

March 3, 1959

W. B. CRANE
FRUIT SHIPPING CRATE

2,875,939

Filed Feb. 28, 1956

3 Sheets-Sheet 1

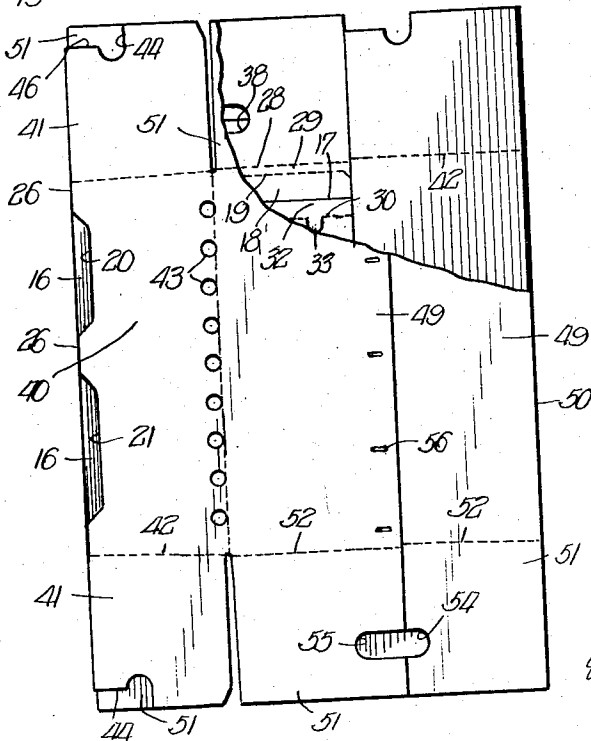
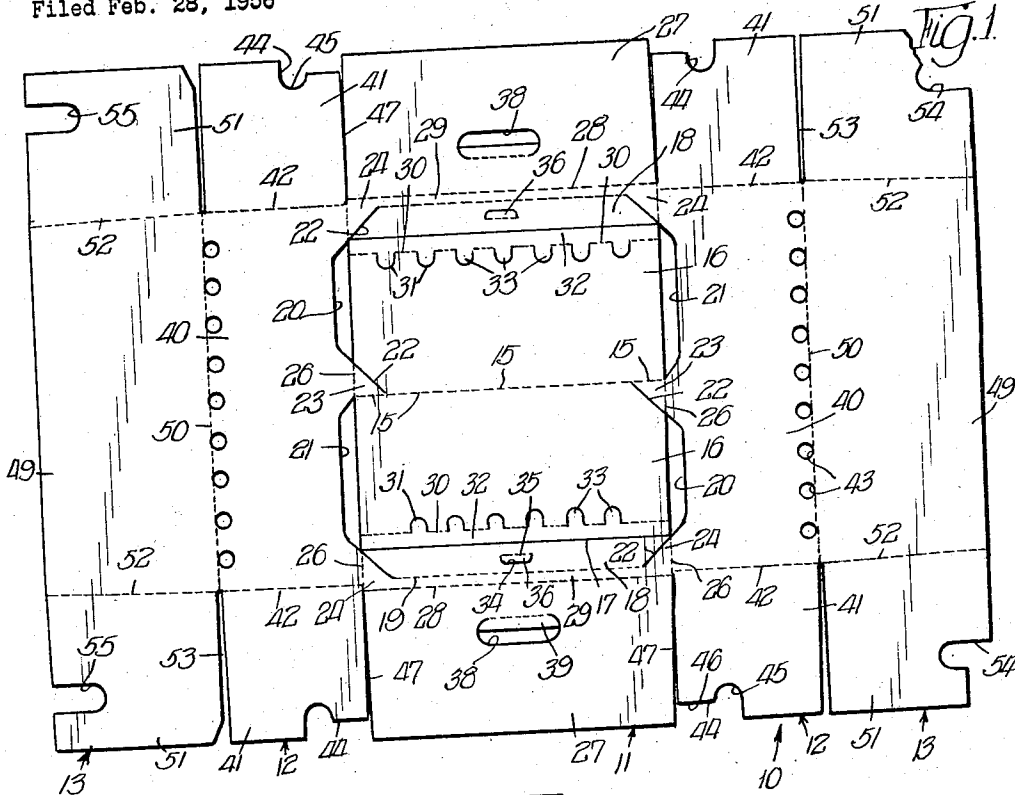


