Feb. 22, 1944. R. H. VAN SAUN 2,342,564

CONTAINER

Filed Feb. 26, 1942 3 Sheets-Sheet 1

Fig. 1

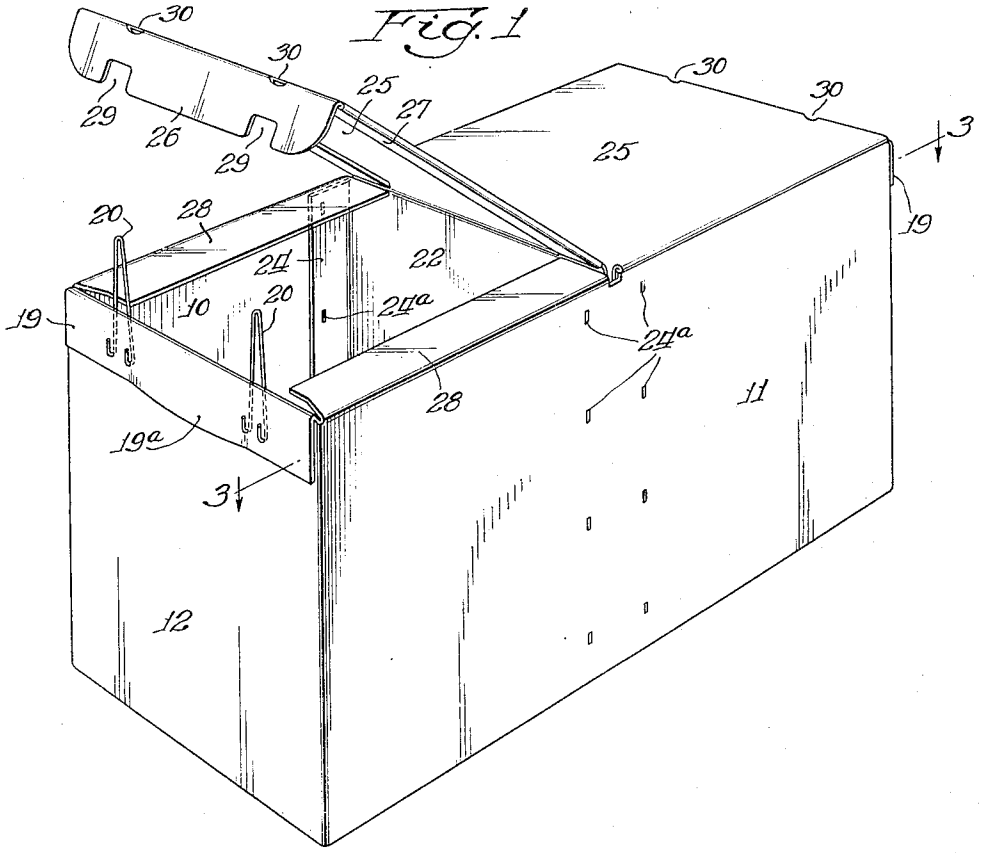
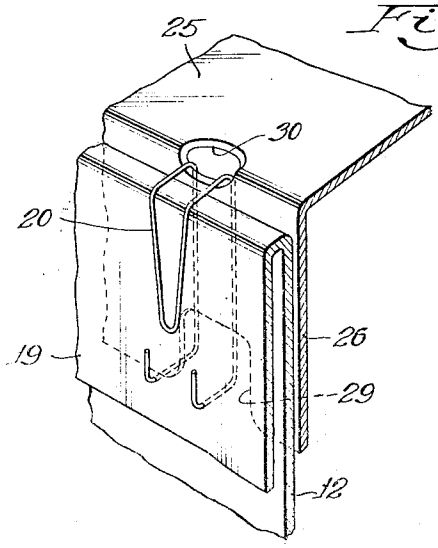



Fig. 2




Inventor:
Raymond H. Van Saun
By: C. H. Seley
Atty.

