

May 31, 1955

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2,709,467

CLOSURES FOR FLEXIBLE WALLED BAG BODIES

Filed March 30, 1953

3 Sheets-Sheet 1

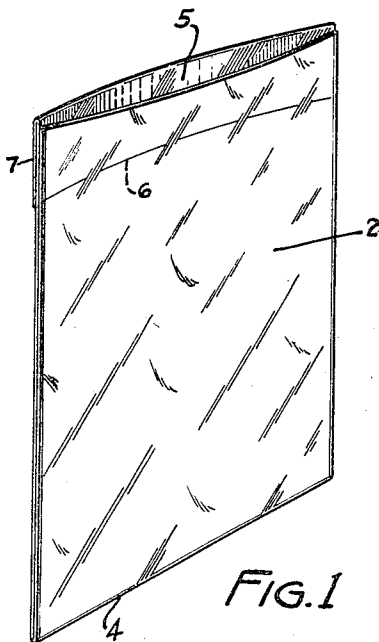


FIG. 1

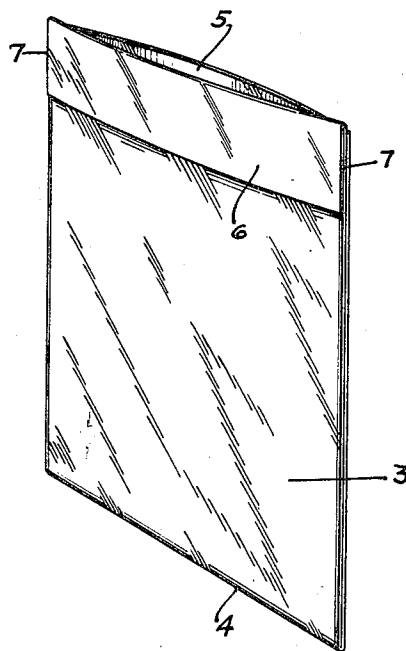


FIG. 2

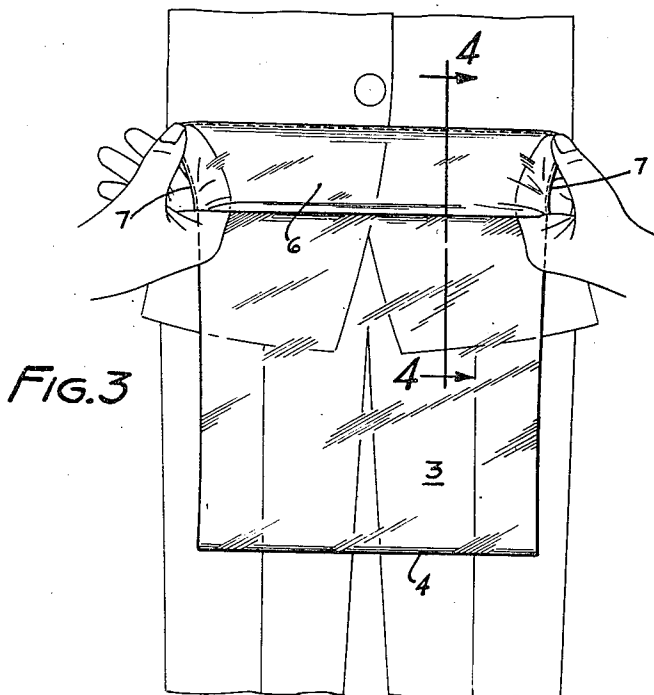


FIG. 3

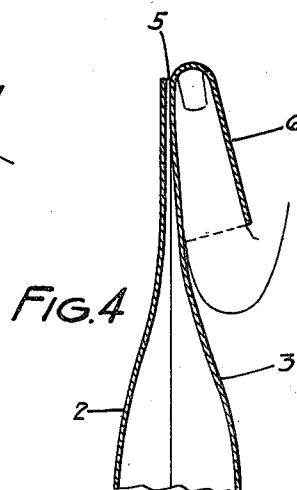


FIG. 4

