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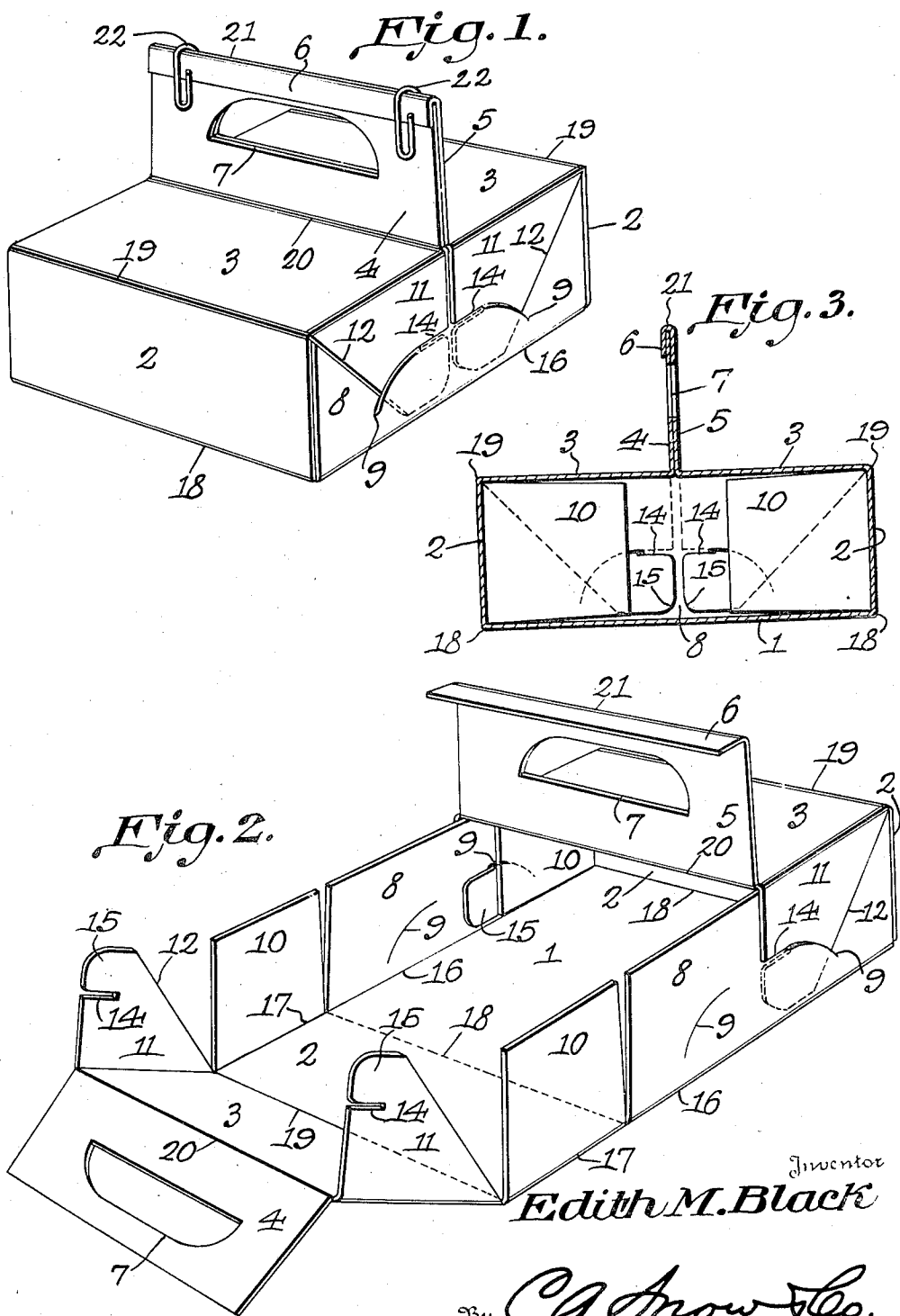
E. M. BLACK

