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3,145,904

BLANKS FOR READY ERECTION INTO BOX-LIKE CONTAINERS

Filed March 20, 1963

3 Sheets-Sheet 2

FIG. 2

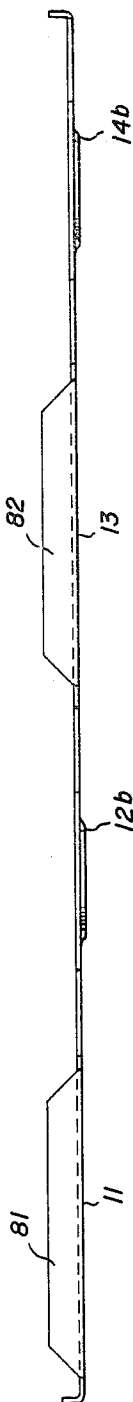


FIG. 3

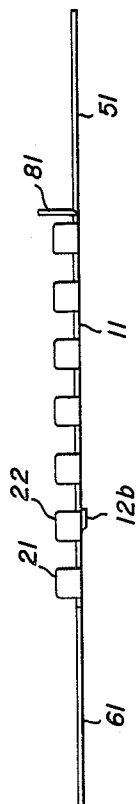


FIG. 4

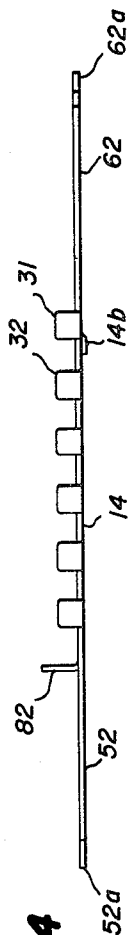


FIG. 5

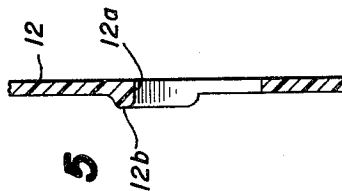
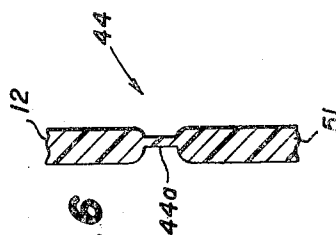


FIG. 6



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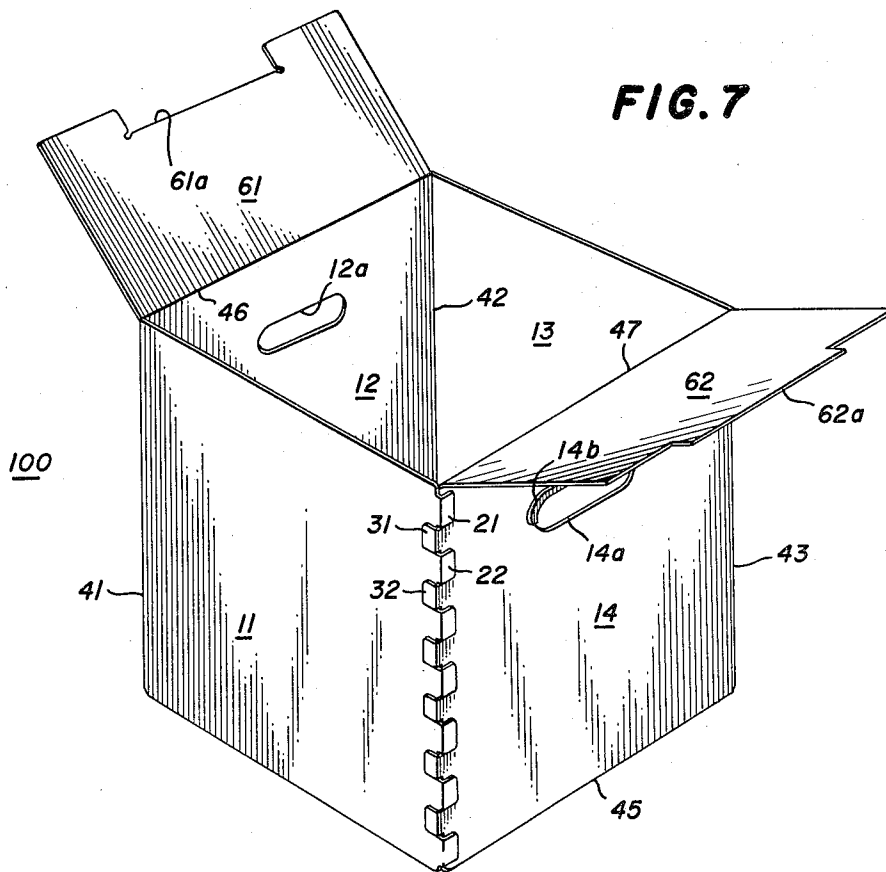
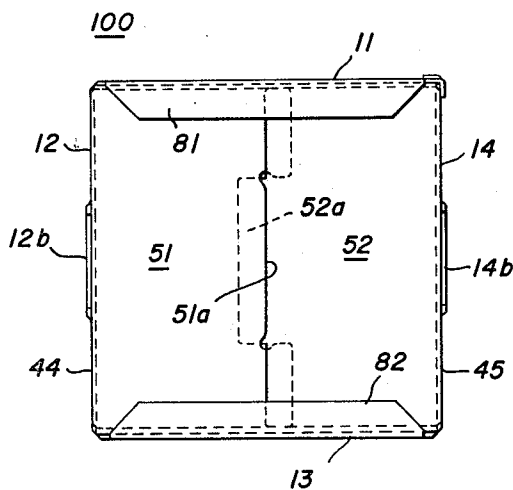
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3 Sheets-Sheet 3



