

Nov. 24, 1942.

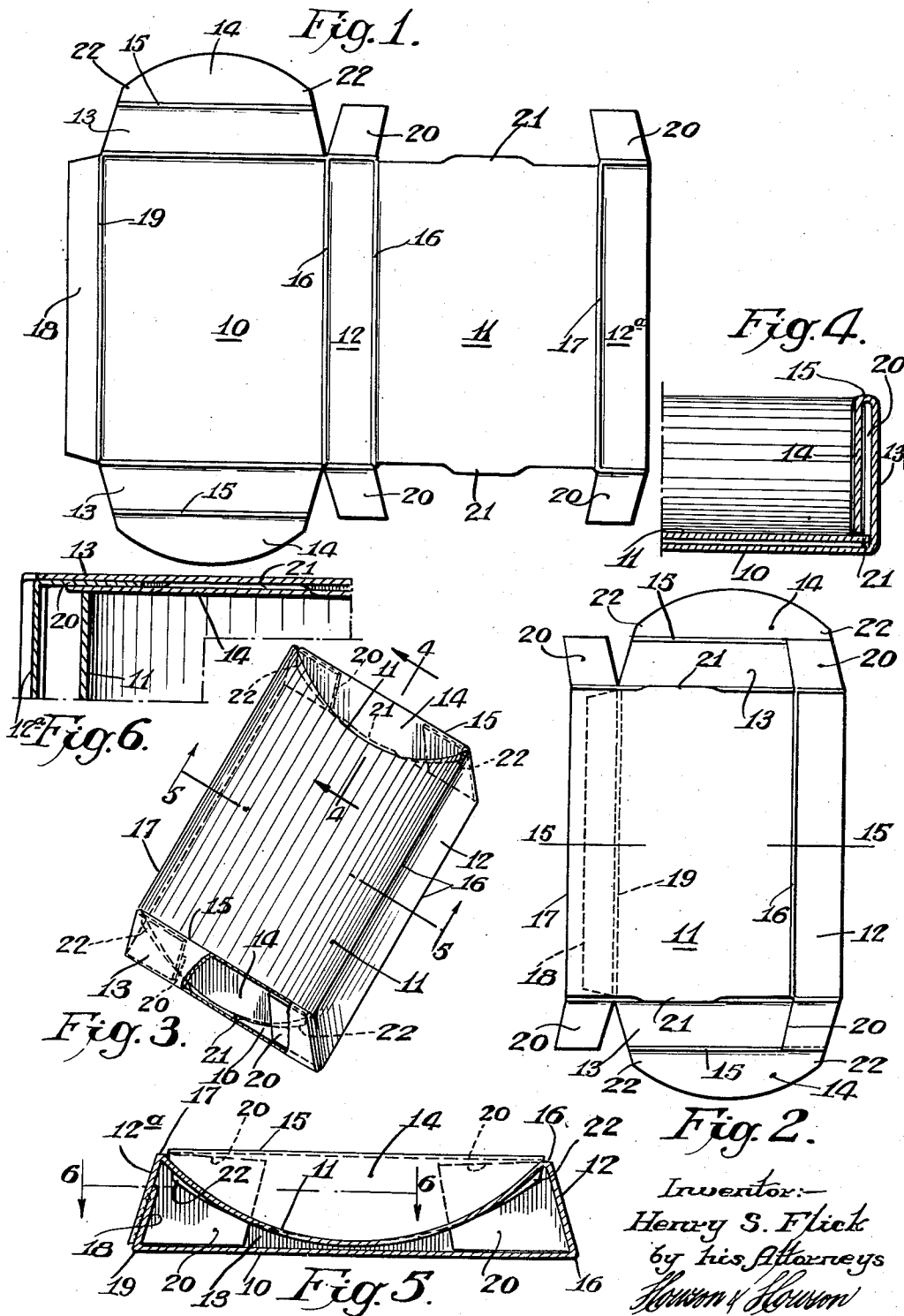
H. S. FLICK

2,303,264

CONTAINER

Filed May 9, 1941

7 Sheets-Sheet 1



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Fig. 7.

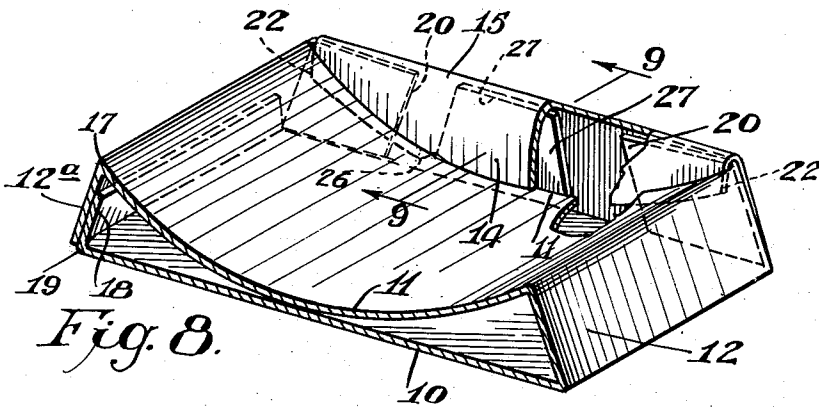
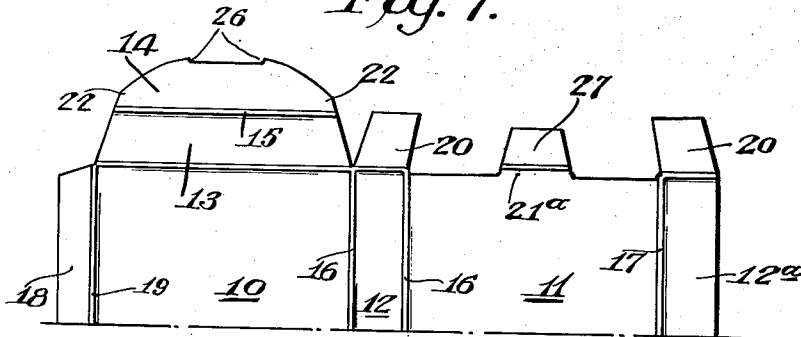


Fig. 8.

