March 26, 1929. G. J. PFISTER 1,706,814

COLLAPSIBLE CONTAINER

Filed March 7, 1927

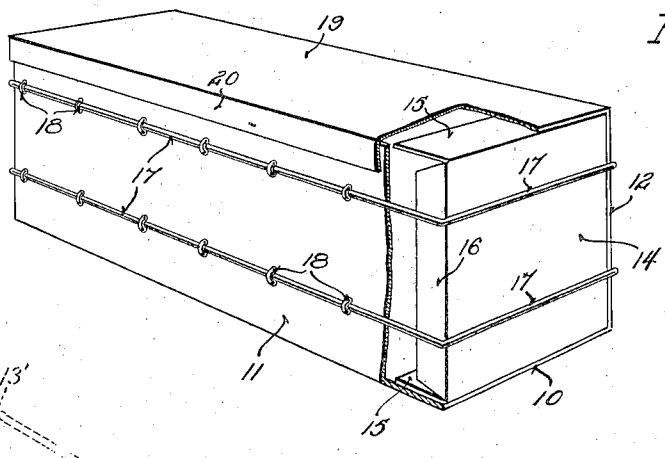


FIG. 1.

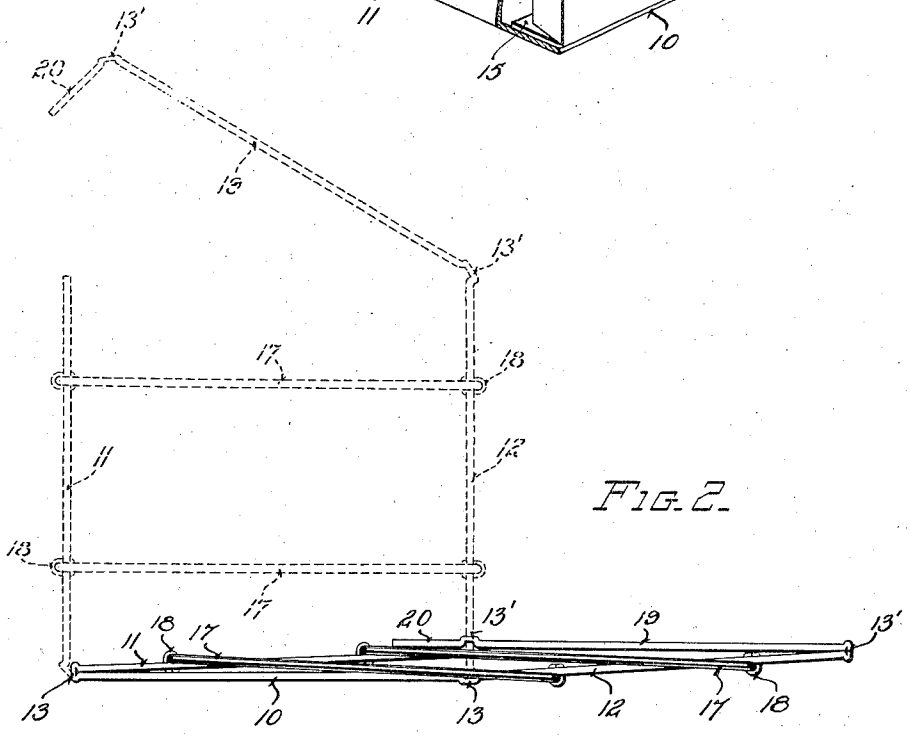


FIG. 2.

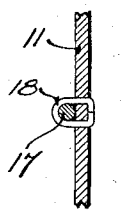


FIG. 3.

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COLLAPSIBLE CONTAINER.

Application filed March 7, 1927. Serial No. 173,304.

This invention relates to collapsible containers.

One object of the present invention is the provision of a reinforced or bound container of economical design which, when filled, will offer a maximum resistance to distortion or bursting and which, when empty, may be readily collapsed into substantially flat form and thus minimize the space required for shipping or storage.

Another object is to provide a reinforced or bound container whose reinforcing elements serve a dual purpose namely; to provide rigidity to the container when filled and to insure a definite coaction between the walls and bottom to faciiitate erection from collapsed form.

Other objects and advantages will appear from the following description of an illustrative embodiment of the present invention.

In the drawings:—

Figure 1 is a perspective view of a container constructed in accordance with the present invention, portions of the front wall and cover being broken away to uncover normally hidden parts.

Fig. 2 is an end elevation, with the ends removed, illustrating the container in collapsed and expanded condition.

Fig. 3 is a detail illustrating one means for attaching a reinforcing element.

