Nov. 9, 1948. J. R. BELSINGER 2,453,614

EASY PACKING CONTAINER

Filed May 15, 1946 4 Sheets-Sheet 1

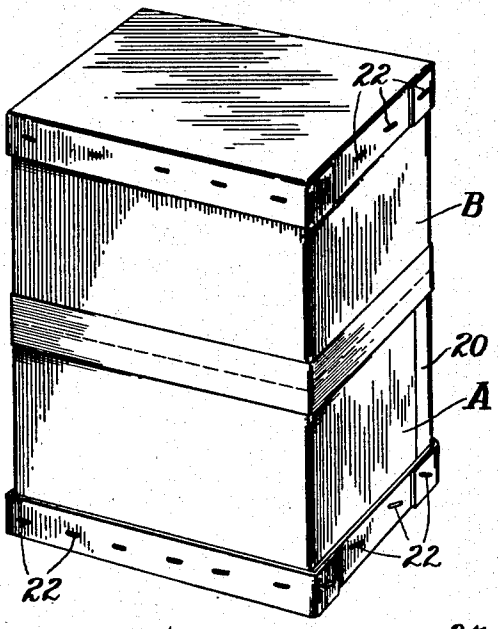


FIG. 1

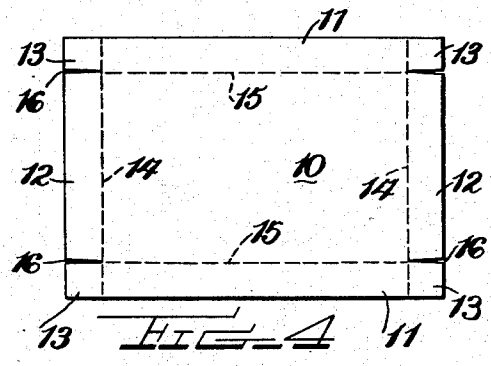


FIG. 4

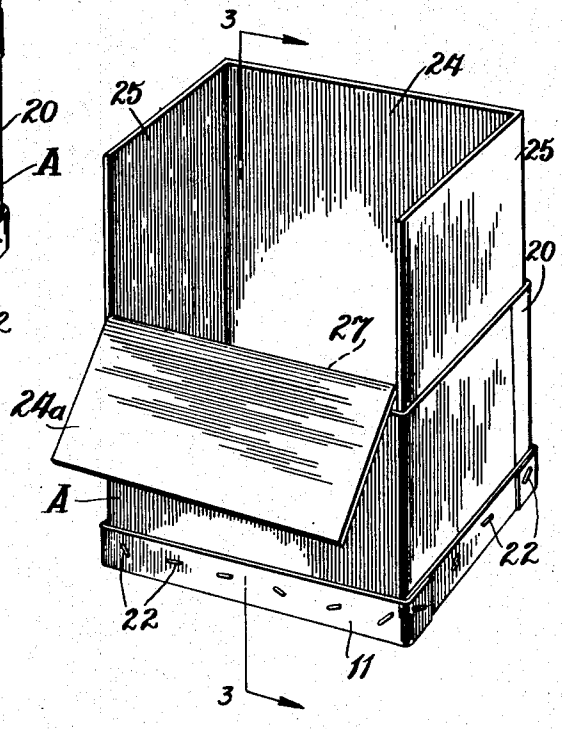


FIG. 2

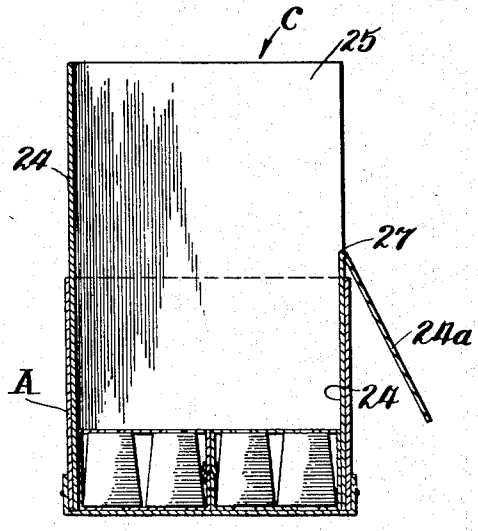


FIG. 3

INVENTOR.
JACK R. BELSINGER
BY
Mason, Porter, Dillon & Stewart,