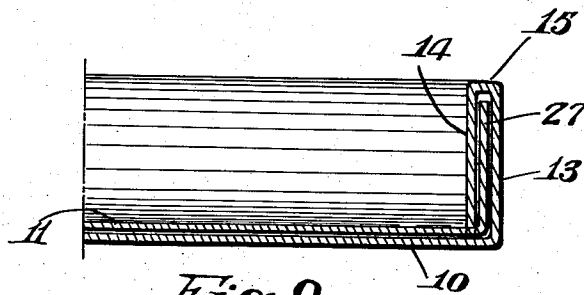


Fig. 9.

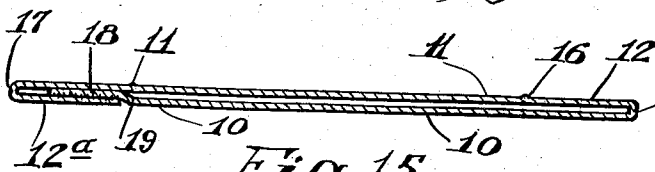


Fig. 15.

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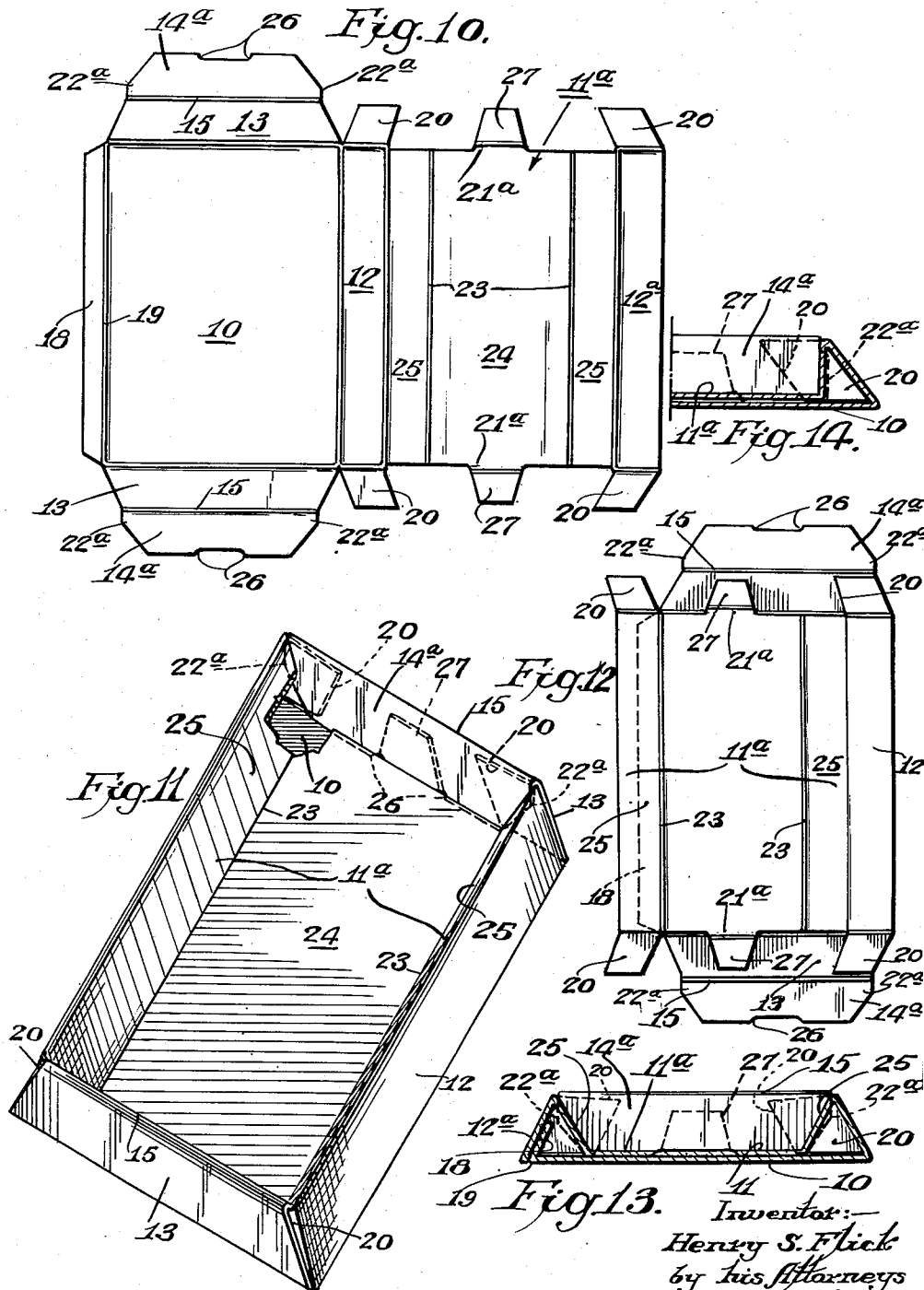
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CONTAINER

