Dec. 29, 1953 B. G. MILLER 2,664,131

COLLAPSIBLE BUCKET

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Fig. 1

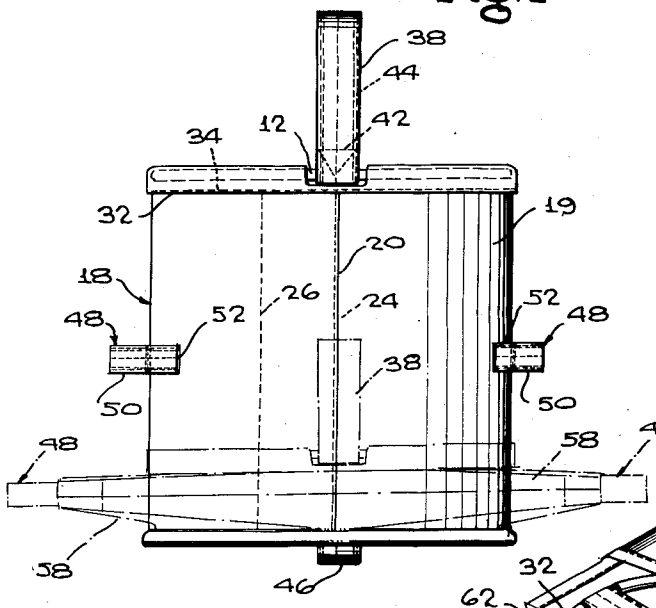


Fig. 4

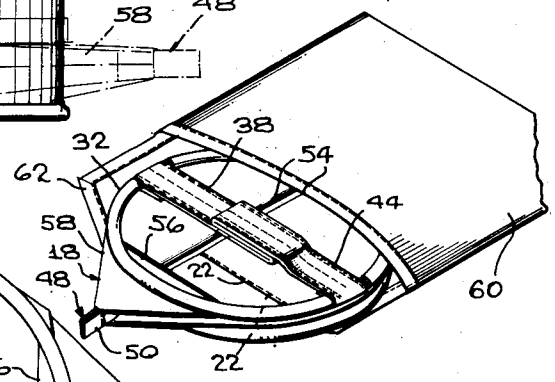


Fig. 2

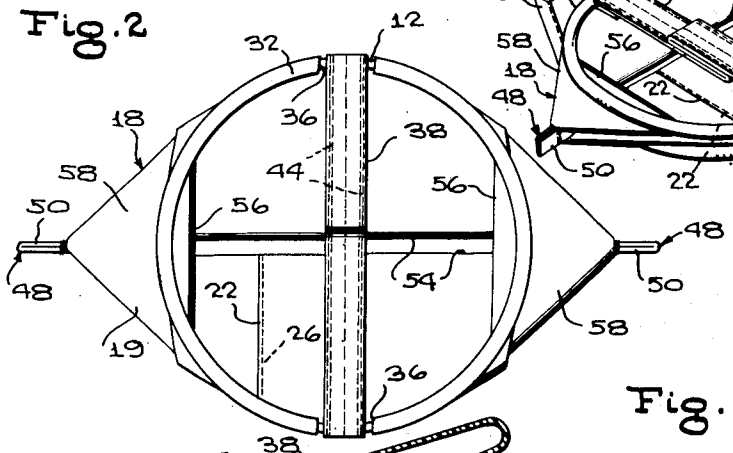
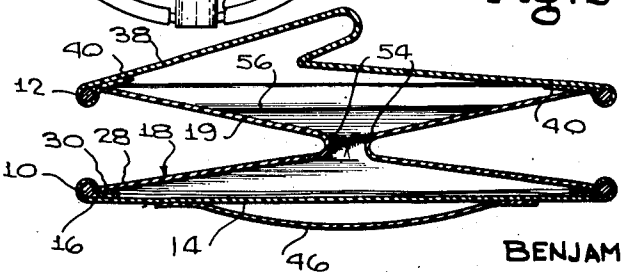


Fig. 3



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COLLAPSIBLE BUCKET

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2 Claims. (Cl. 150—49)

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This invention relates to bucket or pail construction, and more particularly, has reference to articles of the character described, so formed as to be collapsible when not in use.

One important object of the present invention is to provide a bucket falling within the category referred to, which will be capable of being collapsed into a flat, highly compact condition so as to occupy a minimum of space when not in use. The desirability of this feature will be readily apparent, when one considers that campers or vacationers may have a considerable amount of equipment to carry, and while ordinarily finding a need for a bucket to douse fires, etc., usually refrain from including a bucket with their other equipment because of its size and weight.

