

March 15, 1949.

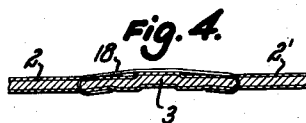
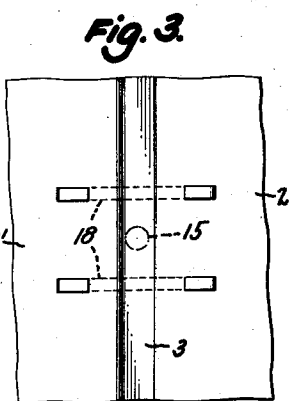
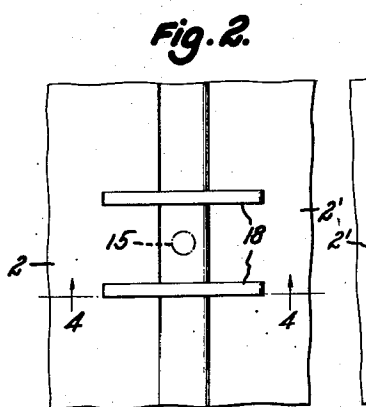
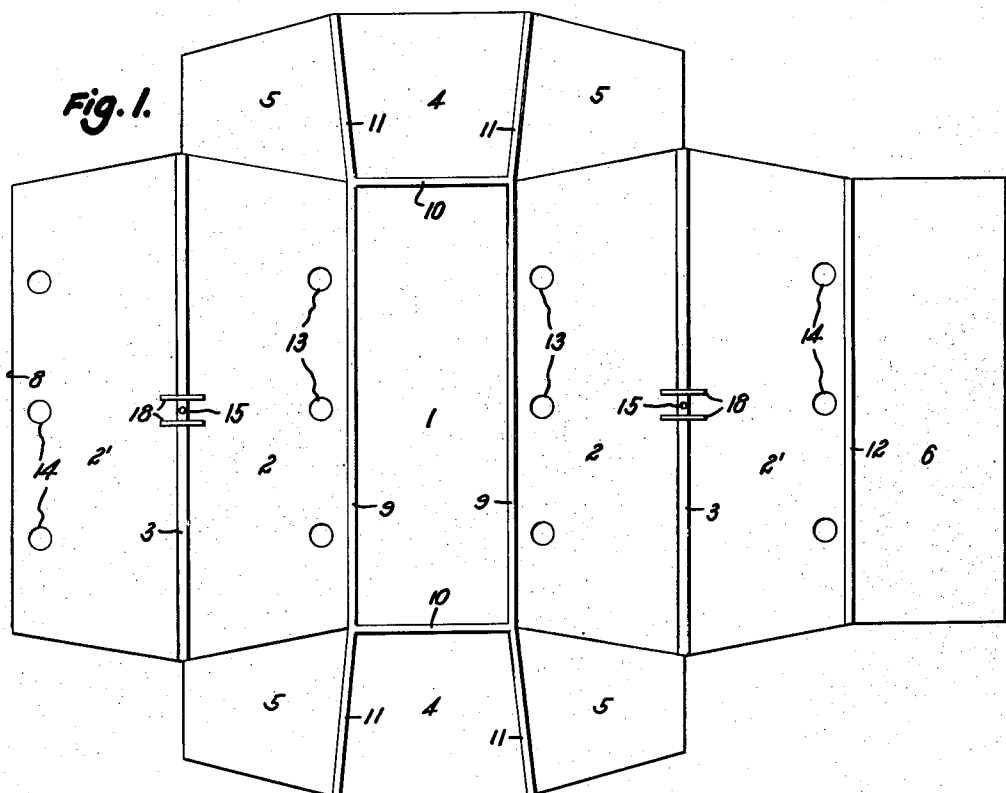
J. C. MORRIS

2,464,337

HANDLE REINFORCING MEANS FOR CONTAINERS

Filed Aug. 12, 1944

2 Sheets-Sheet 1



Inventor

James C. Morris

By *M. F. Finckel Jr.*

Attorney

March 15, 1949.