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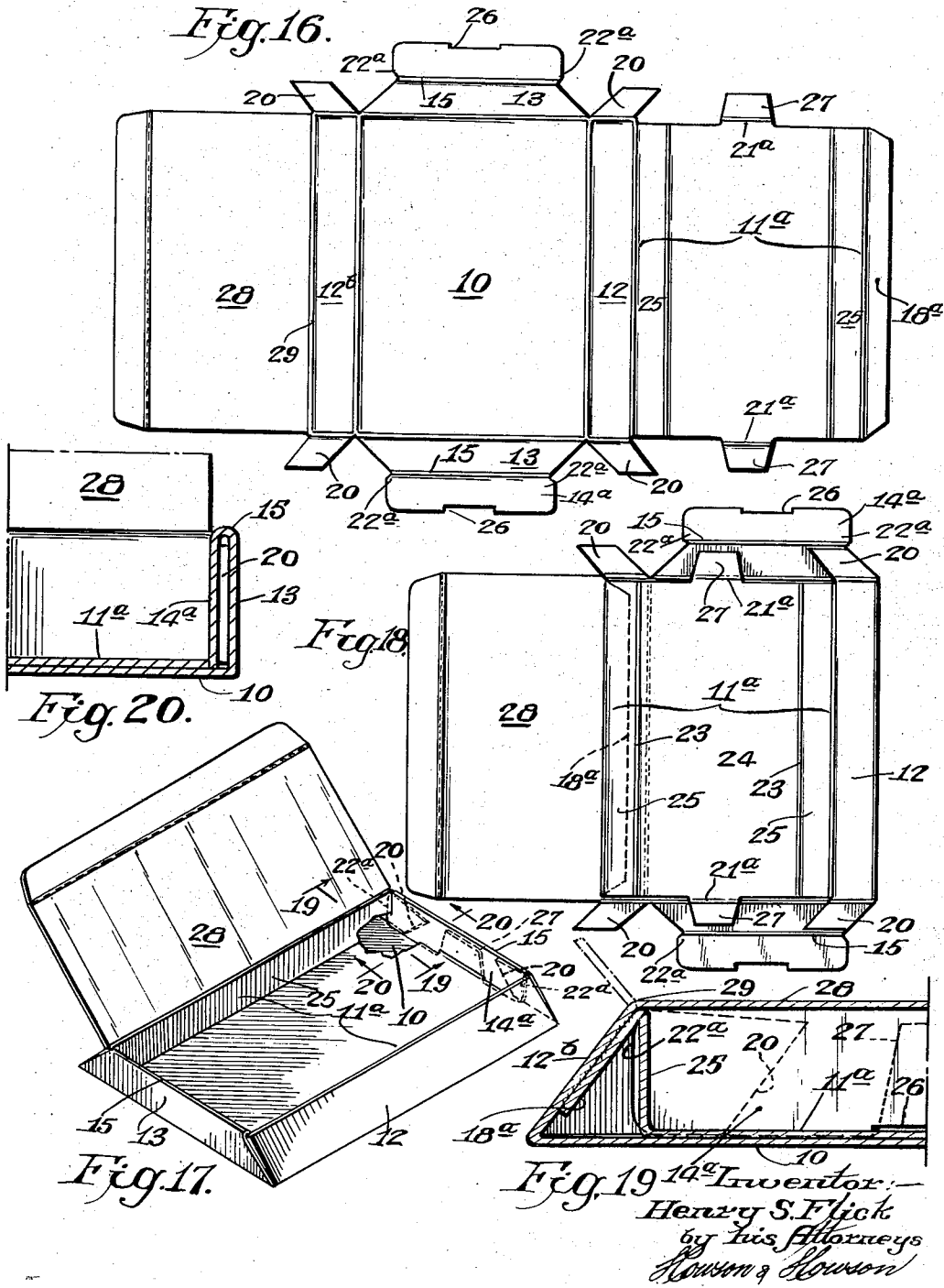
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Nov. 24, 1942.

