

United States Patent

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[54] **BAGS PROVIDED WITH CLOSING AND CARRYING DEVICE**

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[30] **Foreign Application Priority Data**

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[56] **References Cited**

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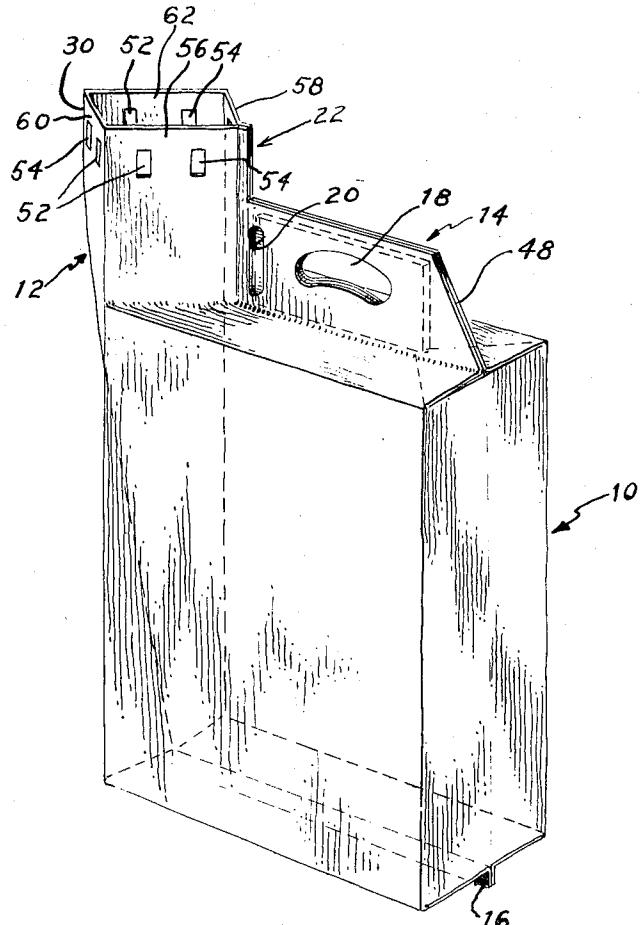
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ABSTRACT

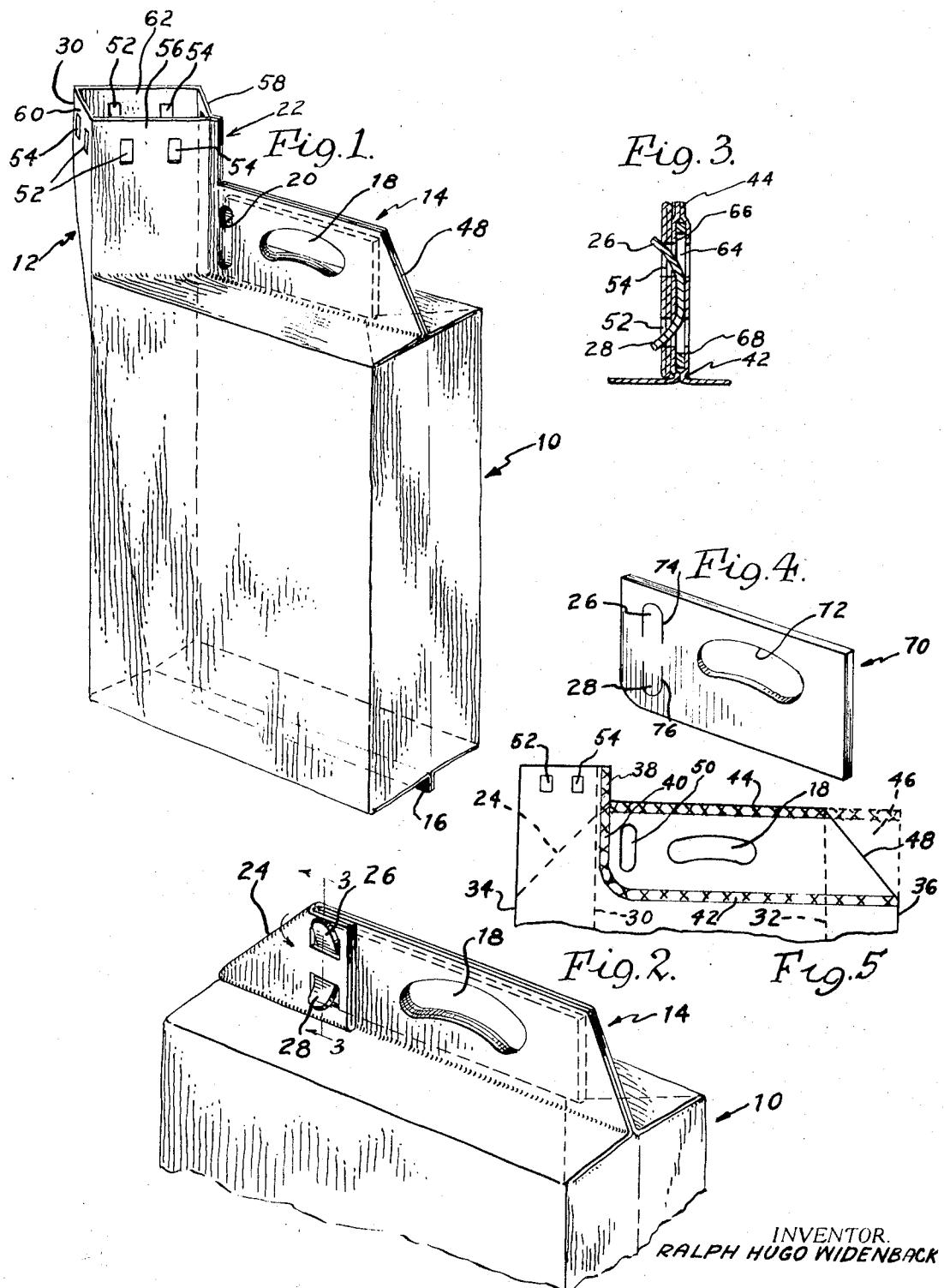
A bag of polyethylene or like material is provided with a valve and a pocket at its top, the valve and pocket being disposed in side-by-side relation and the valve projects beyond the pocket. The pocket receives a rigidifying insert provided with an opening so that the bag may be held, and the insert includes tabs for maintaining the valve closed when the projecting free end portion of the valve is folded over to overlie the pocket region.

