March 28, 1967 F. H. BURGESS 3,311,282

FOLDING CRADLE-TYPE CONTAINER

Filed Dec. 27, 1965 3 Sheets-Sheet 1

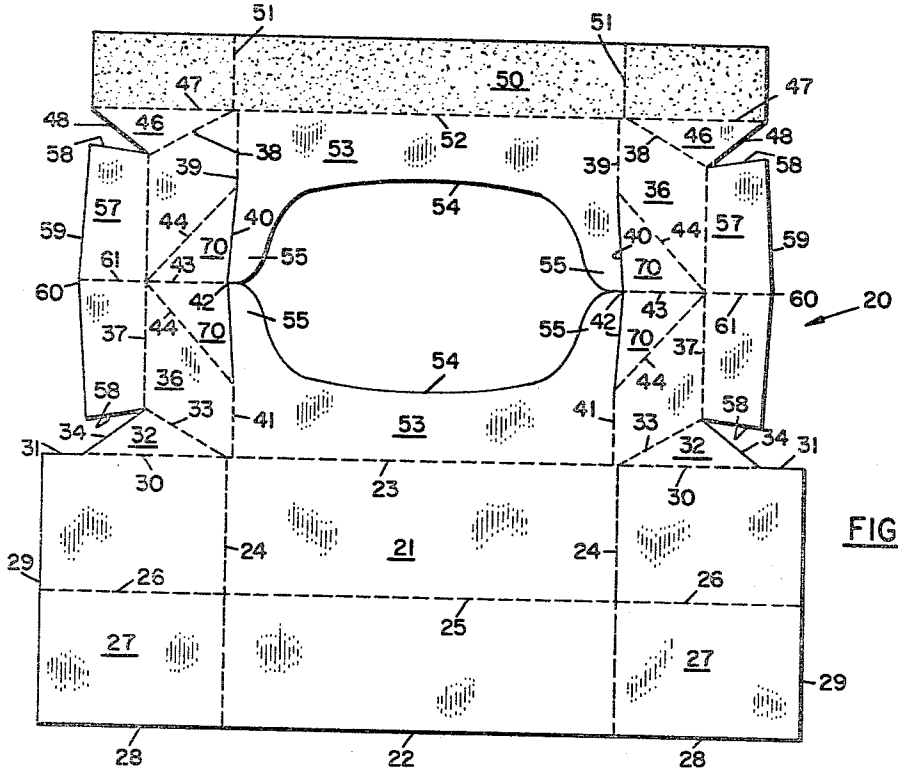


FIG. 1

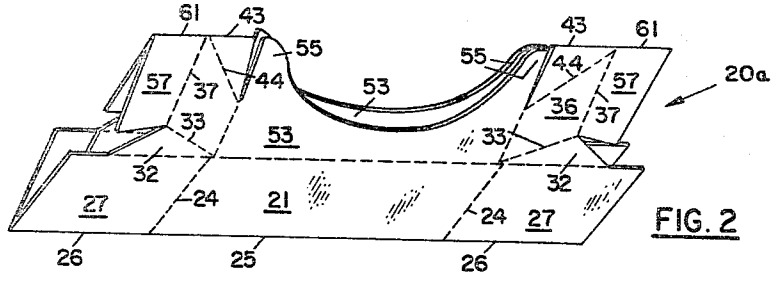


FIG. 2

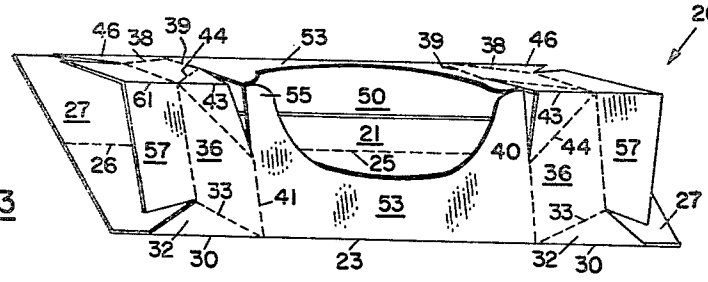


FIG. 3

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FOLDING CRADLE-TYPE CONTAINER