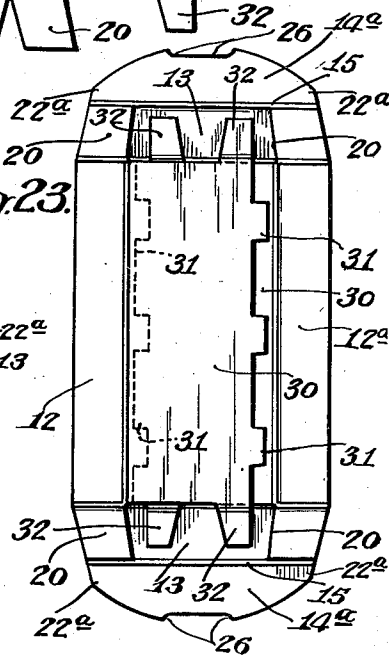
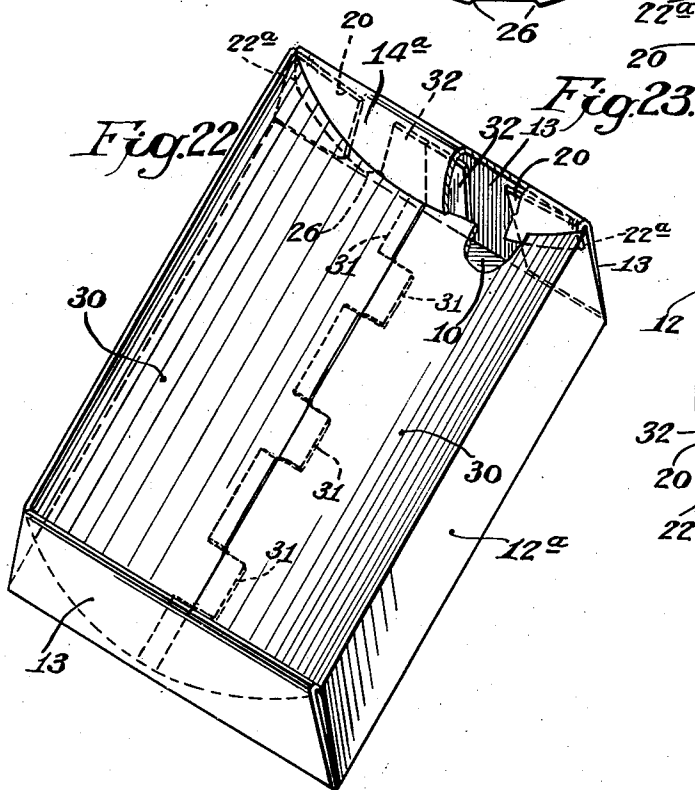
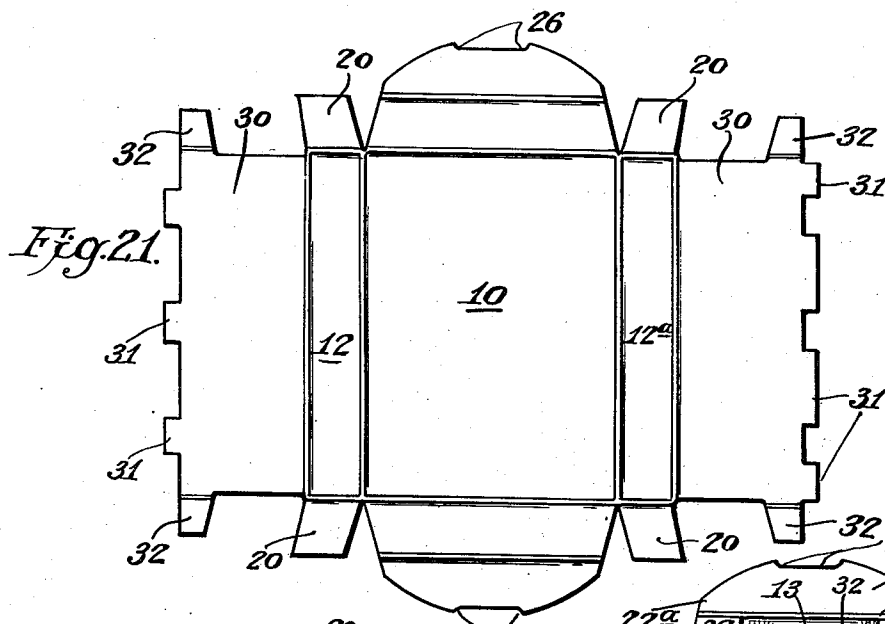
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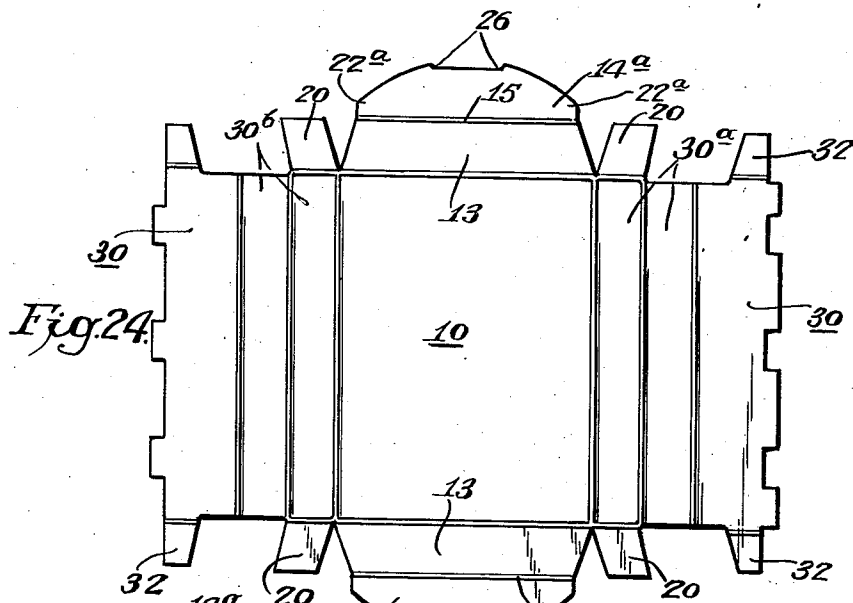


Fig. 24.

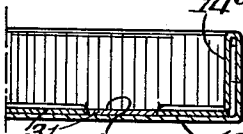


Fig. 27.