ATTORNEYS

Nov. 9, 1948. J. R. BELSINGER 2,453,614

EASY PACKING CONTAINER

Filed May 15, 1946 4 Sheets-Sheet 2

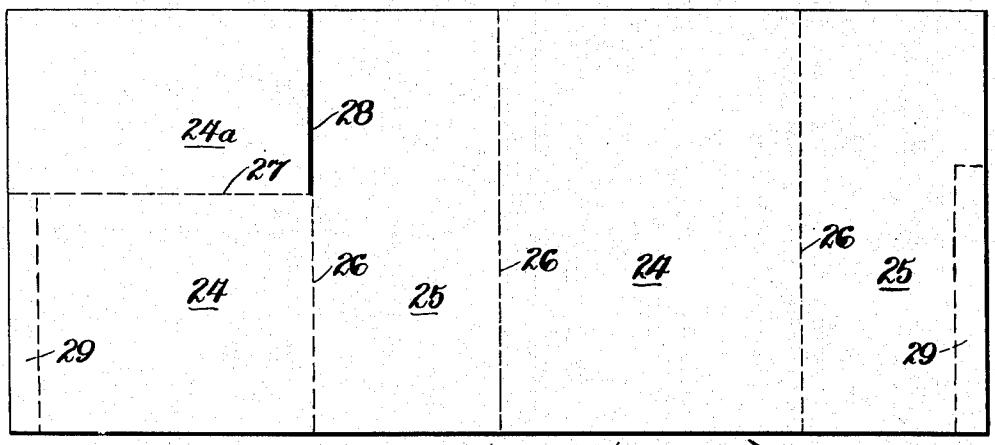


FIG. 5

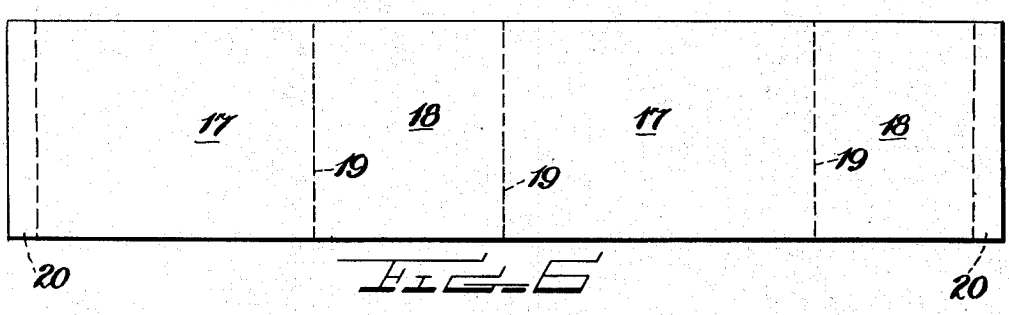


FIG. 6

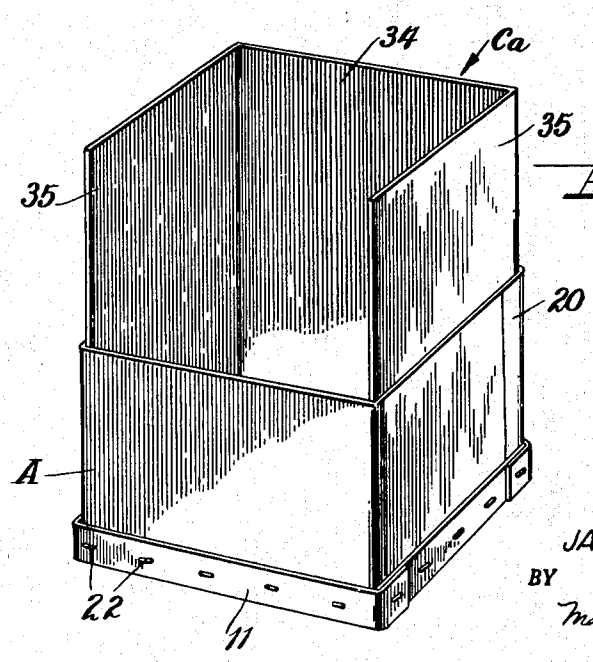


FIG. 7

INVENTOR.
JACK R. BELSINGER
BY
Mason, Fitzpatrick, Dillon & Stewart,
ATTORNEYS.

