Aug. 2, 1960 D. O. NEWTON 2,947,464

HANDLE BAGS

Filed Oct. 22, 1957

Fig. 1.

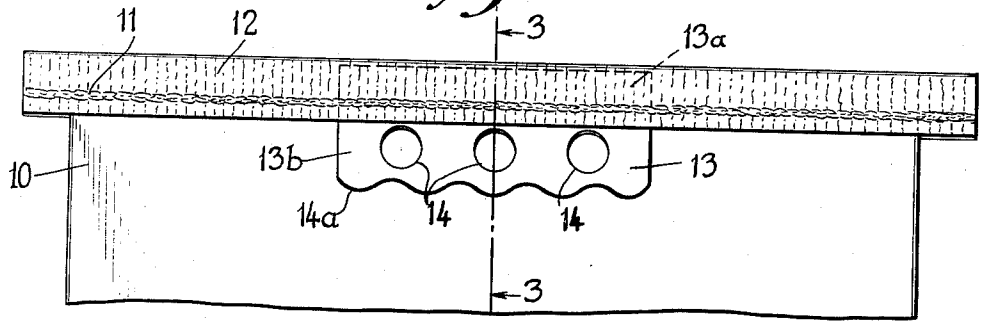


Fig. 2.

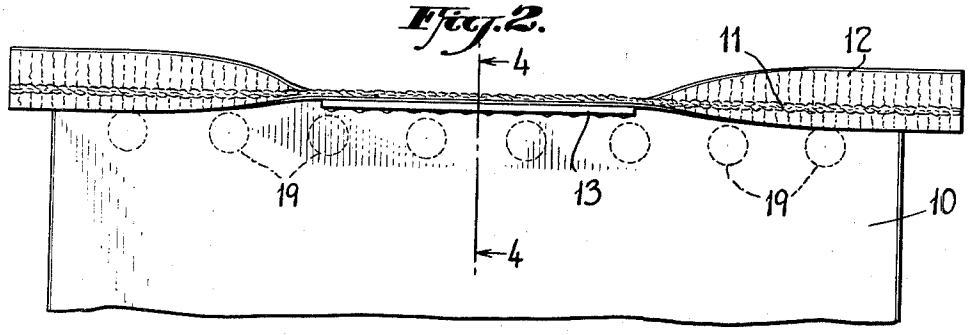


Fig. 3.

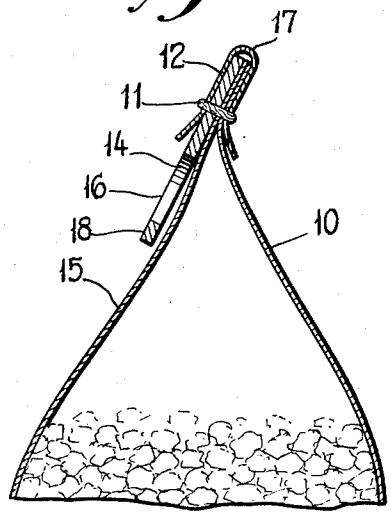
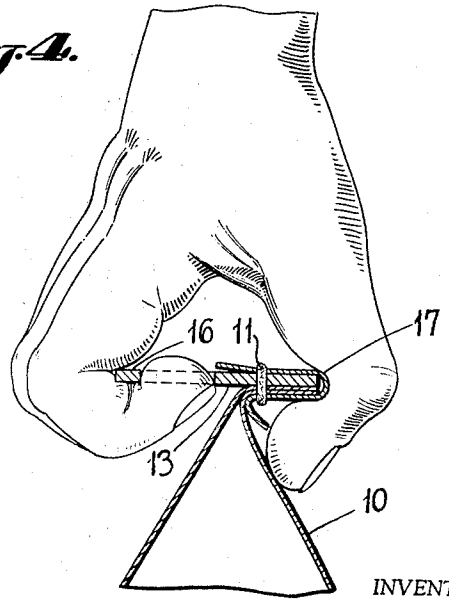


Fig. 4.



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HANDLE BAGS

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2 Claims. (Cl. 229—54)

This invention relates to an improved bag construction embodying handle means. The invention among other possible uses is particularly adapted for multi-wall bags and the like, such for example as valve bags and so-called open mouth bags which have been closed by a sewn seam in the form of stitches of thread, metal or plastic material.

