PATENT OFFICE

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PAPERBOARD BOX OF THE SUITCASE TYPE

Salvatore A. Aquino, Teaneck, N. J., and Charles D. Welshenbach, Sandusky, Ohio, assignors to
The Hinde & Dauch Paper Company, Sandusky, Ohio, a corporation of Ohio

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4 Claims. (Cl. 229—36)

1. This invention relates to paperboard boxes of the suitcase type that are particularly adapted to serve as a container for garments.
An important object of the invention is to provide a flat, piece box blank that can be shipped and stored in packs which can be conveniently used at retail store wrapping tables, the blank being so formed that a minimum of manipulation is required for assembly of the box.
A further object of the invention is to provide a box that can be quickly and easily formed from a flat blank and that requires no twine for holding it closed.
A further object is to provide a box that is formed from a one piece blank and that is provided with a convenient handle for carrying.

2. It is also an object of the invention to provide a lid of the container with a combined handgrip and lock by means of which the lid is held in closed position.
A further object of the invention is to provide a garment container comprising a box body and a hinged lid that can be formed by folding a one piece blank and that includes only two corner locks.

Another object of the invention is to provide an improved corner lock for containers of the knock-down type.
Reference should be had to the accompanying drawings forming a part of this specification in which:

Figure 1 is a plan view of a box blank embodying the invention;

Fig. 2 is a perspective view of the box formed from the blank shown in Fig. 1;

Fig. 3 is a transverse vertical section through the box taken on the line indicated at 5—6 in Fig. 2;

Fig. 4 is a fragmentary vertical section on the same line as Fig. 3, showing the lid partially opened; and

Fig. 5 is a fragmentary vertical section taken on the line indicated at 5—6 in Fig. 2.

As shown in Fig. 1 of the drawings, the blank from which the box is formed has a rectangular back wall panel 1 to which a top wall section 2 is hingedly connected by means of a fold line 3. A bottom section 4 is hingedly connected to the opposite longitudinal edge of the panel 1 by means of a fold line 5. End wall sections 6 are hingedly connected to the ends of the panel 1 by means of fold lines 7. The end wall sections 6 have bottom end flaps 8 that are hingedly connected thereto by means of fold lines 9. The flaps 8 overlap the ends of the bottom section 4 and are severed from the bottom section 4 by cuts 10.

The top wall section 2 has projecting tongues 11 at its opposite ends which are hinged thereto by means of fold lines 12 and which are separated by longitudinal cuts 13 from flaps 14 that are hinged to the upper ends of the end walls 6 by fold lines 15. The flaps 14 overlap the ends of the top wall section 2 inwardly of the tongues 11 and are severed from the top wall section 2 by cuts 16. The flat wall sections 8 have slots 17 parallel to the fold lines 15 and spaced therefrom, the slots 17 being of a length to receive the tongues 11.

When the top section 2 and an adjoining end wall section 6 are folded to upright position with respect to the back wall 1 the flaps 14 are positioned against the inner face of the top wall section 2 and the outer ends of the tongues 11 are inserted from the outside through the slots 17, each of the tongues 11 being provided with a double fold line 18 to permit the tongue to be bent for insertion through the slot 17 and the free end thereof folded against the inner face of the wall section 6. Each of the tongues 11 is of a length to extend through the slot 17 and back to the inner face of the top wall and each of the flaps 14 is provided with a slot 19 alongside the fold line 15, and aligned with the slot 17, the slot 19 being adapted to receive the free end of the tongue 11 when the tongue is inserted through the slot 17 and folded against the inner face of the wall section 6 as shown in Fig. 5.

A handgrip 20 is in the form of a tongue integral with the top wall section 2, the grip 20 being formed by a portion of the top wall section lying between substantially concentric arcuate cuts 21 and 22, the ends of which are disposed substantially at the longitudinal center line of the wall section 2, the central portion of the outer cut 22 which forms the top edge of the handgrip 20 extending substantially to the edge of the blank. The handgrip 20 is hinged to the body of the top wall section 2 by fold lines 23 that are substantially in the longitudinal center line of the top wall section. When the handgrip portion 20 is swung to upright position a pair of slots 24 are provided in the top wall section 2 which diverge from the free edge of the top wall section toward the opposite ends of the handgrip 20. At the edge thereof portions of the blank outwardly of the cut 22 are cut away to provide an opening to the slots 24 and blunt projections 25 at opposite sides of the opening.

A lid panel 26 is connected by a fold line 27...
to the longitudinal edge of the bottom section 4 opposite that connected to the panel 1 and a top flap 28 is hingedly connected to the longitudinal edge of the panel 26 opposite that connected to the panel 1. The top flap 28 is hingedly connected to the longitudinal edge of the panel 26 opposite that hinged to the bottom section 4 by a fold line 29. The top flap 28 has a centrally disposed handgrip portion 30 substantially identical in size and shape to the handgrip portion 39 of the top wall ends 30. The handgrip portion 30 is formed of material between concentric annular cut 31 and 32 and is hinged to the top flap along longitudinal fold lines 33. Portions of the lid outwardly of the cut 32 are preferably removed to make the handgrip 30 more easily accessible, providing blunt rounded projections 35 similar to the projections 25.

The lid panel 26 has end flaps 36 hinged thereto by means of fold lines 37. The end flaps 36 are aligned with the end wall sections 5 and are severed from the end flaps 6 of the sections 5 so that they can be folded to upright position with respect to the panel 26. The flaps 36 have rounded ends 30 and 39 that provide edge ends that taper outwardly from the fold lines 37.

