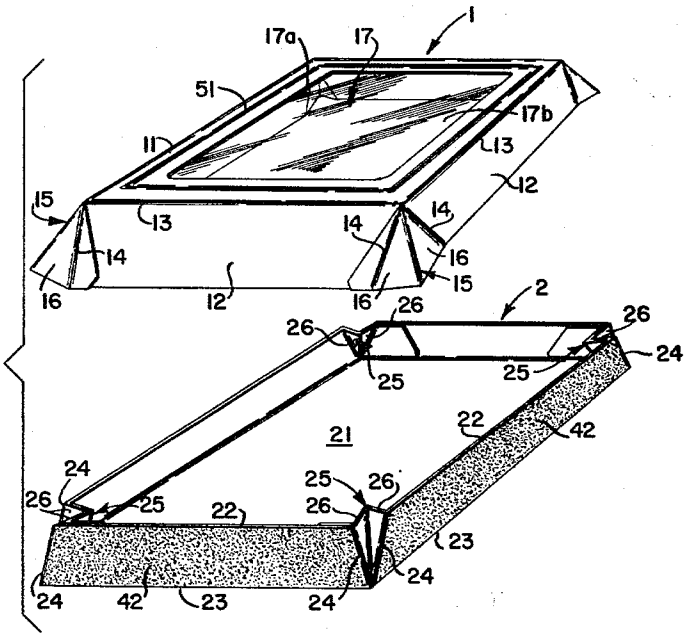
April 6, 1965 F. CIGANENKO 3,176,900

QUICK-SEALING CONTAINER

Filed April 17, 1962 2 Sheets-Sheet 1

FIG. 1



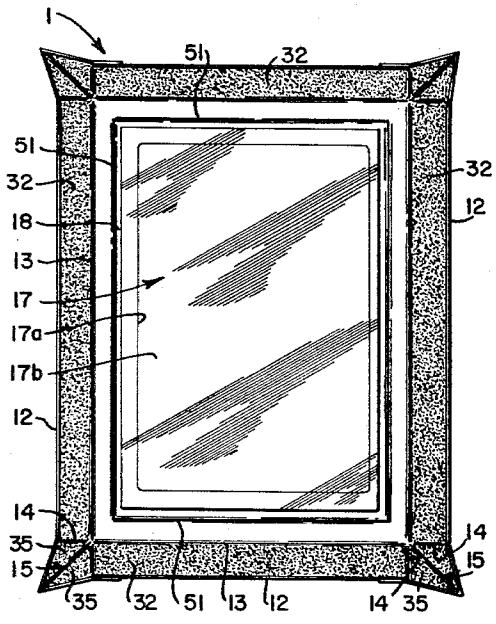


FIG. 2

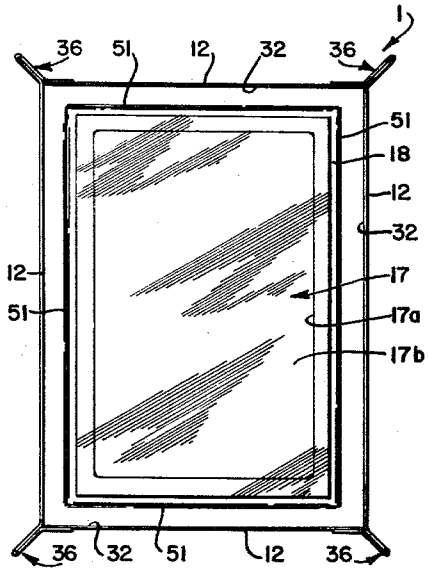


FIG. 3

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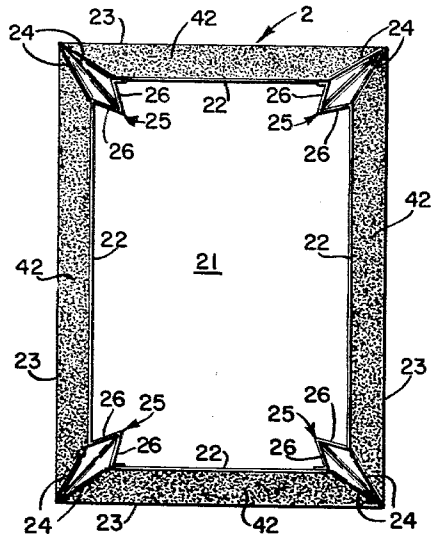