Nov. 9, 1948. J. R. BELSINGER 2,453,614

EASY PACKING CONTAINER

Filed May 15, 1946 4 Sheets-Sheet 3

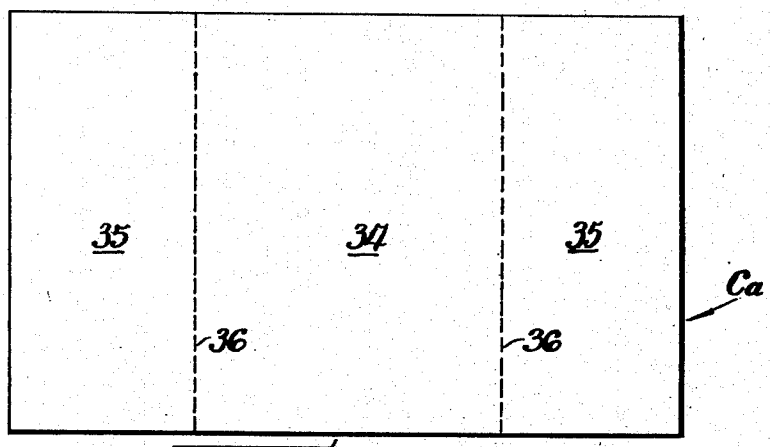


FIG. 8

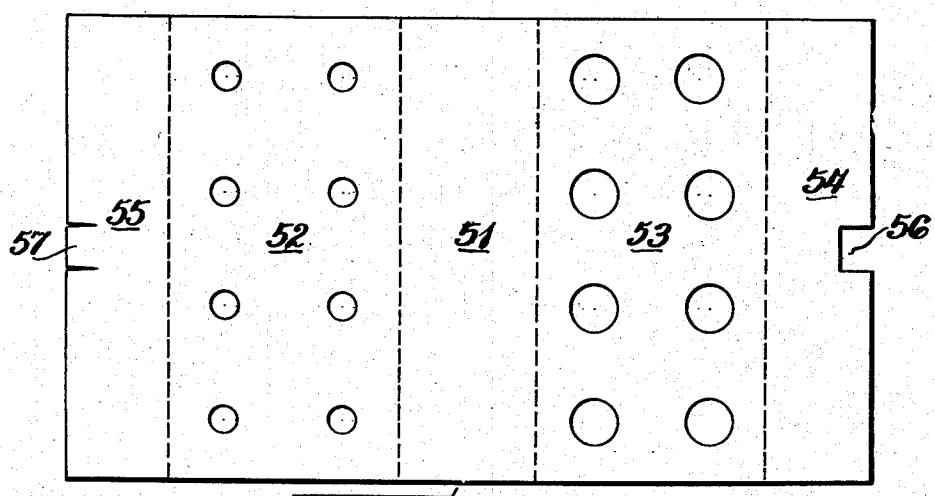


FIG. 9

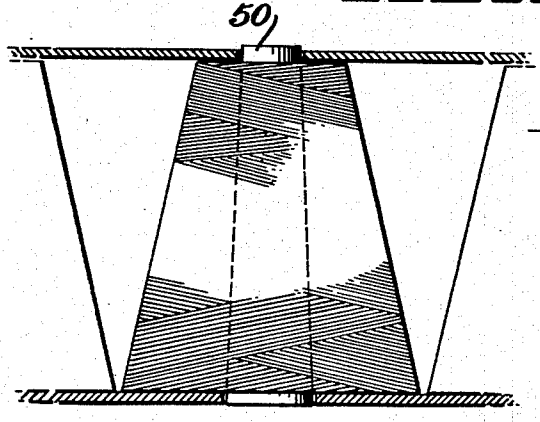


FIG. 10

INVENTOR.
JACK R. BELSINGER
BY
Mason, Porter, Dietz & Stewart,
ATTORNEYS

Nov. 9, 1948. J. R. BELSINGER 2,453,614

EASY PACKING CONTAINER