Feb. 22, 1944. R. H. VAN SAUN 2,342,564

CONTAINER

Filed Feb. 26, 1942 3 Sheets-Sheet 2

Fig. 3

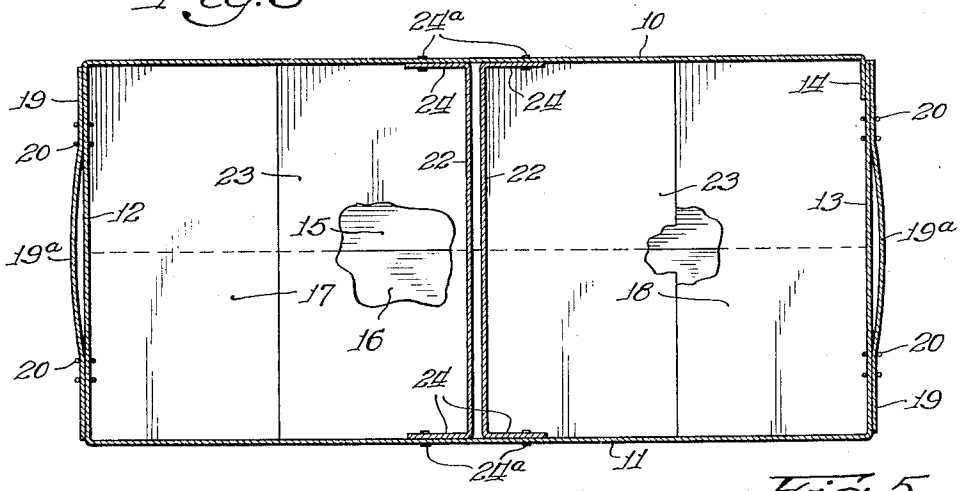



Fig. 5

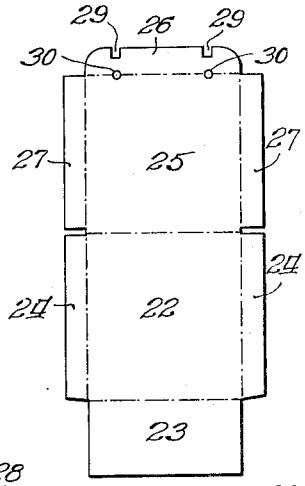



Fig. 6

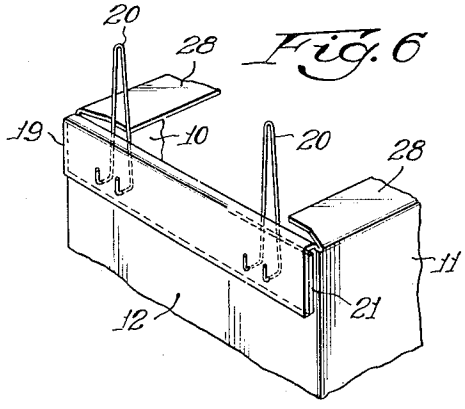
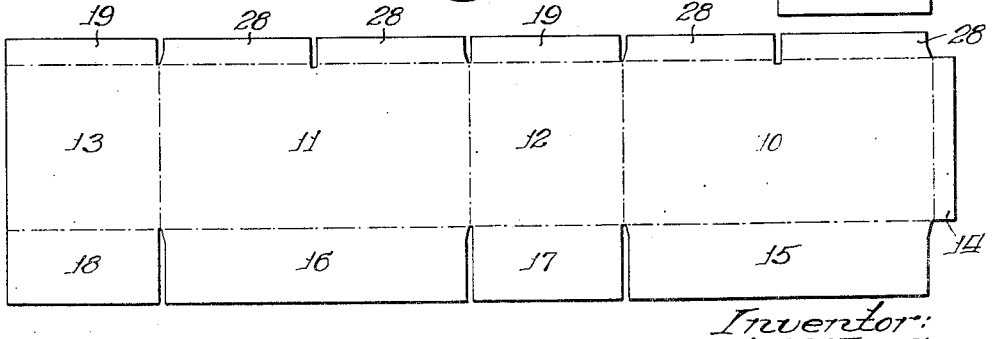



Fig. 4




Inventor:
Raymond H. Van Saun
By: C. H. Seeley
Atty.