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3,145,904

## BLANKS FOR READY ERECTION INTO BOX-LIKE CONTAINERS

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10 Claims. (Cl. 229—39)

The present invention relates to blanks that may be readily erected into box-like containers and to such containers that may be readily knocked-down into the blanks of which they are erected, all without the use of tools or external fastener devices.

It is a general object of the invention to provide a blank of the character noted that is of one-piece construction formed entirely of an integrally molded single mass of synthetic organic resin.

Another object of the invention is to provide a blank of the character noted that is of simple, strong and lightweight construction and that may be erected to produce a box-like container that is also of simple, strong and lightweight construction.

Another object of the invention is to provide a blank of the character noted that may be completely formed in a single-stage injection molding operation in an economical manner.

A further object of the invention is to provide a blank of the character described, wherein the blank may be erected into the container and the container may be knocked-down into the blank repeatedly a great plurality of times, without damage to the blank and without impairing the utility thereof, so that a first person may ship goods in the container to a second person, and so that the second person may knock-down the container after the removal of the goods therefrom and return the blank to the first person, and so that the first person may then erect the container from the blank and again ship other goods in the container either to the second person or to a third person, whereby great economy is realized in the return of the blank to the first person and in the re-use of the container by the first person.

A still further object of the invention is to provide a blank of the character described, wherein the same is so constructed and arranged and so dimensioned that it is particularly useful to produce upon erection thereof a container adapted to receive a stack of 15 cartons arranged in 5 vertically disposed layers of 3 cartons per layer with each carton adapted to contain a dozen individual eggs, whereby the container may be advantageously employed to market eggs from a chicken ranch.

Further features of the invention pertain to the particular construction and arrangement of the elements of the blank, whereby the above-outlined and additional operating features thereof are attained.

The invention, both as to its organization and method of operation, together with further objects and advantages thereof, will best be understood by reference to the following specification taken in connection with the accompanying drawings, in which:

FIGURE 1 is a plan view of a blank embodying the present invention, that may be readily erected to produce the box-like container, as shown in FIG. 7;

FIG. 2 is a side view of the blank, taken in the direction of the arrows along the offset line 2—2 in FIG. 1;

FIG. 3 is another side view of the blank, taken in the direction of the arrows along the offset line 3—3 in FIG. 1;

FIG. 4 is a further side view of the blank, taken in the direction of the arrows along the line 4—4 in FIG. 1;

FIG. 5 is an enlarged fragmentary sectional view of the blank, taken at one of the hand-grasp openings in one of

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the end walls thereof, this view being taken in the direction of the arrows along the line 5—5 in FIG. 1;

FIG. 6 is a greatly enlarged fragmentary sectional view of the blank, taken at one of the hinge structures incorporated therein, this view being taken in the direction of the arrows along the line 6—6 in FIG. 1;

FIG. 7 is a front perspective view of the box-like container that is produced upon erection of the blank of FIG. 1, as previously noted; and

FIG. 8 is a bottom view of the container, as shown in FIG. 7.