Fig. 2

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3 Sheets-Sheet 2

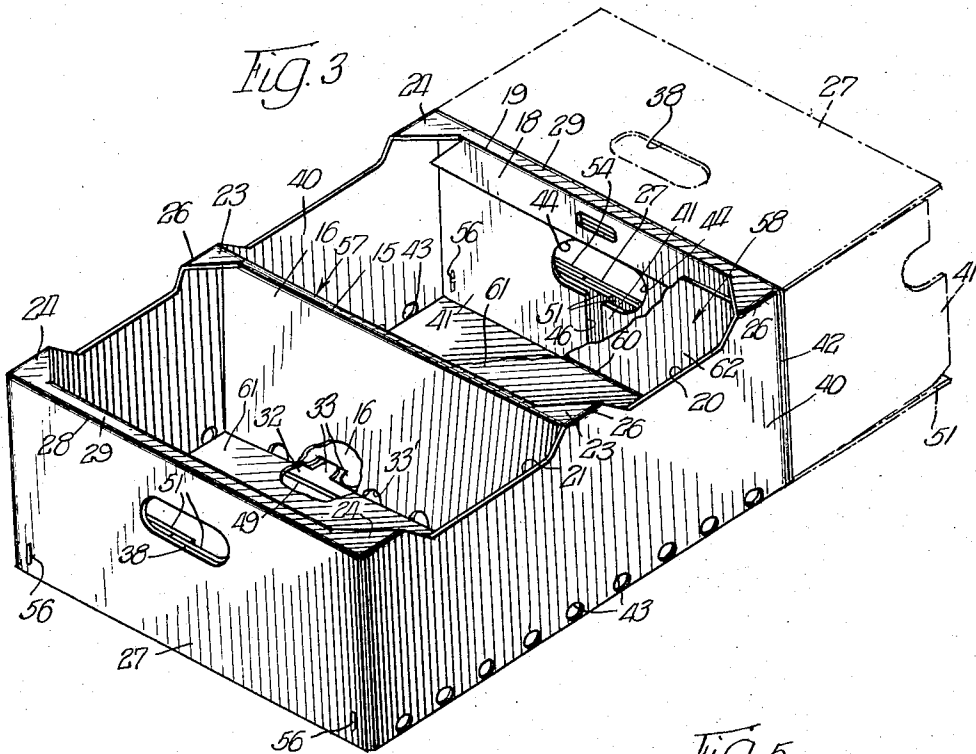


Fig. 4

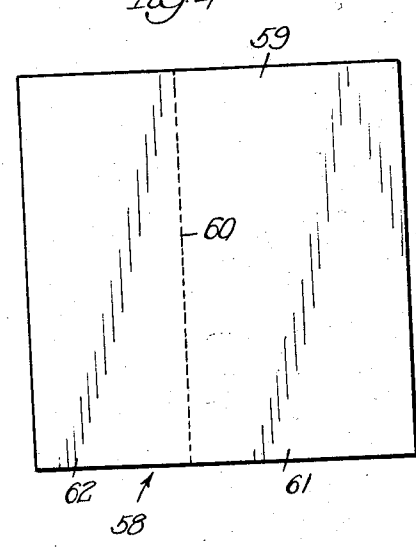
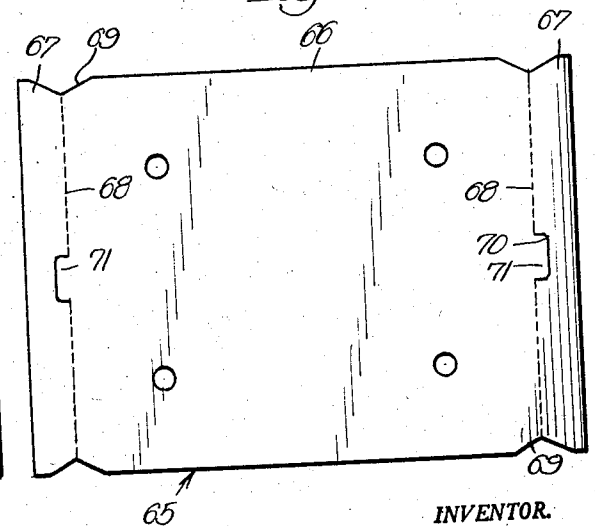