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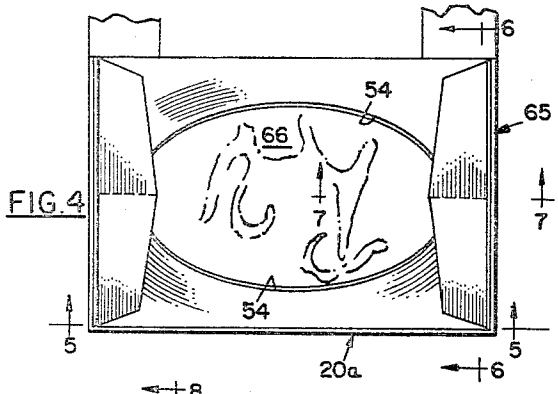


FIG. 4

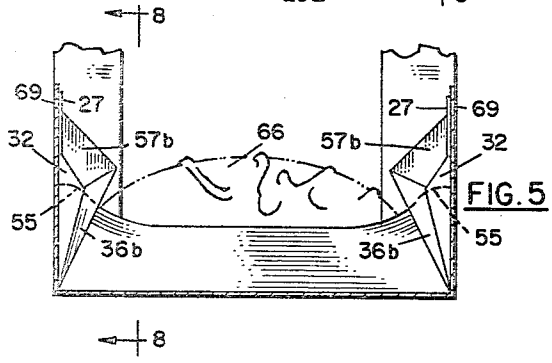


FIG. 5

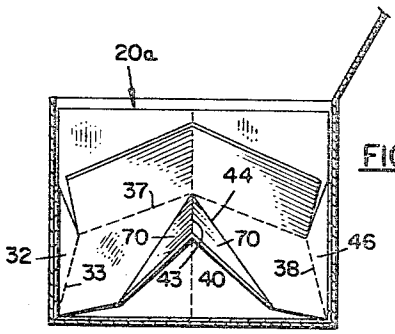


FIG. 6

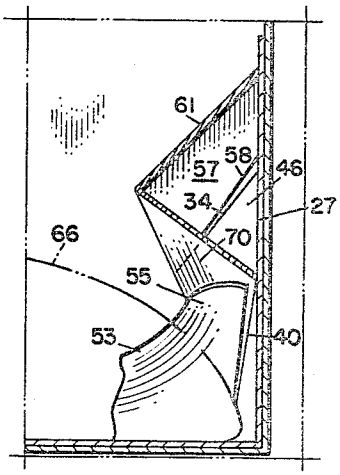


FIG. 7

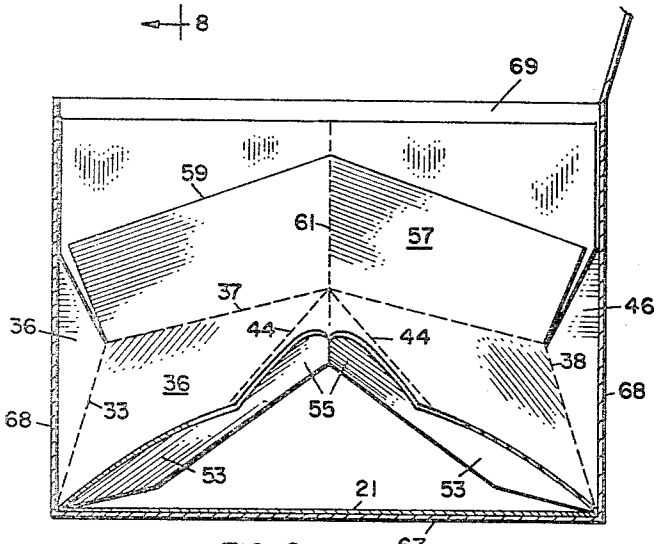


FIG. 8

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FOLDING CRADLE-TYPE CONTAINER