Referring now to the drawings, the blank 10 illustrated in FIG. 1, and embodying the features of the present invention, is especially designed to be erected into the box-like container 100, as illustrated in FIG. 7; and conversely, the box-like container 100, and embodying the features of the present invention, is especially designed to be knocked-down into the blank 10, all without the use of tools or external fastener devices. More particularly, the container 100 is especially designed to receive a stack of fifteen cartons, not shown, arranged in five vertically disposed layers of three cartons per layer with each carton adapted to contain a dozen individual eggs; whereby the container 100 is particularly adapted for use to market eggs from a chicken ranch. Specifically, the blank 10 comprises a one-piece sheet-like construction formed entirely of an integrally molded single mass of synthetic organic resin. The resin may comprise high-impact polystyrene, polypropylene, branched low density polyethylene, linear high-density polyethylene, etc., but preferably, the resin comprises linear high-density polyethylene.

At this point, it is noted that "linear high-density" polyethylene is altogether different from "branched low-density" polyethylene, both as to structure and to physical properties. The linear high-density product may be produced by the Ziegler "low-pressure" polymerization process and is characterized by a specific gravity in the range 0.941 to 0.965, products having a lower specific gravity (0.926 to 0.940) being referred to as "medium-density" polyethylene, and products having a still lower specific gravity (0.910 to 0.925) being referred to as "low-density" polyethylene. Linear high-density polyethylene possesses physical properties that are ideally suitable to utilization as the plastic material of which the blank 10 of the present invention is molded in its entirety and as a one-piece construction. Specifically, linear high-density polyethylene comprises an excellent injection molding material, has a very low mold shrinkage characteristic (0.02 to 0.05 in. per in.), has a high tensile strength (3,100 to 5,500 p.s.i.), has a high compressive strength (2,400 p.s.i.), has a high impact strength (1.5 to 12.0 ft.-lb. per in. of notch— $\frac{1}{2}$  in. x  $\frac{1}{2}$  in. notched bar, Izod test), substantial hardness (D60 to D70—Shore—Rockwell), a high resistance to heat (250° F.—continuous), a high heat distortion temperature (140 to 180° F.—66 p.s.i.), has a very low water absorption characteristic (0.01% per 24 hr. in  $\frac{1}{8}$  in. thickness specimens), has a very slow burning rate, has an exceedingly high resistance to sunlight, and is very resistant to weak alkalis, strong alkalis, weak acids, strong acids and organic solvents.

Specifically, the blank 10 comprises a first side wall 11 and a first end wall 12 and a second side wall 13 and a second end wall 14 arranged in the order named in a linear array, horizontally as illustrated in FIG. 1, wherein the first and second side walls 11 and 13 have substantially identical rectangular configurations and wherein the first and second end walls 12 and 14 have substantially identical rectangular configurations. A plurality of stiff first tabs 21, 22, etc., are carried by the left-hand side of the first side wall 11 and disposed in spaced-apart relation therealong and in upstanding position with

respect thereto; and a plurality of stiff second tabs 31, 32, etc., are carried by the right-hand side of the second end wall 14 and disposed in spaced-apart relation therealong and in upstanding position with respect thereto. First hinge structure 41 joins the left-hand side of the first side wall 11 and the adjacent left-hand side of the first end wall 12; second hinge structure 42 joins the right-hand side of the first end wall 12 and the adjacent left-hand side of the second side wall 13; and third hinge structure 43 joins the right-hand side of the second side wall 13 and the adjacent left-hand side of the second end wall 14.

First and second bottom wall flaps 51 and 52 are respectively arranged below the first and second end walls 12 and 14. Fourth hinge structure joins the bottom of the first end wall 12 and the adjacent top of the first bottom wall flap 51; and fifth hinge structure 45 joins the bottom of the second end wall 14 and the adjacent top of the second bottom wall flap 52. First and second top wall flaps 61 and 62 are respectively arranged above the first and second end walls 12 and 14. Sixth hinge structure 46 joins the top of the first end wall 12 and the adjacent bottom of the first top wall flap 61; and seventh hinge structure 47 joins the top of the second end wall 14 and the adjacent bottom of the top wall flap 62.

