

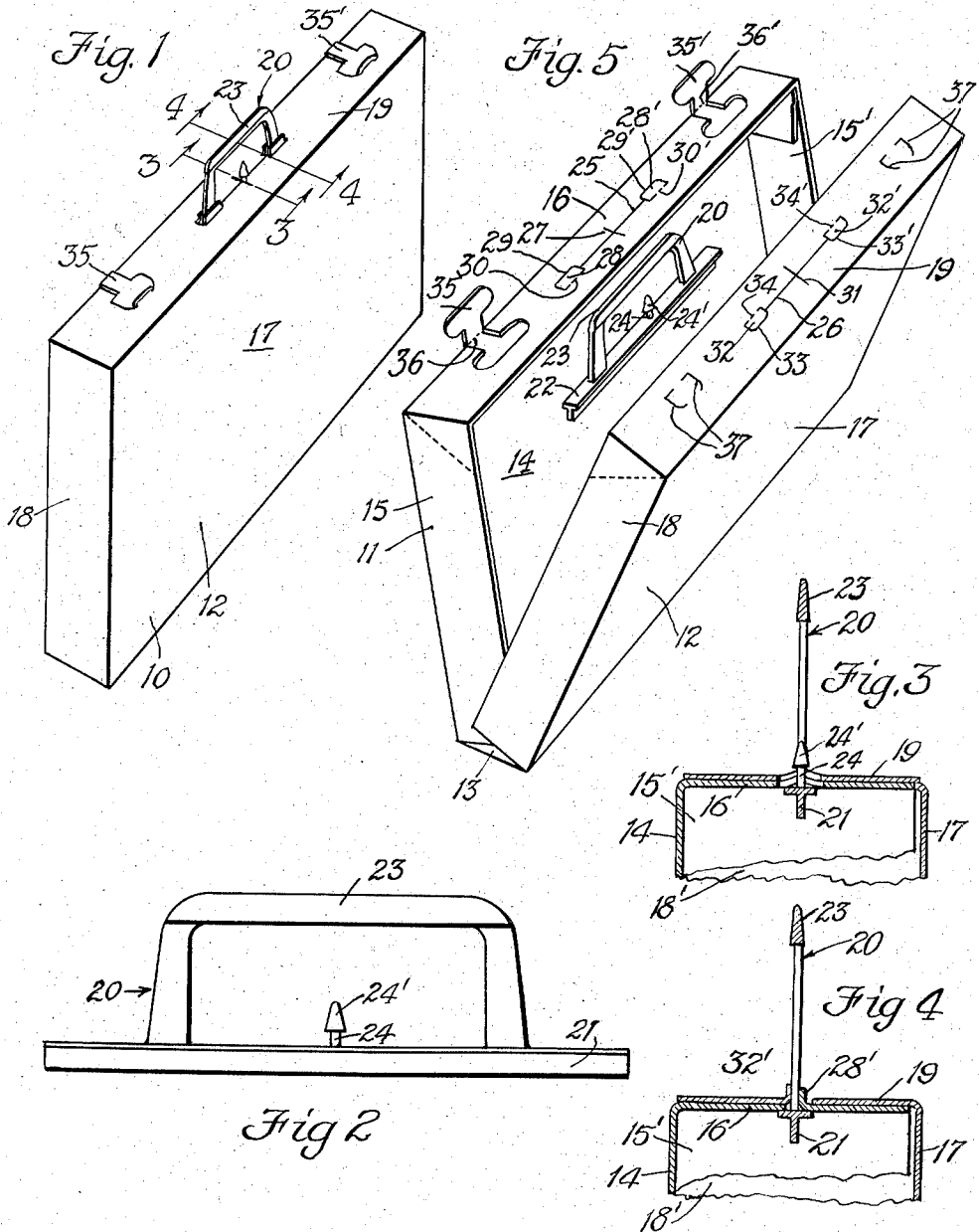
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W. R. BOTHWELL

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BOX HANDLE

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INVENTOR.
William R Bothwell
BY
Cronwell Greist & Warden
Attys

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BOX HANDLE

William R. Bothwell, Marion, Ind., assignor to Federal Paper Board Company, Inc., Bogota, N. J., a corporation of New York

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This invention relates to packaging and is more particularly concerned with improvements in boxes or cartons preferably made of paperboard or like material and adapted for use in packaging and transporting various articles of merchandise.