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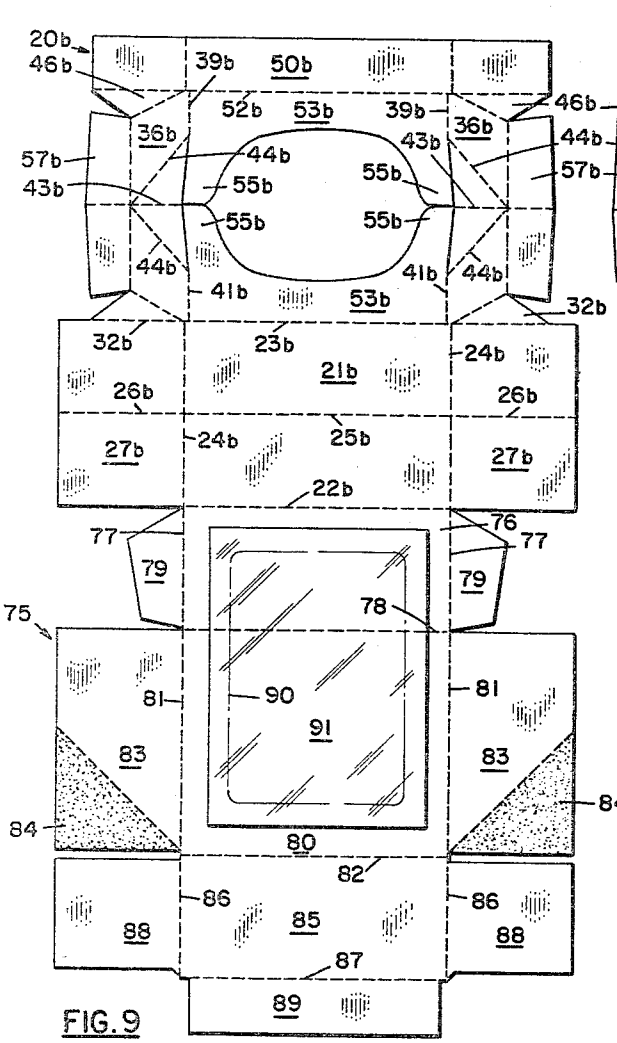


FIG. 9

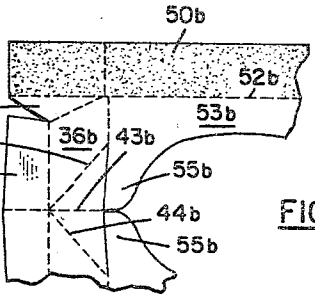


FIG. 10

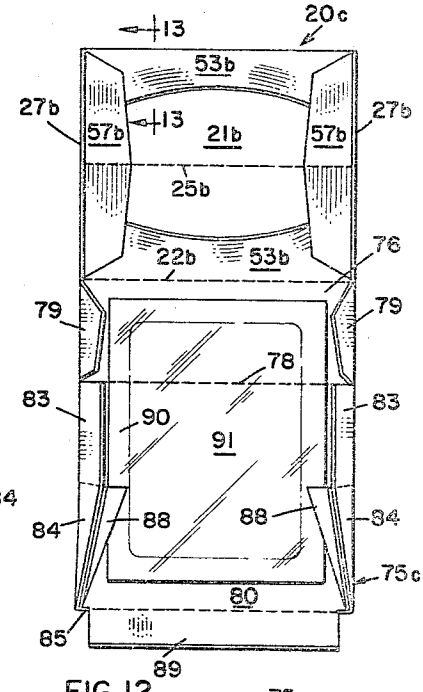


FIG. 12

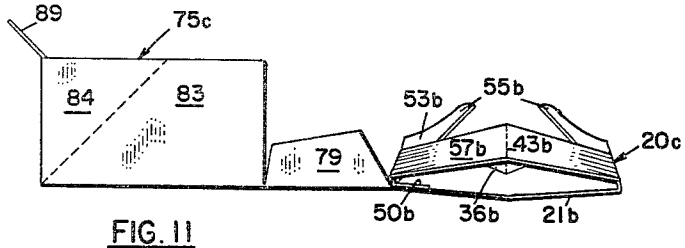


FIG. 11

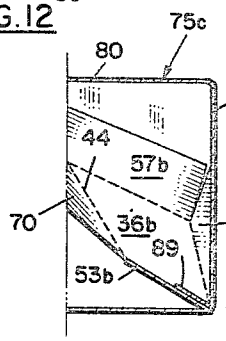


FIG. 13

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United States Patent Office 3,311,282
Patented Mar. 28, 1967

3,311,282

FOLDING CRADLE-TYPE CONTAINER

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Filed Dec. 27, 1965, Ser. No. 516,457
8 Claims. (Cl. 229—16)

This invention relates generally to folding containers, and is especially concerned with a unique cradle-type container, as for relatively fragile articles of contents, such as Easter eggs.