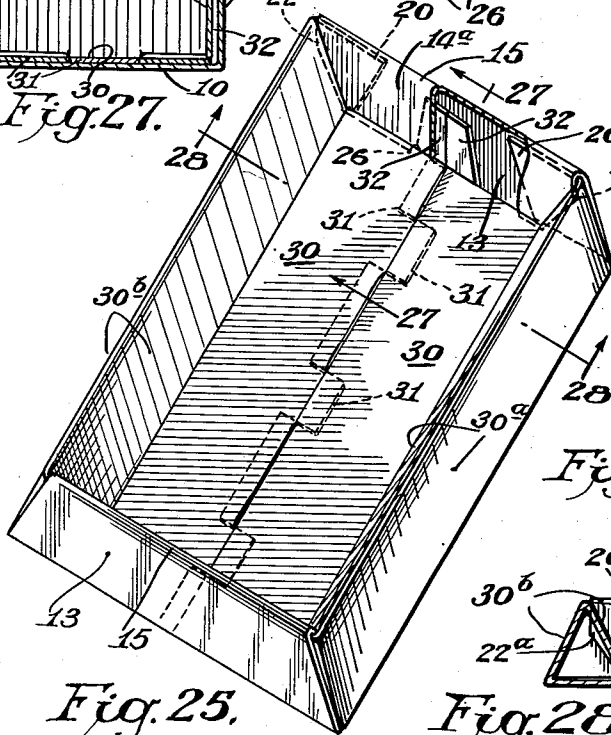


Fig. 25.

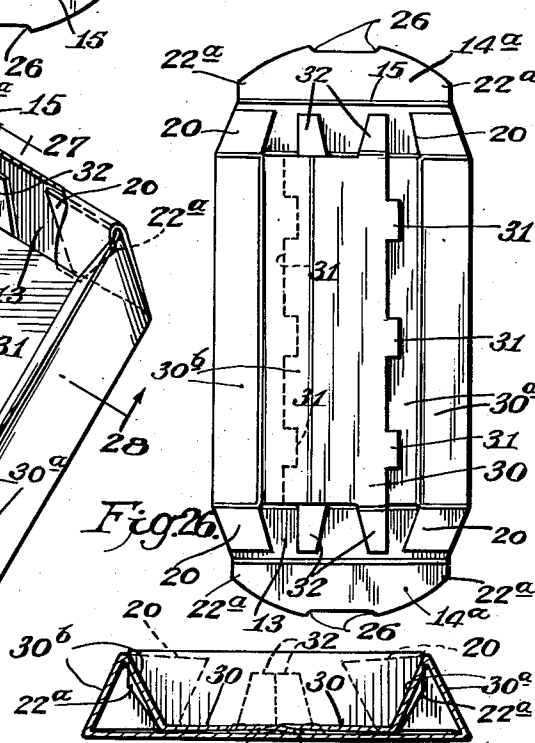


Fig. 26

Fig. 28.

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Fig. 29.

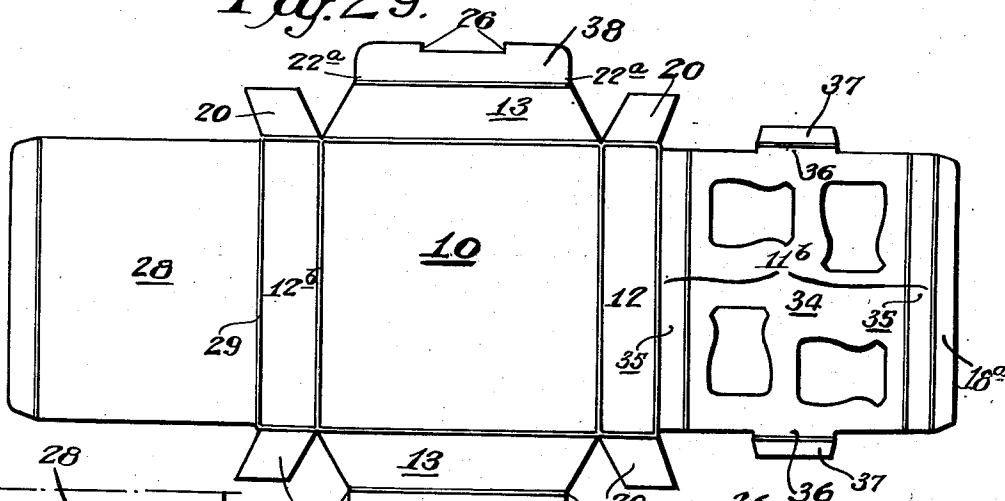


Fig. 33.

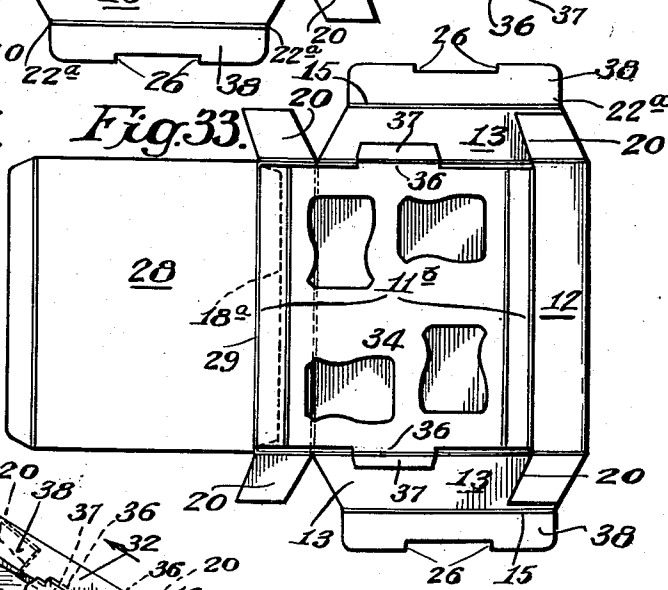


Fig. 32.