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3 Sheets-Sheet 2

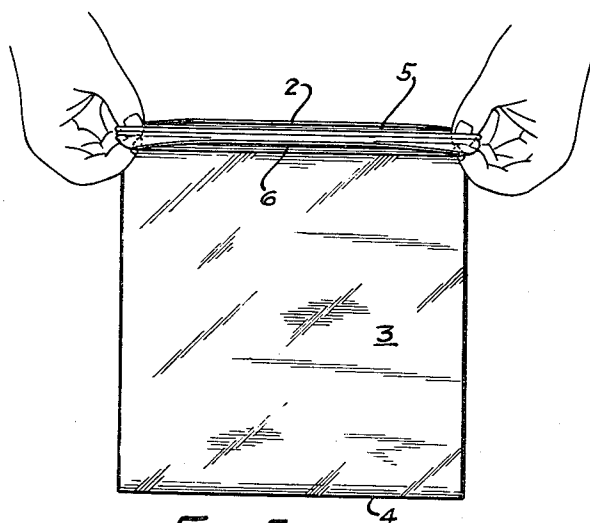


FIG. 5

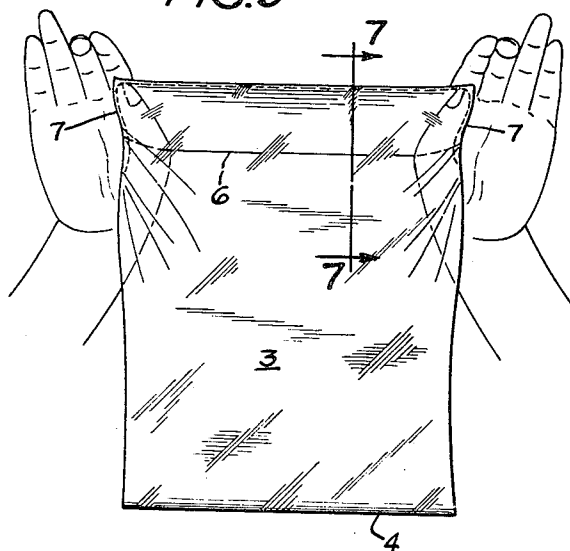


FIG. 6

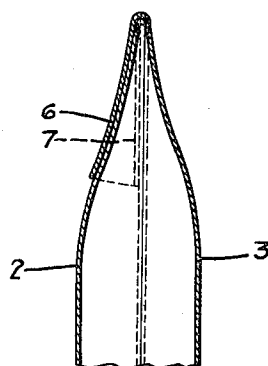


FIG. 8

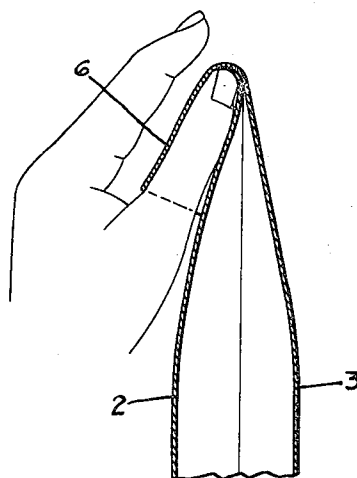


FIG. 7

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CLOSURES FOR FLEXIBLE WALLED BAG BODIES