5 Claims, 5 Drawing Figures



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BAGS PROVIDED WITH CLOSING AND CARRYING DEVICE

BRIEF SUMMARY OF THE INVENTION

The present invention relates to bags such as may contain flowable materials, and is directed in particular to certain improvements in the structural features of such a bag whereby it may easily be held and wherein it has a valve which by the simple step of folding same over is disposed in closed condition.

More particularly, the present invention relates to a bag of the character described wherein the valve is located at one top corner of the bag and adjacent to which there is provided a pocket region which receives a rigidifying insert, the pocket region and insert being provided with registering openings to provide a hand hold for gripping and carrying the bag and the insert having tabs exposed through one side of the pocket region for retaining the valve in closed condition. The valve has a projecting free end portion so that the valve may be folded over onto itself so that its free end portion overlies the pocket region, and more particularly that area whereat the insert tabs are located. The free end portion of the valve has openings which receive the tabs.

The present invention further contemplates a bag of the aforesaid wherein the opposite edges of the bag are infolded so that the valve normally is constituted by four layers of the material superposed upon one another, the openings for the tabs extending through all such layers and wherein the tab openings are located side-by-side whereas the tabs are vertically arranged.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

FIG. 1 is a perspective view of a bag according to the invention showing same in open condition;

FIG. 2 is a perspective view showing the top of the bag in closed and locked condition;

FIG. 3 is an enlarged vertical section taken along the plane of section line 3—3 in FIG. 2 showing the locking arrangement for the valve;

FIG. 4 is a perspective view of the rigidifying insert; and

FIG. 5 is a view showing the top portion of the bag and illustrating diagrammatically certain features according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

With reference to FIG. 1, a bag according to the present invention is indicated therein generally by the reference character 10 which will be seen to include a top portion consisting of a valve 12 and a pocket region 14, the bottom of the bag being closed as indicated at 16. The pocket region 14 provides, as is hereinafter described, a hand opening 18 by means of which the bag may be held and manipulated and the pocket region also has associated with it locking means disposed through its opening 20, as hereinafter described, whereby the valve may be retained in closed condition. The valve 12 includes a free end portion 22 which projects longitudinally beyond the pocket region 14 and which is also disposed along one side of the bag, substantially as is shown, so that such valve may be opened as shown in FIG. 1 to allow filling or pouring of the contents.

When it is desired to close the bag, the component parts are disposed as shown in FIG. 2, wherein the free end portion 22 of the valve has been flattened and the valve folded over upon itself along the line of fold 24 to position the free end portion 22 in overlying relationship to the pocket region 14. The rigidifying insert, hereinafter described and which is located within the pocket defined by the pocket region 14, is provided with tabs 26 and 28 which project through openings in the free end portion 22 of the valve serving to retain or lock the valve in the closed position as shown in FIG. 2.