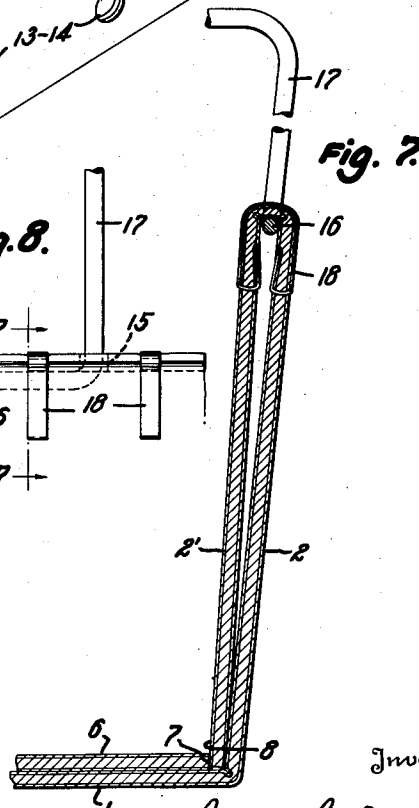
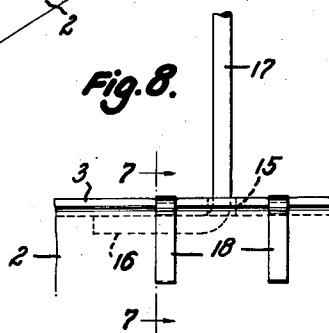
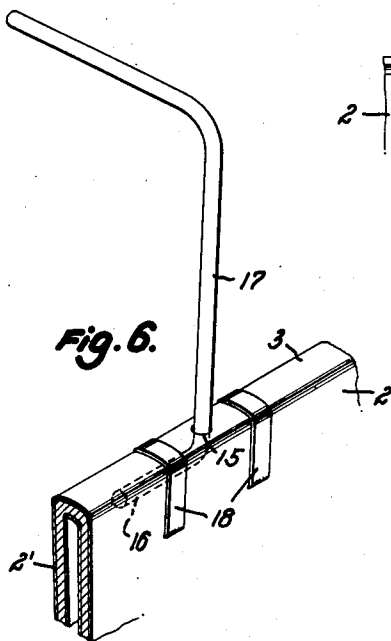
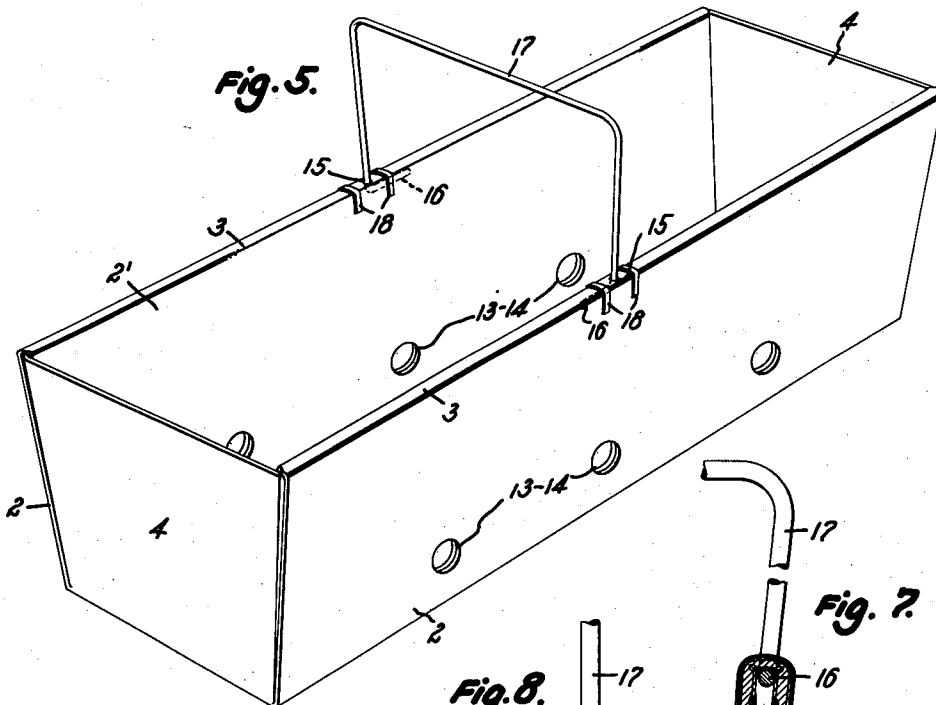
J. C. MORRIS