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3 Sheets-Sheet 3

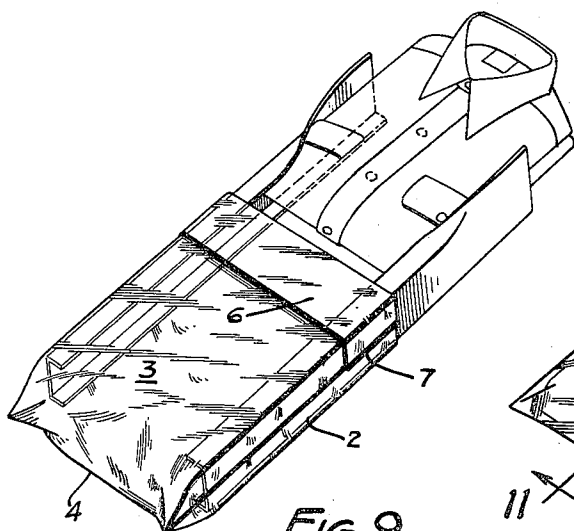


FIG. 9

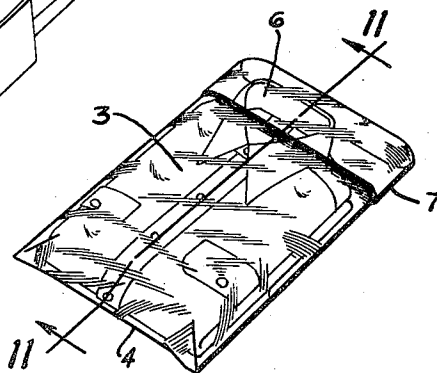


FIG. 10

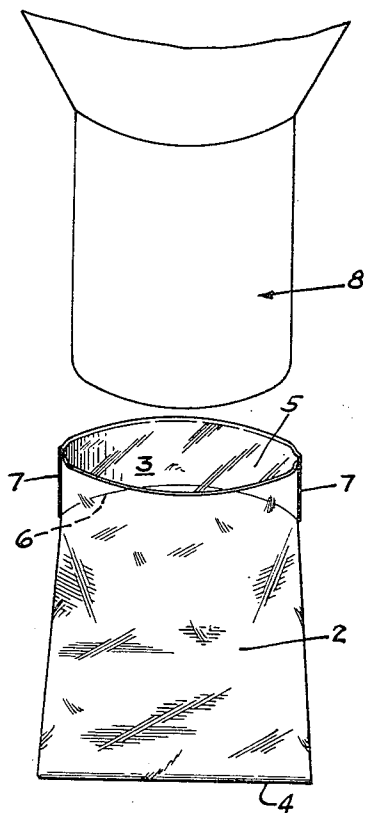


FIG. 13

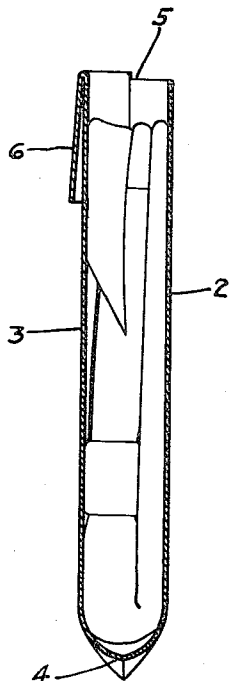


FIG. 11

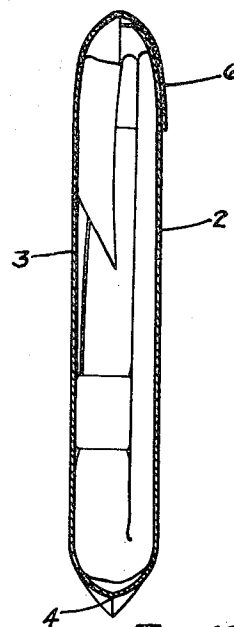


FIG. 12

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2,709,467

CLOSURES FOR FLEXIBLE WALLED BAG BODIES

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Application March 30, 1953, Serial No. 345,432

4 Claims. (Cl. 150—7)

This invention relates to new and useful improvements in flexible walled containers or bags of the general type disclosed in the pending application of Arthur D. Hoepfner and Richard Hayes, Serial No. 186,022 now Patent No. 2,620,842, filed September 21, 1950.