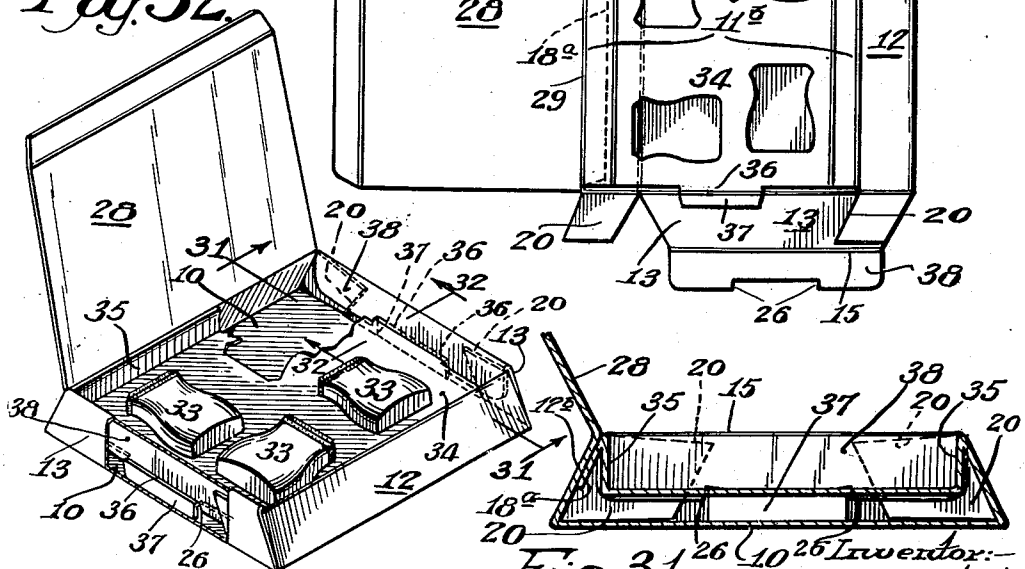


Fig. 30.

Fig. 31.

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UNITED STATES PATENT OFFICE

2,303,264

CONTAINER

Henry S. Flick, Philadelphia, Pa.

Application May 9, 1941, Serial No. 392,787

10 Claims. (Cl. 229—34)

This invention relates to a container and, more particularly, to a box or carton of the tray type.

An important object of the invention is the provision of such a container which may be formed in a single piece from a single-faced board and which will provide a construction having both its inner and outer faces finished by the single facing.

Another object of the invention is the provision of a tray-type box or carton which may be shipped in a flat condition and which in its erected form affords a convenient and attractive display package.

Another object of the invention is the provision of a device of the character described above which may be, as desired, equipped with an integrally attached cover.

A further object of the invention is the provision of a box which may be shipped flat and set up by the user and which, when set up, provides self-contained locking means insuring the integrity of the erected structure.

These and other objects I attain by the construction shown in the accompanying drawings wherein, for the purpose of illustration, I have shown preferred embodiments of my invention and wherein:

Fig. 1 is a plan view of the blank employed in the construction of a tray-type box or carton in accordance with my invention;

Fig. 2 is a plan of the carton folded for shipment;

Fig. 3 is a perspective view, partially broken away, of the erected carton;

Fig. 4 is a section on line 4—4 of Fig. 3;

Fig. 5 is a section on line 5—5 of Fig. 3;

Fig. 6 is a section on line 6—6 of Fig. 5;

Fig. 7 is a fragmentary plan of a blank showing a slight modification of the construction of Fig. 1;

Fig. 8 is a fragmentary perspective of an erected box of the type formed from the blank of Fig. 7;

Fig. 9 is a section on line 9—9 of Fig. 8.

Fig. 10 is a plan view of the blank of a further modified form of the invention;

Fig. 11 is a perspective, partially broken away, of an erected box formed from the blank of Fig. 10;

Fig. 12 is a plan view of the box folded for shipment;

Fig. 13 is a transverse sectional view through the box of Fig. 11;

Fig. 14 illustrates a slight modification of the form of construction shown in Figures 10 to 13;

Fig. 15 is a typical sectional view through a box

of the type shown in Figures 1 to 14, taken on line 15—15 of Fig. 2;

Fig. 16 is a plan view of the blank for the construction of a box shown in Figures 1 to 15, but having an integral cover;

Fig. 17 is a perspective view, partially broken away, of an erected box formed from the blank of Fig. 16;

Fig. 18 is a plan view of the box folded for shipment, the lid and its flap being shown extended;

Fig. 19 is a section on line 19—19 of Fig. 17, the cover being shown in the closed position;

Fig. 20 is a section on line 20—20 of Fig. 17;

Fig. 21 is a plan view of a blank for constructing a box in accordance with a further form of my invention;

Fig. 22 is a perspective view, partially broken away, of an erected box constructed from the blank of Fig. 21;

Fig. 23 is a plan of the blank of Fig. 21 folded for shipment;

Fig. 24 is a plan of the blank of a modified construction of the type shown in Figures 21 to 23;

Fig. 25 is a perspective view, partially broken away, of the box erected from the blank of Fig. 24;

Fig. 26 is a plan view of the blank of Fig. 24 folded for shipment;

Fig. 27 is a section on line 27—27 of Fig. 25;

Fig. 28 is a section on line 28—28 of Fig. 25;

Fig. 29 is a plan view of the blank of a further modification of my invention;

Fig. 30 is a perspective view, partially broken away, of an erected box formed from the blank of Figure 29;

Fig. 31 is a section on line 31—31 of Fig. 30;

Fig. 32 is a section on line 32—32 of Fig. 30;

and

Fig. 33 is a plan view of a box partially folded for shipment.