The hinge structures 41 to 47, inclusive, are identical; and as illustrated in FIG. 6, the hinge structure 44 consists essentially of a narrow web 44a of the resin extending between the bottom of the first end wall 12 and the top of the first bottom wall flap 51. In the arrangement, the web 44a has a width between the first end wall 12 and the first bottom wall flap 51 that is approximately equal to the thickness of the first end wall 12 and the thickness of the first bottom wall flap 51; and the web 44a has a thickness between the opposite sides thereof that is approximately equal to one-quarter of the width thereof. This arrangement renders the hinge structure 44 relatively foldable and bendable so as to accommodate corresponding relative movements of the first end wall 12 and the first bottom wall flap 51. Of course, it will be understood that in a similar manner: the first hinge structure 41 accommodates relative movements between the first side wall 11 and the first end wall 12; the second hinge structure 42 accommodates relative movements between the second end wall 12 and the second side wall 13; the third hinge structure 43 accommodates relative movements between the second side wall 13 and the second end wall 14; the fifth hinge structure 45 accommodates relative movements between the second end wall 14 and the second bottom wall flap 52; the sixth hinge structure 46 accommodates relative movements between the first end wall 12 and the first top wall flap 61; and the seventh hinge structure 47 accommodates relative movements between the second end wall 14 and the second top wall flap 62.

In the blank 10, the corner junction between the elements 11, 12 and 51 is cut-out or rounded, as indicated at 71, in order to accommodate ready folding of the elements 11, 12 and 51 into three corresponding planes disposed mutually at 90° with respect to each other in the formation of the container 100. For a similar purpose, the corner junction between the elements 12, 13 and 51 is cut-out or rounded, as indicated at 72; the corner junction between the elements 13, 14 and 52 is cut-out or rounded, as indicated at 73; the corner junction between the elements 11, 12 and 61 is cut-out or rounded, as indicated at 74; the corner junction between the elements 12, 13 and 61 is cut-out or rounded, as indicated at 75; and the corner junction between the elements 13, 14 and 62 is cut-out or rounded, as indicated at 76. Also, for a similar purpose, the bite between the elements 14 and 52 at the extreme right-hand end of the fifth hinge structure 45 is cut-out or rounded, as indicated at 77; and the bite between the elements 14 and 62 at the extreme right-hand end of the seventh hinge structure 47 is cut-out or rounded, as indicated at 78.

Further, the blank 10 comprises a stiff elongated first flange 81 carried by the bottom of the first side wall 11 and disposed in upstanding position with respect thereto, and a stiff elongated second flange 82 carried by the bottom of the second side wall 13 and disposed in upstanding position with respect thereto.

In the upper central portions of the two end walls 12 and 14, there are respectively formed two elongated hand-grasp openings 12a and 14a. Also, two outwardly directed reinforcing lips 12b and 14b are respectively carried by the end walls 12 and 14 respectively adjacent to the top portions of the respective hand-grasp openings 12a and 14a. This arrangement greatly facilitates handling of the box-like container 100 and its contents in an obvious manner.

The first and second bottom wall flaps 51 and 52 have complementary configurations and are adapted to cooperate with each other in order to form a composite bottom wall for the box-like container 100; and more particularly, complementary structures are respectively carried by the bottoms of the bottom wall flaps 51 and 52 and are disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when the bottom wall flaps 51 and 52 are arranged in cooperating relation with each other to form the composite bottom wall of the box-like container 100. Specifically, the central bottom portion of the bottom wall flap 51 has a rectangular notch 51a formed therein, and the central bottom portion of the bottom wall flap 52 carries a downwardly projecting tongue 52a; and in the arrangement, the tongue 52a is adapted to project into interfitting and interlocking relation with the notch 51a when the bottom wall flaps 51 and 52 are arranged in cooperating relation with each other to form the composite bottom wall of the box-like container 100. The first and second top wall flaps 61 and 62 have complementary configurations and are adapted to cooperate with each other in order to form a composite top wall for the box-like container 100; and more particularly, complementary structures are respectively carried by the tops of the top wall flaps 61 and 62 and are disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when the top wall flaps 61 and 62 are arranged in cooperating relation with each other to form the composite top wall of the box-like container 100. Specifically, the central top portion of the top wall flap 61 has a rectangular notch 61a formed therein, and the central top portion of the top wall flap 62 carries an upwardly projecting tongue 62a; and in the arrangement, the tongue 62a is adapted to project into interfitting and interlocking relation with the notch 61a when the top wall flaps 61 and 62 are arranged in cooperating relation with each other to form the composite top wall of the box-like container 100.