Feb. 22, 1944. R. H. VAN SAUN 2,342,564

CONTAINER

Filed Feb. 26, 1942 3 Sheets-Sheet 3

Fig. 7

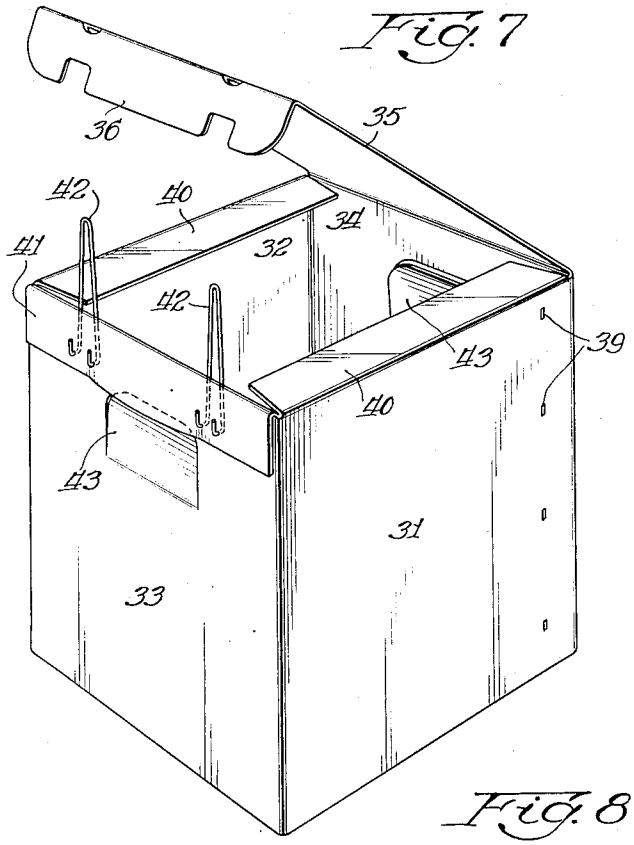
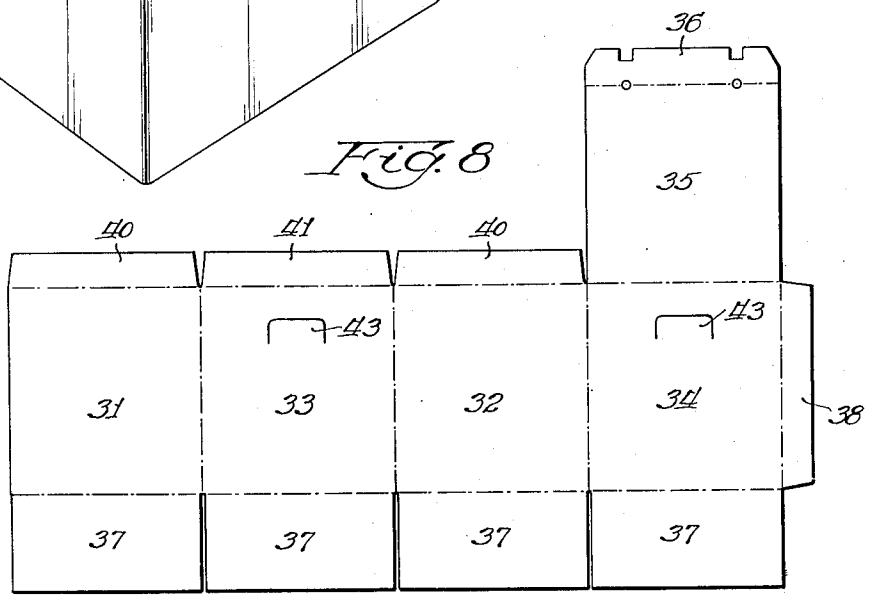



Fig. 8




Inventor:
Raymond H. Van Saun
By: C. H. Seeley
Atty.

Patented Feb. 22, 1944 2,342,564

# UNITED STATES PATENT OFFICE

2,342,564

## CONTAINER

Raymond H. Van Saun, Mount Prospect, Ill., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Application February 26, 1942, Serial No. 432,440

3 Claims. (Cl. 229—47)

This invention relates to containers made of paperboard and more particularly to shipping containers which are adapted to be reused and which have covers adapted to be opened for inspection or removal of a part of the contents and then reclosed and securely fastened.

While the invention is not so limited, it is particularly adapted to and will be described in connection with containers for the shipment of eggs. Such container must necessarily be able to withstand shocks and stresses so as to protect the contents during shipment, and are preferably made of rather high caliper solid fiber. Another feature which is desirable is that they can be shipped to the use in collapsed form so as to save transportation costs. It is also important that they should be so arranged that access to the contents for inspection or other purposes can be had readily and that the container can thereafter be closed and securely maintained in closed position without any injury whatever to the container itself.

I have devised an improved container particularly adapted for the shipment of eggs, although it can be used for many other products, which has all of the above-enumerated advantages and which incorporates a particularly advantageous arrangement for locking the cover member while allowing ready access to the contents.