Referring now to the drawings and, more particularly, to Figures 1 to 6 thereof, the carton constructed in accordance with my invention comprises outer and inner bottom walls 10 and 11, side walls 12 and 12a, and end walls comprising outer and inner wall members 13 and 14 of which the wall member 14 comprises the flap integrally connected with the outer wall member 13 at a crease fold 15. It will be noted that in the erected form of the box, as shown in Figure 3, all the outer surfaces at both the interior and exterior of the box are formed by a common surface of a blank forming Figure 1 so that if this surface of the blank is a single finished surface

of single-faced cardboard, a completely finished structure is provided, thus enabling the use of a relatively cheap material.

As more clearly seen from Figure 1, the side wall 12 serves to connect the outer and inner bottom walls 10 and 11, the connections being in the form of crease folds indicated at 16. The outer edge margin of the inner bottom wall is connected to the side wall 12a by crease fold 17, and to the outer edge margin of the outer bottom wall a flap 18 is connected by crease fold 19. The end portions of side walls 12 and 12a have flaps 20 attached thereto. For purposes of display, it is desirable that the side walls 12 and 12a in the erected structure be sloping, and for this reason it is necessary that the flaps 20 be made trapezoidal, as shown.

In the primary construction of the box, the inner surface of side wall 12a is pasted, or otherwise secured to the outer surface of the flap 18, as more clearly shown in Figure 5. The side walls 12, 12a and the bottom wall 11 are made of such height that when this connection has been made the box may be folded flatly, as shown in Figure 2 and the typical section forming Figure 15, and thus may be conveniently shipped. This involves merely a simple computation to insure that the width of the inner portion 11 connecting adjacent edges of the side walls 12, 12a should be equal to the width of the bottom wall 10. Flap 14, in addition to forming an interior facing for the end walls, likewise serves as a locking means to hold the interior bottom in proper position and to mutually interlock therewith to prevent either displacement of the bottom or of the flap. To this end, the ends of the inner bottom portion 11 are made somewhat shorter than the length of the outer bottom and the ends of this section are provided centrally with slightly projecting extensions 21. In the form at present shown, the inner surface of the bottom wall is dished in a smooth curve. The tongue or flap 14 is so constructed that its edge corners 22 are spaced apart a distance slightly greater than the distance between the portions of the bowed inner wall with which they coast so that they must be sprung back of this inner wall, as more clearly shown in Figure 5, the abbreviation of the inner wall section providing space for their reception. The extensions 21, however, will engage against the inner surface of the outer end wall member 13 and thus the central portion of flap 14 will overlie these extensions and hold the central portion of the inner bottom firmly in position.

In erecting the folded box structure of Figure 2, it is simply necessary to apply sufficient pressure to cause the side walls to erect, fold in the end flaps 20 of the side walls, and then fold the end flap 14 downwardly and inwardly to its locking position.

In the form of invention shown in Figures 10 to 14 inclusive, the inner bottom wall, indicated at 11a is subdivided by folding scores 23 into a central panel 24 and side panels 25, the center panel overlying flatly the outer bottom 10 of the box and the panels 25 forming inner side walls beyond which the upper edge corners 22a engage. The flap 14a is notched, as at 26 to receive the extension 21a so that the free edge of this flap may engage entirely against the bottom of the box. Additionally, the extension 21a is provided with a flap 27 to extend between the inner and outer end walls and thus further increase the security of the lock maintaining the box in its erected position. By varying the proportions of

panels 25 and the panel 24, the inner wall may be either sloped, as shown in Figures 11 and 13, or be made perpendicular as in Figure 14. The formation of flap 14 will naturally have to be varied to conform to the angularity of the inner side walls, and in all cases will be provided with extension portions 22a to engage behind such inner side walls. It will be noted that in the form of invention shown in Figures 1 to 6, the upper portions of the inner bottom actually form inner side walls for the box. Attention is directed to the fact that utilization of the notch 26 in the inner-end-wall-forming flap enables the entire free edge portion of this wall to engage behind the end edges of the inner bottom or inner-bottom and inner-side-wall-forming section of the box, thus further insuring the integrity of the locking mechanism.

In Figures 7 to 9 I have illustrated the application of the construction shown in Figures 10 to 14 to the box design illustrated in Figure 3.

In Figures 16 to 20 I have illustrated a method of applying an integrally attached cover to the box, this being particularly applicable in connection with boxes of the type shown in Figures 10 to 14, although adaptations thereof might well be employed with the construction of any of the remaining figures. In these figures the walls 12, 12a instead of being attached to opposite sides of the inner bottom wall panel are attached to opposite sides of the outer bottom wall panel 10. The flap 18a employed in connecting the side edges of the main blank is disposed at the free edge of the panel 11a. The free edge of the wall 12b corresponding to the wall 12a of the constructions hereinbefore discussed has a flap cover 28 connected thereto by a crease fold 29. In this form of box construction the erection is identical with that discussed in connection with the remaining forms.