In view of the foregoing description of the blank 10, it will be readily appreciated that the same may be erected to form the box-like container 100, without the use of tools or external fastener devices; and more particularly, in the erection of the blank 10, the elements 11, 12, 13 and 14 are positioned to form the two side walls and the two end walls of the container 100, the required positioning of the elements 11, 12, 13 and 14 being facilitated by the required folding of the elements 11 and 12 along the hinge structure 41 by the required folding of the elements 12 and 13 along the hinge structure 42, and by the required folding of the elements 13 and 14 along the hinge structure 43. In the erection of the blank 10, as the left-hand side of the first side wall 11 is brought into meeting relation with the right-hand side of the second end wall 14, at one corner of the container 100, the first tabs 21, 22, etc., are folded or positioned between the second tabs 31, 32, etc., in knuckle-like fashion, as clearly illustrated in FIG. 7. This knuckling of the tabs 21, 22, etc., with respect to the tabs 31, 32, etc., is accomplished by virtue of the circumstance that the two groups of tabs

21, etc., and 31, etc., are disposed in coordinate staggered positions with respect to each other. Moreover, there are seven individual tabs 21, 22, etc.; whereas there are only six individual tabs 31, 32, etc.; whereby the six individual tabs 31, 32, etc., may readily interlock between adjacent ones of the seven individual tabs 21, 22, etc. Also, when the first tabs 21, 22, etc., and the second tabs 31, 32, etc., are interlocked in the manner described above, the first tabs 21, 22, etc., overlie and support the adjacent side portion of the second end wall 14, and the second tabs 31, 32, etc., overlie and support the adjacent side portion of the first side wall 11, as clearly illustrated in the box-like container 100, as shown in FIG. 7.

In the erection of the container 100 from the blank 10, and prior to the folding of the elements 11, 12, 13 and 14 to form the two side walls and the two end walls of the container 100, the two bottom wall flaps 51 and 52 are lifted or folded upwardly along the hinge structures 44 and 45, so that they are positioned above the flanges 81 and 82 respectively carried by the bottoms of the two side walls 11 and 13. Thus, as the elements 11, 12, 13 and 14 are folded to form the two side walls and the two end walls of the container 100, as described above, the tongue 52a carried by the central bottom portion of the bottom wall flap 52 is inserted into the notch 51a provided in the central bottom of the bottom wall flap 51. Thus, the composite bottom wall of the container 100 is formed by the bottom wall flaps 51 and 52 as the elements 11, 12, 13 and 14 are folded to form the two side walls and the two end walls of the box-like container 100; which arrangement causes the two flanges 81 and 82 respectively to underlie and to support the adjacent side portions of the formed composite bottom wall of the container 100, as best shown in FIG. 8.

In the erection of the blank 10 into the container 100, as described above, the top wall flaps 61 and 62 are folded rearwardly along the respective hinge structures 46 and 47, so that the top of the formed container 100 is open, as illustrated in FIG. 7. Thereafter, the goods to be shipped is loaded into the container 100; and specifically, fifteen standard egg cartons may be nicely fitted into the container 100, in accordance with one embodiment of the blank 10, as described more fully hereinafter. After loading of the container 100, the tongue 62a carried by the central top of the top wall flap 62 is inserted into the notch 61a provided in the central top of the top wall flap 61. Then the top wall flaps 61 and 62 are moved into cooperating relation to form the composite top wall of the container 100.

In view of the above description of the ready erection of the blank 10 to produce the container 100, it will be understood that the container 100 may be readily knocked-down again to form the blank 10; the knock-down steps being substantially the same as the erection steps, but in the reverse order. Thus, the blank 10 may be converted into the container 100 and the container 100 may be converted into the blank 10, as desired, and all without the use of tools or external fastener devices. Moreover, repeated conversion of the blank 10—container 100 does not damage the blank 10 and does not impair the utility of the container 100. These circumstances allow a first person to erect the blank 10 into the container 100 and then use the same to ship goods to a second person. The second person may remove the goods from the container 100, and then knock-down the same to the blank 10. The second person may then return the flat blank 10 to the first person; whereby the first person may again erect the blank 10 into the container 100 and then use the same to ship other goods either to the second person or to a third person.