It is an important object of the present invention to provide a unique foldable cradle-type container, as for fragile articles such as Easter eggs, which affords a high degree of protection to the contents throughout their distribution, storage, display and sale, while advantageously presenting the contents to view in a most attractive manner.

It is a further object of the present invention to provide a folding cradle-type container of the character described which is adapted for economy of space in a folded storage condition, while being capable of quick and easy erection or setup and filling, either manually or automatically.

It is still a further object of the present invention to provide a folding cradle-type container having the advantageous characteristics mentioned in the preceding paragraphs, which is admirable well suited for protectively containing and displaying Easter eggs of either the molded or hand-rolled type by accommodating for wide variations in shape and size.

The instant invention further contemplates the provision of a folding cradle of the type described which is extremely staunch and durable in construction, capable of being fabricated of relatively lightweight board, effects substantial economies in manufacture, storage and filling, and is durable and reliable by its increased strength to protect the contents under all conditions of handling.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

In the drawings:

FIGURE 1 is a plan view showing a blank adapted to be formed into a cradle construction of the present invention;

FIGURE 2 is a perspective view showing a cradle of the instant invention in its folded or knocked-down condition for storage;

FIGURE 3 is a perspective view showing an intermediate stage in setting-up of the instant cradle;

FIGURE 4 is a top plan view showing a cradle constructed in accordance with the teachings of the present invention, in position within an outer container and illustrating an Easter egg carried by the cradle;

FIGURE 5 is a sectional elevational view taken generally along the line 5—5 of FIGURE 4;

FIGURE 6 is a sectional elevational view taken generally along the line 6—6 of FIGURE 4, but with the Easter egg removed;

FIGURE 7 is a partial sectional elevational view taken generally along the line 7—7 of FIGURE 4, the Easter egg being shown in phantom;

FIGURE 8 is a sectional elevational view taken generally along the line 8—8 of FIGURE 5, with the Easter egg removed;

FIGURE 9 is a plan view showing a blank of the present invention for formation into a folding cradle and an integral outer container therefor;

FIGURE 10 is a partial plan view showing the underside of a portion of the blank of FIGURE 9;

FIGURE 11 is a side elevational view showing the blank of FIGURE 9 folded and glued for receiving an Easter egg;

FIGURE 12 is a top plan view of the structure of FIGURE 11 in its egg-containing condition; and

FIGURE 13 is a partial sectional view along line 13—13 of FIGURE 12 but with the container fully closed.

Referring now more particularly to the drawings, and specifically to FIGURE 1 thereof, a unitary or integral blank 20 is illustrated therein and may advantageously be formed of a single sheet of stiff bendable material, such as paperboard, or other suitable material. The blank 20 includes a generally rectangular panel 21 bounded between a side edge 22, opposite side fold line 23 parallel to and coextensive with the side edge 22, and a pair of generally parallel end fold lines 24 each extending normal to and between the ends of edge 22 and fold line 23. A longitudinally extending, medially located fold line 25 is formed in the panel 21 extending substantially between mid-points of opposite fold lines 24.

Extending from each end of the panel 21, and hingedly connected to the respective end folds 24, are a pair of substantially identical end panels 27. The end panels 27 are each generally rectangular and laterally coextensive with the panel 21, including a side edge 28 extending from one end of fold line 24 in alignment with edge 22, and an outer edge 29 extending from the outer end of side edge 28 generally parallel to and coextensive with the adjacent fold line 24. A fold line 30 extends from the intersection of each fold line 24 with respective opposite ends of fold line 23, in alignment with the latter, and terminates short of the outer edge 29, a side-edge portion 31 extending from the outer end of each fold line 30 to the adjacent edge 29. The panels 27 are each subdivided by a longitudinal fold line 26 extending between midpoints of the respective edge 29 and adjacent fold line 24, the folds 26 each being in end-to-end alignment with opposite ends of fold 25.

Extending from each fold line 30 is a generally triangular panel or gusset 32 bounded within the respective fold line 30, a fold line 33 and an edge 34. The fold line 33 and edge 34 of each panel 32 extend diagonally from respective opposite ends of fold line 30 to intersect with each other. That is, each fold line 33 extends from an intersection of the adjacent fold line 24 with the respective fold line 30, and each edge 34 extends from the juncture of adjacent edge 31 with fold line 30.