2,464,337

HANDLE REINFORCING MEANS FOR CONTAINERS

Filed Aug. 12, 1944

2 Sheets-Sheet 2



By

James C. Morris
M. P. Finckel

Attorney

UNITED STATES PATENT OFFICE

2,464,337

HANDLE REINFORCING MEANS FOR
CONTAINERS

James C. Morris, Wadsworth, Ohio, assignor to
The Ohio Boxboard Company, Rittman, Ohio,
a corporation of Ohio

Application August 12, 1944, Serial No. 549,166

5 Claims. (Cl. 229—52)

This invention relates to paperboard containers, particularly those of the basket type provided with handles, and it has special reference to means for reinforcing the walls of such containers adjacent to the points of application thereto of wire and the like handles.

In containers of the type referred to the side walls are usually of double thickness, formed by folding the side wall forming portions thereof upon predetermined lines of fold which form the top edges of the walls when the same are in set-up condition, these top edges being pierced midway of their length to receive the offset bent ends of the wire handle means in such a manner that these ends extend between the two thicknesses of the walls and bear, when lifting strain is applied, upon the inner faces of the folds at the top edges of the walls.

The metal-to-paper bearing contact thus provided sometimes, particularly after continued use, or when the container is heavily loaded, or even during application of the handle, results in tearing of the paperboard material of which the container is made, thus making the container unserviceable for its usual purpose and necessitating its being discarded.

The object of the present invention is to provide handle reinforcing means, for application to the container side walls, of a simple, cheap and durable nature, easy of application in mass production to the container blanks while flat, and requiring no accommodative changes in containers of accepted form and mode of assembly to set-up condition.

Thus containers of customary form provided with the handle reinforcing means of the invention, and with handles of known type acceptable to the consumer, present no problem, and no departure from established practice, to the consumer's operatives in the act of setting them up from flat condition to usable form.

The invention comprises staples or stitches, preferably of metal strip or ribbon, applied to the container blanks while in flat form, and preferably so located as to span the outer surfaces of the score or fold lines which, when the containers are set up for use, form the top edges of the side walls to which the handle ends are applied; and these staples or stitches may be so arranged as to flank the pre-formed openings which receive the aforementioned bent ends of the handles, that is to say preferably, but not necessarily, two staples or stitches spanning each fold score and flanking each of such openings. When two flanking staples are used the top edge fold

will be reinforced for accommodation of the bent ends of the handle regardless of the direction in which they are bent. Moreover, by the application of two staples or stitches the paperboard material of the container in the area of the edge folds, and adjacent thereto, will be so reinforced as to safely bear the strain of the loaded container when lifted by the handle, although it has been found that one staple will suffice when it is so positioned as to overlie the bent end of the handle, all as will be explained more fully hereinafter and finally claimed.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated:

Fig. 1 is a plan view of the outer face of the flat blank of a container of appropriate type with the handle reinforcing means of the invention applied thereto.

Fig. 2 is an enlarged plan view of the outer face of a portion of the blank in an area containing the handle reinforcing means of the invention.

Fig. 3 is a view similar to Fig. 2, but showing the reverse side.

Fig. 4 is a section taken on the line 4—4 of Fig. 2.