As previously noted, the container 100 has great utility as a shipping box for fifteen standard egg carton, each carton being adapted to contain a dozen individual eggs, whereby the blank 10—container 100 has special utility in marketing eggs from a chicken ranch. In this exam-

ple, the blank 10 is formed in a single-step injection molding operation employing a single mass of linear high-density polyethylene in the injection molding machine. Each of the walls 11, 12, 13 and 14, the bottom wall flaps 51 and 52, the top wall flaps 61 and 62, the tabs 21, etc., 31, etc., and the flanges 81 and 82 have a thickness of approximately 70 mls. Each of the side walls 11 and 13 has the approximate dimensions  $12\frac{1}{32}$ " x  $13\frac{1}{2}$ "; and each of the end walls 12 and 14 has the approximate dimensions  $12$ " x  $13\frac{1}{2}$ ". The other dimensions of the blank 10 are related to those mentioned in accordance with the scales of the different figures of the drawings. Thus, the container 100 has the approximate inside dimensions of  $12$ " x  $12$ " x  $13\frac{1}{2}$ ", the height of  $13\frac{1}{2}$ " accommodating the five layers of cartons of three cartons per layer disposed in cross-stacked relation as previously explained.

Of course, it will be appreciated that the blank 10 is of general utility in the production of the container 100, without reference to the utility of the container 100; however, the container 100 of the present example is especially useful for the purpose noted. Accordingly, the thickness of the blank 10 and the dimensions of the walls 11, 12, 13 and 14 may be appropriately varied in order to produce a great variety of containers embodying the present invention.

In view of the foregoing, it is apparent that there has been provided a blank that may be readily erected into a box-like container, as well as a container that may be readily knocked-down into the blank of which it is erected, all without the use of tools or external fastener devices; wherein the blank is of improved construction and arrangement, and essentially comprises a one-piece construction formed entirely of an integrally mounted single mass of synthetic organic resin.

While there has been described what is at present considered to be the preferred embodiment of the invention, it will be understood that various modifications may be made therein, and it is intended to cover in the appended claims all such modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A blank capable of ready erection into a box-like container, without the use of tools or external fastener devices; said blank comprising a one-piece sheet-like construction formed entirely of an integrally molded single mass of synthetic organic resin; said blank also comprising a first side wall and a first end wall and a second side wall and a second end wall arranged in the order named in a linear array, wherein said first and second side walls have substantially identical rectangular configurations and wherein said first and second end walls have substantially identical rectangular configurations, a plurality of stiff first tabs carried by one side of said first side wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, first hinge structure joining the other side of said first side wall and the adjacent one side of said first end wall, second hinge structure joining the other side of said first end wall and the adjacent one side of said second side wall, third hinge structure joining the other side of said second side wall and the adjacent one side of said second end wall, a plurality of stiff second tabs carried by the other side of said second end wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, said first and second tabs being disposed in coordinate staggered positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said blank is erected to form the box-like container, said first tabs overlying and supporting the adjacent side portion of said second end wall and said second tabs overlying and supporting the adjacent side portion of said first side wall when said blank is erected to form the box-like container, first and second bottom

wall flaps respectively arranged below said first and second end walls, fourth hinge structure joining the bottom of said first end wall and the adjacent top of said first bottom wall flap, fifth hinge structure joining the bottom of said second end wall and the adjacent top of said second bottom wall flap, said first and second bottom wall flaps having complementary configurations and being adapted to cooperate with each other to form a composite bottom wall for the box-like container, complementary structures respectively carried by the bottoms of said bottom wall flaps and disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said bottom wall flaps are arranged in cooperating relation with each other to form the composite bottom wall of the box-like container, a stiff elongated first flange carried by the bottom of said first side wall and disposed in upstanding position with respect thereto, and a stiff elongated second flange carried by the bottom of said second side wall and disposed in upstanding position with respect thereto, said first and second flanges respectively underlying and supporting the adjacent side portions of the formed composite bottom wall of the box-like container.

2. The blank set forth in claim 1, wherein the resin of which it is molded consists essentially of linear high-density polyethylene.