In the form of invention shown in Figures 21 to 28 inclusive, I have illustrated a method of constructing a box in accordance with my invention without resorting to any gluing or attaching devices. Such a box may be either shipped flatly, as illustrated by the blank plans of Figures 21 and 24, or may be folded for more compact packing, as illustrated in Figures 23 and 26. In these figures the inner bottom section is formed in two sections 30 the outer edges of which are provided with projections 31 adapted to interdigitate when the sections are brought into combined relation, as illustrated in Figures 22 and 25. The end edges of the sections 30 each bear one-half of a tab 32 corresponding to the tab 27 of the construction of Figure 10, for example, these half-sections combining, as more clearly seen in Figures 22 and 25 to produce a single tab which engages in the notch 26 of the flap forming the inner end wall. This will prevent separation of the meeting edges of the sections 30 and thus insure against their disengagement of the projections 31 after the box has once been assembled. The sections 30 may be either plain and combined to produce a curved bottom tray box of the type shown in Figure 3, or may include a plurality of panels 30a, 30b producing a distinct inner side wall as in the case of the construction shown in Figures 13 and 14.

In the form of invention shown in Figures 29 to 33, a further and important modification of my invention is illustrated. In this form of the invention the inner bottom wall is so arranged as to form a platform in which, by the provision

of cut-outs, definite location of contained articles 33 may be secured after the manner of the ordinary perforated trays formed as a separate insert. In these figures, 11b indicates the inner bottom wall comprising a main panel 34 perforated to suit the articles to be stored and side panels 35 which form the inner side walls of the box. As usual, this section 11b is abbreviated in length, having projections 36 at the central portion of its end edges. Secured to these projections are tabs 37 which are made of a height equal to that at which it is desired to space the inner bottom wall from the bottom wall 10. In erection of a box of this character, the tabs 37 are bent downwardly and in the completely erected structure have their free edges resting upon the inner surface of the outer bottom wall 10, as more clearly shown in Figures 31 and 32. As in the constructions hereinbefore considered, the inner-end-wall-forming tabs 38 are notched to receive the extension 36, thus insuring against any possible transverse displacement of the inner bottom wall and permitting engagement by the entire free edges of the inner end walls behind the end edges of the inner bottom wall.

In each of the constructions hereinbefore described, it will be noted that board having but a single finished surface will suffice to produce a box both interiorly and exteriorly finished.

Since the constructions illustrated are capable of considerable modification without departing from the spirit of my invention, I do not wish to be understood as limiting myself thereto except as hereinafter claimed.

I claim:

1. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, the inner end walls having portions extending between the marginal portions of said section and the outer end walls and other portions overlying medially disposed portions of said section to maintain the same in proper relation to said outer bottom wall the medially disposed portions of said section having tabs extending vertically between the inner and outer end walls of the container.

2. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, said section having marginal portions of less length than said outer bottom wall and a central portion of substantially the same length as said bottom wall, the inner end walls having portions extending between the marginal portions of said section and the outer end walls and central portions overlying the central portions of said section to maintain the same in proper relation to said outer bottom wall and tabs on said central portions extending vertically between the inner and outer end walls of the container.

3. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, said section having marginal portions of less length than said outer bottom wall and a central portion of substantially the same length as said bottom wall, the inner end walls having portions extending between the marginal por-

tions of said section and the outer end walls and central portions overlying the central portions of said section to maintain the same in proper relation to said outer bottom wall, a cover for said container comprising an integral continuation of one of the side walls thereof and tabs on said central portions extending vertically between the inner and outer end walls of the container.

4. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, said section having marginal portions of less length than said outer bottom wall and a central portion of substantially the same length as said bottom wall, the inner end walls having portions extending between the marginal portions of said section and the outer end walls and central portions overlying the central portions of said section to maintain the same in proper relation to said outer bottom wall, said section including central and side panels, said side panels forming said inner side walls and said central panel flatly seating upon said outer bottom wall, a cover for said container comprising an integral continuation of one of the side walls thereof and tabs on said central portions extending vertically between the inner and outer end walls of the container.

5. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, the inner bottom wall having projections and the inner end walls having portions overlying said projections to prevent vertical displacement of the inner bottom wall and tabs on said projections extending vertically between the inner and outer end walls of the container.

6. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, the inner bottom wall having projections and the inner end walls having portions overlying said projections to prevent vertical displacement of the inner bottom wall, the inner end walls having notches receiving said projections thereby preventing transverse displacement of the bottom wall.

7. The device of claim 1 wherein the inner end walls have notches receiving said medially disposed portions of said inner bottom wall.

8. The device of claim 6 wherein the central portions of the bottom wall section are provided with downwardly turned tabs supporting said inner bottom wall in spaced relation to the outer bottom wall.

9. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, said section having marginal portions of less length than said outer bottom wall and a central portion of substantially the same length as said bottom wall, the inner end walls having portions extending between the marginal portions of said section and the outer end walls and central portions overlying the central portions of said section to maintain the same in proper relation to said outer bottom wall, said

section including central and side panels, said side panels forming said inner side walls, and a cover for said container comprising an integral continuation of one of the side walls thereof, said central panel having projections at its end edges and said inner end walls having notches receiving said projections.

10. A container of the type described having inner and outer bottom, side, and end walls the exposed faces of which comprise a common face of a unitary blank, said blank including a section forming the bottom and inner side walls of the container, said section having marginal portions of less length than said outer bottom wall and a central portion of substantially the same length 15

as said bottom wall, the inner end walls having portions extending between the marginal portions of said section and the outer end walls and central portions overlying the central portions of said section to maintain the same in proper relation to said outer bottom wall, said section including central and side panels, said side panels forming said inner side walls, and a cover for said container comprising an integral continuation of one of the side walls thereof, and the ends of said central panel having downwardly turned tabs engaging said bottom wall to support said inner bottom wall in spaced relation thereto.

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