In the container disclosed in the above noted application the closure flap is so constructed and attached to the walls of the bag top that it normally closes or conceals the bag mouth, thus requiring that the closure flap be folded back to expose the bag mouth before the bag mouth can be opened to permit a product to be delivered into the bag body. The closure flap has one of its long edges secured to the relatively longer or wider rear wall of the bag top, across the full width thereof, and is folded forwardly over the mouth of the bag and downwardly against the oppositely disposed front wall of the bag top, into flatwise relation to said walls. In the earlier construction, the vertically disposed end edges of the flap are also secured to the vertical side edges of the bag top the full length or height of said end edges.

By thus initially folding the closure flap into closing position over the bag mouth during the manufacture of the bags, it will readily be understood that to open and expand each bag mouth preparatory to delivering a charge into the bag body, the closure flap must, in effect, be turned back, in order to obtain a full opening of the bag mouth. This is time-consuming, and may require considerable practice by an operator before he can accomplish it in an efficient and expeditious manner.

In addition, such rearward folding of the closure flap from closed to open position tends to wrinkle the wall of the flap, whereby it may be difficult to obtain a smooth neat appearing closure, when the flap is subsequently folded back into closing position over the bag mouth. When the closure flap is initially in open position, as herein disclosed, it may more readily be folded into closing position after the filling operation because it is then disposed smoothly against the adjacent bag top wall, whereby should the upper portion of the bag body expand somewhat during the filling operation, the open closure flap will correspondingly expand so that such expansion of the bag body and closure flap will not interfere with the subsequent folding of the closure flap into closing position.

In the novel container herein disclosed the objectionable feature above referred to has been completely and entirely eliminated. In the instant construction the closure flap is initially folded rearwardly into open position whereby the mouth of the empty bag is normally fully exposed. When the closure flap is normally so disposed, an operator may readily pick up the uppermost bag of a stack of bags by simply grasping the bottom edge of the closure flap, it being understood the bags are placed in the stack with their closure flaps facing upwardly. When the bags are thus picked from the stack by their closure flaps, the bag top walls may readily be separated from one another to open each bag mouth, as the front and back walls of the bag mouths have a

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natural tendency to automatically separate when the bag tops are so grasped, thereby greatly facilitating the operation of inserting an article into each bag. Also with the closure flap initially in wide open position, the operator may, if he so desires, scoop air into the bag body to separate and expand its walls, as he removes each bag from the stack prior to delivering a charge thereto. To be able to thus open each bag top simultaneously as the bags are removed from the stack and delivered to the filling station, greatly facilitates the operation of filling the bags, as will be understood.

Thus, the novel container or bag disclosed in the present application is manufactured with its closure flap in open position so that the full width of the bag mouth is available to facilitate easily and quickly opening the bag top to permit delivering a charge into the bag body. Also by having the closure flap initially folded back into open position, in flatwise relation against the exterior surface of one of the walls of the bag top, the empty container or bag may readily be grasped and picked up by engaging the fingers of one hand with the closure flap, and with the other hand grasping the remaining wall of the bag top and opening and expanding the bag mouth preparatory to slipping the bag onto a conventional filling spout for quick and efficient filling.

The present container or bag may be made of plastic sheet material which is extremely pliable and flexible and is usually moisture proof whereby the container, in addition to being used for packaging articles for sale to the trade, may subsequently be utilized by housewives in the home for storing various food articles. The container is readily washable because of the closure flap normally being disposed in wide open position against the exterior surface of the rear wall of the bag top, and whereby there are no concealed corners in the bag top in communication with the interior of the bag body which may tend to collect dirt and foreign matter with a resultant contamination of food articles placed in the container, as might well occur when utilizing containers wherein the closure flap is normally disposed over the mouth of the bag or container top, and must be folded rearwardly out of the way to gain access to the mouth of the bag for the delivery of food articles or other material into the container.