It is a general object of the invention to provide improvements in a folding box of the type wherein a hinged related bottom or receptacle forming section and a top or cover forming section are moved into telescoped relation when closed and overlapping wall forming portions thereof are held in register with each other by a handle forming member which also latches the box sections together.

It is a more specific object of the invention to provide in a box construction of the type which is characterized by tray-like top and bottom sections which are hingedly connected at one side edge so that they move into telescoping relation, when closed, with wall sections at the free side edges overlapped, an improved handle construction which comprises a rigid internal wall supporting bar and an integral external hand gripping member which is insertable through registering slits in the overlapped wall sections whereby the box may be readily carried and the top and bottom sections are held in closed condition thereby.

It is another object of the invention to provide an improved handle member for a box of the type described which has an elongate bar portion and an inverted U-shaped grip forming portion integral therewith, the latter being adapted to be passed through registering slots provided therefor in overlapping wall portions of the box, and the former being positioned in supporting engagement with the inner wall portion, and said handle member having a locking element on the bar portion which also projects through the registering slots and is adapted to lock the handle member in upright operative position.

It is still another object of the invention to provide a handle for a box or carton of the type described wherein the handle is formed from a molded plastic material and is so constructed that when it is assembled with the box it remains in operative position and strengthens and rigidifies the overlapping wall portions in which it is mounted.

These and other objects and advantages of the invention will be apparent from a consideration of the box or carton which is shown by way of illustration in the accompanying drawings wherein:

Figure 1 is a perspective view of a box having a handle associated therewith which incorporates the principal features of the invention;

Figure 2 is a side elevation of the handle which is employed for carrying the box;

Figure 3 is a cross section on an enlarged scale taken on the line 3—3 of Figure 1;

Figure 4 is a cross section on an enlarged scale taken on the line 4—4 of Figure 1; and

Figure 5 is a perspective view of the box in partly closed

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condition with the handle in position to be associated therewith.

Referring to the drawings, there is illustrated a one-piece folding box 10 formed of paperboard or similar material and having a handle 20 associated therewith which embodies the invention. The illustrated box 10 comprises a tray-like bottom or receptacle forming section 11 and a cooperating top or cover forming section 12, with the two box sections being connected along opposite side edges of a hinge forming rear or bottom side wall 13 which is common to the two sections. The bottom section 11 includes a bottom wall forming panel 14, end wall panels 15 and 15' and a top or front side wall panel 16, the end wall panels 15, 15' and the top side wall panel 16 being hinged to the edges of the bottom wall panel 14 and extending at right angles to the same in the set-up condition of the box. The top section 12 of the box includes a top wall forming panel 17, end wall forming panels 18 and 18' and a front or top side wall panel 19, the end and side wall panels being hinged to the edges of the top wall panel 17 and extending at right angles to the same in the set-up condition of the box. The two box sections 11 and 12 are adapted, when the box is set up for use, to be hinged on the bottom side wall 13 into closed telescoped relation with the end walls 15, 18 and 15', 18' and the top side walls 16 and 19 in overlapping or registering position.

The handle 20 which is provided for assembly with the box sections 11 and 12 is arranged to form therewith a locking and carrying device. It comprises an elongate base forming bar member 21 which is of T-shaped cross section providing an upper surface 22 of substantial length and width. An inverted U-shaped bail-like hand gripping portion 23 extends upwardly of the top surface 22 of the bar member 21 which may be of generally rectangular cross section with the legs integrally joined with the bar 21. The handle 20 is also provided at the center of the bar 21 with an upstanding pin formation which is shaped like a collar button, having a stem portion 24 and a conical head 24' with the base of the head portion of somewhat larger diameter than the stem portion which supports it.

The box sections 11 and 12 are provided in the top forming side walls 16 and 19 with registering slits 25 and 26 of sufficient length to receive the hand gripping portion 23 of the handle 20. A relatively short cross slit 27 is provided at the center of the longitudinal slit 25 and tab formations 28 and 28' are provided at the ends of the latter, which are formed by C-shaped cutting lines 29 and 29' and score lines 30 and 30' connecting the ends of the C-shaped cutting lines. In like manner a cross slit 31 is provided at the center of the slit 26 in the top side wall 19 and tab formations 32 and 32' are provided at the ends of the slit 26 which are formed by C-shaped cutting lines 33 and 33' having the ends thereof connected by score lines 34 and 34', respectively.

