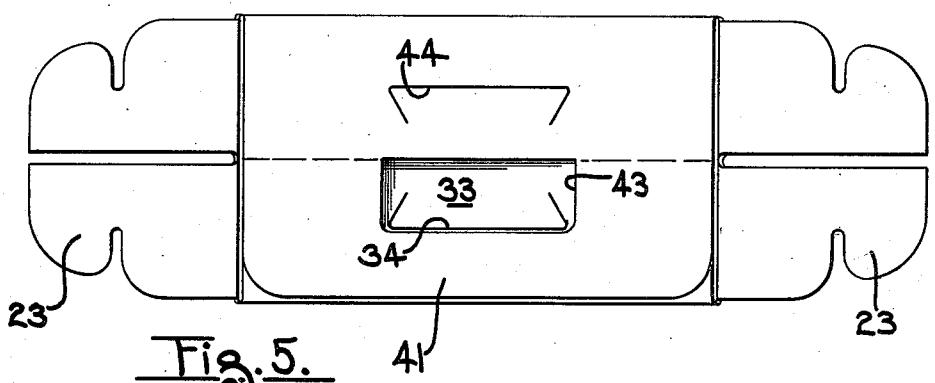
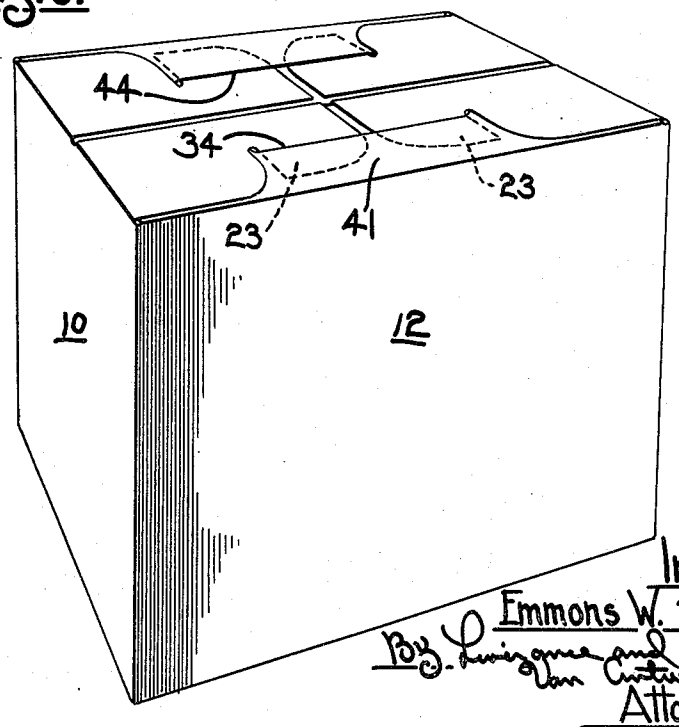


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE

2,151,733

CONTAINER

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Application May 4, 1936, Serial No. 77,800

7 Claims. (Cl. 229—39)

This invention relates generally to a receptacle or carton. More particularly, the invention is directed to a carton capable of being folded and shipped in a flat form and then quickly and easily erected to a rectangularly shaped carton, a handle being integrally formed therewith. Furthermore, the carton can be easily collapsed and again erected as many times as desired.

Briefly described, my invention consists of a body portion of rectangular shape having four flap members at its bottom and six flap members at its top. The four bottom flap members are so constructed that inward movement of these, after the four flaps have been moved to the same plane, causes locking engagement therebetween whereupon the return of these four flaps to the same plane, caused by their natural resiliency, provides a flat and rigidly positioned bottom for the carton. As stated, the top of the body portion has six flaps, two side flaps of relatively long length and two flaps at each end, the side flaps not only serving to partially provide the top structure but also abutting each other to form a handle for the carton. The end flaps maintain the side flaps in position.

One of the main advantages of my device resides in its firm and rigid construction after it has been folded to its portable and carrying position. The carton is capable of supporting relatively heavy objects or articles therein. Usually the carton is utilized for carrying canned goods, one size of carton receiving one dozen four and one-half ounce tins of canned goods. However, my article is capable of being expediently utilized for easily carrying many different articles of merchandise and thus sales are increased.

Another advantage of my carton resides in its construction wherein the handle member can be dispensed with if desired and the portions of the side flaps forming this handle turned inwardly whereby they extend into the body of the carton between the layers of merchandise therein. The top of the carton, when utilized in this manner, is flat. Thus, the cartons can be stacked one upon the other inasmuch as there are no protruding handles to cause interference.