An inner end panel 36 extends from each fold line 33 in the direction away from and generally normal to the aligned fold lines 30. In particular, each inner end panel 36 is bounded within the respective fold line 33, a fold line 37 extending laterally from the intersection of edge 34 with fold line 33, a diagonal fold line 38 extending from the end of fold line 37 remote from fold line 33, a fold line 39 extending from the distal end of fold line 38 generally inward toward fold line 23 and substantially parallel to fold line 37, an edge 40 extending inwardly from the inner end of fold line 39, and a fold line 41 extending from the proximate end of fold line 40 to the fold line 23 at a location proximate to fold line 33. More specifically, the fold lines 39 and 41 are in alignment with each other and parallel to the fold line 37, while the fold line 38 extends diagonally defining an angle

with fold line 37 approximately equal to that defined by fold line 33 with fold line 37. Also, the edge 40 is slightly angulate, to define an included angle having a vertex at 42 approximately midway between the distal ends of fold lines 39 and 41. Thus, the panels 36 are each substantially symmetrical about a centerline extending in the longitudinal direction between mid-points of the respective fold line 37 and edge 40. Provided along such longitudinal centerline of each panel 36 is a longitudinal fold line 43 extending from the mid-point of the respective fold line 37 to the mid-point or apex 42 of adjacent edge 40. In addition, each panel 36 is formed with a pair of diagonal fold lines 44 extending from the mid-point of the respective fold line 37 in divergent relation to opposite ends of the adjacent edge 40.

Extending from each fold line 38 is a generally triangular panel 46, each bounded between the respective fold line 38 and a fold line 47 and edge 48 converging from opposite ends of the fold line 38. More specifically, the fold line 47 extends from the end of fold line 38 proximate to fold line 39 generally parallel to and coextensive with fold line 30, while edge 48 extends from the other end of fold line 38 intersecting with fold line 37 diagonally to fold line 47, defining therebetween an angle substantially equal to that defined between edge 34 and fold line 30.

A generally rectangular glue flap or other securement means 50 extends outward from fold lines 47, being hingedly connected thereto, and may be of a longitudinal dimension equal to that between distal ends of the fold lines 47. The glue flap 50 may be provided with a pair of transverse fold lines 51, extending thereacross, each extending from a respective intersection of fold line 38 and adjacent fold line 47, to the opposite side of the glue flap, so as to be in alignment with transverse fold lines 24. The glue flap 50 is bounded on its inner side by a longitudinal fold line 52 extending between and in alignment with the fold lines 47. Extending inward from each fold line 23 and 52 is a cover wall or panel 53, which may be substantially identical. The cover wall 53 extending from fold line 23 has its opposite ends hingedly connected to respective fold lines 41, while the cover wall 53 extending from fold line 52 has its opposite ends hingedly connected to respective fold lines 39. The cover walls 53 are each provided on their inner adjacent edges 54 with a configuration for conforming engagement with an Easter egg, as will appear presently, and are further provided with laterally inwarding extending end fingers 55, adjacent to opposite ends of the respective cover wall.

Extending longitudinally outward from each fold line 37 of respective panels 36 is an outer covering panel 57. Each outer covering panel or wall 57 is bounded within the respective adjacent fold line 37, a pair of opposite side edges 58 extending from opposite ends of the adjacent fold line 37, and an outer edge 59 extending between outer ends of the edges 58. The outer edges 59 may each be of angulate configuration defining an inwardly facing obtuse angle having a vertex 60 medially between the side edges 58. The side edges 58 of each cover wall or panel 57 may extend from opposite ends of the adjacent fold line 37 outward in slightly divergent relation; and, a fold line 61 is formed in each panel 57 extending from the juncture 60 to the mid-point of fold line 37, in substantial alignment with the fold line 43.

To form the collapsed cradle 20*a* of FIGURE 2 from the blank 20 of FIGURE 1, it is only necessary to fold the structure along the aligned longitudinal folds 43 and 61, and then to fold the panels 21 and 27 along the aligned longitudinal folds 25 and 26. The aligned side edges 22 and 28 are then located proximate to aligned folds 47 and 52; and, the glue flap or panel 50 is adhesively secured to the adjacent portions of panels 21 and 27, with fold lines 51 extending along respective fold lines 24. In this condition, the collapsed cradle 20*a* is completely flat to occupy a minimum of space for storage and shipment. Of course, other securement means may be employed in place of the flap, such as a locking tab or the like.

