HANDLE REINFORCEMENT FOR BOXES

Filed Sept. 1, 1937
2 Sheets-Sheet 2
This invention relates to a handle reinforcement for boxes and similar containers, and it has particular reference to a reinforcing member adapted for juxtaposition with respect to the part of the box or part forming the handle of the box or other container, and having not only as a means for strengthening and supporting such part or parts, but furnishing a means for engagement with the adjacent wall of the box or container to supplement the handle proper in supporting the weight of the box or container and its contents.

In the following description, supplemented by the drawings, reference is made to this handle reinforcement in its application, particularly, to a box or container constructed from a folded blank having integral means for forming the handle, and made of cardboard, boxboard or similar paper product, and of suit case or suit box type, but it is to be understood that the invention is not thus limited in its application, but is susceptible of adaptation to the handles of various types of boxes and containers.

Considerable difficulty has heretofore been encountered in preventing the tearing away of the handles of boxes made of cardboard, boxboard, and the like, particularly when the contents of such boxes of containers are relatively heavy, and one of the objects of the present invention is to so reinforce the handles, presupposing particularly, that such handles are integral with the material of the boxes or containers, that they will not break or tear away in the presence of appreciable loads occasioned by relatively heavy contents in the boxes or containers.

Another object of the invention is to provide a handle reinforcement of simple construction and easy application for use and which, as hereinbefore intimated, will serve not only to strengthen the part or parts forming the handle, and usually made integral with the box or container, but will so engage the adjacent wall of the container or box as to bear an appreciable part of the load imposed upon the handle.

The invention, in a broad aspect, contemplates a separate, or separable handle-reinforcing member adapted for juxtaposition, and preferably registration, with the box or container handle, and having means for engagement, preferably interlocking engagement, with the adjacent wall of the box or container, all as will be explained hereinafter more fully and finally claimed.

In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a plan view of a box or container blank illustrative of the invention.

Fig. 2 is an enlarged perspective view of the box or container set up in proper folded condition and closed.

Fig. 3 is a further enlarged perspective view of the handle-reinforcing member proper.

Fig. 4 is a fragmentary longitudinal sectional elevation, also enlarged, illustrating the mode of application of the handle-reinforcing member, and

Fig. 5 is a fragmentary transverse section of the box or container taken through the handle and the handle-reinforcing member and showing same in assembled position.

The container illustrated in the drawings as one type suitable for application of the invention is a suit box having a carrying handle on its narrow top side, and thus providing a box or container of suit case type.

The blank from which this container is formed (Fig. 1) comprises a sheet of cardboard, boxboard or other similar appropriate paper product, so cut and scored as to furnish the various necessary parts of the box or container. As shown, the blank comprises side walls 1 and 2, a bottom wall 3, overlapping end wall members 4, 4', and 5, 5' joined to each other respectively and to the bottom wall 3 by gusset pieces 5 of appropriate known construction, and overlapping top wall members 7 and 7'. The end wall members 4 and 5 are provided with hook-like securing tabs 8 and 8' adapted for engagement with slits 11 and 11', respectively, formed in the top wall member 7, and the top wall member 7 is provided with hook-like securing tabs 10 and 10' adapted for engagement, respectively, with appropriate slits 9 and 9' formed in the end wall members 4' and 5'. The top wall member 7 is provided also with bifurcated shoulders securing tongues 12 of known form for engagement with slits 13 formed in the side wall 1.

The top wall member 7 is provided with an integral handle 14 and the top wall member 1' is provided with a similar handle 14'.

The side walls, bottom wall, end wall members, gusset pieces, securing tabs, fastening tongues and handles are all appropriately foldable upon score lines 15 so that the box or container may be properly assembled for use.

It will be understood that the container blanks formed, for example, as above described, may be furnished flat to the consumer in desired quantities. The handle-reinforcing members 16 are preferably separately packaged and furnished in
a suitable quantity with the blanks. Or, if desired, they may be attached to an appropriate part of the blanks by staples or the like 17, as illustrated in Fig. 1, and it will be obvious that when thus attached the respective top wall portions will be de-attaching depicted from the blanks before the folding of same to box form.

When the blank is appropriately folded upon the score lines 15, and its securing tabs 6, 8', 10, 18', providing with their respective slits 9, 9', 11, 11', and the container closed, and its securing tongues 12 engaged in the complemental slits 13, the container will have the appearance illustrated in Fig. 2. It will be understood, of course, that the handles 14 and 14' will have been bent along their respective score lines 15, as shown, so as to offstand upwardly from the top wall portions 7 and 7', and the handle reinforcement interposed between them and engaged with adjacent portions of the top wall in a manner to be explained hereinafter in more detail.

