

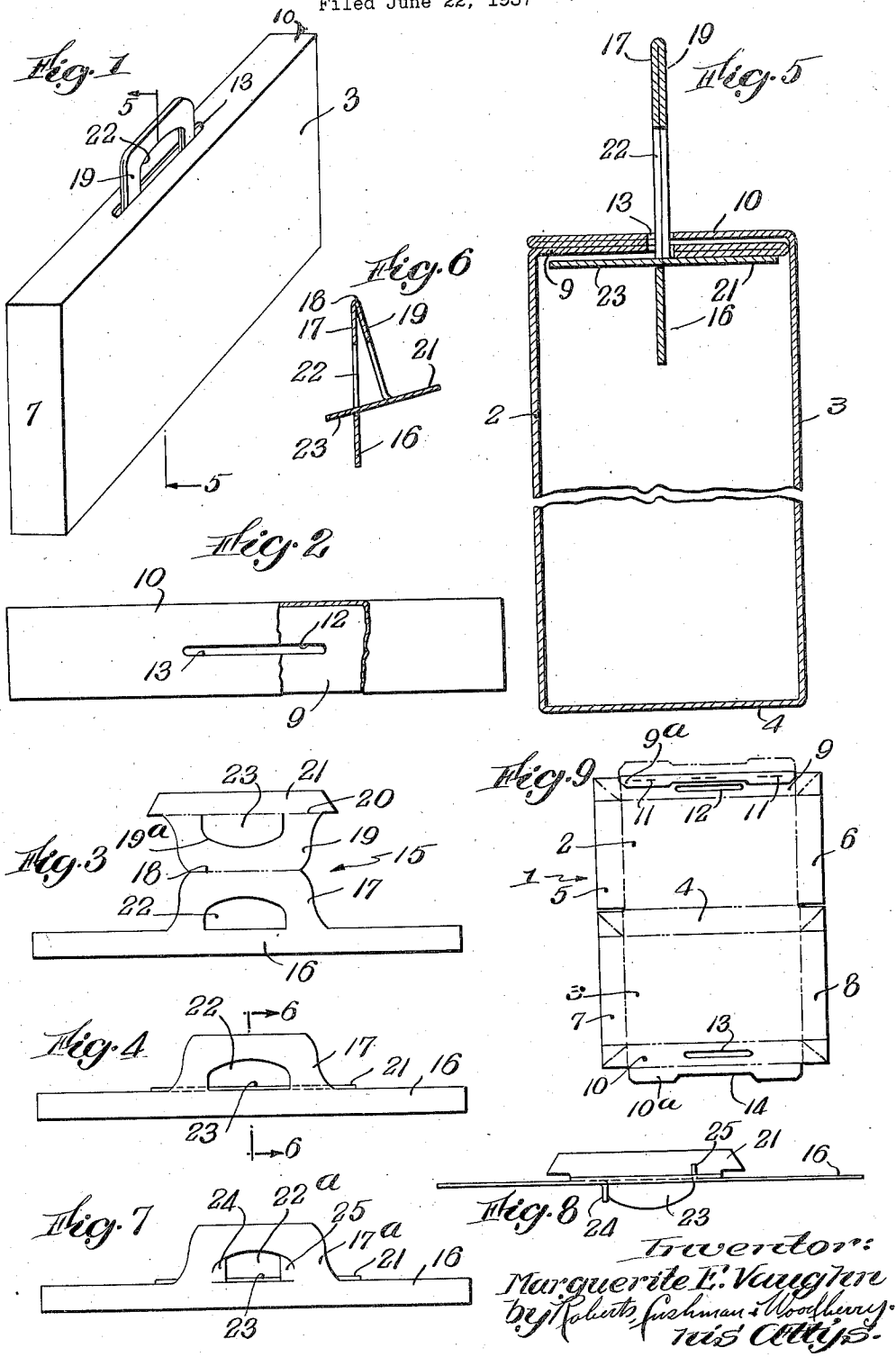
June 13, 1939.

