

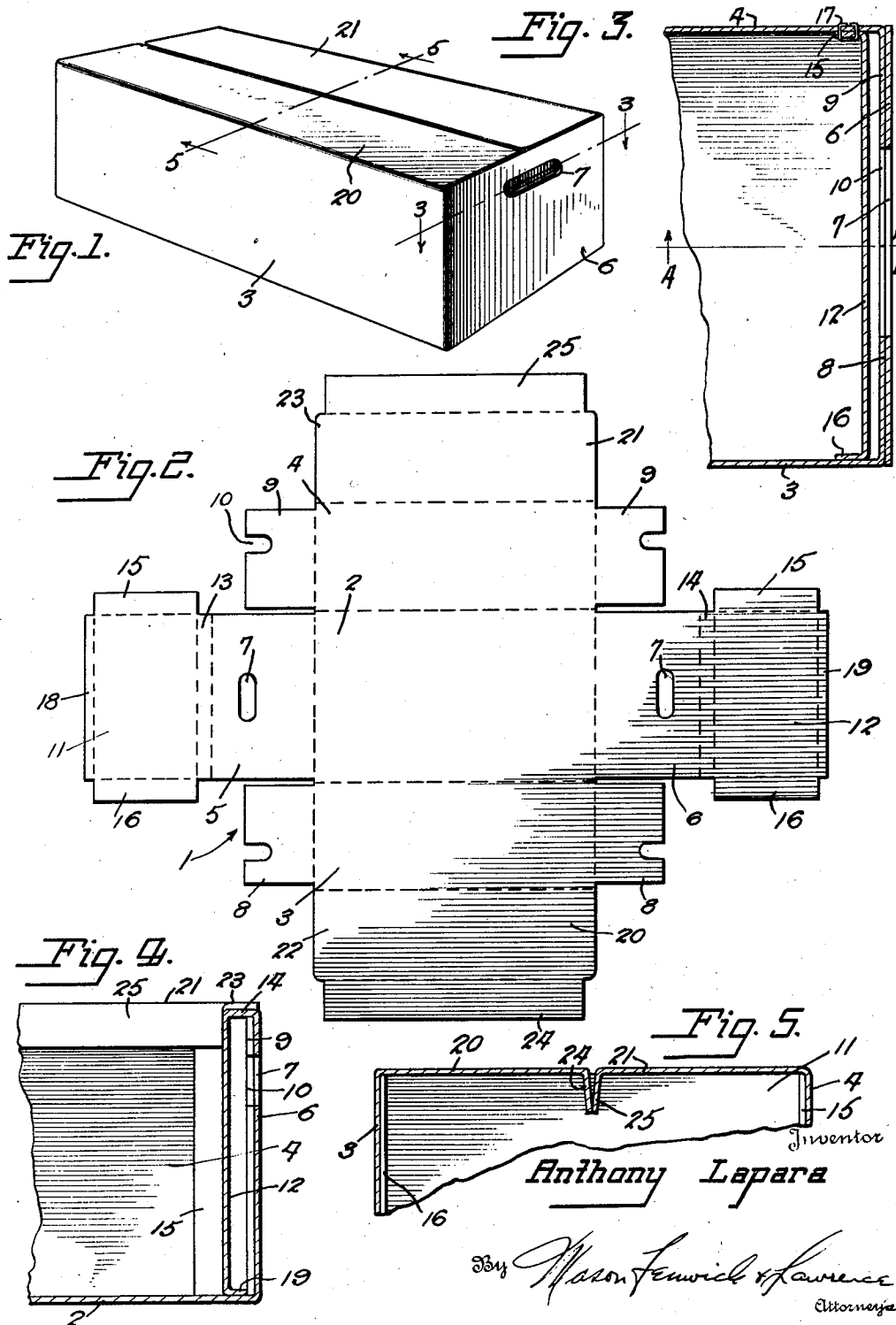
Nov. 21, 1939.