An initial stage in setting up of cradle 20*a* is shown in FIGURE 3. It will there be seen that the folds 25 and 26 are unfolded, so that the panels 21 and 27 are flat. In this condition, the panel 21 provides a bottom wall, and the panels 27 provide outer end walls, as will appear presently. The panels 36 define inner end walls and extend between opposite side edges of the outer end walls 27, being of a greater lateral dimension than that of the outer side walls so as to remain partially folded along their fold lines 43 when the panels 27 are flat. While the panels 36 are each connected, only at small extreme portions thereof, between the adjacent ends of fold lines 33 and 41, and 38 and 39, to opposite edges 22 and 23 of the bottom wall or panel 21, the triangular panels or gussets 32 and 46 effectively connect the panels 36 to opposite side edges of the outer end wall panels 27 throughout the lengths of fold lines 30 and 47.

From the condition shown in FIGURE 3, the fold lines 43 are folded or displaced inwardly or downwardly toward the adjacent panel 27, effecting downward movement of inner end wall edges 40 and bending along fold lines 44. An egg, such as a candy Easter egg or other article being packaged, may then be placed on the bottom wall 21, and the outer side walls 27 then swung upwardly about fold lines 24 to assume the condition shown in FIGURES 4–8.

That is, the completed cradle 20*a* of FIGURES 4–8 is illustrated in position within a generally rectangular container 65 and filled with an Easter egg 66.

It will there be seen that the container or receptacle 65 includes a generally rectangular bottom wall 67 generally congruent to the cradle bottom wall 21, side walls 68 upstanding along opposite sides of the bottom wall 67, and end walls 69 upstanding from opposite ends of the bottom wall.

The Easter egg 66 rests on the cradle bottom wall 21, and the outer side walls 27 are swung upwardly generally normal to the bottom wall 21, being held in position by the end walls 69. The upward swinging action of outer cradle end walls 27 effect relative displacement of the inner end wall edges 40 outward toward the adjacent outer end wall, as best seen in FIGURE 7. It will now be appreciated that the triangular inner end wall portions 70, each being bounded between fold lines 43 and 44, and edge 40, have been swung to define recesses in the inner end walls or panels 36 facing inwardly toward each other. The recesses defined by panel portions 70 are adapted to receive and cushion opposite ends of an Easter egg 66.

Also, by the folding of fold lines 43 toward the adjacent outer end walls 27, the panels 57 are caused to bend about their fold lines 61 to locate the panel edges 59 proximate to the adjacent outer end wall. In this condition the panels 57 define covering walls over the space between the inner end walls 30 and outer end walls 27. In addition, the covering walls or panels 57 afford prominent space for copy or ornamental decoration, as desired. The triangular panels or gussets 32 and 46 serve to retain the inner end walls or panels 36 proximate to their adjacent outer end walls or panels 27, while attractively closing the sides between the inner and outer end walls.

As best seen in FIGURES 4 and 5, the side cover walls or panels 53 extend laterally inward, having their inner edges 54 conformably engageable with the received article or egg 66. Further, the hinged connections by fold lines 41 and 39 of opposite ends of cover walls 53 with the inner side walls 36, causes the cover walls to be urged downward to conformably engage and overlie the article 66. The lateral extensions or fingers 55 carried by the side cover walls 53 are engageable in the pockets or recesses defined by panels 70, and thereby held in conforming overlying engagement with end portions of the article 66.

Referring now to the embodiment shown in FIGURES 9–12, a one-piece blank is generally designated 20*b*, and may be integrally fabricated of any suitable stiff bendable sheet material, such as paperboard, or the like. The blank 20*b* is similar to the blank 20, but with additional structure. In particular, the blank 20*b* includes a generally rectangular bottom-wall-defining panel 21*b*, and a pair of generally rectangular outer-end-wall-defining panels 27*b* corresponding to the bottom and end wall panels 21 and 27 of the first-described embodmient. The outer end wall panels 27*b* are connected to opposite ends of the bottom wall panel 21*b* by fold lines 24*b*, and longitudinal fold lines 25*b* and 26*b* extend respectively through the bottom end outer end wall panels 21*b* and 27*b*.