Filed May 15, 1946 4 Sheets-Sheet 4

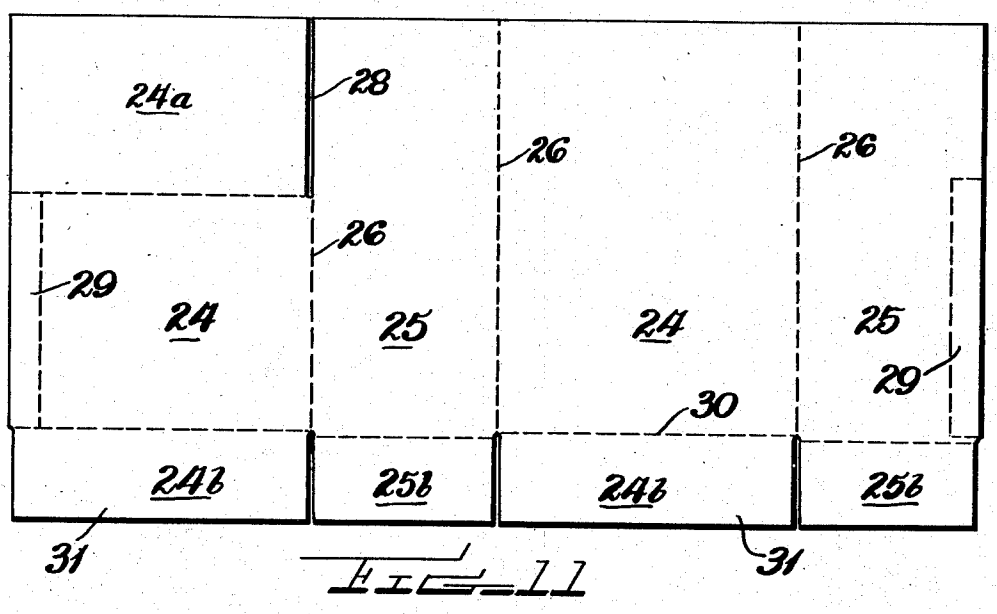


FIG. 11

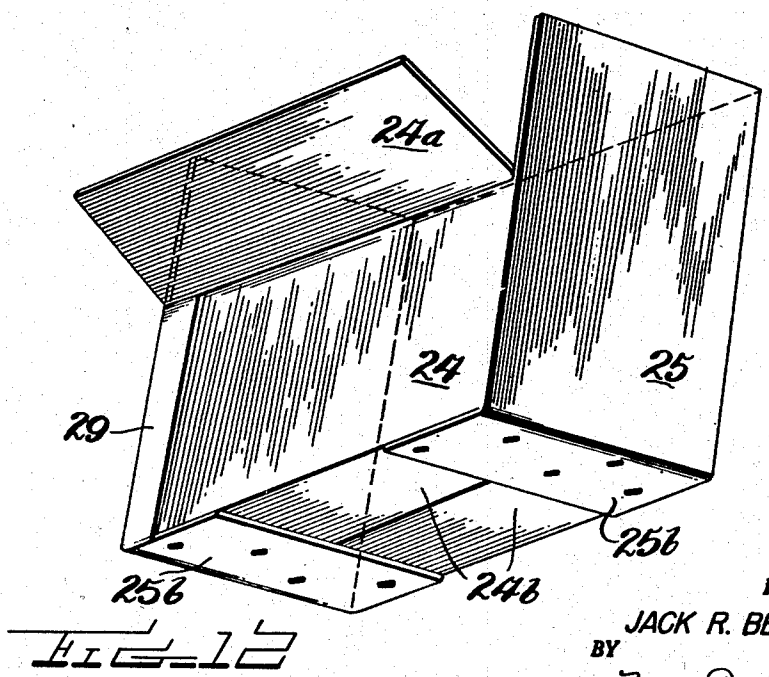


FIG. 12

INVENTOR.
JACK R. BELSINGER
BY
Mason, Porter, Dreher & Stewart,
ATTORNEYS

Patented Nov. 9, 1948

2,453,614

UNITED STATES PATENT OFFICE

2,453,614

EASY PACKING CONTAINER

Jack Russell Belsinger, Atlanta, Ga., assignor to Belsinger Inc., Atlanta, Ga., a corporation of Georgia

