June 5, 1945. H. P. CAMPBELL 2,377,311

METAL BOTTOM BAG

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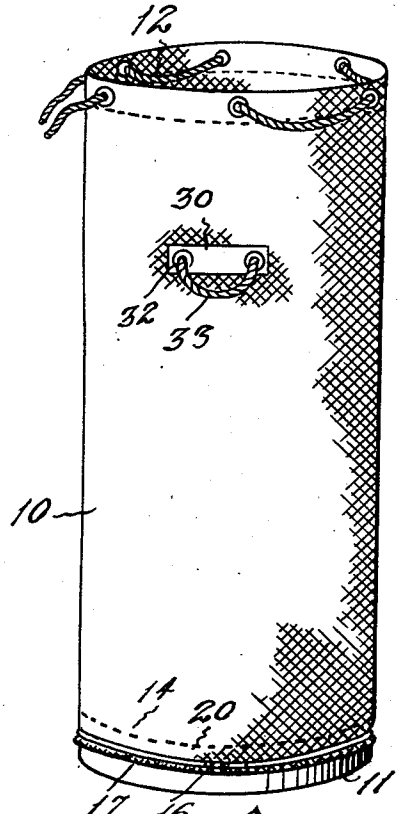


Fig. 1

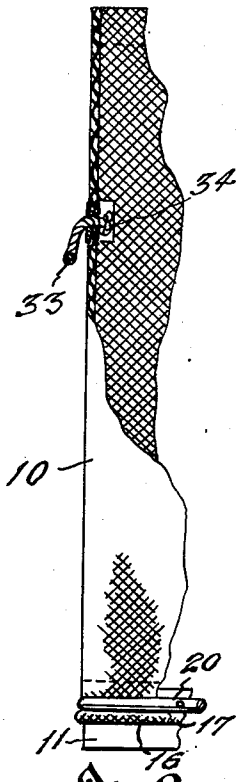


Fig. 2

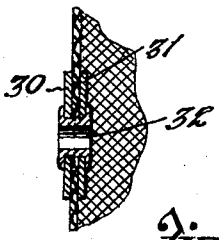


Fig. 4

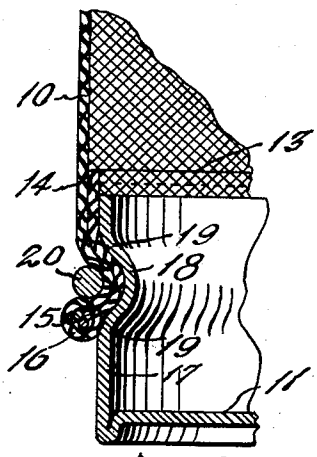


Fig. 3

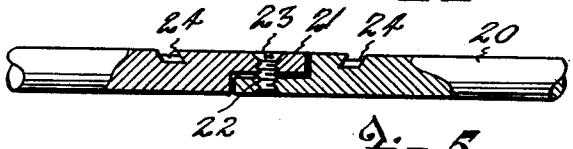


Fig. 5

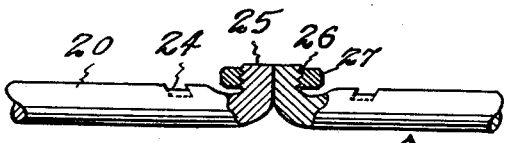


Fig. 6

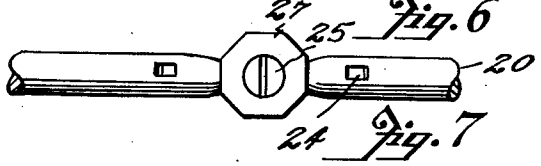


Fig. 7

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METAL BOTTOM BAG

Hugh P. Campbell, Dallas, Tex.

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2 Claims. (Cl. 150—50)

This invention relates to new and useful improvements in metal-bottom bags.

Heavy duty metal-bottom fabric bags are now in common use. Such bags are used among other things for carrying ice, but of course may be used for transporting and containing various commodities. The art is not a new one and has shown considerable development in the production of fabric bags with removable metal bottoms. However, an examination of these various bags demonstrates that prior to my invention, no one bag has been produced which includes all of the desirable and necessary features to provide a simple, efficient and economical structure, as well as one having lasting qualities and satisfactorily meeting all demands.

It is therefore one object of the invention to provide an improved fabric bag having a removable metal bottom in which gadgets and superfluous appurtenances are eliminated and wherein the removable metal bottom is attached to the fabric bag in a simple and sturdy manner, whereby the bottom may be readily removed and also, the bag either adequately repaired or replaced.