Another important object is to provide a collapsible bucket as stated which, when collapsed, will assume a particular shape found to be quite convenient for packing of the collapsed bucket into a pocket or special pouch used in association therewith.

Still another important object is to provide a collapsible bucket of the character stated which will be capable of being collapsed merely by the exertion of pull, in opposite directions, upon a pair of diametrically opposite side handles, said pull being effective to transmit movement to the opposite ends of the bucket toward each other, thus to collapse the bucket swiftly and eaasily.

Still another important object is to provide a collapsible bucket as stated which can be manufactured at relatively low cost, but which will be highly durable and capable of use over an indefinite period of time.

A still further important object is to provide a collapsible bucket which, when full of water, will not have to be held by its bail or top handle, the construction which I have devised being such as to permit the bucket to be placed upon a supporting surface when full, and left unattended.

Yet another important object is to provide a collapsible bucket as described which, when water is poured thereinto, will extend itself automatically from a collapsed condition.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a side elevational view of a collapsible bucket formed in accordance with the present invention as it appears when in extended position, the dotted lines illustrating the bucket in a collapsed position;

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Figure 2 is a top plan view of the bucket as it appears when collapsed;

Figure 3 is a sectional view taken diametrically of the bucket, the bucket being illustrated in partially collapsed position; and

Figure 4 is a perspective view illustrating the collapsed bucket as it appears when partially inserted in its associated pouch, a portion of the pouch being broken away.

Referring to the drawings in detail, the reference numeral 10 designates an annular, endless, bottom ring of rigid formation, said bottom ring constituting a bottom end frame for the bucket. A top ring 12 serves as a top end frame for the bucket, and like the bottom ring, is of circular or annular configuration. The top and bottom rings are of equal diameter, and are aligned longitudinally of the bucket.

A bottom 14 is formed of flexible material, such as waterproof plastic, rubber, or some type of waterproofed fabric material. Initially, the bottom 14 is formed to a circular configuration, with a diameter slightly greater than the diameter of the bottom ring 10. In the manufacture of the bucket, the bottom ring is placed upon the marginal portion of the bottom 14, after which the peripheral portion 16 of said bottom is folded upwardly over the bottom ring, in a manner well shown in Figure 3.

The bucket is formed with a collapsible, flexible body designated generally by the reference numeral 18, the body being formed throughout of a flexible material such as has been referred to above. In this connection, the bottom 14 is appropriately to be considered as a part of the body 18, and thus it may be properly observed that the cylindrical body is formed with a closed lower end and with an open upper end.

The body 18 includes a side wall 19, which during the manufacture of the bucket, can be formed from a rectangular blank, the opposite edges 20, 22 of which are lapped and secured together by lines of stitching 24, 26, that extend longitudinally of the bucket from end to end thereof.

The bottom edge 28 of the side wall 19 is folded inwardly and is secured to the bottom 14 by a line of stitching 30 extending peripherally of the bottom end of the bucket.

The upper edge 32 of the side wall is extended outwardly and downwardly over the top ring 12, and secured to said top ring by a peripheral line of stitching 34. At diametrically opposite locations upon said top edge, the upper end of the bucket is cut away as at 36 to expose diametrically opposite portions of the upper end frame 12. A

length of flexible material is then arranged diametrically of the upper end of the bucket, and has its ends extended around the exposed portions of the upper end frame as at 40, the folded ends of said length of material being held against separation from the upper end frame by stitching 42, so that the length of material is formed into a flexible bail or top handle 38.

If desired, lines of stitching 44 can be extended longitudinally of the bail 38, to reinforce the same.

I prefer that the bucket also be equipped with a bottom handle 46, which like the top handle can be formed from a suitable length of flexible material, arranged diametrically of the bottom of the bucket, and secured to said bottom by stitching. In some instances, the bottom handle facilitates extension of the bucket for use, and it will be readily appreciated that one can grasp the top handle with one hand while grasping the bottom handle with the other hand, after which a pull can be set up in opposite directions longitudinally of and away from the opposite end of the bucket. Normally, however, the bucket will extend itself automatically to open position when water is poured thereinto.

The invention includes a pair of diametrically opposite side handles generally designated 43, each of which is formed from a short length of flexible material. The side handles 48 are located medially between the opposite ends of the bucket, as may be readily noted from Figure 1, and in forming the side handles, the lengths of material on which they are formed are folded upon themselves, to form tabs 50 extending outwardly in opposite directions from the bucket, integral with oppositely extended ears 52 secured to the side wall 19 of the bucket.

It will be noted that the handles 48 may appropriately be considered as extending outwardly in opposite directions from the side wall of the bucket along a line normal to a line drawn between the centers of the end frames. Still further, in considering the particular construction of the handles, it will be seen that the ears 52 thereof extend in opposite directions along the side wall of the bucket, along a line parallel to said end frames.