Application May 15, 1946, Serial No. 669,750

2 Claims. (Cl. 229—23)

1

This invention relates to a shipping container or carton arranged for easy packing even when of large side.

In containers of telescoping type used for bolt or package goods, inner pieces have been provided for aligning the contents during the packing operation, and then outer pieces have been telescoped over these inner pieces to complete the closure. Heretofore, it has been necessary for the packer to introduce the contents through the open end of the inner piece and move the first packages for the entire length of the inner piece. With light weight packages, the containers may advantageously be made forty inches or more in height, wherewith the packer must bend down to place the bottom packages when the container is upright; or to bend forward into the container when on its side for building an initial stepped pile and then up-end the partly filled container before completing the filling. Even with lower containers, the friction of the upper edge of the inner piece upon the packer's chest is a constant occupational difficulty. When bolts of cloth are being placed vertically in a container having a height for receiving the bolts, the last bolts must be forced down, in tight non-shifting packing, without feasibility of access to the already-present bolts except closely adjacent the upper ends, and hence the incoming bolt must act itself to displace the lower ends of bolts which have already been introduced.

According to the present invention, a container of telescoping type is provided which can be packed in vertical position to a total depth exceeding the comfortable reach of the packer, and control can be exerted upon cloth bolts already inserted. This is accomplished by having the inner piece so contracted and arranged that only a part of the total height of container is presented at one wall during packing, while other walls are effective for aligning the packages or bolts as they are introduced and for guiding and maintaining the telescoping cover piece as it is being placed and while it is in position.

Illustrative forms of practice of the invention are shown on the accompanying drawings, in which:

Figure 1 is a perspective view of the completed, filled and closed container;

Figure 2 is a perspective view of container parts in position for packing;

Figure 3 is an upright section view, substantially on line 3—3 of Figure 2, of a container for packaging bobbins or cones of textile thread or yarn;

2

Figure 4 is a plan of an outer end piece blank, on a somewhat smaller scale;

Figure 5 is a similar plan of a blank for the inner piece or liner of Figures 1 to 3.

Figure 6 is a similar plan of a blank for the main body of an outer piece;

Figure 7 is a perspective view similar to Figure 2 but showing a modified form;

Figure 8 is a plan of a blank for the inner piece of Figure 7;

Figure 9 is a plan view, on a larger scale, of a blank for a cone or bobbin holder as used in Figure 3;

Figure 10 is an upright sectional view, showing how a cone or bobbin is supported in the holder.

Figure 11 is a plan of a blank; and Figure 12 is a perspective view of the assembly thereof; providing a modified form of liner with reinforced bottom or inner piece.

In the form and use illustrated by Figures 1 to 6, two end piece blanks (Figure 4) are prepared by the usual cutting and scoring operations upon corrugated board or like material; with a central rectangular field 10, the side flaps 11, the end flaps 12, and the corner tabs 13. The blank is cut from a rectangular sheet, with the score lines 14, 15 and the gashes 15. Two outer piece body blanks (Figure 6) are similarly prepared, with the side panels 17 and end panels 18 separated by the score lines 19. The body blanks are folded to tubular form, and the tube completed by a fabric tape 20 (Figures 1 and 2) which is cemented to close the upright edge. An end piece blank (Figure 4) is then placed at one end of each assembled body blank, and the flaps are folded down onto the underlying body panels, and the corner flaps are brought around the vertical edges: the parts are then joined by stitching as indicated by the staples 22. It will be noted that the tubular body can be supported on a rigid mandrel, and the staples driven from the exterior and clinched upon the mandrel, without difficulty, as full access is afforded.