FIG. 4

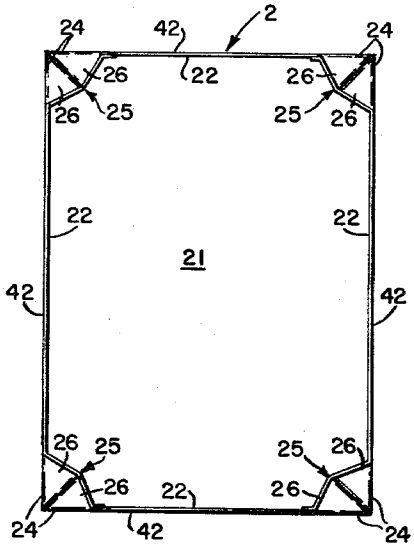


FIG. 5

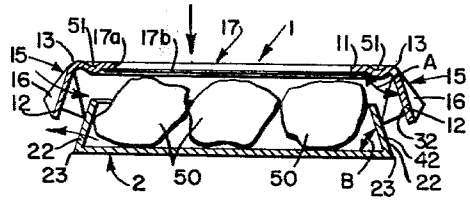


FIG. 6

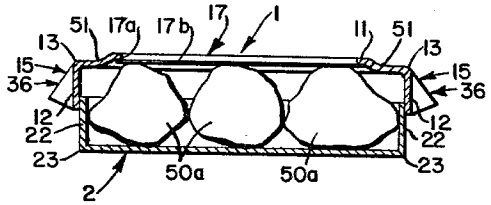


FIG. 8

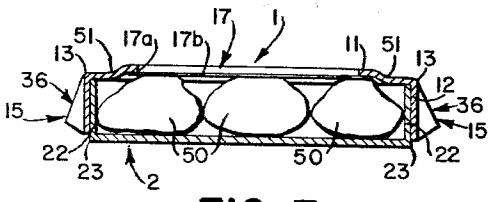


FIG. 7

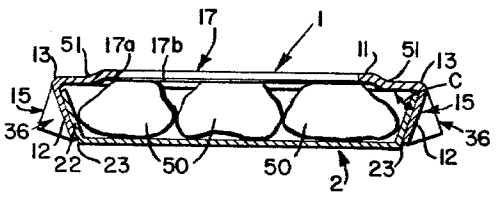


FIG. 9

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QUICK-SEALING CONTAINER

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7 Claims. (Cl. 229—31)

The present invention relates to a quick-sealing, box-like container. More specifically, the invention is concerned with a device for packaging foodstuffs and like small items for display and sale.

Modern merchandising techniques which have evolved as a result of the development of large food markets require that meats, fruits, vegetables and other relatively small items be individually packaged for display and sale in such markets. Such a package must be sturdy, yet attractive, and must be easily assembled and quickly sealed so as to minimize the amount of time required to package the numerous items involved. The container of the invention has been devised with the criteria in mind.

A primary object of the invention is to provide a container which is readily assembled and quickly sealed to form a tight, sturdy package for foodstuffs and like small items.

Another object is to provide a container which is attractive and will enhance the appeal of the items displayed therein.

A further object is to provide a sturdy, durable package which will withstand continued handling and is capable of being easily stored both in the market and in the home.

A still further object is to provide a container which employs a cohesive coating to attain quick sealing thereby minimizing the time necessary to form a durable package of neat appearance.

The invention may be described briefly as a quick-sealing, box-like container comprising a tray having a bottom and side walls, each side wall lying in a plane near the perpendicular to the plane of the bottom, with a cohesive coating upon exterior surfaces of the tray side walls, and a cover, the cover adapted to be placed in a mating position upon the tray, the cover having a top and side walls, each side wall lying in a plane forming an obtuse angle with the plane of the top. Plications join adjacent ends of the cover side walls, the plications providing seals between the adjacent ends during placement of the cover into the mating position and forming flexures allowing the cover side walls to be moved toward a position nearer the perpendicular to the plane of the top while remaining plane in form after the cover is placed in the mating position. A cohesive coating is provided upon interior surfaces of the cover side walls for firmly gripping said cohesive coating upon the tray side walls and sealing the container when the cover is in the mating position upon the tray and the cover side walls are moved toward the near perpendicular position.