3. The blank set forth in claim 1, wherein each of said hinge structures is in the form of a narrow web that is materially thinner than each of said side walls and each of said end walls and each of said bottom wall flaps.

4. The blank set forth in claim 3, wherein each of said side walls and each of said end walls and each of said bottom wall flaps have approximately the same thickness, and each of said webs has a width approximately equal to the thickness of each of said side walls and a thickness approximately equal to  $\frac{1}{4}$  of the width thereof.

5. The blank set forth in claim 4, wherein each of said side walls has a thickness of about 70 mils.

6. The blank set forth in claim 1, wherein each of said side walls and each of said end walls has a height of approximately  $13\frac{1}{2}$ " and a width of approximately 12"; whereby the box-like container is especially adapted to receive a stack of 15 cartons arranged in 5 vertically disposed layers of 3 cartons per layer with each carton adapted to contain a dozen individual eggs.

7. The blank set forth in claim 1, wherein the upper central portions of said two end walls have respectively formed therein two hand-grasp openings, and further comprising two reinforcing lips respectively carried by said end walls respectively adjacent to the top portions of said hand-grasp openings, thereby to facilitate handling of the box-like container.

8. A blank capable of ready erection into a box-like container, without the use of tools or external fastener devices; said blank comprising a one-piece sheet-like construction formed entirely of an integrally molded single mass of synthetic organic resin; said blank also comprising a first side wall and a first end wall and a second side wall and a second end wall arranged in the order named in a linear array, wherein said first and second side walls have substantially identical rectangular configurations and wherein said first and second end walls have substantially identical rectangular configurations, a plurality of stiff first tabs carried by one side of said first side wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, first hinge structure joining the other side of said first side wall and the adjacent one side of said first end wall, second hinge structure joining the other side of said first end wall and the adjacent one side of said second side wall, third hinge structure joining the other side of said second side wall and the adjacent one side of said second end wall, a plurality of stiff second tabs carried by the other side of said second end wall and disposed in spaced-apart rela-

tion therealong and in upstanding position with respect thereto, said first and second tabs being disposed in coordinate staggered positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said blank is erected to form the box-like container, said first tabs overlying and supporting the adjacent side portion of said second end wall and said second tabs overlying and supporting the adjacent side portion of said first side wall when said blank is erected to form the box-like container, first and second bottom wall flaps respectively arranged below said first and second end walls, fourth hinge structure joining the bottom of said first end wall and the adjacent top of said first bottom wall flap, fifth hinge structure joining the bottom of said second end wall and the adjacent top of said second bottom wall flap, said first and second bottom wall flaps having complementary configurations and being adapted to cooperate with each other to form a composite bottom wall for the box-like container, a tongue carried by the central portion of the bottom of one of said bottom wall flaps and projecting downwardly therefrom, the central portion of the other of said bottom wall flaps having a recess formed therein, said tongue and said recess being disposed in coordinate positions with respect to each other so that said tongue is adapted to be arranged in interfitting and interlocking relation with said recess when said bottom wall flaps are arranged in cooperating relation with each other to form the composite bottom wall of the box-like container, a stiff elongated first flange carried by the bottom of said first side wall and disposed in upstanding position with respect thereto, and a stiff elongated second flange carried by the bottom of said second side wall and disposed in upstanding position with respect thereto, said first and second flanges respectively underlying and supporting the adjacent side portions of the formed composite bottom wall of the box-like container.

9. A blank capable of ready erection into a box-like container, without the use of tools or external fastener devices; said blank comprising a one-piece sheet-like construction formed entirely of an integrally molded single mass of synthetic organic resin; said blank also comprising a first side wall and a first end wall and a second side wall and a second end wall arranged in the order named in a linear array, wherein said first and second side walls have substantially identical rectangular configurations and wherein said first and second end walls have substantially identical rectangular configurations, a plurality of stiff first tabs carried by one side of said first side wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, first hinge structure joining the outer side of said first side wall and the adjacent one side of said first end wall, second hinge structure joining the other side of said first end wall and the adjacent one side of said second side wall, third hinge structure joining the other side of said second side wall and the adjacent one side of said second end wall, a plurality of stiff second tabs carried by the other side of said second end wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, said first and second tabs being disposed in coordinate staggered positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said blank is erected to form the box-like container, said first tabs overlying and supporting the adjacent side portion of said second end wall and said second tabs overlying and supporting the adjacent side portion of said first side wall when said blank is erected to form the box-like container, first and second bottom wall flaps respectively arranged below said first and second end walls, fourth hinge structure joining the bottom of said first end wall and the adjacent top of said first bottom wall flap, fifth hinge structure joining the bottom of said second end wall and the adjacent top of said second bottom wall flap, said first and second bottom