Another advantage of my carton is that the top may be formed flat, that is, there are no inwardly or outwardly extending portions thereof. The two side flaps may be folded to the plane of the top and likewise the four end flaps may be folded to this plane, the end flaps interlocking with slits on the two side flaps. In this respect, the formation of the opening through one of the upper side flaps is large enough so that when the flap has been laid out in a horizontal plane and over the slit in the other side flap, through which the end flaps are to be inserted, said end flaps will be passed through the opening and the slot, i. e. the opening, when placed over the slit, will not prevent the insertion of the end flaps therethrough. Thus, all of the flaps are located in superposed positions in the plane of the top and the whole space within the carton may be utilized. Additionally, there are no outwardly extending portions of the flaps and consequently the cartons may be stacked one upon the other as desired.

Another feature of my invention resides in the bottom construction. This construction eliminates any gluing of the several members and moreover provides an instant seal. In other words, the folded carton, lying in a single flat plane, is erected to open-ended position and then the bottom side flaps are folded against each other and the bottom end flaps forcibly bent thereagainst whereupon the tongues of the bottom end flaps enter the slots of the side flaps thus providing a locked bottom construction upon the return downward movement of the flaps to the bottom plane.

Other advantages of this invention will appear as the description proceeds. Furthermore, this construction of receptacle may also be used in other ways as will appear as an understanding of the invention is had from the following description, taken in connection with the accompanying drawings, in which,

Fig. 1 is a plan view of the carton blank from which the carton is made.

Fig. 2 is a perspective view illustrating the carton in its assembled position, the hand of the person carrying the same being illustrated in dotted lines.

Fig. 3 is a perspective view illustrating the bottom construction of the carton.

Fig. 4 is a fragmentary perspective view illustrating the method of assembling the bottom construction of the carton.

Fig. 5 is a top plan view showing the end flaps extending outwardly and showing the manner in which the side flaps may be folded, one covering the other, in the same plane.

Fig. 6 is a perspective view showing the carton as it will be seen when the side flaps are placed in their alternate position, namely, in the plane of the top of the box.

Like numerals refer to like parts throughout the several views of the drawings.

As is shown in Fig. 1, 10 indicates one end of

the carton, 11 the other end, 12 one side and 13 the other side. The side 13 has a flap 14 formed thereon. As is indicated by dotted lines the several portions just mentioned are separated by parallel scored lines whereby they may be bent to a box-like form, the flap member 14 being glued onto the free edge of the end 10. It will be understood that the box can be folded to a flat position about certain of the aforesaid mentioned scored lines so that it can be readily shipped. The boxes are piled flat upon one another and thus require a minimum of shipping space. The end members 10 and 11 are similarly formed. The end members have lower flap portions 15 with cut-away sides to form ears or tabs 16. Each flap 15 is medially scored at 17 and a scored line 18 separates it from the end member.

At the upper edges of the ends, flaps 19 are formed, these flaps being separated by slots 21. The width of each slot is at least equal to double the thickness of the material from which the carton is manufactured. Each of the flaps 19 is cut away at its outer side to form ears 23.

The side member 12 has a bottom flap 24 separated therefrom by the scored line 25 and curved slits 26 of the shape shown are provided. The upper portion of the side 12 has a first flap member 27 separated from the side 12 by the scored line 28 and a second flap 29 is integrally formed therewith. A scored line 30 connects the first and second flaps at their outer sides while the central portion is slit as indicated by the lines 31, this forming a tongue 32 and a shorter tongue 33. The flap 27 is slit as indicated at 34.

As previously mentioned, the other end 11 is similar in construction to the end 10 and its flap portions carry the same numerals.

The side 13 has a lower flap 35 separated therefrom by the scored line 36 and slits 37, formed as shown, provides small shielding portions 38. The slits 37 are similar to slits 26.

The upper edge of the side 13 carries a lower flap 39 separated therefrom by the scored line 40. An upper flap 41 continues from the flap 39 and is separated therefrom by the scored line 42. An opening 43 is formed therebetween. The flap 39 is slit as indicated at 44, this slit being similar to slit 34.

If it is desired, the side flaps, instead of being folded to form a handle as shown in Fig. 2, may overlap one another as shown in Figs. 5 and 6 so that the handles do not protrude and still the entire space in the box is capable of being utilized. The portions indicated by the reference numeral 41 in Fig. 2 do not extend into the box, nor do they extend outwardly as shown in Fig. 2. These portions overlap and lie alongside one another as in Fig. 5, and the opening 43 through the uppermost portion 41 is of such size and shape that the slit 34 is exposed therethrough. Thus the slit 34 is available for the locking tabs 23, and the other pair of locking tabs are placed in the slot 44, since this slit is exposed.

Referring now to Figs. 3 and 4 it will be seen that the lower flaps 24 and 35 are bent towards each other so as to occupy the same plane and then the end flaps 15, carrying the interlocking ears 16, are placed thereagainst. Pressure upon the intermediate portions of the end flaps, as by the thumbs of the person assembling the device upon the scored lines 17, will cause the parts to assume the position shown in Fig. 4 whereupon the return movement, caused by the resiliency of the several parts, will cause the ears 16 to enter through the slots 26 and 37 to the position shown in Fig. 3. Thus a securely locked bottom construction is had.