A further object of the invention is to provide an improved fastening for removably securing the bottom of the bag to the lower edge portion of the fabric bag, whereby it is not necessary to perforate or cut the fabric bag or otherwise injure the fabric in attaching said metal bottom.

Still another object of the invention is to provide an improved and simple hoop for fastening the fabric bag to the metal bottom, whereby the use of expensive tools and rivets or other permanent fastening elements is precluded and also, whereby the attachment and removal of the metal bottom may be easily and expeditiously performed.

Another object of the invention is to provide a reinforced handle for the bag involving certain new and novel features which will be hereinafter more particularly pointed out.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing, wherein an example of the invention is shown, and wherein:

Fig. 1 is an elevation of a bag constructed in accordance with the invention,

Fig. 2 is a partial vertical sectional view of the same,

Fig. 3 is a partial vertical sectional view of the bottom of the bag,

Fig. 4 is a vertical sectional view of a portion of the wall of the bag showing the reinforced handle plate secured thereto,

Fig. 5 is a detail of the fastening hoop, partly in elevation and partly in section, and

Figs. 6 and 7 are details of a modified form of hoop fastening.

In the drawing, the numeral 10 indicates the fabric portion of the bag and 11, the removable metal bottom. It is customary to make the bag portion 10 of heavy fabric such as duck, which is sometimes referred to as "canvas." Except as to the portions hereinafter described, the bag portion 10 may be made of any suitable material and in any suitable manner; however, such bags are usually made comparatively long or high and water-proof material is frequently employed. The upper end of the bag may be provided with the usual draw string 12, whereby it may be closed or spread to a full open position, but the details of this portion of the bag are unessential.

One feature of the invention is that the bag portion 10 is preferably made in the form of a rectilinear cylinder with no reduction or expansion of its diameter at its lower end but may assume other shapes. The lower edge of the fabric portion 10 is folded inwardly and a substantial portion thereof is turned upwardly to form a comparatively deep hem 13, which is secured to the inner face of the portion 10 by a circular row of stitches 14, contiguous to the upper edge thereof. An annular core rope 15 is confined in the fold of the hem so as to produce an annular bead 16 around the lower edge of the fabric portion. By this arrangement not only is a substantial hem provided in a simple and economical manner, but the lower edge of the bag portion 10 is reinforced and adequately finished; also only a single row of stitches is required.

The metal bottom 11 is made generally in the form of an annular tray or pan and may be produced in any suitable manner; however, the upright wall 17 of the bottom is made substantially perpendicular and is free from openings or perforations. An annular groove 18 is formed or rolled in the upright wall or annular rim 17 of the bottom, a short distance below its upper edge. The formation of this groove is very important and it will be observed that the wall of the rim is gradually curved into the groove to form rounded intersections 19. When the lower edge or hem of the fabric portion 10 is secured in the groove, the fabric may bend around these intersections

10 and thus be free from contact with sharp edges or abrupt turns which would injure the fabric or cause it to unduly wear.

The rim 17 of the bottom 11 is inserted in the lower end of the bag portion 10 and a split metal hoop 20 is applied. The parts are so positioned that when the hem is displaced into the groove 18 the bead 16 will be immediately below the hoop 20 and will contact with the underside thereof and prevent the hem from slipping upwardly between the rim and the hoop. Further, by this arrangement, it will not be necessary to so tightly secure the fabric in the groove as to injure or weaken it. As the load carried by the bag will be largely sustained by the bottom 11, it is obvious that when the bag is lifted, the fabric portion 10 will be stretched or tensioned and although there may be a tendency for the hem to pull upwardly between the groove 18 and the hoop 20, any such movement will be checked by the bead 16, therefore, if the hem should not be tightly clamped in the groove, it will not, even under a very heavy load be displaced or pulled therefrom.

In order to provide a simple fastening for the split hoop 20, its ends may be cut back to form overlapping tongues or ears 21 provided with screw-threaded apertures 22 adapted to register when the tongues are brought together and to receive a fastening screw 23 which has its head countersunk in one of said tongues. To facilitate drawing the tongues together the hoop is provided with sumps 24 for receiving a suitable tool, whereby the hoop may be drawn into proper position so that the apertures 22 will register and the screw 23 may be readily inserted. This form of fastening is substantially flush with the surface of the hoop and thus avoids any projections on the outer surface of the hoop which might be objectionable. Further, as the rope core 15 may be large enough to cause the bead 16 to project outwardly beyond the hoop 20, said bead would act more or less as a cushion and prevent the hoop from coming in contact with obstructions engaged by said bead.