An important object of the present invention, therefore, is to provide a flexible walled container or bag of the character disclosed, having an attached closure flap which is initially folded back into open position against one of the bag top walls, when the bag is formed, whereby the walls of the bag mouth are normally exposed to view when the bag top is so constructed, an operator may readily grasp each bag top with the fingers and quickly separate the walls thereof to open the bag mouth to its maximum or full size, preparatory to slipping the bag onto a packer tube, or the like, to receive a charge, or to insert an article of clothing thereto, or other articles; as, for example, produce or the like. The unique construction of the closure flap and its attachment to one of the bag top walls as herein disclosed, also causes the closure flap after initial use, to tend to return to its normal open or manufactured position, whereby the operation of subsequently opening or closing the bag top by a housewife is greatly facilitated.

A further object is to provide a container of this general class which lends itself for many different uses. This results primarily because of the unique construction and attachment of the closure flap, whereby the flap is normally positioned on the back side of the container body where it cannot interfere with the subsequent filling of the bag body, a highly desirable attribute when utilized in retail stores for packaging various commodities. With the closure flap normally in open position, as herein dis-

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closed, the container may be quickly filled and its open top closed by merely inserting a finger of each hand into the corners of the rearwardly folded flap, and with a twist of the wrists, quickly flip the flap over the open top of the container into closing relation to the front wall of the bag top.

These and other objects of the invention and the means for their attainment will be more apparent from the following description, taken in connection with the accompanying drawings.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the drawings:

Figure 1 is a perspective view of a bag body showing the novel closure flap in its normal open position;

Figure 2 is a similar view looking at the opposite or back side of the bag body;

Figure 3 is a view illustrating the initial step in the operation of folding the closure flap into closing position over the bag mouth;

Figure 4 is an enlarged detail sectional view on the line 4—4 of Figure 3;

Figure 5 is a view showing the closure flap partially flipped over the open top of the bag in the operation of closing the bag top;

Figure 6 is a view showing the final step in the operation of folding the closure flap into closing position;

Figure 7 is an enlarged detail sectional view on the line 7—7 of Figure 6;

Figure 8 is a vertical sectional view of the bag top showing the closure flap in closed position;

Figure 9 is a perspective view showing the container utilized for wrapping or packaging shirts;

Figure 10 is a perspective view of the container illustrated in Figure 9, showing the shirt positioned therein with the closure flap still in its normal open position;

Figure 11 is a longitudinal sectional view on the line 11—11 of Figure 10;

Figure 12 is a similar view, but showing the closure flap folded over the bag mouth into closing relation to the opposite wall thereof;

Figure 13 is a perspective view illustrating a portion of a packer tube with a container positioned therebeneath about to be fitted onto the tube to receive a charge.

The novel container herein disclosed is shown comprising a flat flexible body formed from a single web of sheet material folded upon itself to provide front and rear walls 2 and 3, respectively, joined together at their bottom ends by the fold 4. The contiguous upright edges of the front and rear walls are suitably joined together the lengths thereof to complete the formation of the bag body. In the present instance the container is shown made from a sheet of transparent plastic material, such as transparent polyethylene, whereby the upright contiguous edges of the front and rear walls may be "welded" together by the application of heat and pressure thereto, as is now well known in the art, thereby to provide a moisture proof transparent flexible container body which lends itself for many uses in the packaging and distribution of articles and commodities sold through retail stores and outlets. The use of the descriptive terms "front" and "rear" to define the opposed walls of the container body is merely for the purpose of clarification, to differentiate between said walls, and is not to be considered binding, as obviously there may be instances where it may be deemed more advisable to reverse the order of such terminology.