Fig. 5



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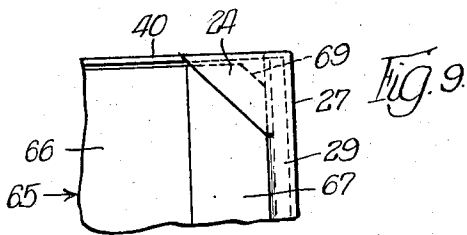
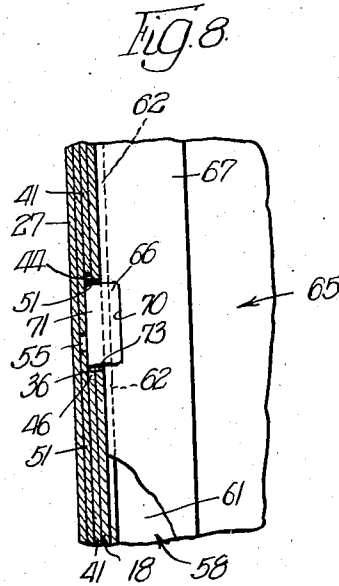
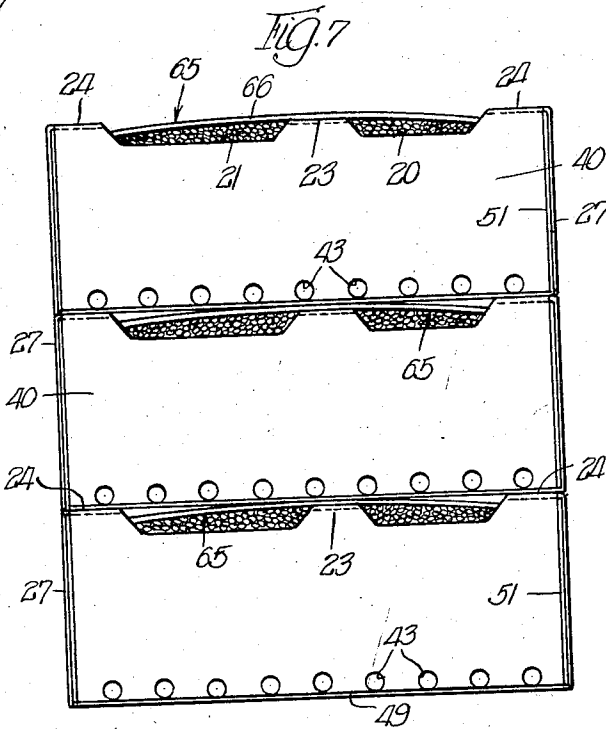
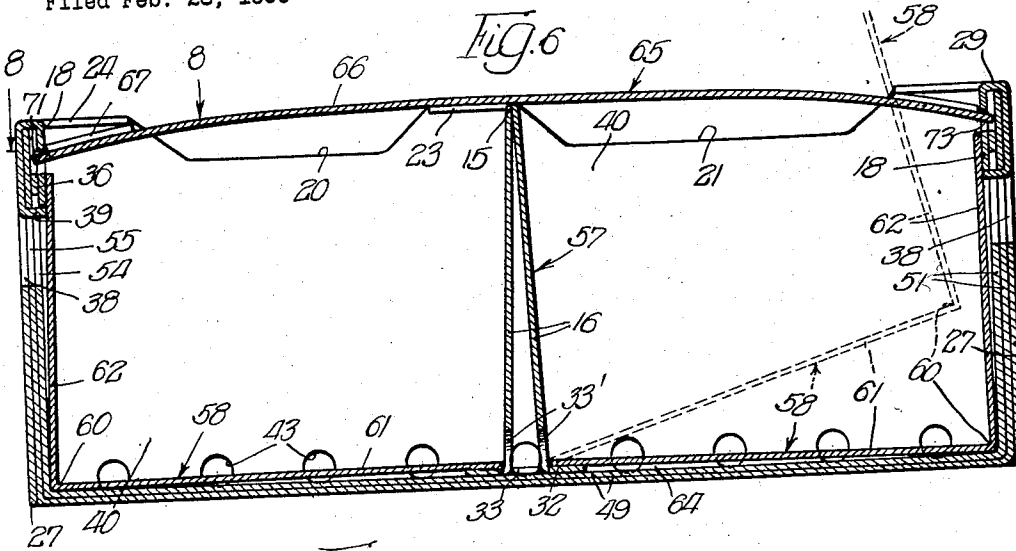
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FRUIT SHIPPING CRATE

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Application February 28, 1956, Serial No. 568,407

6 Claims. (Cl. 229-27)

The present invention relates to improvements in a paperboard shipping crate intended to supplant the widely used wooden "lug" in the long distance shipment of fruits, vegetables and other produce. The crate illustrated herein has been specially devised for the shipment of grapes; however, it is also well suited to handle other equally and even more perishable commodities. It is fabricated exclusively of corrugated paperboard stock, preferably treated by impregnation to render it strongly moisture-resistant, which is an important factor in the maintenance of the inherent, built-in strength of improved crates. The reason for this is that they are commonly, in fact practically exclusively, used under very severe atmospheric conditions, i. e. in refrigerated railroad cars or trucks at high humidity and low temperature, such as would rapidly deteriorate an untreated unit. They receive rough treatment in use, being stacked high and jammed in place in transit, to severe jars and pressure and are handled roughly, to say the least, at the points of origin and end of shipment. Under conditions of this sort it becomes extremely important to incorporate in a paperboard crate for such intended service all possible provisions to rigidify and strengthen the same, yet which can be resorted to without unduly and uneconomically increasing its cost of production.

I have found that this strengthening can be accomplished, in a considerable part, by utilizing among other things, certain provisions by which the improved crate is subdivided to separate quantities of crated fruit from one another. To this end the invention avails itself in a novel manner of a central cross partition of the crate and the means which sustain the same against lateral shift, whereby to add substantially to the rigidity and strength of the crate as a whole. The sustaining means referred to also serves to cushion the commodity received in the subdivisions of the crate, thus minimizing damage in shipment, and the sustained partition acts as a central support for a crate cover, which increases the capacity of the crate and also has a ventilating function.

The partitioning means in accordance with the invention comprises a pair of panels which are integrally hinged to one another by a top crease, and which are integrally connected to side walls of the crate by connecting webs, at opposite end and sides of this crate. These panels extend downwardly in upright position, constituting with their connecting webs a beam-like support across the crate. The partition panels are held fixedly in this position by a pair of medially creased corrugated board sustaining inserts, which inserts are arranged in a manner to space their two constituent bottom and end panels slightly from the bottom and end of the crate. Since the contents of the crate are disposed directly on the insert panels, the same serve as cushioning elements for fruit or produce packed in the subdivisions of the crate.

More specifically, the described arrangement contemplates that a bottom or false floor of each partition sustaining insert shall rest on an outturned flap on a cross

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partition panel, with the edge of the false floor panel in abutting engagement with the adjacent surface of the partition panel, adjacent the bottom thereof, and with the crease which medially subdivides the insert in opposite engagement with a crate end wall at the bottom of the latter. When the inserts are in place in this fashion, one end of each resting on a partition bottom flap and the hinging crease of each wedged downwardly against an end wall, each insert is firmly secured in position to hold a panel of the dual panel cross partition against outward end movement. The partition is thus locked in proper upright position, and at the same time the inner ends of the false floor panels of the inserts are lifted somewhat above the true bottom or floor of the crate, thus to cushion its contents in either half.