It is common practice to provide closure means on heavy multi-wall paper bags, by bringing the upstanding mouth portions of the bag flatwise together and then stitching same to provide a closure seam. Normally, a folded-over closure tape is also placed astride the top edges and secured in place by the closure seam or by adhesive, if the tape is applied after the sewn seam has been applied. Such bags are generally quite bulky and heavy and when filled are more or less rounded out, so that they are very cumbersome to carry and easily slip out of one's arms or hands. Also, because of the weight of such bags when filled, it has been a difficult problem to provide any inexpensive convenient and practical handle means therefor which can be secured to the paper walls of the bag in such a manner that it will not cause tearing open of the bag when the package is lifted by any such handle.

The present invention overcomes these difficulties by the provision of a very simple and inexpensive handle means in the form of an area of relatively rigid or stiff paperboard or other sheet material which is secured in place at the top of the bag by means of the closure seam or the like. Preferably the area of stiff material is placed partially in under the closure tape on one side of the top of the bag before the sewn seam is applied. A part of the area of stiff material extends downwardly from the closure seam in exposed position and another part extends upwardly from the closure seam. Thus, when the exposed portion is grasped by the fingers to lift the bag, this portion will be tilted into a generally horizontal position, thereby causing twisting of the adjacent regions at the seam about the line of the seam or a line parallel thereto. And this will cause the portion of the bag closure above the sewn seam to be tilted down from the generally vertical position to a generally horizontal position where it will protrude out horizontally in a direction opposite from the exposed handle portion, to provide a secure grasping by the hand on opposed sides of the closure seam and tape.

Other more specific objects, features and advantages of the invention will appear from the detailed description given below, taken in connection with the accompanying drawings which form a part of this specification and illustrate by way of example a presently preferred embodiment of the invention.

In the drawings:

Fig. 1 is a side elevational view of the portion of the bag with handle means embodying the invention in one of its preferred forms and showing the handle and bag closure in the positions which same will assume before the handle is grasped;

Fig. 2 is a view similar to Fig. 1 but showing the handle and closure means in the positions and condition which they will assume when the handle is grasped to lift the bag;

Fig. 3 is a vertical sectional view taken substantially along line 3—3 of Fig. 1; and

Fig. 4 is a vertical sectional view taken substantially along line 4—4 of Fig. 2 and showing the position of the user's hand when grasping the bag closure and handle means.

Referring to the drawings in further detail, the top portion of the bag is indicated at **10**. Such bag may, for example, comprise a multiwall paper bag as above noted, or it may be formed of one or more layers of any of the sheet materials customarily used for bags, such as paper, plastic film material, or sheets coated with polyethylene or other materials for moisture-proofing or for rendering same impervious to air or to protect same from deterioration due to chemicals, for example, contained in the bag. The handles of the invention may be used on bags having sewn seams or other types of closure means above referred to and made of any of the materials mentioned, without in any way interfering with or disrupting the sheet material or coatings thereon for their intended uses.

The bag as shown in Fig. 1 is closed by the usual form of sewn seam **11** and accompanied by folded-over tape **12** placed astride the top edge of the bag and held in place by the sewn seam.

An area of relatively stiff or rigid sheet material as indicated at **13** provides the novel handle means. This may be formed for example of paperboard, plastic or other sheet material, and, as shown, it may be rectangular, although not necessarily so. In the form of the invention shown, this area of stiff material is inserted in under the closure tape and between the closure tape and the face or front wall surface at the top of the bag. This may be done either by hand or by suitable automatic means just as the closure tape is being applied and shortly in advance of the location of the sewing machine used for applying the sewn seam which, as will be evident from Fig. 1, will cause the handle area to be securely and permanently affixed in place.

It will be noted that a considerable area of the rigid handle piece extends under the tape above the sewn seam as indicated at **13*a***, whereas the remaining area, generally a larger area, extends below the sewn seam into an exposed readily accessible position as indicated at **13*b***.

If desired, the handle area may, of course, be shaped in various ways to enhance its attractiveness or convenience for gripping, and, if desired, same may be formed with perforations as at **14** adapted to be engaged by the fingers or to be used in suspending or tying the bag in place when being shipped or carried on a pallet.

It will be apparent that such handle means may be used not only on bags with sewn thread closure seams, but also in cases where other forms of closure seams or stitches are used, as above mentioned. Also, the bags need not necessarily have a closure tape such as shown.