2,074,638

COLLAPSIBLE BOX

Filed Nov. 20, 1934

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

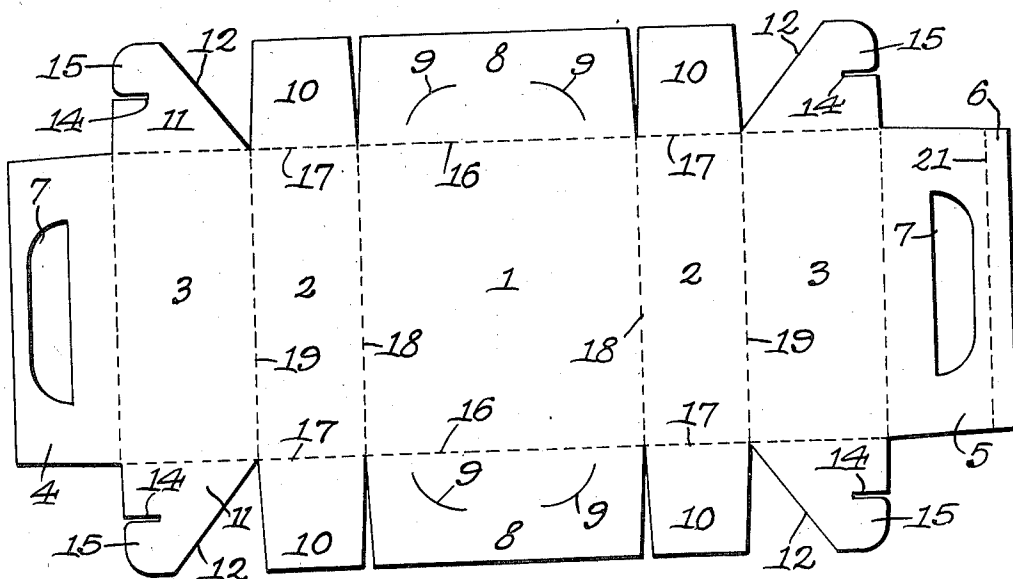


Fig. 4.

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2,074,638

COLLAPSIBLE BOX

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4 Claims. (Cl. 229—52)

The device forming the subject matter of this application is a collapsible box, generally made of cardboard or equivalent material, and used, sometimes, and by way of example, in the carrying of pies, cakes and the like. Such boxes, if tied with a string, tend to collapse, and the string may slip off. Moreover, there is a constant tendency for such boxes to cave in at the top, thereby damaging the contents of the box.

The foregoing being understood, it may be stated that the present invention aims to provide a novel collapsible box having handle portions which promote portability, whereby the sides are securely carried on the handle portions of the box for safely carrying the contents of the box, and strengthen the upper portion of the box, so that the upper portion of the box will not dish inwardly, the pull of the handles serving to enhance the hold of the interengaged elements whereby the walls of the box are connected together.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Fig. 1 is a perspective view showing one form of box constructed in accordance with the invention;

Fig. 2 is a perspective view wherein the box of Fig. 1 is shown in a partially completed condition;

Fig. 3 is a transverse section of the box depicted in Fig. 1;

Fig. 4 is a plan of the blank out of which the box of Fig. 1 is made.

The box is made of any suitable foldable material, commonly employed in the making of collapsible boxes, such as cardboard.

Referring especially to the blank of Fig. 4, the box comprises a bottom 1, and the following parts in duplicate, extended outwardly in opposite directions from the bottom 1, in the order specified: sides 2, top members 3, handles 4 and 5, and a holding flange 6 on the handle 5. The handles

4 and 5 have openings 7, which are large enough to receive the fingers of the porter.

The ends 8 are connected to the bottom 1, and, in the blank of Fig. 4, project in a direction at right-angles to the direction defined by the parts 2, 3, 4, and 5. The ends 8 have arcuate slits 9. Tabs 10 are connected to the sides 2. In the blank of Fig. 4, the tabs 10 project in the same direction as the ends 8. The wings 11 are connected to the top members 3. In the blank of Fig. 4, the wings 11 project in the same direction as the ends 8. The wings 11 are of tapered form, as shown at 12. In the outer edges of the wings 11, there are notches 14. The notches 14 form tongues 15 on the wings 11. The tongues 15 extend in a direction at right-angles to the tabs 10 and the wings 11, in the blank of Fig. 4.