The handle reinforcement, best illustrated in Figs. 3 and 4, may be made of the same material as that of which the box or container is formed, or it may, preferably, be made of somewhat heavier, stiffer stock. 12 It comprises, essentially, a flat member preferably shaped, so far as its parts exposed when in use are concerned, as a duplicate of, and capable of registry with, the handles 14 and 14'. In the form shown, it is provided with an appropriate handhole, and includes shoulders 18 terminating in slanted camming edges 19 and having underlying notches 20 the lower faces of which merge into extensions 21.

It will be noted that when the box or container is set up as illustrated in Fig. 2, the top wall members 7 and 7' are in overlapping relation to form a double wall except at those portions from which the handles 14 and 14' are cut and bent up. Although this provides a relatively strong top wall for the container, the weakness of the handles 14 and 14', and their tendency to tear back into the top wall members 7 and 7', upon the imposition of any appreciable load within the container will be apparent. Application of the handle reinforcement with its attendant reinforcing and load-supporting functions will eliminate this tendency. The handle-reinforcing member is applied as follows: With the box or container set up and closed as described, and its handles 14 and 14' in off-standing juxtaposition, the handle-reinforcing member 16 is interposed between them and lowered, endwise for example, so that it may enter the container and thereafter be brought to approximately the position illustrated in Fig. 4. Then by pulling it upwardly between the handles 14 and 14', its shoulders 18 and inclined camming edges 19 will so distort the adjacent edge portions of the top wall members 7 and 7' as to allow the shoulders 18 and edges 19 to pass upwardly through the opening between the handles 14 and 14' until the reinforcing member is in registry with the handles and its extensions 21 bear against portions of the under face of the top wall of the container, the edges of the members 17 and 17' of the top wall having, meanwhile, snapped into the notches 20. Thus, not only do the extensions 21, due to their bearing against the under surface of the top wall, help to support the load of the container when the handle is grasped, but the interlocking engagement of the notches 20 with the adjacent edge portions of the top wall members will serve to hold these members in contact and thereby strengthen, at these points, the connection of the handles 14 and 14' with members 7 and 7', at the same time holding the reinforcing member 16 in registry with the handles, and preventing it from dropping out of place and into the container.

It will be noted that the upper edges 22 of the extensions 21 are slightly bowd. This has a tendency to cramp the adjacent engaged portions of the top wall into the notches 20, thereby providing a more efficient grip between these parts.

Various changes are contemplated as within the spirit of the invention and the scope of the following claims.

What I claim is:

1. In a container provided with a pair of similar integral juxtaposed handles, a handle-reinforcing member adapted for interposition between said handles and provided with attaching and positioning means for engagement with a wall of said container.

2. In a container provided with a pair of similar integral juxtaposed handles, a handle-reinforcing member shaped for substantially registering interposition between said handles and provided with attaching and positioning means for interlocking engagement with a wall of said container.

3. In a container having a pair of overlapping wall members, handles carried by said wall members and offstanding therefrom in appropriately registering juxtaposition, and a handle-reinforcing member interposed between said handles and provided with means for engagement with said wall members adjacent to said handles.

4. In a container having a pair of overlapping wall members, handles carried by said wall members and offstanding therefrom in substantially registering juxtaposition, and a handle-reinforcing member in registering interposition between said handles and provided with means for interlocking engagement with adjacent portions of said wall members.

5. In a folded blank container of suit case type, portions of said blank providing side walls, end walls, a bottom wall, and a pair of top wall members, each of said top wall members forming to furnish an off-standing integral handle, said top wall members lying in overlapping relation when said container is closed and bringing said handles in substantially registering juxtaposition, and a handle-reinforcing member interposed between said handles and provided with attaching and positioning means for cooperation with said top wall.

6. In a folded blank container of suit case type, portions of said blank providing side walls, end walls, a bottom wall, and a pair of top wall members, each of said top wall members forming to furnish an off-standing integral handle, said top wall members lying in overlapping relation when said container is closed and bringing said handles in substantially registering juxtaposition, and a handle-reinforcing member interposed between said handles and provided with attaching and positioning means for interlocking engagement with adjacent portions of both of said top wall members.

LYTLE E. SWOPE.