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2,180,682

LIGHTPROOF SHIPPING CONTAINER

Filed June 7, 1938



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UNITED STATES PATENT OFFICE

2,180,682

LIGHTPROOF SHIPPING CONTAINER

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Application June 7, 1938, Serial No. 212,337

3 Claims. (Cl. 229—33)

This invention relates to containers folded up from a flat single or plural piece blank of sheet material and of the type especially adapted for the storage and shipment of bottled beverages.

5 One of the objects of the invention is the provision of a container of the type described having hollow parallelepipedal ends imparting maximum rigidity as to the shape of the container, maximum strength, a buffer for shielding the con-
10 tained bottles from impact blows, and hand hole construction characterized by means for excluding from the interior of the container, light which might enter by way of the hand holes.

15 Another object of the invention is the provision of a top closure having longitudinal girder webs adapted to extend depthwise between rows of bottles when the container is closed, providing reinforcement for the top closure, a light seal at the line of separation of the top closure, and
20 an inside abutment for the ends, rigidly transmitting endwise stresses and preserving the ends of the container against deformation.

Other objects of the invention will appear as the following description of a preferred and practical embodiment thereof proceeds.

25 In the drawing throughout the several figures of which the same characters of reference have been employed to designate identical parts:

30 Figure 1 is a perspective view of a container embodying the principles of the present invention;

Figure 2 is a blank from which the container is made;

35 Figure 3 is a section showing one end portion of the container taken along the line 3—3 of Figure 1;

Figure 4 is a section taken along the line 4—4 of Figure 3; and

40 Figure 5 is a section taken along the line 5—5 of Figure 1.

Referring now in detail to the several figures, the numeral 1 represents in general the blank from which the container is folded up. This is made of any desired sheet material for example, heavy kraftboard. The blank may be of one or
45 several pieces, but inasmuch as the relative interfitting of the several panels when the carton is set up would be the same, the invention is believed to be sufficiently illustrated by a one piece
50 blank.

55 The container comprises a bottom panel 2 of rectangular shape having the front, rear and two outer end panels 3, 4, 5 and 6, respectively, demarked from the bottom panel 2 by the lines of fold which constitute the boundaries of the

bottom panel. Each of the end panels 5 and 6 is provided with a hand hole 7. The front, rear and outer end panels fold up perpendicularly to the plane of the bottom panel.

The front and rear panels are provided with 5 lateral wings 8 and 9 demarked from the front and rear panels by the lines of fold which form the lateral boundaries of said panels and each, measured in a direction perpendicular to said lines of fold being one-half the width of the con-
10 tainer. The aspect of the blank shown in the drawing may be considered the inside of the container so that when the front, rear and outer end panels are in perpendicular relation to the base panel and the wings 8 and 9 are folded inwardly
15 they coincide with the outer end panels and meet in the middle. Each of said wings is formed with a half hand hole 10 which half hand holes meet in the folded position of the wings forming an entire hand hole which registers with the hand
20 hole 7. When in folded position, the wings are stapled or otherwise secured to the outer end panels 5 and 6 forming outer end walls of double thickness and fixing the front, rear and ends of the container in rigid vertical relation to the
25 bottom panel.

The outer end panels 5 and 6 are provided with rectangular extensions 11 and 12 forming the inner end walls of the carton. These extensions are unitarily connected to the outer end walls
30 by narrow panels 13 and 14 determined by parallel lines of fold. These constitute the narrow top faces of the hollow parallelepipedal ends of the container formed when the sheet material is creased along said parallel lines of fold and the inner rectangular extensions 11 and 12 are
35 folded down into planes parallel to the outer end panels 5 and 6. Each of the extensions 11 and 12 is provided with lateral flaps 15 and 16 which are folded inwardly of the container to lie against
40 the back and front panels, respectively, and being suitably secured thereto as by the staples 17. The extensions 11 and 12 are also provided with the bottom flaps 18 and 19 which are adapted to be folded so as to extend within the hollow parallelepipedal ends, lying against the bottom panel
45 and forming endwise reinforcements for said bottom panel.