Similar end cushioning is also provided by the inserts, for an upstanding panel of each inclines upwardly and inwardly slightly from the crease which connects it to the false floor panel of the insert. Its upper end is held inwardly in this position by a thickened top cross beam construction at the crate end. Being thus spaced inwardly of the end wall beneath that cross beam, the insert end panels contribute a cushion action at each crate end to protect the fragile contents of the improved crate.

Yet another improvement resides in the provision of a set of inwardly extending spacer tongues on each of the outturned flaps of the cross partition panels, on which flaps the false floor panels of the inserts rest. These tongues are in the planes of the respective flaps and extend inwardly of the panel to which the flap is attached; they thus have edge abutment with the other partition panel so as to space the two partition panels from one another. The tongues of the respective sets are preferably staggered, or alternated with one another in the longitudinal sense, nesting or interfitting side by side when the partitions are in proper position. This fixes the desired spacing of the latter, which is primarily for the purpose of cross ventilation, so that the individual capacity of the crate subdivisions is kept as great as possible. Openings formed in the partition panels in outlining the spacer tongues complete the ventilating provisions across the bottom and center of the crate.

Improved provisions are also made to cover the crate, restraining the contents thereof from spilling over as well as protecting the same from impact or pressure from a crate stacked above. The cover, like the crate, is fabricated from corrugated board stock and is held in place under bending stress to resist inadvertent displacement. The cover is centrally supported by the cross partition of the crate and its connecting webs, referred to above, and projecting lugs on its ends are registered in suitable apertures in the multiple-ply end walls of the crate. These restrain the cover laterally and vertically, and it is further held from upward movement by engagement of the four cover corners with four triangular corner webs of the crate, which span the angles between its end and side walls.

The cover arches upwardly from opposite ends, so restrained, to and over the cross partition and associated webs, by which the cover is centrally supported. This permits grapes or other bulk contents of the crate to be heaped well up above the actual side walls of the container. A very copiously yet snugly packed container is made possible, and, moreover, despite some settling and compacting of the grapes or other produce in shipment, the contents still remain visible at or above the level of the side wall tops on arrival. Hence the appearance of a generously filled container is preserved, which is a strong factor of psychological advantage.

The crate has the appearance of a container of considerable vertical height, substantially greater at its elevated center and corners than the well known "lug,"

but this does not entail an increase in the over-all height of a stack of the loaded crates. The reason for this is that the end and central zones of the crate, at which they are sustained when stacked one on top of the other, project above the actual side walls of the crate no higher than the thickness of the usual wooden strips or spacers which are employed to vertically space and ventilate stacked wooden lugs. The provision of an upwardly bowed, centrally sustained cover for the crate provides ample top ventilation for the contents of a stack of the improved paperboard crates.

The end wall structures of the crate are built up of a plurality of corrugated board plies. These include intumed flaps on the crate side walls disposed in coplanar relation, upturned bottom end flaps disposed in slightly overlapped relation along a longitudinal seam zone, a downturned outer end wall panel outwardly spanning the flaps referred to, and a downturned inner flap integrally hinged to the last named panel, which further increases the thickness of the crate end at its top margin. The top of the end cushion panel of a creased, partition bracing insert, described above, rests outwardly against the built up thickness of the last named flap, thereby deriving its slight inward inclination to space it from the remainder of the end wall.

The overlapping of upturned bottom end flaps as components of an end wall structure does not have the effect of unduly bulging out the end wall at their overlapped seam zone, since the creases which hinge the bottom flaps to bottom forming panels are, in accordance with the invention, slanted to compensate for the overlapped thickness. There results an end wall structure which has increased rigidity, due in part to the flap overlap, yet which is truly flat across its outer end surface. It follows that, due to the compensation, the plies of the end wall can be held in unitary relation by suitable securing means, such as wire staples or stitches, without imposing objectionable undue tearing stress on the material at the various points of securement.

The foregoing statements are indicative in a general way of the nature of the invention. Other and more specific objects will be apparent to those skilled in the art upon a full understanding of the construction and operation of the improved crate.

A single embodiment of the invention is presented herein for purpose of illustration. It will be appreciated that the invention may be incorporated in other modified forms coming equally within the scope of the appended claims.

In the drawings:

Fig. 1 is a top plan view of a blank of paperboard stock from which the improved crate is fabricated, illustrating the manner in which the blank is died out, creased and slitted;

Fig. 2 is a top plan view, partially broken away, illustrating a crate fabricated from the blank of Fig. 1, in its flat, knocked-down condition;

Fig. 3 is a perspective view, also partially broken away, showing the crate in a completed or erected condition, dot-dash lines in this view illustrating an intermediate position of certain end wall forming parts of the crate prior to its completion;

Figs. 4 and 5 are, respectively, top plan views of a paperboard insert and of a paperboard cover forming member employed as parts of the crate, these members being shown in a flat condition;

Fig. 6 is a view in longitudinal central and vertical section through a completed and covered crate, further illustrating various structural details and the relationship of parts to one another;

Fig. 7 is a view in side elevation of a plurality of filled and covered crates arranged in vertically stacked relation;

Fig. 8 is a fragmentary view in cross section scale, along a line corresponding to line 8—8 of Fig. 6, show-

ing a detail of the provisions for registering and locking a cover member in place over a crate body; and

Fig. 9 is a fragmentary top plan view supplementing Fig. 8 in showing the interlocked ends of the crate body and cover.