M. E. VAUGHN

2,162,235

BOX

Filed June 22, 1937



Patented June 13, 1939

2,162,235

UNITED STATES PATENT OFFICE

2,162,235

BOX

Marguerite E. Vaughn, Natick, Mass., assignor to
Natick Box and Board Co., Natick, Mass., a cor-
poration of Massachusetts

Application June 22, 1937, Serial No. 149,651

9 Claims. (Cl. 229—52)

This invention pertains to boxes, and more particularly to folding boxes made from material such as cardboard or the like, and relates more especially to an improved box and to a handle whereby the box may conveniently be carried. As herein illustrated by way of example, the box is of the type commonly known as a "suit box" comprising a shallow body portion and a cover of substantially the same depth as the body portion and of such dimensions as to fit snugly over the body portion when the box is closed.

Usually the body portion and cover of such a box are wholly independent, and after the contents have been placed in the body portion and the cover has been put in position, it is necessary to wrap or tie the box in order to hold these portions together, and to afford convenient means for carrying it.

An object of the present invention is to provide a box which, when closed, needs no wrapping or tie cord to hold it closed, and which may readily be opened when desired without resort to cutting or breaking of any part.

Boxes of the kind above referred to are usually shipped in the form of flat blanks which are set up by the user, and if the box body and cover are independent parts, it is necessary to perform two independent setting up operations preliminary to the assembling of the box body and its cover. It is an object of the present invention to provide a box consisting of a single blank comprising parts which, when properly folded and interlocked, form a container, for example, of the suit-box type, including a body and cover, ready for the reception of the contents and including elements designed to cooperate with an appropriate locking device for keeping the box closed.

It has heretofore been proposed to form a box blank with an integral portion, which, by proper bending, folding, or the like assumes the form of a carrying handle when the box is set up, but the provision of an integral handle necessitates the use of a blank of undue size and results in waste of material. On the other hand, when it has heretofore been suggested that a separate handle might be employed, it has apparently been believed that the proper attachment of such a handle to the box necessitated the use of adhesive, rivets or the like, although such mode of attachment of a handle to a folding box is impractical from the standpoint of the ordinary user.

A further object of the invention is to provide an improved box and handle such that, after the box has been set up and filled, a handle of

cardboard or other sheet material may readily be applied without recourse to the use of adhesive or the like, and which will furnish an adequate means whereby the box may be carried; which may be applied quickly and easily; and which will act as a lock to hold the box closed, but which is readily removable to permit the box to be opened when desired.

Further objects and advantages of the invention will be pointed out in more detail in the following description and by reference to the accompanying drawing wherein:

Fig. 1 is a perspective view showing the box set up and closed, and with the handle in place;

Fig. 2 is a plan view of the box of Fig. 1, with certain parts broken away to show the interior construction;

Fig. 3 is a plan view of a handle blank, in accordance with one desirable modification;

Fig. 4 shows the handle blank of Fig. 3 after it has been folded in readiness for application to the box;

Fig. 5 is a fragmentary section, partly broken away, substantially on the line 5—5 of Fig. 1, showing the box as set up and closed and with the handle in place;

Fig. 6 is a transverse section substantially on the line 6—6 of Fig. 4, showing the handle during the operation of folding it but before the folding has been quite completed;

Fig. 7 is a view similar to Fig. 4, but showing a handle of slightly modified construction;

Fig. 8 is a plan view of the handle shown in Fig. 7; and

Fig. 9 is a plan view of a blank useful in making the box, and including a body portion and cover.