A pair of inner end wall panels 36*b*, which may be substantially identical to the inner end wall panels 36 shown in FIGURE 1, are hingedly connected by respective triangular panels or gussets 32*b* to the adjacent outer end wall panel 27*b*. Triangular panels or gussets 46*b* are hingedly connected to the inner end wall panels 36*b* opposite to the gusset panels 32*b*, corresponding to the gusset panels 32 and 46 shown in FIGURE 1.

A glue flap 50*b* extends laterally outward from the gusset panels 46*b*, in the manner of glue flap 50; and, cover panels or walls 57*b* are hingedly connected to and extend outward from the outer ends of inner end wall panels 36*b*, corresponding to cover panels or walls 57. Hingedly connected to one side edge of bottom panel 21*b*, as defined by fold line 23*b*, is a side cover panel or wall 53*b*, which has its opposite ends hingedly connected to adjacent portions of respective inner end wall panels 36*b* by fold lines 41*b*. An identical side cover wall, also designated 53*b*, extends inward from and is hingedly connected to the glue flap 50*b* by a fold line 52*b*, having its opposite ends hingedly connected to adjacent inner end wall panels 36*b* by fold lines 39*b*. The side cover panels or walls 53*b* are each provided at its opposite ends with laterally extending fingers 55*b*, corresponding to the fingers 55.

The inner end walls 36*b* are formed with aligned longitudinally extending fold lines 43*b* and additional oblique fold lines 44*b* corresponding to the fold lines 43 and 44 of the first-described embodiment to provide inner end wall recesses as described hereinbefore. One surface of the glue flap 50*b* may be provided with adhesive, as shown in FIGURE 10, for securement to the bottom and end wall panels 21*b* and 27*b*.

The blank 20*b* is further provided with a receptacle or outer container part generally designated 75. The outer container part includes a generally rectangular panel 76 longitudinally coextensive with and hingedly connected to the bottom wall panel 21*b* by fold line 22*b*. The panel 76 may, in addition to the fold line 22*b*, be bounded on its ends by fold lines 77 extending normal to and from opposite ends of the fold line 22*b*, and a fold line 78 extending between the fold lines 77 generally parallel to the fold line 22*b*. A pair of ears or tucks 79 may extend from opposite ends of the side wall panel 76, being hingedly connected thereto by the fold lines 77.

An outer top panel or wall 80, of generally rectangular configuration substantially congruent to that of bottom panel or wall 21*b* may extend from the panel 76, being hingedly connected thereto by fold line 78. The top wall panel 80 is defined within the fold line 78 on one side, a pair of end fold lines 81 extending normal to and from opposite ends of the fold line 78, and an additional side fold line 82 extending between and generally normal to the end fold lines 81. Extending from opposite ends of the top wall panel 80, being hingedly connected thereto, are a pair of generally rectangular external end walls or panels 83, each of which may be provided with an adhesively coated portion, as at 84.

An additional, generally rectangular outer side wall panel 85 is hingedly connected to the side fold line 82 of panel 80 remote from panel 76, and bounded within the fold line 82, a pair of end fold lines 86 being in respective general alignment with fold lines 81, and a fold line 87 extending between fold lines 86 generally parallel to fold line 82. A pair of securement tabs 88 may be hingedly connected to panel 85, at opposite ends thereof, as by fold lines 86. In addition, a tuck tab or flap 89, which may be of generally rectangular configuration, extends along and is hingedly connected to the panel 85, as by fold line 87.

The longitudinal fold lines 25*b*, 26*b* and 43*b* are folded or creased and glue flap 50*b* secured to panels 21*b* and 27*b*, to locate fold line 52*b* along fold line 22*b*. This is as described in connection with FIGURES 1–8.

In addition, panels 83 and 85 are folded relative to panel 80, and panels 88 are folded into facing engagement with panels 83 for adhesive securement thereto. Of course, the particular mode of securement may vary under different conditions, the adhesive being placed on different panels or different faces thereof, or other securing means employed, if desired. The panels 76 and 80 are formed with a cutout 90 extending across fold line 78, which may be provided with a transparent covering sheet or window 91, if desired.

Upon flattening of bottom wall 21*b* and outward extension therefrom of outer end walls 27*b*, the folded and glued structure may assume the form shown in FIGURE 11, the cradle there being generally designated 20*c*, and an outer receptacle or container being generally designated 75*c*. It will be appreciated that the outer receptacle or container 75*c* includes a top wall defined by panel 80, side walls defined by panels 76 and 85, and end walls defined by panels 83. The side wall 85, top wall 80 and end walls 83 are maintained in generally right-angular relation with respect to each other by securement of flaps 88 to end walls 83.