The bottom section 11 of the box is provided with hinged locking tabs 35 and 35' cut from the front side wall 16 which are in the form of a T and bendable about score lines 36 and 36', the latter coinciding with the corner forming juncture of the bottom wall 14 and front side wall 16. Cooperating locking slits 37 and 37' are provided in the front or top side wall 19 of the top section 12 of the box for receiving the locking tabs 35 and 35', the latter being hinged outwardly about the score lines 36 and 36' prior to closing the box sections, and being thereafter swung toward the outer face of the front side wall 19 with the free end portions bowed to engage the same in the locking slits 37 and 37'.

The handle 20 may be conveniently assembled with the box 10 by resting the box on a support with the bot-

tom section 11 in upwardly opening position and the top section 12 swung back to permit merchandise to be placed in the bottom section, the side walls of the latter being opened up and the locking tabs 35 and 35' being also hinged to the open position shown in Figure 5. The handle 20 may then be assembled with the front wall 16 by passing the gripping portion 23 and the locking pin 24 through the slits 25 and 27, respectively, with the legs of the handle gripping portion 23 moving the tabs 28 and 28' upwardly about the score lines 30 and 30'. Thereafter the top section 12 may be hinged into closed condition with the side walls 18 and 19 being first opened out and the gripping portion 23 of the handle 20 may be forced through the slit 26 while the head 24' of the locking pin 24 is forced through the cross slit 31. The legs of the gripping portion 23 move the tabs 32 and 32' upwardly about their hinge lines 34 and 34' so that they cooperate with the tabs 28 and 28' to hold the legs of the handle 20 in upright position. The locking tabs 35 and 35' may then be engaged with the cooperating locking slits 37 and 37' in the wall 19 to secure the two sections of the box in locked relation.

The elongate bar portion 21 of the handle 20 with its relatively wide top surface serves to support and stiffen the top forming walls 16 and 19 of the two box sections while the gripping portion 23 of the handle functions as a lock to hold the two box sections together with the tabs 28 and 28' and 32 and 32' tending to hold the gripping portion 23 in upstanding relation relative to the outermost wall 19. The locking pin 24 with its head 24' engaging in the slits 27 and 31 prevents the handle 20 from becoming disengaged when it is not in use and also helps to lock the box sections against opening movement. The head portion 24' of the locking pin formation is pointed on its top for easy insertion through the slits in the box walls while the bottom of the same is flat so that it binds in the two slots which are cut perpendicular one across the other and prevents the handle from dropping down into the box.

While specific details of construction and particular materials have been referred to in describing the form of the invention which is illustrated, it will be understood that other details of construction and other materials may be resorted to within the spirit of the invention.

I claim:

1. In a folding box which is characterized by a receptacle forming section and a cooperating cover forming section hinged by a bottom side wall and having end and top side walls which are in overlapped relation when the box is closed, said overlapped top side walls having longitudinal slits which are adapted to register with each other, a handle of relatively rigid construction having an elongate bar portion and a bail-like gripping portion extending therefrom, said handle being adapted to be assembled with said box so that it is positioned with the bar portion engaging with the inner surface of the top side wall of the receptacle forming section and with the gripping portion projecting through said registering slits, and said handle having a headed locking member on said bar portion which extends through said slits when the handle is assembled with the box and frictionally engages the edges of the wall material at the slits thereby preventing relative movement between said box sections and said handle.

2. In a box formed of flexible material which is characterized by a bottom forming section and a top forming section hinged to a connecting bottom side wall and having end and top side walls which are in overlapped relation when the box is closed, said overlapped top side walls having longitudinal and transverse slits which are adapted to register with each other, a preformed handle of relatively rigid construction having a bar portion and a gripping portion, said handle being adapted to be assembled with said box so that the bar portion engages

with the inner surface of the top side wall of the bottom forming section and the gripping portion extends through said registering slits, and said handle having a headed locking member extending upwardly of said bar portion which is adapted to project through said slits at the juncture thereof and prevent relative movement between said box sections and said handle.

3. A preformed handle for attaching to a box having cooperating receptacle and cover forming sections with two top forming walls in overlapped relation when the box is closed, said top forming walls having registering slits therein which extend longitudinally and transversely in intersecting relation at the center thereof, said handle being formed of relatively rigid plastic material and having an elongate bar member of T-shaped cross section, and an integral inverted U-shaped gripping member extending upwardly from the top surface of the bar member, and said bar member having an upstanding latch forming pin element between the legs of the gripping member which is adapted to be inserted in the transversely extending slits in said top forming walls when said handle is assembled with said box so that the bar member thereof is within the box and the gripping member is positioned in the longitudinally extending slits in said top forming walls.