Referring to the drawing, and in particular to Fig. 9, the improved box is conveniently made from a blank which comprises the body and cover portions 2 and 3, respectively, designed to form the opposite side walls of the completed box, it being assumed, for convenience in description, that in use, the box will be held in the position of Fig. 1. The part 2 is provided with end flaps 5 and 6 and the part 3 is provided with end flaps 7 and 8, the several flaps being designed to cooperate to form the end enclosures for the box. The part 7 is also furnished with an integral top flap 9 having an extension 9^a, while the part 3 is furnished with a top flap 10 having an extension 10^a. The blank is designed to be shipped substantially flat to the user, except that it may be preferable to fold down the extensions 9^a and 10^a of the flaps 9 and 10, respectively, before shipment and to fix the extensions in place by means

of rivets 11 or other suitable fastening means. These extensions 9^a and 10^a furnish added stiffness to the top wall of the box and provide adequate anchorage for the handle device.

5 The blank also comprises the portion 4 designed to form the bottom of the box when the parts are disposed in the position shown in Fig. 1. The flaps 9 and 10 are furnished with elongate slots 12 and 13 respectively, and the extensions 9^a and 10^a are preferably provided with recesses 14
10 so as not to overlap the slots 12 and 13 when the extensions are folded down.

The handle blank 15 (Fig. 3) is made from suitable material such as cardboard and comprises the elongate anchorage member 16 having the integral projection 17 intended to form one ply of the hand grip part of the handle. To this extension 17, at the fold line 18, is integrally attached a second member 19 substantially identical in contour with the part 17 and designed to form the second ply of the handle. To this part 19 is integrally joined, along the fold line 20, an abutment member 21 which may if desired, be as long as the part 16, but which for practical purposes need not be so long as the anchorage element 16. The part 17 is furnished with an opening 22 of a size suitable to receive the fingers of the hand of the user. The handle part 19 is cut along the curved line 19^a to provide
20 an abutment flap 23 of a size substantially equal to that of the opening 22, the flap being integrally joined to the part 21 along the fold line 20, but being otherwise free.

This handle blank is folded along the line 18 so as to bring the parts into the position shown in Fig. 6, and then the parts 21 and 23 are bent along the line 20 so that they lie in a plane substantially perpendicular to the part 17 of the folded blank, the flap 23 being projected through the opening 22, and the parts 17 and 19 brought into contact so that the handle assumes the form shown in Figs. 1 and 5. As shown in the latter view, the parts 16, 21, and 23 of the handle underlie the inner surface of the top flap 9 of the body portion of the box when in use and so distribute the load over a substantial area of that top flap that there is little danger of breaking or buckling the box even when heavily loaded, or that the handle will be pulled out while the box is being carried. The part 16 lies in a vertical plane, so that its full depth is available to provide stiffness, while the parts 21 and 23, disposed in a horizontal plane, extend well beyond the edges of the slot 12.
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In assembling the handle with the box, the grip portion of the handle is first thrust outwardly through the slot 12 in flap 9, and then by bending the central part of flap 10 outwardly, the grip portion of the handle may be passed through slot 13 in flap 10 and the latter allowed to overlie the flap 9 as shown in Fig. 5. It will be noted that the handle, when inserted in the slots 12 and 13 in the flaps 9 and 10, respectively, of the box, constitutes a locking means which keeps the box closed so long as the handle is in position, so that
50 no wrapping or tying means is required.

Figs. 7 and 8 show a modified construction wherein the handle device is in general similar to that above described but wherein the opening 22^a in the handle member 17^a is provided at its opposite ends with integral tabs 24 and 25. When this handle has been inserted in the box, these tabs 24 and 25 may be bent at right-angles to the part 17^a, as shown in Fig. 8, so as to overlie the top surface of the top flap 10 and thus prevent
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the handle from dropping down into the box, even if the latter is not completely filled.

While I have herein described certain desirable embodiments of the invention by way of example, it is to be understood that such embodiments are in no way restrictive of the invention, but that the invention is to be regarded as inclusive of all equivalent constructions such as fall within the terms of the appended claims.

I claim:

1. A one-piece folding box comprising a bottom, side and end walls, and overlapping top flaps, said overlapping flaps having registering slots therein, and a handle device of stiff sheet material comprising an elongate anchorage element arranged so that its edge underlies the inner surface of the innermost top flap, and an abutment having a broad surface which engages the inner surface of said latter top flap, the handle device also including a portion which projects outwardly through said registering slots and which is provided with a hand grip.