Forming the box from the blank shown in Fig. 1, the top wall section 2 and sides wall sections 4 are first folded to upright position with respect to the back panel 1, with the flaps 14 of the end wall sections engaging the inner face of the top wall 2. The tongues are then inserted through the slots 11 and folded back against the inner face of the wall 2. In folding the flaps, the free ends of the tongues against the inner face of the wall 5, the free ends of the tongue rides over the fold 14 and snaps into the slot 19, securely locking the tongue against the inner face of the wall 6.

After the walls 2 and 6 are secured in upright position by means of the interlocking connection above described, the handgrip portion 20 is folded outwardly to a position perpendicularly to the wall 2, and the flaps 8 are folded inwardly to a position substantially at right angles to the wall 6 so that the bottom wall 4 can be folded against these flaps. The end flaps 36 of the lid are then bent to a position at right angles to the body portion 26 of the lid and the lid and bottom are then swung simultaneously, the bottom sections 4 engaging with the flaps 8, after which the lid panel 26 is swung downwardly toward closed position.

The curved bottom edges 38 of the flaps 36 engage with the flaps 8 and crowd the flaps 8 against the bottom wall 4 while the lid is being closed. The flaps 36 are substantially the same height as the side walls 6 and engage with the back panel 1 to space the lid 26 from the back panel. The top flap 28 is bent upwardly to a substantially upright position and the handgrip 30 is bent outwardly so that the top flap 28 is adapted to enter the box within the top wall 2 and the handgrip 30 is adapted to enter the slots 24. The upper curved edges 39 of the end flaps 36 provide tapers edges that permit the top flap 28 to be swung or depressed inwardly to a position at an acute angle to the panel 26 as shown in Fig. 4, to facilitate entry of the top flap within the wall 2.

The handgrip 30 which tapers upwardly can be readily entered from the under side of the wall 2 into the slots 24 and the tapering outer edge of the handgrip 30 will be guided by the diverging outer edges of the slots 24 formed by the cut 22 into engagement with the handgrip 20 as the lid is closed, so that when the lid is fully closed the handgrips 20 and 30 will be disposed face to face. The inner cuts 21 and 31 of the handle portions 20 and 30 provide finger receiving slots 40 which register when the handgrips are brought together as in Fig. 2.

The present invention provides a box that is economical to manufacture because of the fact that the blank is substantially rectangular and there is very little waste of material.

The invention also effects a substantial saving of labor. The conventional method of forming cardboard boxes or similar articles in retail stores by reason of the fact that the blanks can be very rapidly folded to form the complete box and by reason of the fact that the box is self locking and requires no twine.

The invention also provides a very convenient handle attachment which makes it convenient for the customer to carry the box, thereby encouraging purchasers to take their purchases with them and effecting a saving in cost of deliveries.

It is to be understood that in accordance with the provisions of the patent statutes, variations and modifications of the specific device herein shown and described may be made without departing from the spirit of the invention.

What we claim is:

1. A paperboard box having two walls having at right angles to said walls a handgrip having a top flap that has a fold line hinge connection thereto and that engages with the inner face of the other wall, said flap having a slot extending along the fold line and adjacent thereto and said first mentioned wall having a slot parallel to said fold line and spaced therefrom, the other wall having a projecting tongue extending over the outer face of the first wall and through the slot in said wall and having an end portion against the inner face of said first wall and engaging in the slot of said flap.

2. A paperboard box comprising a back wall panel bounded by wall sections that have fold line hinge connections thereof, one wall section at a corner of said blank having an end flap that has a fold line hinge connection thereto, said flap overlapping the end of the adjoining wall section and being severed therefrom, said first mentioned wall section having a slot parallel to and spaced from the hinge line of the flap, said flap having a slot aligned with the first slot and alongside the flap hinge line, said slot adjoining wall section having an integral tongue of a width to enter said slots, overlapping the end of said flap and severed therefrom.

3. A paperboard box comprising a back wall, top, bottom and end walls, said top wall having a tapering handgrip integrally connected at its ends to the top wall, said handgrip being severed from the portion of the top wall between the integrally connected ends of the handgrip and the free edge of said top wall and bent to upright position to provide a pair of slots in the top wall that diverge inwardly from the free edge of the top wall toward the opposite ends of said handgrip, a lid hinged to said bottom wall and a top flap hinged to the top edge of said lid and being freely depressible inwardly to a position at an acute angle to said lid to facilitate entry of the top flap beneath and into engagement with the under side of the top wall, said flap having a combined locking tongue and handgrip substantially the same size and shape as the top wall handgrip and of a length at its base corresponding to the distance between the inner ends of said slots, said locking tongue being insertable into said top wall slots from the under side of
the top wall and movable to a position alongside
the top wall handgrip and into locking engage-
ment with the top wall at the inner ends of said
slots.

4. A paperboard box comprising a back wall,
top, bottom and end walls, said top wall having a
handgrip integrally connected at its ends to the
top wall adjacent the longitudinal center line
thereof, said handgrip being severed from the
portion of the top wall between said center line
and the free edge of the top wall by substantially
concentric curved cuts and bent to upright posi-
tion, said concentric curved cuts forming a pair
of slots in said top wall that diverge inwardly
from the free edge of the top wall toward the
opposite ends of said handgrip, a lid hinged to
said bottom wall, and a top flap hinged to the
top edge of said lid and being freely depressible
inwardly to a position at an acute angle to said
lid to facilitate entry of the top flap beneath
and into engagement with the under side of the
top wall, said top flap having a combined lock-
ing tongue and handgrip of substantially the
same size and shape as the top wall handgrip,
said top flap handgrip being hinged to said top
flap and insertable through the top wall slots
from the under side of said top wall to a position
alongside the top wall handgrip and into locking
engagement with said top wall at the inner ends
of said slots, said top flap being depressible in-
wardly to permit opening movement of the lid
and withdrawal of said top flap handgrip.

SALVATORE A. AQUINO.
CHARLES D. WELSHENBACH.

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