The front and back panels 3 and 4 are formed with lid panels 20 and 21 which fold hingedly
50 along the upper edges of the front and back panels preferably meeting in the longitudinal medial vertical plane of the container. When in closed position, the lateral margins 22 and 23 of the lid panels rest upon the narrow top faces
55

13 and 14 of the parallelepipedal ends 11 and 12. The lid panels 20 and 21 are provided along their longitudinal edges with downwardly folded flaps 24 and 25 which are sufficiently shorter than the length of the lid panels 20 and 21 to fit snugly within the container, their edges abutting against the inner end walls of the ends of the container, acting as thrust members to resist endwise pressure on the ends of the container. The flaps 24 and 25 cooperate in forming a girder web of double ply thickness which resists the collapse of the top of the container under downward pressure.

The flaps 24 and 25 have a certain amount of resilience along the lines at which they are folded downward so that while they may be folded down at an angle of 90 degrees they tend to spring back towards their normal flat position when in repose. They therefore tend to push against one another when tucked into the container and being in unconfined abutment with the inner walls of the ends they may together assume such angular relationship to the vertical median longitudinal plane of the container as may be determined by the resultant of their opposed pressures. This freedom of movement on the part of the flaps 24 and 25 enables them to make light-tight contact one with another preventing access of light to the interior of the container through the joint between the lid panels 20 and 21.

It will be obvious from the above disclosure that I have devised a container especially adapted for the shipping of bottled beverages characterized by maximum strength and rigidity and by the exclusion of light from the interior of the carton which light would be detrimental to the quality or state of preservation of certain classes of bottled beverages.

While I have in the above description disclosed what I believe to be a preferred and practical embodiment of the invention, it will be understood to those skilled in the art that the invention admits of a certain range of equivalents in the shape and construction of the parts and in the manner in which they cooperate in the set-up container.

What I claim is:

1. Shipping container of the type formed by folding a blank of sheet material along predetermined lines of fold comprising bottom, front and back panels and hollow ends fixedly related to said panels, said ends each including an outer

wall of double-ply thickness provided with a hand hole through both plies, an inner imperforate wall excluding from the interior of said container light entering said hand hole, said inner wall having lateral flaps folded to lie in the planes of the inner surfaces of the back and front panels and secured to said back and front panels, and one ply of said outer end walls being compositely formed by flaps integral with said front and back panels.

2. Shipping container of the type formed by folding a blank of sheet material along predetermined lines of fold, comprising bottom, front and back panels and hollow ends fixedly related to said panels, said ends including spaced inner and outer walls, lateral extensions from the ends of said front and back panels, the front and back panel extensions being folded toward one another and in contact with the outer walls of said ends and secured thereto, making said outer walls of double-ply thickness, said outer walls being provided with hand holes through both plies, and said inner walls being imperforate whereby light entering said hand holes is excluded from the interior of said container.

3. A shipping container of the type formed by folding a one-piece blank of sheet material along predetermined lines of fold, comprising bottom, front and back side panels, and hollow parallelepipedal ends fixedly related to said panels, said ends each including an outer wall provided with a hand-hole and an inner wall excluding from the interior of said container light entering said hand-hole, said inner wall having lateral flaps folded to lie in the planes of the inner surfaces of the bottom, front and back panels and secured to said front and back panels, said bottom flap folded into the space within the parallelepipedal ends contacting the bottom panel and forming an end reinforcement for said bottom panel, a top end wall-forming portion interconnecting said inner and outer end wall parts, top cover portions formed on said front and back panels and provided with flaps to form the closed top of said container, and lateral wings demarked from the front and rear panels by lines of fold and arranged to form the lateral boundaries of said panels, and said wings in folded position compositely forming additional outer end walls for said container.

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