4. In a folding box which is characterized by a tray-like receptacle forming section and a cooperating cover forming section hinged along opposite edges of a connecting bottom side wall and having end and top side walls which are in overlapped relation when the box is closed, said overlapped top side walls having longitudinal slits which are adapted to register with each other in the closed position of the sections, a preformed handle of relatively rigid construction having a bar portion and a gripping portion, said handle being adapted to be assembled with the box so that the bar portion engages with the inner surface of the top side wall of the receptacle forming section and the gripping portion extends through said registering slits when the box is closed, and said handle having a locking pin on said bar portion which is positioned to extend through said slits and which is frictionally gripped by the edges of the wall material defining the slits so as to prevent relative movement between said box section and said handle.

5. In combination with a paperboard box which is characterized by a bottom forming section and a top forming section hinged to opposite edges of a connecting bottom side wall and having end and top side walls which are in overlapped relation when the box is closed, said overlapped top side walls having longitudinal slits which are adapted to register with each other, a handle of relatively rigid plastic material having a base portion which is in the form of an elongate bar with a T-shaped cross section and a gripping portion extending upwardly thereof which has an inverted U-shape, said handle being adapted to be positioned with the top of the bar portion engaging with the inner surface of the top side wall of the bottom forming section and with the gripping portion extending through said registering slits, said handle having a headed locking pin member projecting upwardly of the center of said bar portion which is adapted to extend through the slits in said overlapped top side walls and position the head thereon for frictionally holding the handle in operative position and preventing relative movement between said box sections.

6. A box having cooperating receptacle and cover forming sections with two top forming walls in overlapped relation when the box is closed, said top forming walls having registering slits therein which extend longitudinally and transversely at the center thereof, and a handle for said box which is formed of relatively rigid material, said handle having an elongate bar member of T-shaped cross section, and an integral inverted U-shaped gripping member extending from the top surface of the

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bar member, and said bar member having an upstanding latch forming element thereon, said handle being adapted to be assembled with the sections of said box in the closed position thereof, the bar member being positioned within the box, the gripping member being positioned in the longitudinally extending slits in said top forming walls, and the latch forming element being positioned in the transversely extending slits in said top forming walls thereby preventing disassembly of said handle and box.

7. A preformed handle for assembly with a box having cooperating receptacle and cover forming sections with two top forming walls in overlapped relation when the box is closed, said top forming walls having registering slits therein which intersect and which extend longitudinally and transversely at the center thereof, said handle being formed of relatively rigid molded plastic material and having an elongate bar member and an integral inverted U-shaped gripping member extending from the top surface of the bar member, and said bar member having an upstanding headed pin forming a latching element thereon, said handle gripping member being inserted in the longitudinally extending slits in said top forming walls and said headed pin being inserted in transversely extending slits in said top forming walls at the intersection thereof with said longitudinal slits when said handle is assembled with the box so that the bar member thereof is positioned within the box and the gripping member is positioned outside the top forming walls, said headed pin preventing relative movement between the box sections and holding the handle in assembled relation.

8. A box and a preformed handle adapted to be attached thereto, said box having cooperating receptacle and cover forming sections with two top forming walls in overlapped relation when the box is closed, said top forming walls having registering apertures therein which extend longitudinally and transversely at the center thereof, said handle being formed of rigid plastic material and

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having an elongate bar member and an integral inverted U-shaped gripping member extending from the top surface of the bar member, and said bar member having an upstanding latch forming pin element with a head of greater diameter than the stem which connects it to the bar member, said gripping member being positioned in the longitudinally extending top wall apertures when the handle is attached to the box with the bar member engaging the inside of the top walls and said pin element being positioned in the transversely extending top wall apertures with the head thereof retaining the handle in operative position in said apertures.

9. A box having cooperating receptacle and cover forming sections with two top forming walls in overlapped relation when the box is closed, said top forming walls having registering slits therein which extend longitudinally and which terminate at their ends in locking tab formations with the tabs at corresponding ends adapted to hinge along opposite longitudinal edges, and a handle which is formed of rigid plastic material, said handle having an elongate bar member and an integral inverted U-shaped gripping member extending from the top surface of the bar member, and said handle being assembled with the box sections when the box is closed so that the bar member is positioned within the box and the gripping member extends through the slits in the top walls with the legs thereof engaged by the free edges of the locking tab formations thereby retaining the handle in operative position and locking the box sections against relative movement.

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