When the bag is filled and in upstanding position, the handle and adjacent portions will tend to assume the positions shown in the vertical sectional view of Fig. 3, that is, the outwardly bulging portion of the bag wall as indicated at **15** will bear against the portion **16** causing same to tilt outwardly somewhat and causing the adjacent ridge portion **17** of the closure to tilt somewhat in the opposite direction. As a result of this tilting, the lower edge **18** of the handle means becomes freely exposed for easy grasping and as same is grasped to lift the weight of the bag in the manner shown in Fig. 4, the exposed portion **16** of the handle will be tilted up to approximately a horizontal position causing the ridge portions **17** of the closure to be tilted downwardly also to a

generally horizontal position to protrude out in a direction opposite to the portion **16**, thus permitting the top of the bag to be securely grasped.

The closure seams commonly provided on multiwall bags, especially when accompanied by a closure tape, are exceptionally strong and secure and when same are used in accordance with the invention to also provide the securing means for a handle, same provide a strong and highly dependable means for attaching the handle and for distributing the load or weight of the bag over a considerable distance along the top edge of the bag and all without the necessity of incurring the expense of any special or additional attaching means for the handle. Also, it should be noted that the handle means when not used will in no way protrude substantially from the surfaces of the bag and thus the construction will not have any tendency towards damaging adjacent bags or incur any danger of being torn off or broken. And after the handle is released from the hand, it will automatically restore itself to the position shown in Fig. 3. When the bag is to be opened as by unravelling the sewn seam or removing whatever other form of stitching or the like that is used, this may be accomplished in the usual way without any interference by reason of the presence of the handle.

As further shown in Fig. 1, the lower edge of the handle portion may be formed in accordance with a sinuous curve with undulations as at **14***a*, for example so as to provide four curved recesses for conveniently receiving the four fingers of the user's hand. This will permit more comfortable gripping as well as enhancing the attractiveness of the handle. In forming the handles for numerous bags, the undulations at the edge of one handle may, of course, be so positioned that they will correspond to rounded protuberances on the next adjacent handle being formed and thus the undulations may be made without any waste cut-outs.

In the manufacture of multiwall bags, the plies of sheet material are sometimes "interpasted" as by areas of adhesive located between the plies and along near the top edges of the bag, as indicated by the dotted lines at **19** in Fig. 2. Where such interpasting is used, it will aid considerably in distributing along the width of the top of the bag the weight applied to the handle, although the use of such interpasting is not essential.

Although a certain particular embodiment of the invention is herein disclosed for purposes of explanation, various further modifications thereof, after study of this specification, will be apparent to those skilled in the art to which the invention pertains. Reference should accordingly be had to the appended claims in determining the scope of the invention.

What is claimed and desired to be secured by Letters Patent is:

1. A bag formed of flexible sheet material, having upstanding end portions brought together and secured in closed condition by a series of stitches sewn through said end portions in spaced relation to the ends thereof adjacent the top of the bag, and a handle secured in place by said stitches for carrying the bag, the carrying position for the handle being horizontal and perpendicular to the length of the bag in which position the handle may be grasped between the thumb and fingers of one hand, said handle being formed of an area of stiff, rigid material and being free of any flexible crease lines and adapted when not being grasped to extend partly below and partly above the sewn seam so that when grasped, it will rotate about the seam axis whereby part of the handle extends as aforesaid horizontally at one side of the seam and part extends horizontally at the other side of the seam.

2. A bag formed of flexible sheet material having upstanding end portions brought together and secured in closed condition by stitching means or the like extending along in spaced relation to the edges of such end portions, a closure tape folded over astride the end edges of the bag and secured by said stitching means, and handle means for the bag comprising a generally flat area of relatively rigid material secured in place by such stitching means, a lower portion of such area normally extending in exposed position below such stitching means and said closure tape and an upper portion of such area normally extending above such stitching means and being covered by such closure tape, said area being of sufficient strength and stiffness that such lower portion, when it is grasped to lift the bag, will tilt upwardly about the line of the stitching means to a horizontal position while remaining flat as aforesaid although subjected to the normal load of the bag when filled, and thereby causing twisting of the adjacent closure portions and said upper portion of said area downwardly to horizontal position while remaining flat as aforesaid although subjected to the normal load of the bag when filled, thus providing portions extending rigidly in opposite directions from the stitching means for secure grasping on both sides of the bag closure.

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