The novel features of the invention, as well as additional objects and advantages thereof, will be more fully understood from the following detailed description of an embodiment of the invention illustrated in the drawings in which:

FIGURE 1 is a perspective view of the sections of a container constructed in accordance with the invention;

FIGURE 2 is a plan view looking into the cover of FIGURE 1 in its initial configuration;

FIGURE 3 is a plan view looking into the cover of FIGURE 1 in its final configuration;

FIGURE 4 is a plan view looking into the tray of FIGURE 1 in its initial configuration;

FIGURE 5 is a plan view looking into the tray of FIGURE 1 in its final configuration;

FIGURE 6 is a transverse sectional view illustrating, diagrammatically, the container of FIGURE 1 as it is being assembled;

FIGURE 7 is a transverse sectional view illustrating, diagrammatically, the container of FIGURE 6 in assembled condition;

FIGURE 8 is a transverse sectional view illustrating, diagrammatically, the container of FIGURE 6 in an alternative assembled form; and

FIGURE 9 is a transverse sectional view illustrating, diagrammatically, another alternative assembled configuration.

Referring first to FIGURE 1, the container is comprised of two sections, a cover 1 and a tray 2, each section being fabricated of paper, cardboard or a like material. The cover has a generally rectangular top 11 and side walls 12 which are integral with the top and folded downwardly at edges 13 so that side walls 12 make an obtuse angle A (see FIGURE 6) with top 11. Adjacent ends of the side walls such as, for example, ends 14 are joined together by folds or plications 15 formed by outwardly folded extensions 16 of the side walls. These plications serve as flexures which allow each side wall 12 to be moved about an axis in each edge 13 from a position where each side wall lies in a plane forming an obtuse angle with top 11, as shown in FIGURES 1, 2 and 6, toward a position where the side wall lies in a plane nearer the perpendicular to top 11, as shown in FIGURES 3 and 7, while maintaining the side walls plane and undistorted. A window 17 may be provided in the top and is formed by providing an opening 17*a* in top 11 and fixing a sheet of cellulose acetate 17*b* or a like transparent material to the internal surface 18 of the top to cover the opening 17*a*.

The tray 2 has a bottom 21 and side walls 22 which are integral with the bottom and folded upwardly at edges 23 so that side walls 22 make an acute angle B (see FIGURE 6) with bottom 21. Adjacent ends of the side walls such as, for example, ends 24 are joined together by folds or plications 25 formed by inwardly folded extensions 26 of the side walls. These plications serve as flexures which allow each side wall 22 to be moved about an axis in each edge 23 from a position where each side wall lies in a plane forming an acute angle with bottom 21, as shown in FIGURES 1, 4 and 6, to a position where the side wall lies in a plane nearer the perpendicular to bottom 21, as shown in FIGURES 5 and 7, while maintaining the side walls plane and undistorted. The dimensions of the cover are so related to the dimensions of the tray that the sections will telescope when assembled as indicated in FIGURES 6 and 7.

Interior surfaces 32 of cover side walls 12 and interior surfaces 35 of plications 15 are coated with a cohesive substance. For the purposes of the instant description, a cohesive substance is defined as one which normally will not adhere to plain paper, cardboard or wood as would an adhesive, but will adhere tenaciously to and firmly grip a similar coating. Suitable cohesive coatings may be made of a latex or rubber base material and are known in the art.

Similarly, exterior surfaces 42 of tray side walls 22 are coated with a cohesive substance. It is noted that the plications 25 are not coated.

In assembling a container, the contents 50 which are to be packaged are first placed in the tray as shown diagrammatically in FIGURE 6. Then the cover is placed over the tray with its contents and pressed downwardly as indicated. Initially, the angle of the tray side walls 22 relative to bottom 21 and the angle of the cover side walls 12 relative to top 11 will ensure that these elements do not contact one another prematurely, thereby causing the cohesive coatings to stick to one another and preventing the proper location of cover 1 upon tray 2. As cover 1 is pressed downwardly, the contents are compressed slightly and tend to force tray side walls 22 outwardly toward a position nearer the perpendicular to bottom 21.