An inner piece or liner C (Figure 5) is prepared by cutting and scoring to provide side panels 24 and end panels 25 defined by score lines 26. A score line 27 divides one side panel, and the gash 28 extends to the score line. This liner is folded about the score line 26 to form a tube, and the free vertical edges joined for a part of their height by a fabric tape engaged at the areas 29 shown by dotted lines in Figure 5.

The horizontal dimensions of the panels of the liner (Figure 5) determine the horizontal cross-

section of the container. By design, the corresponding dimensions of the panels of the body blank (Figure 6) are greater by twice the thickness of the liner material, so that the assembled body is a tight telescoping fit over the liner: and likewise, the field 10 of the end piece (Figure 4) is dimensioned so that the flaps closely fit the exteriors of the body walls. In the illustrated form, the assembled upper and lower assembled sections A, B are identical in size and shape, and the wall materials of their open ends come into abutment upon completed assembly (Figure 1) at half the height of the container. The score line 27 is located above the mid-height of the liner blank (Figure 5).

When a container is to be packed, a section A is placed upon a packing table, with the field 10 of its end piece on the table. The assembled liner C is now telescoped into the section A, and the upper part 24*a* of the side panel is folded down about the score line 27, which is slightly above the horizontal line of the upper edge of the section A. The assembly now appears as in Figure 2, and the packer can begin work. It will be noted that the hinge edge at score line 27 is smooth, and that abrasive contact of a rough edge with the packer's clothing does not occur. If the contents are to be cones of rayon yarn, for example, these cones may be previously grouped in holders as described hereinafter; and the packer can position these even at the bottom of the container without reaching downward the entire depth of the container. Packing can be effected more quickly and with less fatigue; and the height of contents is built up until the last package completes the fill. The panel portion 24*a* is swung upwardly into place with the lower part of this panel and the top section B is placed, open end down, in alignment with the liner C and telescoped onto it until the free edges of the sections A, B abut, which by design occurs when the liner C makes contact with top and bottom end pieces.

Sealing can be effected by an adhesive paper tape 30 (Figure 1) to complete a package which is sealed against dirt and which cannot be tampered with except by such damage as to reveal the fact before opening and counting. The package has smooth top and bottom surfaces, so that it can be slid along the packing table, platforms, car and truck decks, etc., without trouble. The flaps of the end members can be strongly stitched in place, and provide a grip for tilting the filled container inside to engage the nose of a deliveryman's dolly beneath it.

In the modified form indicated by Figures 7 and 8, the outer sections can be made as in Figures 1, 4 and 6. The liner C*a* in this form has only one side panel 34, and two end panels 35, defined by score lines 36. The end panels 35 closely fit in the sections, A, B, and the natural springiness of the corrugated or fibre board material after bending causes them to hug the end walls of the section A when assembled therewith as described above. The container is packed when in the condition shown in Figure 7: the total height of the completed and filled container is likewise not limited by the reach of the packer's arms. When packing is complete, an upper section B is telescoped into position and sealed, wherewith the completed package has the appearance of Figure 1.

The liner provides in each form panels essentially coextensive with inner surfaces of the outer sections for accurate telescoping of the parts and for maintaining the parts against shifting during transit, and has smooth internal wall surfaces, free of staple ends, during the loading and shipment. In the form of Figure 7, the abutment of the vertical free edges of the end panels of the liner occurs at the corners, so that the general rectangular form of internal section is maintained.

A quick and convenient way of packing rayon yarn is shown in Figures 3, 9 and 10. The yarn is reeled in truncated conical form upon a core 50 which has larger and smaller ends projecting from the yarn. The articles thus made are termed "cones" in the trade. A blank (Figure 9) is cut, scored and punched to provide a solid side panel 51, a top panel 52 having small holes, a bottom panel 53 having large holes and the side panel parts 54, 55 having notch 56 and tongue 57 for inter-engagement. The illustrated form has eight sets of holes in two rows, but it will be understood that the number of rows and number of holes in a row is determined by the size and weight of the cones and the preference of the individual mill operator. The blank is preliminarily folded, to establish the creases, and then is loaded with cones at the reeling machine by placing the larger ends of the cones 50 in the large holes of the panel 53. When loading is completed, the panels are folded into place, with the small ends of the cones engaged in the small holes of panel 52, and the panel portions 54, 55 are overlapped with the tongue 57 engaging the notch 56: a short length of adhesive tape applied over the engaged panel portions holds the assembly as a unit for delivering to the packer.