In order to complete the closing of the carton, after the same has been packed, the upper side flaps 27 and 39 are folded downwardly to the same plane whereupon the outer flaps 29 and 41 lie side by side. The tongue member 32 is now bent upwardly around the upper edge of the opening 43 thus lying flat against the handle as clearly shown in Fig. 2 of the drawings.

One advantage of the tongue member construction as just recited, lies in the fact that it securely holds the members 29 and 41 together. This strengthens the box and gives added rigidity to the handle. Also, the portion of the material between the flaps 29 and 41 bends to a curved shape, see Fig. 2 of the drawings, whereby a convenient hand grip is formed. The shorter tongue 33 extends through the opening and rests upon the flap 39.

As is clearly shown in Fig. 2, the tongue 33, shown in dotted lines, extends across the plane of the handle member and rests upon the flap 39. Thus the small opening adjacent the lower portion of the handle is completely sealed.

Next, the several tongues 23 are inserted in the slits 34 and 44 as is indicated by the dotted line showing of Fig. 2. This completes the assembly and it will be understood that the slots 21 receive the abutting flaps 29 and 41, these forming the handle member. The straight sides of the flaps 19 adjacent the slots 21 contact the upright handle structure and this prevents accidental releasing movement of the ears 23.

If desired, and if the contents of the package permits, the flaps 29 and 41 may be bent downwardly to a position within the carton thus giving a flat-topped carton which sometimes is desired.

Having thus revealed this invention, I claim as new and desire to secure the following combinations and elements, or equivalents thereof, by Letters Patent of the United States.

I claim:

1. A carton of the class described consisting of sides, ends and a bottom, said sides having top flaps including approaching portions extending toward one another and other portions extending upwardly alongside of each other, at least one of said approaching portions of the top flaps being slit substantially parallel to the upwardly extending portions of said top flaps, said ends each having two spaced apart end flaps, each flap having an ear extending toward a side of the box, said end flaps being foldable so that the ears on opposing flaps enter the same slit in an approaching portion, and the inner edges of opposing end flaps contacting the upwardly extending portion of the same top flap whereby accidental withdrawal thereof is prevented.

2. A carton construction as recited in claim 1 in which the upwardly extending portions have alined hand openings therethrough, said hand openings being positioned relatively close to the bottom of the said portions whereby the hand of the user is closely positioned to the contacting means on the end flaps whereby accidental upward movement thereof is prevented.

3. In an article of manufacture of the class described, a box construction of rectangular shape having two side members, two end members, and a bottom therefor, flaps at the upper edges of the side members, said flaps being of such length as to extend to abutting relationship with each other to partially form a top for the

box and then folded to extend upwardly to form abutting portions, said abutting portions having an opening cut therethrough whereby a hand opening is formed therein, the bottom of said hand opening being at the folds of said flaps, the material from one of said openings being divided, part extending underneath the adjacent flap and part extending through the opening in the adjacent flap and upwardly along the same, the two ends of said box each having spaced flaps thereon, said flaps being bendable downwardly into the top plane of the box, each flap at each end lying on one side of the abutting portions and being cooperatively associated with the adjacent portion of the side flaps to maintain the same in position, for the purpose described.

4. An article of manufacture as set forth in claim 3 in which said cooperative relationship between the end flaps and the side flaps comprises slits in the side flaps and ears on the end flaps, said ears extending toward the sides of the box and means on the ears, integrally formed therewith, contacting the abutting portion of the said side flaps.

5. A box from the class described consisting of sides, ends and bottom, side flaps extending towards one another and then overlapping one another, the upper overlapping flap having an opening therethrough for the purpose described, end flaps foldable to positions above the side flaps, and means on the end flaps for locking the same in position, the lowermost positioned side flap having a slit therein located below the opening of the other side flap and receiving the locking means of the said end flaps through said opening for the purpose described.

6. In an article of manufacture of the class described, a box construction of rectangular shape having side flaps and end flaps thereon, said side flaps adapted to be placed in the top plane of the box overlapping one another and also, as an alternative, adapted to have a portion of each of said side flaps placed in said plane and have the remaining portion extend upwardly to form a handle for the said box, one of said upwardly extending portions of one of the flaps being cut away to form an opening therethrough, said flap also being folded downwardly upon the other side flap when desired, a portion of the lower flap being exposed through said opening, the exposed portion having a slit therein in which an end flap may be inserted, locking means on the said end flaps being insertable through the said opening into the lower side flap for the purpose described.

7. A carton of the class described comprising four sides and a bottom, flaps on the upper ends of said sides, two of said flaps being foldable to overlapping position, the upper of said flaps having an opening therethrough, the lower of said flaps having a slit underneath the opening, the other of said flaps located above the said two flaps and having locking means extending through said opening to associated relationship with the said slit.

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