When cover **1** is in proper mating position upon tray **2**, cover side walls **12** may be pushed against tray side walls **22** so that interior surfaces **32** of the cover side walls will mate with exterior surfaces **42** of the tray side walls. The cohesive coatings on each section are thus brought together so that the side walls firmly grip one another and seal the container (FIGURE 7). Because of the wide variety of shapes and sizes of items to be packaged and the desire to maintain a minimum number of sizes of container sections, the depth available in a container of the invention may be varied merely by sealing the sections together at any desired vertical telescoping position as long as enough area is provided at the mating surfaces to effect a proper seal. Thus, a proper mating position for the cover may be the one shown in FIGURE 8 where top **11** is displaced vertically from tray **2** to accommodate contents **50***a* having a greater height than the contents **50** in FIGURE 7 where the top **11** is in proper mating position when seated upon tray side walls **22**. Where use of the container as illustrated in FIGURE 8 is contemplated, the cohesive coatings need not cover the entire area of interior surfaces **32** and exterior surfaces **42**, but only those areas which will come into sealing contact. Extensions **16** which form plications **15** are brought together by the movement of the cover side walls to form ears **36**. These ears serve a dual function: First, they tightly seal the corners of the package to prevent leakage at these corners and second, they provide positive means for holding the cover side walls in sealing position and reinforce the seal formed by the cohesive coatings on the mating surfaces of the side walls. Plications **25** likewise serve to prevent leakage at the corners of the tray. Thus, even when top **11** is not seated upon tray **2**, as illustrated in FIGURE 8, the corners of the container will still be sealed. It is noted that the plications in both the cover and the tray serve to maintain all of the side walls in an undistorted planar configuration as pointed out hereinbefore. Such a configuration ensures a proper seal throughout the perimeter of the container by maintaining the mating surfaces flat.

When the cover is provided with a window **17**, it is preferable to employ a shallow rib **51** formed in top **11** surrounding the opening **17***a*. The rib allows a slight amount of vertical play in top **11** relative to cover side walls **12** thus tending to relieve some of the strain placed upon sheet **17***b* during the sealing operation (see FIGURES 6 and 7).

In certain applications, it has been found that a seal of even greater strength may be effected by allowing the tray side walls to move slightly beyond the perpendicular position shown in FIGURE 7 so as to form an obtuse angle with the bottom in the final sealed configuration as shown in FIGURE 9. The cover is then fabricated with a top **11** having a slightly larger area than bottom **21** so that the cover side walls may be moved slightly beyond the perpendicular to a position forming an acute angle C with the top in the final, sealed configuration and mating with the tray side walls. Again, the cover plications, sealed to form ears **36**, would tend to hold the cover side walls in sealing position while ensuring that the corners are tightly sealed.

Where the contents **50** are not readily compressible or will not entirely fill the tray, it may be preferable to employ a tray having side walls fixed in a position at or near the perpendicular to the bottom. In such a case, it has been found that the obtuse angle of the cover side walls will be sufficient to preclude premature contact of the cohesive coatings on the cover and on the tray, though the margin of safety is not as great as when the tray side walls are movable as well as the cover side walls.

Since the cohesive coatings will not stick to plain paper, cardboard or other materials from which the cover and tray may be fabricated, like sections may be stored in their own individual stacks prior to use and may even be placed in nested arrangement without these like sections sticking to one another.

It is apparent from the above description that a container has been devised which is sturdy and durable enough to withstand the continuous handling to which packaged items are generally subjected in large markets while still remaining tightly sealed, and maintaining a neat appearance.

It is to be understood that the above description of an embodiment of the invention is presented by way of example only and is not intended to restrict the invention. Modifications may be made in certain details of design and construction without departing from the true spirit and scope of the invention as set forth in the appended claims.