To convert the blank of Fig. 4 into the box of Fig. 1, the ends 8 are turned up, along the lines 16. The tabs 10 are turned up along the lines 17. The sides 2 are turned up along the lines 18, and the tabs 10 are entered inside the walls 8, as shown at the right-hand end of Fig. 2. The top members 3 are folded toward each other, into approximate parallelism with the bottom 1, along the lines 19. The handles 4 and 5 are turned up into contact with each other, to a position at right-angles to the top members 3, along lines 20. When the handles 4 and 5 are turned up, the hand-receiving openings 7 are brought into registration. The holding flange 6 on the handle 5 is turned down along a line 21, to overlap the handle 4. If unusual security is desired, fastening devices, such as paper clips 22, are straddled over the upper portions of the handles 4 and 5, and over the down-turned flange 6. At an appropriate time in the erection of the box, for instance when the top members 3 are folded over into the position of Fig. 1, the wings 11 on the top members 3 are bent downwardly and tongue members 15 are inserted inwardly through the slits 9 in the ends 8, the tongues 15 then being inside the box, and the ends 8 being received in the notches 14 of the wings 11. The precise sequence of construction steps set forth in this paragraph is satisfactory, but need not be adhered to exactly.

If a box of the general shape of Fig. 1, but devoid of the handles 4—5, is tied up with a piece of string, and used to contain a cake, for example, the hand of the operator is thrust under the string, whilst the box is being carried, the top of the box is bent down, and the upper part of the cake is likely to be mashed. There are many other conditions under which the box top, if flexed down, will deface the upper part of the

cake. That cannot occur in connection with the device described, because when the box is carried, the handles 4 and 5 pull up on the top members 3. Nor are the top members 3 likely to be pushed down, to the damage of the contents of the box, even if the box is not carried by the handles 4 and 5. This is so because the handles 4 and 5 form a stiff upstanding truss, opposing the downward flexure of the members 3, an observation which will be understood readily when Fig. 1 is noted. The handles 4 and 5 work to another good end. When they are in use, there is an upward pull on the top members 3, the top members 3 tend to swing upwardly, hinging along the lines 19 of Fig. 1, the wings 11 consequently tend to swing toward each other, and the ends 8 are seated and retained very securely by the notches 14 of the wings. This engagement of the wings 12 with the ends 8 provide a better support for bottom 1 along lines 16 in providing a connection between the top members 3 and bottom 1 through said wings and end members.

Having thus described the invention, what is claimed is:

25 1. A rectangular one-piece box^o comprising a bottom, ends connected to the bottom, sides connected to the bottom and having tabs which project toward each other inside of the ends, top members connected to the sides and having depending wings overlapped on the outside of the ends, upstanding handles connected to the top members and having registering hand-receiving openings, the handles being substantially in contact, whereby the handles can be folded together in either of opposite directions, to lie flat on one of the top members and maintain the rectangularity of the box, the ends having slits and the wings having tongues extending thru the slits, to detachably but securely interlock the tongues with the ends, whereby to transfer the handle pull thru the tongues and the ends to the bottom and fully support said bottom thereby, and a down-turned flange on the upper edge of one handle overlapping the other handle and terminating above the hand-receiving opening.

40 2. A box construction as set forth in claim 1, and further characterized by having fastening means joining the down-turned flange of one handle detachably to the other handle.

3. A collapsible box structure constructed from a blank form comprising a rectangular bottom section, side sections extending from the edges of the bottom section and adapted to be bent upward therefrom, two of said side sections being provided each with a pair of upwardly extending and converging arcuate slits, two of said side sections on opposite sides of the bottom section having extending sections adapted to be bent laterally toward each other to provide top sections, extending to a midway line across the top of the box structure and having handle portions at their line of meeting adapted to be bent upwardly and in engagement with each other to provide upstanding handle means whereby to carry the box, each top section having wing sections at its two opposite sides adapted to be bent downwardly over the two slitted side sections, a pair of wing sections extending along substantially the intermediate half part of a side section, and means for securing the wing sections to the slitted side sections including for each of said side sections a pair of tongue portions which extend from a pair of wing sections laterally toward each other and are inserted thru a pair of said slits on a side section, whereby the side sections and therewith the bottom section are fully and firmly supported on the top sections and the handle means.

4. A collapsible box comprising a bottom, vertical side walls and end walls hinged thereto, top members hinged to the upper edges of said side walls and extending inwardly toward each other, the top members having upstanding contacting strips constituting handle means, the end walls having each a pair of slits extending upwardly and toward each other, the top members having depending wings overlapping the major intermediate portions of the end walls and being provided with laterally extending notches in the adjacent edge portions producing tongue portions which extend thru said slits, said notches receiving said end walls while a pair of tongue portions on an end wall extend toward each other and are forced securely in said slits by any load in the box, whereby the end walls and therewith the bottom are fully and securely supported on the top members and the handle means.

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