An important feature of the present invention resides in the novel construction of the closure means provided for closing the normally open mouth 5 of the container body, when a product has been introduced into the container and the unique, but simple manner of securing such

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closure means to the walls of the bag top. The novel means provided for thus closing the container mouth is shown comprising a closure flap 6 which may readily be formed and extension of the material forming the back wall 3 of the container body, by simply folding such extension into flatwise engagement with the upper outer portion of the back wall 3, as illustrated in Figure 2, during formation of the bag bodies. The upright end edges 7—7 of the flap 6 are coincident with the contiguous upright edges of the front and rear walls 2 and 3, and in the operation of bonding together the contiguous upright edges of the front and rear walls 2 and 3, the end edges 7—7 of the flap are simultaneously welded to the adjacent edge portions of the rear wall, as will be understood by reference to Figures 1 and 2.

By thus forming the closure flap 6 and attaching it to the rear wall along the full length of its upper edge, and by securing the end edges 7—7 of the flap to the adjacent underlying edges of the rear wall, the flap is normally supported in its open position in flatwise relation to the upper outer surface portion of the rear wall 3 of the container body, whereby it cannot interfere with the operation of introducing a product into the container. When so constructed, the operation of filling the container may be carried on in a manner very similar to the operation of filling conventional open top bags, in that the mouths of the containers are normally open, as clearly illustrated in Figures 1 and 2.

To close the bag mouth the operator preferably places the filled container in front of him on a suitable support, not shown, with the flap side of the container facing away from his body. He then inserts the index fingers of both hands up under the flap and into the top corners of the inverted pocket formed by the closure flap when open, as indicated in Figure 3. He next places the thumbs against the top corners outside the flap, against the tips of the forefingers, and with a twist of his wrists, flips the flap over the open top or mouth of the container body, as indicated in Figure 5, and thence downwardly over his thumbs into closing relation to the upper outer surface portion of the front wall 2 of the bag top, and simultaneously pushes out the corners, as indicated in Figure 6. The thumbs are then withdrawn from beneath the flap.

From the foregoing it will be noted that the operation of closing the open top of the novel container herein disclosed becomes a very simple one and may be quickly effected by simply flipping the closure flap 6 over the mouth of the container body with the fingers, as hereinbefore stated. When it is desired to open the mouth of the container, the flap may as readily be flipped rearwardly into its normal open position against the rear wall of the container body.

The novel container herein disclosed has found a ready market in the packaging industry, largely because of the unique arrangement of its closure flap whereby the empty containers may be handled and filled on conventional equipment, in a manner identical to ordinary paper or textile bags or containers having open tops, as indicated in Figure 13. In this figure there is illustrated a conventional packer tube 8 with a bag positioned therebeneath about to be fitted onto the lower end of the packer tube.

The container, in addition to providing an extremely practical device for packaging pulverulent, and other food articles, such as produce, has also found a prominent place in the merchandising of various forms of garments such as men's shirts and many other articles of wearing apparel. When so used, the containers are preferably constructed of a transparent plastic material so that when a garment is placed in the container and its open top is closed by flipping the flap from its normal open position against the rear wall 3 of the bag body, over the open top of the container and into closing relation to the front wall of the bag body, the article placed in the container may readily be viewed, as is well known.

As hereinbefore stated, by making the container or bag

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body with its mouth normally wide open and the closure flap disposed flatly against the rear wall of the bag body, washing and cleaning of the container after use may readily be effected, because there are no concealed corners in communication with the interior of the container body in which dirt, soap, and other foreign matter may accumulate and subsequently contaminate the contents of the container. This is of particular advantage when a housewife elects to re-use the container for storing vegetables and other food articles in a refrigerator. Also when the container is used for packaging shirts and other items of wearing apparel for the retail trade, the closure flap may readily be flipped into its normal open position when desired, to permit examination of the packaged items, without damaging or marring the closure flap.

When the closure flap is normally in open position as herein disclosed, the operation of filling and closing the container may be accomplished much faster than would be possible with a container wherein the closure flap is normally in closed position and must be manually opened before the container body can be filled. The closure flap when normally in open position may also serve as a handle to facilitate picking up the empty containers preparatory to introducing a charge thereinto.