Referring to Fig. 1 of the drawings, the improved crate is fabricated from a generally rectangular blank 10 of paperboard stock, preferably corrugated board which has been appropriately treated in the manufacture thereof to withstand the humid, low temperature conditions which a long distance shipping container for fruit or produce is called upon to face. It will be noted as the description proceeds that blank 10 requires little internal stripping of punched out stock, hence the crate lends itself to expeditious, cheap manufacture.

The blank is almost perfectly symmetrical about its theoretical longitudinal and transverse center lines. Accordingly, corresponding reference numerals are employed to designate corresponding parts or relationships which exist on opposite sides of those centers, and description of only one set will be made, in most cases.

Blank 10 essentially comprises a central partition and end wall forming section, which is generally designated 11, a pair of like side and end wall forming sections, generally designated 12, on either side of section 11, and a pair of bottom and end forming sections 13, one arranged outwardly of each of the sections 12.

The centermost section 11 is provided with a medial transverse crease 15 constituting a top hinge for a pair of oppositely swingable partition panels 16, the free ends of which are defined by a transverse slit 17 in section 11 extending from side to side of that section. An inner end wall flap 18 also has a free edge defined by the same slit 17, the flap 18 being integrally hinged to the remainder of section 11 by means of a transversely extending crease 19.

Longitudinally aligned, slot-like openings 20, 21 located at either side of panel 11 and extending into sections 12 partially free the partition panels 16 for swinging movement about hinge crease 15. Angular slits 22, which are extensions of the end margins of certain of the slots 20, 21, and which have their inner termini at creases 15, 19, serve the purpose of further freeing the panels 16, as well as to free inner end wall flaps 18, for swinging out of the plane of section 11.

The two inclined slits 22 at the center of section 11 are disposed on opposite sides of medial hinge crease 15, so as to define inner, hypotenuse edges of triangular connecting webs on alternate opposite sides of the crease ends, while other inclined slits 22 outline similar inner 45° margins of corner connecting webs 24, by extending inwardly in section 11 from the slot openings 20, 21 to the ends of creases 19.

Of the two triangular connecting webs 23, one side of each is defined by an outer extension 15' of central hinge crease 15, and corresponding other 90° sides of all six webs 23, 24 coincide with the opposite side margins of partition and end wall forming section 11. These web sides which, in effect, hinge side wall section 12 to section 11 and its partition panels at the connecting webs 23, 24 of the section, are constituted by sets of aligned short creases 26. The partition panels 16 are thus hinged to side wall sections 12 by crease extensions 15', webs 15 and creases 26, while end wall structures to be further described, but including inner flaps 18 are hinged to sections 12 by corner webs 24 and creases 26.

Otherwise, central partition and end wall section 11 is equipped with opposed outer end wall forming panels 27 which are each hinged to a pair of corner webs 24 by a transversely extending crease 28. Crease 28 is located substantially outwardly of the flap hinging crease 19 so as to define top zones 29 of some width for the end walls of the completed carton. Each zone 29 extends between and merges into the corner webs 24.

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Each partition forming panel 16 is provided, inwardly of its free end at slit 17, with a transversely aligned series of short creases 30 and with inwardly bowed, U-shaped slits 31 alternating with creases 30, the ends of the slits falling at the termini of the respective creases 30. There is thus provided a bendable friction flap 32 on the free edge of each panel 16 which is equipped with spaced, inwardly projecting tongues 33, as outlined by slits 31, for a purpose to be described. For the time being, it should be noted that the tongues on one flap and panel are arranged in longitudinal alternation with those of the other flap and panel.

Inner end wall flap 18 of section 11 is provided at its center point with a U-shaped slit 34, the inwardly extending ends of which are connected by a short but deep transverse cut-score 35, extending practically through the stock and constituting a readily bendable hinge for a small flap 36. This flap is adapted to be bent about cut-score 35 into side by side relation to flap 18, in the completed condition of the crate.

Finally, each end wall panel 27 of section 11 is provided with a shaped hand hole 38 having an internal tab 39 hinged on its inner margin.

The side and end wall forming sections 12, which are integrally hinged to section 11 by aligned short creases 26, each comprise a side wall panel 40 articulated to those hinges, and end wall forming flaps 41 integrally hinged by transverse creases 42 to each end of panel 40. Creases 42 parallel but are spaced somewhat inwardly, in reference to panel 40, from the line of the transverse creases 48 which hinge the end wall panels 27 on section 11. Side wall panels 40 are provided with ventilating apertures 43 directly adjacent a bottom forming margin thereof, i. e., remote from their hinges 26 to webs 23, 24.

Each of the flaps 41 is relieved at its outer margin and adjacent the panel 27 by means of a shaped notch 44, notch 44 including a curved hand hole bay 45 and an inwardly located transverse clearance cut 46. Slits 47 in longitudinal alignment with creases 26 separate the end wall flaps 41 from the end wall panels 27 of section 11.