It is obvious that various types of hoops and hoop fastenings could be employed and while the form illustrated in Figs. 1, 2, 3 and 5 is preferable, I have illustrated another form in Figs. 6 and 7. In this latter form the ends of the split ring are reduced and bent outwardly to form lugs 25. These lugs are externally shaped so as to form a circular structure when brought together and are provided with screw threads 26 so that they may be fastened together by screwing a nut 27 thereon. This nut may be comparatively thin and the lugs 25 may be comparatively short. It will be observed that when the ends of the hoop are reduced and bent, recesses 28 will be produced and thereby the nut may be screwed inwardly so as to have a limited projection from the hoop.

Bags of the character described are frequently made comparatively long or high, as for instance a bag for carrying 100 pounds of ice will stand approximately 30 inches high. Substantial handles must be provided for such bags and I have illustrated such a handle in the drawing. Elongate companion plates 30 are secured to the inner and outer faces of the fabric portion 10 by means of grommets 32 extending therethrough and upset in the usual manner. These grommets provide eyes placed circumferentially of the bag and a loop handle 33 formed of heavy rope has its ends passed inwardly through the eyes and provided with knots 34 which engage the inner plate 31 and hold the handle against outward displacement. The plates distribute the load and the loop handle is readily replaceable when worn or broken.

The romovable bottom structure possesses many advantages which combine to make the bag more serviceable and durable as well as contributing to a comparatively low manufacturing cost and quantity production, with the result that the user is provided with a better bag at a moderate expense. By making the rim 13 of the metal bottom 11 substantially perpendicular or vertical and by placing the groove 18 a substantial distance below the upper edge of said rim, as well as providing the rounded portions 19, wear of the lower portion of the bag is reduced to a minimum because the lower portion of the bag is not bulged outwardly or caused to bend or stretch around beads or other projections at the upper end of the bottom; also when the bag is loaded, the fabric portion 10 hangs perpendicularly when the bag is lifted and merely rests against the smooth face of the rim 17. By providing the rope bead 16 and permitting the latter to contact the underside of the hoop 20, the greater portion of the load may be carried by this arrangement, rather than by too tightly clamping of the fabric portion 10 in the groove 18.

The hoop may be easily and expeditiously applied or removed without cutting or injuring the fabric portion 10. In any bag of this type, the greatest wear is likely to occur just above the metal bottom because this portion of the bag will be subjected to more abuse and contacts with obstructions. Due to the fact that it is not necessary to shape the lower end of the portion 10, it is obvious that upon wear, the worn portion may be cut off and a new rope reinforced hem provided on the remainder. Because only one row of stitches is involved, the operation is made simple.

As before pointed out, the hoop need not be fastened so tightly as to injure or weaken the fabric. If a hole is punched in the fabric portion or it is torn or cut, particularly adjacent the metal bottom, said bottom may be removed by the ordinary workman and the bag patched or repaired. While the rope core 15 is loosely confined at the bottom of the hem 13, it will be securely held in place when the fabric portion is fastened to the bottom of the hoop.

The foregoing description of the invention is explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A bag of the character described including, a removable metal bottom having a vertically extending flange therearound provided with a single outwardly facing circumferential groove, a tubular fabric body member having its lower end provided with an inwardly turned hem portion, means within the hem portion for enlarging the same, said tubular body member being disposed over the vertically extending flange of the bottom with the enlarged hem portion disposed so as to lie below, but closely adjacent to said groove, and binding means engaging the body member above the enlarged hem portion thereof so as to force the fabric of the body into said groove and to prevent upward movement of the body and thereby the enlarged hem portion of the

latter between the wall defining the groove and the binding means, whereby to prevent separation of the fabric body and metal bottom.

2. A bag of the character described including a metal bottom portion having a vertically extending annular flange provided with a single outwardly facing circumferential groove, a tubular fabric body member having its lower end turned inwardly and stitched thereto to provide a hem portion, means within and extending substantially around the hem for enlarging the bight portion thereof, said tubular body member being disposed over the vertically extending annular flange of the bottom with the enlarged bight portion of the hem lying below but closely adjacent to the groove and with the upper inturned edge and the stitching lying above, but closely adjacent to the upper edge of the flange so as to provide the body member with a double thickness where the same engages and overlies said flange, and binding means engaging the body member above the enlarged bight portion of the hem to move the same into the groove and to prevent upward movement of the body and thereby the enlarged bight portion of the hem between the wall defining the groove and the binding means.

HUGH P. CAMPBELL.