It is an object of the invention to provide a paperboard container which is capable of withstanding shocks and stresses to an unusual degree. Another object is to provide a novel locking arrangement for the cover or covers of such a container which is adapted to be used many times and yet is simple and inexpensive. Still other objects, uses and advantages of the invention will be apparent from the following detailed description thereof, which should be read in conjunction with the drawings forming a part of this specification, in which

Figure 1 illustrates in perspective a preferred form of container according to the invention showing the cover and locking arrangement.

Figure 2 is a fragmentary view illustrating in detail the action of the locking arrangement when the cover is closed.

Figure 3 is a section of the container shown in Figure 1 along line 3—3.

Figure 4 shows the blank from which the body portion of the container of Figure 1 is made.

Figure 5 shows a blank from which one of the partition and cover elements is made.

Figure 6 is a fragmentary view of a modified and panel arrangement showing an alternative method of forming a handle member.

Figure 7 illustrates in perspective another form of container embodying the invention, and

Figure 8 shows the blank from which the container of Figure 7 is made.

Referring first to Figures, 1, 3 and 4, it will be seen that the container has two side wall panels 10 and 11 and two end wall panels 12 and 13, which are hingedly joined to each other in the usual manner and that side wall panel 10 and end wall panel 13 are joined to complete a rectangular tubular structure by means of flange 14 which is stapled to end wall panel 13. Each of the wall panels 10, 11, 12 and 13, is provided with a bottom flap 15, 16, 17 and 18, respectively, these flaps being folded in the usual way to form the bottom of the container and being held in position by stapling or by tape or the like applied along to the adjacent edge portions of flaps 15 and 16.

Panels 12 and 13 are provided along their upper edges with flanges 19 and these are folded outwardly and downwardly as best shown in Figures 1 and 2 so as to reinforce the upper edge of the end walls. The flanges 19 are secured to the end wall panel to which it is attached by means of a pair of spaced metal clips 20 which are bendable and which extend upwardly on the inside of the carton well beyond the upper edge thereof. In the present embodiment of the invention, the clips 20 are elongated wire loops having their ends extended through the end wall and the flange 19 and being clinched against the outside surface of the latter. In addition to serving the function of holding the flanges 19 in position, they also serve as locking elements which cooperate with the cover member in a manner to be described below. Furthermore, the flanges 19 act as handle members at each end of the container, since the natural resilience of the paperboard causes it to curve outwardly between the clips 20 as shown at 19a in Figures 1 and 3 to allow it to be grasped by the fingers. In the modification shown in Figure 6, one or more thicknesses of paperboard 21, which may or may not be integral with the flange 19 may be inserted between the flange 19 and the outer surface of the end wall to which it is attached, so as to provide additional strength and rigidity to the upper edge of the end wall and to make the flange 19 capable of being grasped by the fingers more readily.

This form of the invention also includes a pair of partition panels 22 positioned in slightly spaced parallel relation about midway between the end panels and serving to divide the container into two approximately equal compartments. Each of the panels 22 has hingedly joined to its bottom edge a flap 23 which is adapted to be folded in the direction of the nearest end wall and to cooperate with the other bottom flaps 15, 16, 17 and 18, to form a complete and strong bottom closure. The partition panels 22 are provided along their side edges with flanges 24 which are folded in flat-wise position against the side wall panels 10 and 11, as shown in Figures 1 and 3 and are secured thereto, as by staples 24a.

Furthermore, each of the partition panels 22 has hingedly joined to the upper edge thereof a cover panel 25 which is adapted to extend completely across the compartment defined by its partition panel and which has along its opposite edge a tuck flap 26 adapted to be inserted with its outer surface in contact with the inner surface of the corresponding end wall when the cover 25 is in closed position. In order to impart strength and rigidity to the cover panel when it is closed, the side edges thereof are provided with inturned flanges 27 which are adapted to bear upon similar flanges 28 on the upper edges of the side wall panels 10 and 11, as indicated in Figure 1.