2. A one-piece folding box comprising a bottom, side and end walls and overlapping top flaps, said overlapping flaps having registering slots therein, and a handle device comprising a hand grip portion consisting of a two-ply thickness of the material and anchorage means disposed within the box, said anchorage means comprising a longitudinally extending element integral with one fold of the grip portion and substantially coplanar therewith, said means also comprising a transversely extending element integral with the other ply of the grip portion.

3. A one-piece folding box comprising a bottom, side and end walls, and a top, said top having a slot therein, and a handle device of stiff sheet material comprising an anchorage element of a length substantially greater than that of the slot in the top and which engages the inner surface of the top beyond the opposite ends respectively of said slot, the handle device also including an abutment having a broad face arranged to engage the inner surface of said top at opposite sides of the slot, the handle device also including a part which projects outwardly through said slot and which is furnished with a hand grip.

4. A one-piece folding box comprising a bottom, side and end walls, and a top, said top having a slot therein, and a handle device of stiff sheet material, said handle device comprising a hand grip portion consisting of two plies of the sheet material, said plies having registering openings therethrough for the reception of the fingers of the hand in gripping the handle, portions of said plies extending through the slots in the top flaps, and anchorage means comprising an elongate member integral with one ply and extending longitudinally of the slot and beyond the opposite ends of the latter, and a transverse member integral with the other ply, one end of said transverse member projecting through the opening in the first ply.

5. A one-piece folding box comprising a bottom, side and end walls, and a top, said top having a slot therein, and a handle device of stiff sheet material, said handle device comprising a hand grip portion consisting of two plies of the sheet material, said plies having registering openings therethrough for the reception of the fingers of the hand in gripping the handle, portions of said plies extending through said slot in the top, one of said plies having an elongate anchorage element disposed within the box and in the plane

of said ply and of such length as to overlap the ends of the slot, the upper edge of said elongate element underlying the inner surface of the top.

6. A one-piece folding box comprising a bottom, side and end walls, and a top, said top having a slot therein, and a handle device of stiff sheet material, said handle device comprising a hand grip portion consisting of two plies of the sheet material, said plies having registering openings therethrough for the reception of the fingers of the hand in gripping the handle, portions of said plies extending through said slot in the top, one of said plies having a transversely extending member disposed substantially perpendicular to the plane of said ply and arranged to overlap said slot at the opposite sides of the latter and to engage the inner surface of the top.

7. A handle blank comprising an integral piece of stiff sheet material, including a narrow elongate anchorage member, a pair of substantially like gripper members, the edge of one of said members being integrally joined to one edge of the anchorage member adjacent to the center of the latter, and the other of said gripper members having one edge integrally joined to the opposite edge of the first gripper member, said gripper members having finger-receiving openings of substantially like size, and an abutment portion integrally joined to the other edge of said second gripper member, said abutment por-

tion including a flap which, in the blank, substantially fills the opening in said second gripper member.

8. A one-piece folding box comprising a bottom, side and end walls, and a top, said top having a slot therein, and a handle device of stiff sheet material, said device comprising a grip portion including two juxtaposed plies, portions of said plies extending through the slot, a transverse member integral with one of said plies underlying the top at either side of the slot, and a longitudinal member integral with the other ply and in substantially coplanar relationship thereto, said last-named member underlying the top at each end of the slot.

9. A one-piece folding box comprising a bottom, side and end walls, and a top, said top having a substantially centrally located slot therein, and a handle device of stiff sheet material, said handle device comprising anchorage means disposed beneath the top of the box, said anchorage means including a substantially horizontal sheet member underlying the inner surface of the top of the box at each side of the slot, and a vertical sheet member extending longitudinally of the slot and underlying the inner surface of the top of the box at each end of the slot, said handle device also comprising a grip portion which projects upwardly through the slot.

MARGUERITE E. VAUGHN.