Each of the bottom and end wall forming sections 13 is comprised of a rectangular bottom forming panel 49, integrally hinged to a side wall panel 40 by a longitudinally extending crease 50, and a pair of end wall forming flaps 51. These are integrally hinged to opposite ends of panel 49 by transversely extending, mildly inclined or slanted creases 52. Each crease angles inwardly from its outer terminus on an extreme side margin of blank 10, which terminus is in approximate alignment with crease 42, to an opposite end located slightly outwardly of crease 42. The purpose is to provide thickness clearance at a seam overlap of flaps 51 in the completed crate, as will be further described.

End wall forming flaps 51 are separated from flaps 41 by slots 53 of some width and flaps 51, like flaps 41, are also provided with hand hole and clearance openings 54 at their outer sides. The openings at one side of the blank, designated 54, have the same shape as the openings 44 of flaps 41, however the openings 55 at the opposite side of the blank are in the form of transversely extending, U-shaped notches or bays.

The crate is completed to its flat, knocked-down condition, shown in Fig. 2, by first folding the right-hand bottom and end wall forming section 13 upwardly, inwardly and downwardly 180° about the crease 50, followed by a like folding of the other corresponding section 13, along with the adjoining section 12, about the adjacent set of connecting web creases 26. This brings seam portions of the panels 49 into overlapped relation to one another, in which they are secured by a series of wire stitches or staples 56. In this flat condition the crate is shipped and stored in a minimum of space.

The crate is erected to the operative condition illus-

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trated in Figs. 3, 7 and 8 by simply exerting compressive force on the opposite side margins of the flat article, represented by crease formations 26 and 50. The several sets of end, side and bottom panels and flaps approach rectangular outline, and the article may be temporarily held in this outline by swinging partition panels 16 downwardly within side wall 40 about their hinge crease 15, to an approximately upright position in which their terminal flaps 32 frictionally engage the bottom of the crate, constituted by panels 49.

In this position of the panels 16, the inwardly projecting tongues 33 of the longitudinally staggered sets on the respective panels will serve as partition spacers, each set engaging the other panel to brace the panels against one another and maintain predetermined spacing thereof. Yet the resultant upright partition, generally designated 57, is not of excessive width so as to consume undue space in the crate. Its panels are spread only sufficiently to afford desired interior cross ventilation space, which is communicated with the two subdivisions of the crate, at the bottom of the latter, by the series of openings 33' left by the excision of tongues 33 (see Figs. 3 and 6).

With the crate partially set up to this extent and temporarily braced against collapse by partition 57, the end flaps 41 on each side wall panel 40 are swung 90° inwardly into aligned, end to end relation, in which position the shaped slots 44 in those flaps defining hand hole recesses at 45 and a vertical clearance space 46 therebeneath (Figs. 3 and 8). Overlapped end wall flaps 51 on bottom panels 49 are now swung upwardly 90°, in which position their U-shaped openings 54, 55 come into register with the hand hole bays 44 of flap 41.

Outer end wall panels 27 are then swung 90° downwardly, causing their hand holes 38 to register with the other hand hole provisions described above, whereupon the various sets of flaps 41, 51 and panels 27 are secured together by wire staples or stitches 56.

It will be appreciated that the slanting of bottom end flap creases 52 has the effect of bringing the medial overlapped seam zone of the flaps 51 inwardly somewhat in relation to the outer free side edges of those flaps. Accordingly, when the outer end wall panel 27 is folded downwardly and secured in the position illustrated in Figs. 3 and 6, it is not strained or caused to bulge outwardly to an undue extent. Outer surfaces of the end walls are truly perpendicular throughout their area and a minimum tearing or bursting stress is imposed on the multiple stitched plies of the end walls in their assembled relation.

When the crate is in the condition described above, the small cut-scored lugs 36 on inner end wall flaps 18 are folded inwardly 180° about their cut-score hinge 35, bringing the same into downwardly depending, face to face engagement with the flaps when the latter are swung downwardly 90° about their own hinges 19. So positioned, lugs 36 space the flaps 18 as shown in Fig. 6, and when the hand hole tab 39 is flexed inwardly to manually grip and lift the crate end, a very desirable, board-like beam is afforded for the purpose.

Damage to the contents of the crate in lifting the same as described and in other respects, is prevented by a pair of separate cushioning and partition bracing inserts, generally designated 58 and shown in Fig. 4, one positioned on either side of cross partition 57 in the subdivided sections of the crate, as illustrated in Figs. 3 and 6.

Inserts 58, which are of width only slightly less than the distance between crate side walls 40, are constituted by rectangular sheets of the treated corrugated paper-board. They are sectioned transversely, in off center relation to the midpoint of the sheet, by a crease 60 extending from side to side thereof, thereby defining rectangular hinged panels 61, 62 of unequal area, which are intended to serve as false floor and end wall cushion members, respectively. In successively positioning insert members, respectively, in the crate the edge of the insert panel 61, which

parallels crease 60, is first placed in edge abutting relation to the joint between a partition panel 16 and its appended friction flap 32, about which joint the flap 32 is outwardly buckled, as shown in Fig. 6. A downward pressure is now exerted on the panel 61, causing the insert to buckle downwardly about its transverse crease 60, as indicated in dotted lines in Fig. 6, and as end cushion panel 62 approaches upstanding position, the panel joint at crease 60 wedges into the angle between bottom panels 49 and an end wall structure.