Assuming that it is desired to collapse the bucket, one need only pull outwardly upon the pull tabs 50, so as to move said tabs outwardly from the bucket, in directions away from each other, along said line normal to the line drawn between the centers of the end frames.

A pull exerted upon the side handles in this manner will cause those portions of the side wall 19 contiguous thereto to be pulled outwardly of the bucket, and this will cause fold lines 54 to appear in the side wall of the bucket, said fold lines extending directly from one handle 48 to the other handle, along opposite sides of the bucket. As a result, those diametrically opposite side wall portions intervening between the side wall portions to which the handles 48 are attached will be drawn inwardly of the bucket toward one another in the manner illustrated in Figure 3 so as to fold compactly in the collapsed bucket position.

At the same time, fold lines 56 appear, that are disposed perpendicular to the fold lines 54 (see Figure 2), the fold lines 56 being disposed diametrically opposite one another and being disposed adjacent the upper end of the bucket (see Figure 3). These fold lines are defined along the inner edges of triangular projections 58, the triangular projections 58 being formed from the side wall portions to which the handles 48 are directly attached, said last-named side wall portions being drawn outwardly from the bucket in opposite directions, as previously referred to herein.

As a result, the bucket will be fully collapsed, the movement of the several side wall portions being effective to draw the respective end frames toward one another until said end frames are disposed in closely spaced, superposed relation.

The bucket is now ready to be inserted in a pouch 60 having a flap 62, and in its collapsed or folded condition will be no greater in its overall thickness than the combined thicknesses of the rings 10 and 12.

The collapsible bucket has distinct advantages, in that it is capable of being carried upon a camping trip or the like, for general use as a water carrier. It will be readily appreciated that the bucket can be packed compactly with other camping equipment, so as to occupy a minimum of space. When, however, an occasion arises on which the bucket can be effectively used, as for example when dousing a fire, the bucket is extended readily, and will hold a large quantity of water.

Other important characteristics of the article are believed worthy of note, and among these is the capability of the bucket for remaining upright when filled with water, even though not being supported from its bail or top handle 38. Still further, it is believed to be of importance that the bucket is of a simple construction, so as to permit it to be readily manufactured at low cost.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor changes in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. A collapsible bucket comprising: a generally cylindrical, flexible body closed at its lower end and open at its upper end; annular, rigidly formed, end frames secured to the respective ends of the body, said end frames being aligned longitudinally of the body and extending circumferentially of said ends to stiffen the same; and diametrically opposite side handles secured to the body at a location disposed medially between said ends, each of the handles being formed from a length of flexible material folded upon itself and having its ends secured to and extending in opposite directions along the side wall of the body along a line parallel to the end frames, the intermediate portions of said lengths of material providing pull tabs extending outwardly in opposite directions from the body along a line normal to a line drawn between the centers of the end frames, said pull tabs being adapted to be pulled outwardly of the body in opposite directions along said second-named line, to provide means effective to draw way from one another diametrically opposite side wall portions of the body disposed contiguous to the respective handles, simultaneously with movement toward one

another of other diametrically opposite side wall portions intervening between the first-named side wall portions, thus to collapse the side wall of the body and effect movement of said stiffened ends longitudinally of the body toward each other into closely spaced, superposed relation.

2. A collapsible bucket comprising: a generally cylindrical, flexible body closed at its lower end and open at its upper end; annular, rigidly formed, end frames secured to the respective ends of the body, said end frames being aligned longitudinally of the body and extending circumferentially of said ends to stiffen the same; diametrically opposite side handles secured to the body at a location disposed medially between said ends, each of the handles being formed from a length of flexible material folded upon itself and having its ends secured to and extending in opposite directions along the side wall of the body along a line parallel to the end frames, the intermediate portions of said lengths of material providing pull tabs extending outwardly in opposite directions from the body along a line normal to a line drawn between the centers of the end frames, said pull tabs being adapted to be pulled outwardly of the body in opposite directions along said second-named line, to provide means effective to draw away from one another diametrically opposite side wall portions of the body disposed contiguous to the respective handles, simultaneously with movement toward one another of other diametrically opposite side wall portions intervening between the first-named side wall portions, thus to collapse the side wall of the body and effect movement of said stiffened ends longitudinally of the body toward each other in closely spaced, superposed relation; and end handels secured to and extending diametrically of the opposite ends of the body to draw said end frames away from one another and thereby extend the body for use, said end handles having portions extending across said line drawn between the centers of the end frames, said end handle portions being adapted to be pulled outwardly from the body in opposite directions along said last named line.

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