The modified form of inner piece or liner C shown in Figures 11 and 12 is illustrated as having essentially the same final dimensions as that of Figures 5 and 3, so that upon partial and complete assemblies, the appearance and loading is the same as for Figures 2 and 1. The modification provides for a stronger bottom and is valuable for heavy loads when the loaded and completed carton is to be lifted by a hand truck or the like wherewith the flange or spade of the truck is introduced beneath the carton preliminary to lifting it, so that the spade supports a part of the bottom surface while another part is forced downward by the weight of superimposed lading and relative displacement and damage to lading such as yarn cones may occur.

In this form, the blank (Figure 11) has the same panels 24, 25 and folding part 24*a* as in Figure 5, but these panels are here integrally connected across bottom fold lines 30 with individual flaps 24*b*, 25*b*. The flaps 24*b* are preferably made with a width, or dimension from the fold line 30 to the edge 31 of the blank, equal to half the distance between the fold lines 26 for the panels 25: thus (Figure 12) when the blank C is folded, the two flaps 24*b* abut at their edges and provide a smooth closed bottom inside the carton. The flaps 25*b* may have an arbitrary corresponding dimension, usually being less than half the distance between fold lines 26 for the flaps 24: in the illustrated and presently preferred form, the dimension is such that the free edges of flaps 25*b* are collinear with those of flaps 24*b*, wherewith the blank C is of rectangular shape and can be cut essentially without waste.

The panels 24, 25, 24, 25 are folded to form a tube, and joined at the areas 29 by a tape. The end flaps 24*b* are then folded inward, followed by the flaps 25*b*. These flaps may then be stitched

by staples. Finally, the inside piece or liner is telescoped into a bottom section A, whereupon the assembly appears as in Figure 2, and may be loaded and completed as set out above.

The illustrative forms are not restrictive, and the invention may be practiced in many ways within the scope of the appended claims.

I claim:

1. A shipping container comprising a relatively tall tubular upright liner defined by a plurality of side wall panels extending substantially throughout the entire length of the container, and upper and lower outer closure sections telescopingly engaging over the opposite end portions of the liner and of such depth as to extend into substantially abutted relation approximately midway the height of the liner, substantially all of one of the liner wall panels above the upper edge of said lower closure section being free to swing outwardly to provide an access opening in the side wall above said lower closure section and adapted when swung to closed position to complete the liner and be covered by said upper closure section when the latter is applied to the upper end portion of said liner.

2. A container having a depth of at least forty inches comprising an inner tubular liner section extending for essentially the height of the container, and lower and upper outer closure sections each formed as a closed structure for telescoping engagement around the liner with abutment of the free edges of the outer sections when the closure ends contact the free edges of the liner, each vertical edge of one panel of the liner being cut from the top downwardly to a point adjacent the upper edge of the lower outer closure section when the liner is fully telescoped into the latter whereby the upper part of said one panel can be bent outwardly about a horizontal line adjacent said points in the absence of the upper outer closure section for affording access to the interior below the level of the top of the liner and for providing a smooth edge over which the packer leans during loading, the other panels of the liner being joined to one another along their vertical edges above said line whereby to align the lading in the absence of the upper outer closure section and to guide the upper outer closure section while it is being telescoped into abutment with the lower outer closure section.

JACK RUSSELL BELSINGER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,379,797	Bliss	May 31, 1921
1,920,193	Gary	Aug. 1, 1933
2,094,783	Belsinger	Oct. 5, 1937
2,301,310	Messer	Nov. 10, 1942
2,346,466	Belsinger	Apr. 11, 1944