As this inserting movement is continued the inner end wall flap 18 is manually restrained downwardly, holding its tongue 36 folded as described above, until the upper edge of panel 62 snaps outwardly beneath corner webs 24 and engages against that flap, and with crease 60 frictionally nested into the bottom end angle of the crate. It will be observed that the flap 18 causes insert panel 62 to be spaced inwardly somewhat from the remainder of the end wall structure, imparting an end cushioning effect to the panel which is very desirable. It will also be observed that the dimension of end wall cushion flap is such that its upper edge overlies flap 18, being substantially coplanar with the upper margin of downturned flap lug 36 and the internal margin of the flap on which the lug is hinged.

The same cushioning effect is provided by false floor panel 61 of each insert 58. It is seen that the inserts not only lock partition panels 16 in proper upright position, spaced by the intervening, alternate and longitudinally nested tongues 33 on each but the inner ends of each panel 61, in resting on a flap 32, cause the panel to incline gradually downwardly and outwardly to their creases 60. This spaces the false floor above the crate bottom, cushioning the fruit or produce in each compartment. The inserts are frictionally wedged in place against accidental upward spring prior to and during loading of the crate.

A cover panel, generally designated 65 and shown in Fig. 5 is provided for use with the improved crate. This panel is fabricated from a corrugated board sheet 66 whose side to side width is slightly less than the distance between side wall panels 40. End flaps are designed on sheet 66 by transversely extending creases 68, extending between opposed V-shaped notches 69 in opposite side margins of the sheet. Creases 68 are centrally interrupted by U-shaped slits 70 having their termini at the inner ends of the creases, thereby outlining projecting tongues 71 on the sheet when flaps 67 are folded 180° about creases 68.

The length of the thus folded cover 65 approximately equals the distance between inner flaps 18 of the crate end structure and its tongue 71 are received in openings 73 in each such flap left by the downfolding of its cut-scored lug 36, being of about the same width as the opening.

Cover 65 as applied to the crate appears as illustrated in Figs. 6, 7, 8 and 9. The ends thereof are tucked, by upward flexure of the cover center, beneath triangular corner webs 24 at one end of the crate, which thus restrain the cover vertically. Tongues 71 are engaged in lug openings 73 and have stable support from beneath, when required, by the flap, its lug 36 and the entire upper edge of insert panel 62. The center of the cover is flexed over cross partition 57 under stress and is rigidly sustained by the latter and by the webs 23 which connect the same to the side walls.

In this locked-up and covered condition of the crate, the latter is very strong and rigid, indeed. When it is considered that stacks of the heavily loaded crates, as illustrated in Fig. 7, are transported transcontinentally, under the most adverse atmospheric conditions and subject to severe impact and/or crushing stress at all times, it will be appreciated that the strength, rigidity and load-supporting attributes of a unit made of inherently non-rigid material are of primary importance. Actually, con-

sidered especially as a compartmentized container, the crate is more essentially a load-supporting unit, and its provisions for this end are more important, than its provisions for internally subdividing the same. However, the compartmentizing provisions have been availed of in a novel manner in the improved crate as means also functioning to increase the rigidity and strength of the same.

The triangular webs 23 which articulate cross partition structure 57 to side walls 40, coact with the top of that structure in preventing a continuous horizontal beam across the center of the crate, on which cover 65 sustains crates above the same, and which transmits this load to a support through any other crates stacked thereabove. Being located on opposite sides of the cross partition, triangular webs 23 also exert a force-couple between the partition and side walls which has the effect of resisting torsional wracking of the crate about a vertical center axis, as under bumping or eccentric compression. Webs 23, 24 present six distinct points of vertical support, coupled with one another by cross partition 57 and by the end wall structures of the crate. These areas or zones will properly support crates resting on less than all thereof, as when such stacked crate or crates are out of true vertically registering alignment with a crate or crates therebeneath, whether the misalignment is in either the transverse or longitudinal sense.

It is seen by reference to Fig. 7 that grapes or other fruit or produce which is shipped in the improved crate may be heaped up to the level of the very top of its ends and center, well above the side recesses 20, 21, and still effectively held against dislodgement by the strut cover 65. End cushion panels 62 of inserts 58 protect the fruit against crushing when a handler lifts the crate at hand holes 38. Should the grapes tend to pack down during shipment, they will still remain at an elevation visible to the recipient from any angle, emphasizing the visual impression, which is a fact, of a well filled container.

Cover 65 is well supported at its ends by resting on the upper edge of the panel 62, the lower margin of the slot 73 in which the tongue is received, and the upward surface of the downturned, cut-scored lug 36. In this connection, the character of the notching at 54 of the upturned bottom flap 51 on the right-hand side of the blank 10 (Fig. 1) is such as to provide a clearance for the tongue 71 which thus abuts outwardly against the other, outermost flap 51, as shown in Fig. 6. Engaged in this fashion, cover 65 permits proper crosswise ventilation between the bottom of one crate and the cover of the crate next beneath. This ventilation is enhanced by apertures formed in the cover 65 and by the apertures 43 in the crate side walls.

The height of the end walls and center partition above the side walls 40, approximates the vertical thickness of wooden cross spacers for conventional shipping "lugs," the same purpose, accordingly not only is equivalent or better ventilation provided than in the wooden "lugs," but this is without increasing the over-all height of a stack of containers of a given number. The improved crate will load in a refrigerated boxcar as well as or better than the type it is intended to supersede. So loaded, it affords equal strength and rigidity as a load support, and better protection for its contents which are cushioned in a manner impossible to secure in any conventional crate.