I claim:

1. A quick-sealing, box-like container comprising:
(A) a tray, said tray having a bottom and side walls, each side wall lying in a plane near the perpendicular to the plane of said bottom;
(B) a cohesive coating upon exterior surfaces of said tray side walls;
(C) a cover for placement in a mating position upon said tray, said cover having a top and side walls, each side wall lying in a plane forming an obtuse angle with said top;
(D) plications joining adjacent ends of said cover side walls, said plications providing closures between said adjacent ends during placement of said cover into said mating position and forming flexures allowing said cover side walls to be moved toward a position nearer the perpendicular to said plane of said top while remaining plane in form after said cover is placed in said mating position; and
(E) a cohesive coating upon interior surfaces of said cover side walls for firmly gripping said cohesive coating upon said tray side walls and sealing said container when said cover is in said mating position upon said tray and said cover side walls are moved toward said near perpendicular position;
(F) said obtuse angle being great enough to preclude inadvertent gripping and sealing during placement of said cover in said mating position upon said tray and small enough to allow said cover side walls to serve as closures during such placement.

2. A quick-sealing, box-like container comprising:
(A) a tray, said tray having a bottom and integral side walls, each side wall lying in a plane near the perpendicular to the plane of said bottom;
(B) a cohesive coating upon exterior surfaces of said side walls;
(C) a cover for placement in mating position upon said tray, said cover having a top and integral side walls, each side wall being movable from a position in a plane forming an obtuse angle with said top toward a position in a plane nearer the perpendicular to said plane of said top;
(D) plications joining adjacent ends of said cover side walls, said plications providing closures between said adjacent ends during placement of said cover into said mating position and forming outwardly projecting flexures allowing said cover side walls to maintain a plane configuration while being movable between said two positions after said cover is placed in said mating position;
(E) a cohesive coating upon interior surfaces of said cover side walls for firmly gripping said cohesive coating upon said tray side walls and tightly sealing said container when said cover is in said mating position upon said tray and said cover side walls are moved toward said near perpendicular position;
(F) said obtuse angle being great enough to preclude inadvertent gripping and sealing during placement of said cover in said mating position upon said tray

and small enough to allow said cover side walls to serve as closures during such placement; and

(G) means for sealing said plications in a closed configuration and for maintaining said cover side walls in said near perpendicular, sealed position while mintaining a seal at said cover side wall ends.

3. A container of claim 2 wherein said means comprises a cohesive coating upon interior surfaces of said plications.

4. A quick-sealing, box-like container for packaging given contents, said container comprising:

(A) a tray for receiving said contents, said tray having a bottom and integral side walls, each said side wall being movable from a position in a plane forming an acute angle with the plane of said bottom to a position nearer the perpendicular to the plane of said bottom;

(B) plications joining adjacent ends of said tray side walls, said plications providing closures between said adjacent ends of said tray side walls during movement of said tray side walls between said two positions forming inwardly projecting flexures allowing said tray side walls to maintain a plane configuration while being movable between said two positions;

(C) a cohesive coating upon exterior surfaces of said side walls;

(D) a cover for placement in mating position upon said tray, said cover having a top and integral side walls, each said side wall being movable from a position in a plane forming an obtuse angle with said top to a position nearer the perpendicular to the plane of said top;

(E) plications joining adjacent ends of said cover side walls, said plications providing closures between said adjacent ends of said cover side walls during placement of said cover into said mating position and forming outwardly projecting flexures allowing said cover side walls to maintain a plane configuration while being movable between said two positions after said cover is in place in said mating position;

(F) a cohesive coating upon interior surfaces of said cover side walls for firmly gripping said cohesive coating upon said tray side walls and sealing said container only when said cover is telescoped onto said tray and moved toward said mating position to force said contents against the inside surfaces of said tray side walls thereby moving said tray side walls toward said near perpendicular position and said cover side walls are moved toward said near perpendicular position; and

(G) said obtuse angle being great enough to preclude inadvertent gripping and sealing during placement of said cover in said mating position upon said tray and small enough to allow said cover side walls to serve as closures during such placement.

5. A container of claim 4 having means for maintaining said cover plications in closed position when said cover side walls are moved to said near perpendicular position to form ears sealing corners of said container and aiding to maintain said cover side walls in their sealed position.

6. A container of claim 5 wherein said means comprises cohesive coatings within said cover plications.

7. A container of claim 5 wherein said top has a window therein and a rib outside the perimeter of said window to allow vertical movement of a portion of said top containing said window with respect to said cover side walls.

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