Fig. 5 is a perspective view of a container, of mushroom basket type, including a handle and reinforcing means in accordance with the invention.

Fig. 6 is an enlarged fragmentary detail perspective view showing the handle end and cooperating, reinforced side wall upper edge.

Fig. 7 is an enlarged fragmentary sectional elevation taken on the line 7—7 of Fig. 8, and

Fig. 8 is an enlarged fragmentary side elevation showing the parts illustrated in perspective in Fig. 6.

The blank of the container shown in Fig. 1 is of conventional form and of the type usually referred to as a mushroom basket, having a bottom 1, members comprising similar parts 2 and 2' foldable upon score or fold lines 3 to provide double thickness side walls with their upper edges lying in the folds on the scores or fold lines 3, end walls 4 provided with flaps 5 which, when the container is set up, are embraced between the thickness 2, 2' of the side walls, and a retainer flap 6 which is provided as an extension of one of the side wall parts 2' and is adapted, when the container is set up, to be flat against the inner face of the bottom 1 with its free edge 7 wedged against the face of the edge-adjacent portion 8 of the other part 2'. The various integral parts

3

of the blank are foldable to set-up condition upon suitable scores or creases 9, 10, 11 and 12 in the usual manner. Ventilating openings 13 and 14, adapted to register when the container is set up, are provided in the bottom-adjacent portions of the side wall parts 2 and 2', respectively.

Midway of their length the edge folds formed for the side walls by the score or fold lines 3 may be provided with pierced (or semi-pierced) openings 15 to receive the conventional, oppositely offset, ends of a wire handle member 17, and it is in the area of these openings, where the handle ends 16 have their bearing, that the reinforcing means of the invention are located.

As shown, and as hereinbefore indicated, these reinforcing means comprise staples or stitches 18, preferably made of metal strip or ribbon (although other cross-sectional forms may serve) which span the score or fold lines 3 adjacent to and flanking the openings 15, the staples or stitches preferably closely contacting the outer face of the material of the blank and having their ends passed therethrough and clinched against the opposite face, as illustrated in Figs. 1 to 4.

Obviously, when the side walls are folded with their parts 2 and 2' in juxtaposed relation, as shown in Figs. 5 to 8, sufficient tension will be exerted upon the staples or stitches 18 to cause them to closely conform to the outer surfaces of the parts 2, 2' and 3 and to bear against them with a pressure sufficient to prevent displacement, and the two ends of each of the staples or stitches in engagement with the parts 2 and 2' will extend from the upper edge fold 3 along the parts 2 and 2' in relative substantial parallelism. Moreover, their preferably flat form, and their close conformity to the shape of the container wall portions against which they bear, precludes the likelihood of the staples or stitches being unsightly or of interfering in any manner with the customary use of the containers.

As will be apparent from the showing particularly of Figs. 5 to 8, the offset ends 16 of the handle members 17, when passed through the openings 15, will be embraced between the juxtaposed parts 2 and 2' of the side walls and, in normal use, bear against the inner surfaces of the folds 3 forming the top edges of the side walls in those areas spanned and reinforced by the staples or stitches 18. Thus, when lifting strain is applied to the handles, this strain will be distributed by the staples or stitches 18 to the side wall parts 2 and 2' and will not be localized upon the relatively weak paperboard of the folds 3. Moreover, by the application of two staples or stitches adjacent to and flanking each of the openings 15, the material of the fold 3 is materially strengthened to withstand possible strain of insertion of the handle ends 16. Also, should handles having their ends bent or offset in directions opposite to those illustrated be employed, the containers thus furnished with pairs of staples will operatively accommodate such handles and reinforce the bearing areas for their ends.

Various changes and modifications are considered to be within the principle of the invention and the scope of the following claims.