Upon upward swinging of the cradle outer end walls 27, the cradle 20*c* assumes the condition shown in FIGURE 12, which is that employed in protectively containing a fragile article. The outer container 75 may then be swung to place its top wall 80 over the cradle 20*c*, its side walls 76 and 85 on opposite sides of the cradle, and its end walls 83 at opposite ends of the cradle. This effectively maintains the outer cradle end walls 27*b* in their upstanding relation. Further, the tuck tab or flap 89 may be engaged inwardly along and over the adjacent side cover wall 53*b* having its opposite ends engaging beneath the inwardly inclined inner cradle side walls 36*b* for effective retention therein. This condition is best shown in FIGURE 13. If desired, suitable locking means may be provided in conjunction with flap 89.

From the foregoing, it is seen that the present invention provides a container of the cradle which fully accomplishes its intended objects and is well adapted to meet practical conditions of manufacture, filling, distribution and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. A folding cradle-type container fabricated of foldable sheet material and comprising a bottom wall having a longitudinally extending fold line, a pair of outer end walls extending from and hingedly connected to opposite ends of said bottom wall for upward swinging movement relative thereto, said outer end walls having longitudinal fold lines in alignment with the longitudinal fold line of said bottom wall for simultaneous longitudinal folding of said bottom and outer end walls, a pair of side cover walls extending from and hingedly connected to opposite sides of said bottom wall, said side cover walls being configured remote from their hinged connections for conforming engagement with an article on said bottom wall, and an inner end wall on each outer end wall extending

between and hingedly connected to the side edges thereof, said inner end walls each being of a greater lateral extent than the adjacent outer end wall and having a longitudinal fold line for folding simultaneously with the adjacent outer end wall, said inner end walls each being formed with a pair of additional fold lines extending oblique from a region of the respective longitudinal fold line longitudinally inwardly and laterally outwardly to the inner edge of the associated inner end wall, whereby upon upward swinging of said outer end walls the inner end walls are displaced inward from the outer end walls and the lower longitudinal fold-line portion of each inner end wall is foldable outward toward the adjacent outer end wall to form an inner-end-wall recess for receiving an adjacent portion of an article on said bottom wall.

2. A folding cradle according to claim 1, in combination with hinged connections between the opposite ends of each side cover wall and the adjacent lower-edge portion of said inner end walls laterally outward of said additional fold lines, whereby said cover walls are held inward for said conforming engagement.

3. A folding cradle according to claim 2, in combination with holding fingers extending laterally inward from opposite ends of said side cover walls for entry into said inner-end-wall recesses.

4. A folding cradle according to claim 1, said longitudinal old-line region of each inner end wall being adjacent to the upper edge thereof, and a top cover wall extending from and hingedly connected to the upper edge of each inner end wall, said top cover walls each having a fold line in alignment with the longitudinal fold line of the adjacent inner end wall for outward folding upon formation of the inner-end-wall recesses, for extension of said top cover walls to the adjacent outer end walls.

5. A folding cradle according to claim 4, said top cover walls extending laterally toward and terminating short of the side edges of said inner end walls, and said inner end walls being formed with diagonal fold lines extending from the lateral termination of said top cover walls to the respective adjacent side edges of said outer end walls, to define a gusset of the inner-end-wall material between each of said diagonal fold lines and the adjacent outer-end-wall side edge.

6. A folding cradle according to claim 1, in combination with an outer container conformably receiving said cradle-type container to maintain said outer end walls in upwardly swung condition.

7. A folding cradle according to claim 1, in combination with a first outer side wall hingedly connected to said bottom wall at one side edge thereof, a top wall hingedly connected to said first outer side wall remote from said bottom wall for movement into and out of overlying relation with said side cover and bottom walls, a second outer side wall connected to said top wall remote from said first outer side wall for dependence toward the other side edge of said bottom wall, and a pair of external end walls each extending between a respective adjacent pair of end edges of said top and second outer side wall, said external end walls serving to retain said outer end walls in their upwardly swung position.

8. A folding cradle according to claim 7, in combination with a retaining flap on said second outer side wall remote from said top wall for frictional engagement between the adjacent side cover wall and said inner end walls.

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