The tuck flanges 26 are provided with inverted U-shaped notches or cut-outs 29 which are so placed as to cooperate with the metal clips 20. As shown in Figure 2, the arrangement is such that the cover panel 25 can be brought down in substantially flush position with the upper edge of the end wall panel under consideration and in that position the portion of the tuck flap 26 immediately above the notches 29 will be held between the end wall panel and the metal clips 20. The upstanding ends of the clips 20 pass through cooperating openings 30 which lie substantially on the fold line between cover panel 25 and tuck flap 26. In order to lock the container, it is then necessary only to bend the ends of the clips 20 extending above the cover panel 25 outwardly and downwardly as shown in Figure 2. It will readily be seen that this arrangement constitutes a positive lock which will prevent the accidental raising of the cover panel 25 and that the container can readily be opened for inspection or for other purposes by straightening out clip 20 and raising the cover panel 25.

It will be apparent from the above that I have provided an extremely strong and useful container for the shipment of eggs and other products, and that this container can be shipped flat when empty merely by causing the cover panels 25, the tuck flaps 26 and the various bottom closure flaps 15, 16, 17, 18 and 23, to assume vertical positions and then collapsing the body portion of the container by means of pressure on two opposite corners. Furthermore, this container has the additional advantage that, if desired, it can be divided into two entirely separate containers, each having one compartment, by cutting the side wall panels 10 and 11 and the bottom flaps 15 and 16 along lines on a plane between and parallel to the two partition panels 22. In this case, each of the separate containers will appear very similar to the single compartment container shown in Figure 7, although the latter is somewhat different in that it is made from a single blank.

It is believed that detailed description of the modification shown in Figures 7 and 8 is unnecessary, but it is apparent that it includes two side wall panels 31 and 32, a front wall panel 33 and a rear wall panel 34, the latter having at its top edge a cover panel 35 and a tuck flap 36 similar to that already described. Each of the panels has a bottom flap 37 which is adapted to be folded so as to form a bottom closure and panel 34 has a flange 38 along its free edge which is adapted to be secured to panel 31 by staples 39 so as to form a tubular structure. The flanges 40 on side wall panels 31 and 32 serve to support the cover panel 35 when it is in closed position and to increase the rigidity of the container, while the flange 41 on front wall panel 33 is outwardly folded and secured in position by metal clips 42 in the same way as are flanges 18 in the embodiment of the invention previously described.

In this form of container the locking and unlocking arrangement is identical with that already brought out and has all of the advantages mentioned above. One other feature is shown, however, and that is the use of inverted U-shaped cuts 43 in the upper portion of panels 33 and 34 which serve as hand holds. The cut 43 in panel 33 may be omitted, if desired, but if it is present, it should be of such height as to cooperate with the finger gripping portion of the flange 41.

While the invention has been described in connection with certain specific embodiments thereof, I do not wish to be limited to the particular forms thereof shown and described, but only by the scope of the appended claims.

I claim:

1. In a container of the type described including a plurality of rectangular wall panels joined along their lateral edges to form a tubular structure, a cover panel adapted to close one end of said tubular structure hingedly joined to one of said wall panels along its upper edge, a tuck flap on said cover panel adapted to lie against the upper portion of the inner surface of another of said wall panels when said cover panel is in closed position and a flange on the upper edge of said last-mentioned wall panel adapted to be folded downwardly and secured to the outer surface of said last-mentioned wall panel to act as a finger-engageable element, the combination which comprises at least one aperture in the vicinity of the line defining said tuck flap from said cover panel, and a bendable metal clip clinched at its lower end to the inner surface of said last-mentioned wall panel and through said last-mentioned wall panel and said flange, and adapted to extend through said aperture when said cover panel is in closed position and to have its other end bent down against the exposed surface of said flange, whereby said cover panel can be securely but removably fastened in closed position by reason of the engagement of said tuck flap between said last-mentioned wall panel and said bendable clip.

2. In a paperboard container including a side wall panel, a flange on the upper edge of said side wall panel folded downwardly against the outer surface thereof, a cover panel and a tuck flap defined from said cover panel by a score line and adapted to lie against the upper portion of the inner surface of said side wall panel when said cover panel is in closed position, the improvement comprising at least one aperture in the vicinity of said score line, and a

bendable elongated wire loop adapted to extend upwardly through said aperture when said cover panel is in closed position, the lower ends of said loop extending through said wall panel and said flange and being clinched against the outer surface of said flange, whereby said flange is secured in downturned position and the upper portion of said loop can be bent down against the outer surface of said flange to removably secure said tuck flap and cover panel in closed position.

3. The improvement according to claim 2 wherein said tuck flap is adapted to extend below the lower ends of said loop and is provided with a notch below said aperture, said notch being adapted to receive said loop when said tuck flap is in closed position.

RAYMOND H. VAN SAUN.