I claim:

1. A paperboard crate comprising a bottom and upstanding side walls connected to spaced side margins of said bottom, an end wall structure extending upwardly from each end of said bottom, an upright divider subdividing the interior of said crate, said divider comprising a pair of panels hinged to one another and to the top margins of said side walls and depending from their hinge connection and in upright relation to said bottom, at least one of said panels being provided with a bendable flap in frictional engagement with said bottom, and an insert in said crate on one side of said divider, said insert

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comprising a panel having a marginal portion resting on said flap and having end engagement at one end with said divider panel adjacent the bottom thereof and in end abutting relation to an end wall structure adjacent the opposite end thereof, said flap having a series of lugs in the plane of the flap thereof which engage the other of said divider panels to maintain predetermined spacing thereof.

2. A paperboard crate comprising a bottom and upstanding side walls connected to spaced side margins thereof, an end wall structure extending upwardly from each end of said bottom, an upright divider subdividing the interior of said crate, said divider comprising a pair of panels hinged to one another and to the top edges of said side walls and depending in upright relation to said bottom, at least one of said divider panels being provided with a bendable outturned flap in frictional engagement with said bottom, and an insert in said crate on one side of said divider, said insert comprising a first panel resting on said flap and having end engagement with said partition panel, and a second panel connected by a hinge crease to said first panel and disposed on the inside of an end wall structure, with said hinge crease in abutment with said end wall structure, said second panel extending upwardly in approximate parallelism with said end wall structure, one of said divider panels having spacer means adjacent said outturned flap which extends toward and engages the other of said divider panels to maintain said divider panels in predetermined spaced relation.

3. A paperboard crate comprising a bottom and upstanding side walls connected to spaced side margins of said bottom, an end wall structure extending upwardly from each end of said bottom, an upright divider subdividing the interior of said crate, said divider comprising a pair of panels hinged to one another and to said walls and depending from their hinged connection in upright relation to said bottom, at least one of said panels being provided with a bendable outturned flap in frictional engagement with said bottom, and an insert in said crate on one side of said divider, said insert comprising a first panel resting on said flap and having end engagement with said partition panel, and a second panel connected by a hinge crease to said first panel and disposed on the inside of an end wall structure, with said hinge crease in abutment with said end wall structure said second panel extending upwardly in approximate parallelism with said end wall structure, one of said divider panels having spacer means in the form of a series of lugs adjacent said flap which extend toward and engage the other of said divider panels to maintain predetermined spacing between said divider panels.

4. A paperboard crate comprising a rectangular bottom and upstanding side and end wall structures connected to side and end margins of said bottom, web elements extending inwardly of said structures at the tops thereof and integrally connecting the respective side and end wall structures at corners of the crate, a partition subdividing the interior of said crate and connected to the tops of said side walls by inwardly extending web elements substantially coplanar with said corner web elements, and a rectangular cover panel, said cover panel being flexed over said partition and connecting web elements thereof and corners of said cover panel being disposed beneath said corner web elements, said end wall structures each com-

prising an upright outer panel and an inner downturned flap connected to and depending from the top of said outer panel, said flap having a portion excised therefrom, which portion is hingedly connected to said flap and turned toward said outer panel to act as a spacer at least in part separating said flap from said outer end wall panel.

5. A paperboard crate comprising a rectangular bottom and upstanding side and end wall structures connected to side and end margins of said bottom, web elements extending inwardly of said structures at the tops thereof and integrally connecting the respective side and end wall structures at corners of the crate, a partition subdividing the interior of said crate and having the top edge thereof connected to the top edges of said side walls by inwardly extending web elements substantially coplanar with said corner web elements, said end wall structures each being provided with an aperture beneath the top thereof, and a rectangular cover panel having end locking tongues disposed in said apertures, said cover panel being flexed over the top edge of said partition and connecting web elements thereof and corners of said cover panel being disposed beneath said corner web elements, said end wall structures each comprising an upright outer panel and an integral inner downturned flap hingedly connected to and depending from the top of said outer panel, said inner flap having a portion adjacent the hinged connection with said outer panel excised therefrom to provide said tongue-receiving aperture.

6. A paperboard crate comprising a bottom wall and upstanding side walls connected to spaced side margins of said bottom wall, an end wall structure extending upwardly from each end of said bottom wall, an upright cross divider subdividing the interior of said crate, said cross divider comprising a pair of panels hinged to one another and to the upper edges of said side walls adjacent the ends of their hinged connection and depending from their hinged connection in generally upright relation to said bottom wall, at least one of said pair of panels being provided with a bendable flap extending along the bottom edge thereof in the direction of the end wall structure opposite said divider panel and in frictional engagement with said bottom wall, and an insert in said crate on one side of said divider, said insert comprising a panel positioned flatwise on the bottom wall with one end in engagement with a divider panel adjacent the bottom edge of said divider panel and having the opposite end in abutting relation to the end wall structure opposite said divider panel, said flap having portions cut therefrom and turned to extend toward the other of said divider panels, said flap portions being held in engagement with the other of said divider panels by bracing action of said insert panel thereby to maintain the divider panels in separated relation adjacent the bottom edges thereof.

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