What I claim is:

1. In combination with a paperboard container having walls of double thickness each formed by folding the material of such wall upon itself, and in which the line of fold constitutes the upper edge of the wall, an attachable and re-

4

movable handle member having an offset free end, and an opening provided in said upper edge for permitting entrance of the offset free end of said handle member therethrough and between the wall thicknesses, and means for reinforcing said wall to form a bearing for withstanding outwardly exerted pressure of the thus inserted offset handle end against the inner surface of said line of fold, including staple means spanning said upper edge adjacent to said entrance permitting opening at a distance therefrom not greater than the length of said offset free end and having its two ends affixed respectively to the material of the two juxtaposed thicknesses of the wall and extending from said upper edge in relative substantial parallelism along said juxtaposed thicknesses.

2. In combination with a paperboard container having walls of double thickness each formed by folding the material of such wall upon itself, and in which the line of fold constitutes the upper edge of the wall, an attachable and removable handle member having an offset free end, and an opening provided in said upper edge for permitting entrance of the offset free end of said handle member therethrough and between the wall thicknesses, and means for reinforcing said wall to form a bearing for withstanding outwardly exerted pressure of the thus inserted offset handle end against the inner surface of said line of fold, including two staple members spanning said upper edge adjacent to and at opposite side of said entrance permitting opening at a distance therefrom not greater than the length of said free offset end and having their respective two ends affixed respectively to the material of the two juxtaposed thicknesses of the wall and extending from said upper edge in relative substantial parallelism along said juxtaposed thicknesses.

3. In a paperboard container having opposite side wall portions of double thickness formed by folding the material of said side walls upon itself, the lines of fold constituting the top edges of the said side walls, an attachable and detachable handle member having offset free ends, means defining openings in said top edges for permitting entrance of the offset free ends of said handle member therethrough and between said side wall thicknesses to permit said offset free ends to bear against the inner surfaces of said folds, and means for reinforcing said side walls to form bearings for withstanding outwardly exerted pressure of the thus inserted offset handle ends against the inner surface of said lines of fold, comprising staples spanning said top edges adjacent to said entrance opening defining means at a distance therefrom not greater than the length of said offset free ends and having their two ends affixed respectively to the material of the juxtaposed two thicknesses of the side walls and extending from said top edges in relative substantial parallelism along said juxtaposed thicknesses.

4. A container blank of flat form having portions adapted to be folded upon appropriate lines of fold to provide container walls of double thickness having their top edges defined by such lines of fold, said top edges being provided along the lines of fold with means defining openings adapted to attachably and removably receive the free offset ends of a handle member, and means for reinforcing said walls in the areas receiving such handle ends to withstand outwardly exerted pressure of said handle ends against the inner

5

surfaces of said lines of fold, comprising staple means spanning said lines of fold and flanking said opening defining means and positioned closely adjacent thereto and affixed to adjacent portions of the two parts forming each of said double thickness walls, said staple means being bendable with such adjacent portions of the blank across and upon said lines of fold and extending upon said adjacent portions in relative substantial parallelism.

5. A container blank of flat form having portions adapted to be folded upon appropriate lines of fold to provide container walls of double thickness having their top edges defined by such lines of fold, said top edges being provided along the lines of fold with openings adapted to attachably and removably receive the free off-set ends of a handle member, and means for reinforcing said walls in the areas receiving such handle ends to withstand outwardly exerted pressure of said handle ends against the inner surface of said lines of fold, comprising pairs of staple means span-

6

ning said lines of fold and flanking said openings and positioned closely adjacent thereto and affixed to adjacent portions of the two parts forming each of said double thickness walls, said staple means being bendable with such adjacent portions of said blank across and upon said lines of fold and extending upon said adjacent portions in relative substantial parallelism.

JAMES C. MORRIS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
594,562	Royer -----	Nov. 30, 1897
1,245,479	Lundy -----	Nov. 6, 1917
1,567,594	Hitzert -----	Dec. 29, 1925
1,666,333	Isoyama -----	Apr. 17, 1928
1,917,920	Bliss -----	July 11, 1933
2,300,491	Ferguson -----	Nov. 3, 1942