Referring now more particularly to FIG. 5, it will be appreciated that the bag is of tubular form and is this respect preferably is made of plastic film material such as films of polyethylene and polyvinyl chloride, although it is to be ap-

preciated that the bag may also be constructed of other materials such as plastic coated paper or fabric. In the preferred embodiment of the invention, a tube of synthetic resinous material is provided in condition with its opposite sides infolded in bellows fashion, the infold being indicated by the dashed lines 30 and 32 in FIG. 5 such that the flattened tube presents longitudinally extending side edges 34 and 36. The bottom of the bag is formed by thermowelding transversely across its bottom edge as indicated at 16 in FIG. 1, and the top portion of the bag is thermowelded along two lines to form the valve and the pocket region as aforesaid.

As previously indicated, the free end portion 22 of the valve projects beyond the pocket region 14 and the first thermoweld line extends longitudinally along that free edge of the free end portion 22 which is immediately adjacent the pocket region in inwardly offset relationship to the infold 30 as indicated by the welding band or line 38 so as to join the superposed opposite sides of the bag along this line. The line then extends continuously in the portion 40 in the longitudinal direction and then is directed transversely in the second portion 42 all the way over to the opposite side edge 36. It will be appreciated that with the infolded type of bag described, the line of thermowelding 42 from the infold 32 to the side edge 36 will join four layers of the material together.

A further thermowelding line 44 is provided, extending from the first portion of the continuous line 38, 40, 42 to the opposite side edge 36 whereafter the corner 46 may be cut away along the edge 48 as shown. It will be appreciated that 30 the thermowelding and cutting operations may be performed in any order desired.

Still referring to FIG. 5, the pocket region 14 of the bag body is provided with the hand opening 18 and with the vertically or longitudinally elongated opening 50 the purpose of which is to expose the previously mentioned tabs 26 and 28. The free end portion 22 of the valve is provided with side-by-side openings 52 and 54, which openings are adapted to receive the tabs 26 and 28, as shown in FIG. 2, when the valve has been folded over upon itself along the fold line 24 thereby 40 registering the openings 54 and 52 respectively with the top and bottom portions of the opening 50.

It will be appreciated that with infolded opposite sides as described, the openings 52 and 54 will penetrate through four layers of the bag material which consists of the front and back layers 56 and 58 illustrated in FIG. 1 and the intervening layers 60 and 62, all of which are superposed when the valve has its infold 30 disposed as shown in FIG. 2. It will also be appreciated that the four layers of material extending between the infold 32 and the angled edge 48 present an open end for the pocket 64 defined between the opposite sidewalls 66 and 68, see particularly FIG. 3, so as to receive the rigidifying insert 70 indicated in FIG. 4.

The insert 70 may be formed of cardboard or other material having sufficient rigidity for the purpose intended and, as shown, the insert is provided with the opening 72 which is adapted to register with the openings 18 in the bag proper when the insert is disposed within the pocket described above. The insert is provided with opposed and spaced generally U-shaped slits 74 and 76 which define the previously mentioned tabs 26 and 28 and which are located to register with the elongated opening 50 described in conjunction with FIG. 5. With the insert located in place, it is a simple matter to deform the tabs 26 and 28 outwardly as shown in FIG. 3 so that they may project through the openings 54 and 52 in the free end portion of the valve so as resiliently to spring thereagainst and retain the valve in closed and locked position.

What is claimed is:

1. A bag comprising a tubular body having a closed bottom and a top portion, said body presenting opposite sidewalls defining longitudinal side edges extending between the bottom and top extremities of the bag; said top portion including a valve and a pocket region, said valve and said pocket region lying in side-by-side relation with said valve lying along one side edge and the pocket

region extending from said valve to the opposite side edge, said valve having a free end portion projecting longitudinally beyond said pocket region at the top of the bag, whereby said valve may be folded upon itself to position said free end portion in overlying relation to said pocket region, said side walls being superposed in said pocket region and along a free edge of said free end portion of said valve immediately adjacent said pocket region, said side walls being joined together along a continuous line having a first portion extending longitudinally along said free edge and into the body and a second portion extending transversely to said opposite side edge, whereby to close the top of said body except for said valve, said sidewalls also being joined along a line parallel to and spaced above said second portion of said continuous line to form a pocket between said sidewalls which is open toward said opposite side edge of the body; a rigidifying insert received in said pocket, said insert and said sidewalls in said pocket region having registering hand openings; and

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means for retaining said free end portion of said valve in overlying relation to said pocket region.

2. The bag according to claim 1 wherein said bag is made of synthetic resinous material and said sidewalls are joined along said lines by thermowelding.

3. The bag according to claim 1 wherein said means comprises a tab on said insert.

4. The bag according to claim 3 wherein said body is infolded along its longitudinal side edges whereby said valve when closed is formed by four superposed layers of said material, said free end portion of said valve having an opening through all four layers receiving said tab.

5. The bag according to claim 1 wherein said means comprises a pair of tabs on said insert, said tabs being longitudinally spaced and said pocket region having an opening exposing said tabs, said free end portion of said valve having a pair of transversely spaced openings for receiving respective ones of said tabs.

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