wall flaps having complementary configurations and being adapted to cooperate with each other to form a composite bottom wall for the box-like container, complementary first structures respectively carried by the bottoms of said bottom wall flaps and disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said bottom wall flaps are arranged in cooperating relation with each other to form the composite bottom wall of the box-like container, a stiff elongated first flange carried by the bottom of said first side wall and disposed in upstanding position with respect thereto, a stiff elongated second flange carried by the bottom of said second side wall and disposed in upstanding position with respect thereto, said first and second flanges respectively underlying and supporting the adjacent side portions of the formed composite bottom wall of the box-like container, first and second top wall flaps respectively arranged above said first and second end walls, sixth hinge structure joining the top of said first end wall and the adjacent bottom of said first top wall flap, seventh hinge structure joining the top of said second end wall and the adjacent bottom of said second top wall flap, said first and second top wall flaps having complementary configurations and being adapted to cooperate with each other to form a composite top wall for the box-like container, and complementary second structures respectively carried by the tops of said top wall flaps and disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said top wall flaps are arranged in cooperating relation with each other to form the composite top wall of the box-like container.

10. A blank capable of ready erection into a box-like container, without the use of tools or external fastener devices; said blank comprising a one-piece sheet-like construction formed entirely of an integrally molded single mass of synthetic organic resin; said blank also comprising a first side wall and a first end wall and a second side wall and a second end wall arranged in the order named in a linear array, wherein said first and second side walls have substantially identical rectangular configurations and wherein said first and second end walls have substantially identical rectangular configurations, a plurality of stiff first tabs carried by one side of said first side wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, first hinge structure joining the other side of said first side wall and the adjacent one side of said first end wall, second hinge structure joining the other side of said first end wall and the adjacent one side of said second side wall, third hinge structure joining the other side of said second side wall and the adjacent one side of said second end wall, a plurality of stiff second tabs carried by the other side of said second

end wall and disposed in spaced-apart relation therealong and in upstanding position with respect thereto, said first and second tabs being disposed in coordinate staggered positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said blank is erected to form the box-like container, said first tabs overlying and supporting the adjacent side portion of said second end wall and said second tabs overlying and supporting the adjacent side portion of said first side wall when said blank is erected to form the box-like container, first and second bottom wall flaps respectively arranged below said first and second end walls, fourth hinge structure joining the bottom of said first end wall and the adjacent top of said first bottom wall flap, fifth hinge structure joining the bottom of said second end wall and the adjacent top of said second bottom wall flap, said first and second bottom wall flaps having respectively generally rectangular configurations that are complementary so that they are adapted to cooperate with each other to form a composite bottom wall of rectangular configuration for the box-like container, complementary first structures respectively carried by the bottoms of said bottom wall flaps and disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said bottom wall flaps are arranged in cooperating relation with each other to form the composite wall of the box-like container, a stiff elongated first flange carried by the bottom of said first side wall and disposed in upstanding position with respect thereto, a stiff elongated second flange carried by the bottom of said second side wall and disposed in upstanding position with respect thereto, said first and second flanges respectively underlying and supporting the adjacent side portions of the formed composite bottom wall of the box-like container, first and second top wall flaps respectively arranged above said first and second end walls, sixth hinge structure joining the top of said first end wall and the adjacent bottom of said first top wall flap, seventh hinge structure joining the top of said second end wall and the adjacent bottom of said second top wall flap, said first and second top wall flaps having respectively generally rectangular configurations that are complementary so that they are adapted to cooperate with each other to form a composite top wall of rectangular configuration for the box-like container, and complementary second structures respectively carried by the tops of said top wall flaps and disposed in coordinate positions with respect to each other so that they are adapted to be arranged in interfitting and interlocking relation with each other when said top wall flaps are arranged in cooperating relation with each other to form the composite top wall of the box-like container.

No references cited.