The container selected for illustration is one of heavy paper or a well known fibre composition such as is now commonly used in the manufacture of containers of this type. It includes the usual bottom 10 and side walls 11 and 12 formed from a continuous sheet appropriately grooved as at 13 to provide the usual flexible hinge connections between the sides and bottom. The end walls 14 may also constitute an integral part of the original sheet, but with a view to avoiding the waste of material incident to the use of a blank of irregular form, I prefer to form the end walls as separate units. In this instance each end wall is removably seated so as to close an end of the carton, and each is provided with tabs 15 and 16 projecting inwardly from the edges thereof which serve to position and stiffen the end wall and to tightly close the corners of the container.

One or more reinforcing elements are provided. Two are employed in the containers shown and each is in the form of a continuous wire loop or band 17 encircling the container so as to securely bind the same against excessive bulging or bursting under the pressure of the contents thereof. Each loop is hingedly secured to the opposite side walls 11 and 12 of the container by any appropriate means, such as staples 18, and each is disposed substantially parallel to the bottom 10 so as to provide parallel link connections between the sides permitting the same to be simultaneously swung downwardly from the dotted line position into the full line position of Figure 2.

It will be noted however that with the end walls positioned as indicated in Figure 1 the side walls 11 and 12 are securely retained thereby in the upright position shown, so that the container cannot collapse in the manner just described until both end walls have been removed or folded substantially flat against the bottom or side walls. The contents of the container serve to retain the end walls in the positions indicated in Figure 1.

The container may be provided with a single or double thickness cover of any desired form. In the container shown the cover 19 is formed as an integral part of the side walls 12 and is provided with a tab 20 adapted to overlap the side wall 11, the material being appropriately grooved as at 13′ to provide the desired flexibility.

Various changes may be made in the embodiment of the invention hereinabove specifically described without departing from or sacrificing the advantages of the invention as defined in the appended claims.

I claim:

1. A reinforced collapsible container comprising bottom and side walls formed from a continuous blank, at least one of said side walls being foldable inwardly on said bottom wall, a reinforcing element encompassing said container above said bottom wall and movable with said side walls toward and from the plane of said bottom wall, and end walls disposed within said element and normally coacting with said side walls to retain the container in expanded condition for filling, said end walls being movable to release said side walls to thereby permit the container to be collapsed.

2. A reinforced collapsible container comprising a blank folded to provide a pair of substantially parallel walls and a bottom integrally connected therewith, a second pair of walls for cooperation with said first named walls to complete the container, and rein-

forcing means encompassing both pairs of walls above said bottom and coacting with said last named pair of walls to retain the container in expanded condition for filling, said last named pair of walls being movable to permit said first named pair of walls to swing with said reinforcing means toward the plane of said bottom to thereby collapse the container.

3. A reinforced collapsible container comprising a bottom, a pair of substantially parallel walls hinged to said bottom, at least one of said walls being foldable inwardly on said bottom, a hoop surrounding said container above said bottom and connected with said walls for movement therewith toward and from the plane of said bottom, and a second pair of substantially parallel walls for coaction with said hoop and said first named pair of walls to retain said first named pair of walls in upright position, said second pair of walls being movable to release said first pair of walls to permit the same to swing with said hoop substantially into the plane of said bottom to collapse the container.

4. A reinforced collapsible container comprising a blank folded to form a bottom, a pair of substantially parallel walls, and a cover portion, a hoop shaped reinforcing member permanently connected with said walls to maintain the same in substantial parallelism, said walls being free to swing with said reinforcing member toward the plane of said bottom to collapse the container, and a second pair of walls for coaction with said first named walls to retain the same in upright position, said last named walls being movable to permit said first named walls to approach the plane of said bottom to thereby collapse the container.

5. A reinforced collapsible container comprising a blank folded to form a bottom and a pair of substantially parallel walls, a hoop shaped reinforcing member encompassing said container, said member being disposed substantially parallel to and above said bottom, said walls being simultaneously movable with said member from upright position into substantial parallelism with the plane of said bottom, and a second pair of walls removably interposed between said first named walls to complete the container, said second named walls having marginal flanges for closing the corners of said container and coacting with said first named walls to retain the same in upright position.

6. In a container, the combination of a bottom wall, front and rear side walls foldably connected to the bottom wall, and reinforcing means encompassing the side walls above said bottom wall, said reinforcing means being rockably connected with the side walls in a plane parallel to the bottom wall to maintain said side walls always in parallel relation to each other as they are folded.

In witness whereof, I hereunto subscribe my name this 4th day of March, 1927.

GEORGE J. PFISTER.