Also by making the bag with the closure flap normally in open position against the outer surface of the rear wall of the bag, the operation of manufacturing the bags is greatly facilitated, in that variations in the length of the flap and the length of the front wall of the bag, caused by the web of material wandering or weaving from its normal path of travel, is not likely to cause the manufacturing equipment to fail as a result of the web wrinkling or bunching as it is fed through the equipment, usually brought about by the front wall portion of the web being relatively longer than the rear wall portion thereof.

In the specification and claims, I have defined the closure flap as being disposed flatly against the rear wall of the bag body, when in its normal closed position. It is to be understood, however, that this is merely for the purpose of affording a clearer explanation of the invention. In actual use, the wall carrying the flap and herein referred to as the "rear" wall, may become the front wall or face of the bag, particularly when advertising matter such as the brand name of the contents of the container or bag is to be applied to the container body, as it provides a relatively larger surface for such advertising matter, when the closure flap is in its bag top closing position.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

What I claim is:

1. A flat bag comprising first and second walls normally disposed in flatwise relation with the vertical side edge portions of one of said walls overlying the corresponding edge portions of the other of said walls, said second wall initially being longer than said first wall to provide a flap-forming portion extending the full width of the bag top, said flap-forming portion initially being folded back into open flat-wise relation to the upper outer surface of said second wall with its vertical end edge portions overlying the upper side edge portions of said second wall, seams securing together the contiguous side edges of said front and back walls to form the bag body, and simultaneously permanently securing the overlying

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vertical end edges of said flap-forming portion to the ends of the bag top against said second wall to complete the formation of the closure flap.

2. A closure for a flexible bag body, which bag body comprises first and second walls normally disposed in flatwise relation at the bag top, a closure flap secured to the upper horizontal edge portion of said second wall the extent thereof and normally disposed flatly against the upper outer surface portion of said second wall with its vertical end edges overlying the upper side edge portions of said second wall, means for securing together the vertical side edges of said first and second walls to complete the formation of the bag body and said vertical end edges of the closure flap being permanently secured to the opposite ends of the bag top when the flap is disposed flatly against the upper outer surface portion of said second wall, whereby the closure flap is secured to the bag top along three of its edges only, the bottom edge of said flap being free and unattached to facilitate grasping the bag preparatory to filling, and also to facilitate grasping the flap in the operation of flipping it over the open top of the bag body and into flatwise closing relation to the upper portion of said first wall.

3. A flexible bag body comprising front and back walls having their upper bag top-forming portions normally disposed in flatwise relation, a closure flap secured to the upper horizontal edge of the back wall the extent thereof and normally folded back into open flatwise engagement with the upper exterior surface portion of said back wall with its vertical end edge portions overlying the adjacent edge portions of said back wall, said front and back walls and the ends of said flap being permanently secured together at each end of the bag top, whereby the closure flap is secured to the bag top walls along its top and vertical end edges only, the bottom edge of said flap being free and unsecured whereby the flap may be folded over the open top of the bag body into flatwise closing relation to the outer surface of said front wall, thereby to close the bag top.

4. A flat bag comprising front and back walls normally having their upper portions disposed in flatwise relation, said rear wall initially being longer than the front wall to provide a flap-forming portion extending the full width of the bag top, said flap-forming portion normally being folded back into open flatwise engagement with the upper exterior surface of the back wall, seams securing together the contiguous side edges of said walls to form the bag body, said seams also permanently securing the opposed vertical end edges of said flap-forming portion to the exterior vertical end surfaces of the back wall to complete the formation of the closure flap, the vertical length of said closure flap being not greater than approximately the length of the fingers of a human's hands, whereby an operator may insert a finger of each hand into the two corners at the top of the bag body between said flap and said back wall, and with a twist of the wrists, flip the closure flap over the open top of the bag body and downwardly into flatwise closing relation to the upper outer surface portion of the front wall of the bag top.

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