

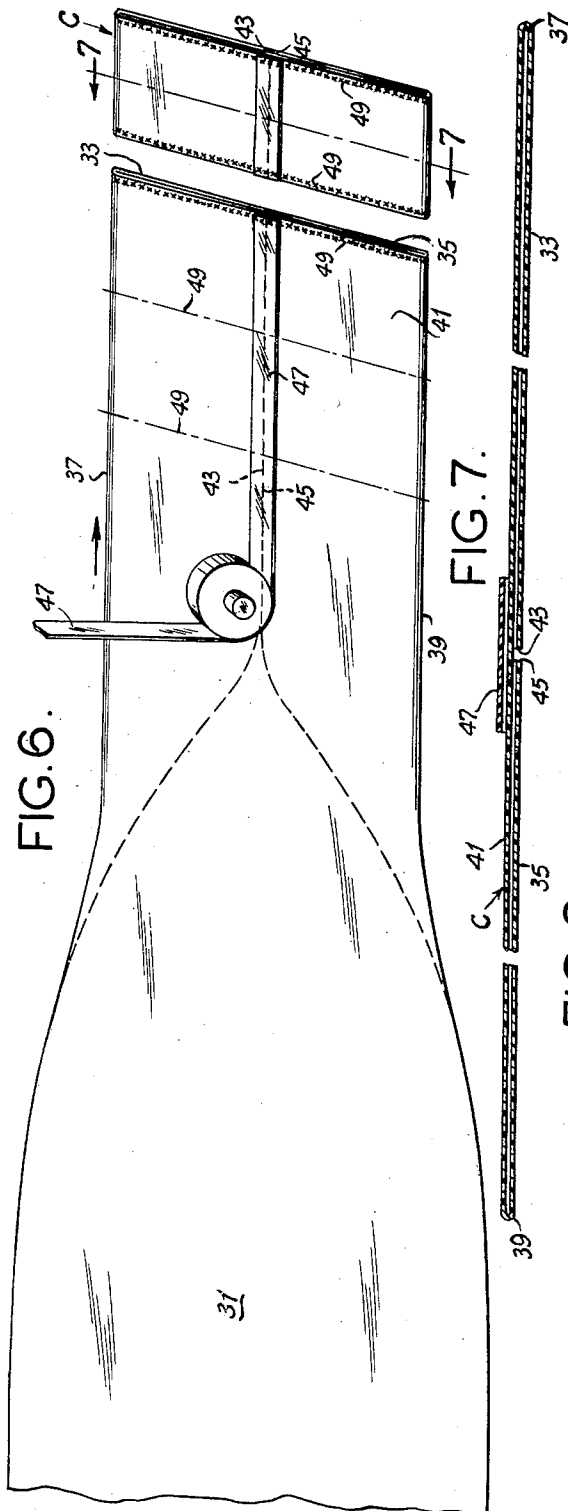
Dec. 25, 1962

A. D. HOEPPNER
METHOD OF MAKING BAGS

3,069,978

Filed June 6, 1958

3 Sheets-Sheet 2



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FIG. 9.

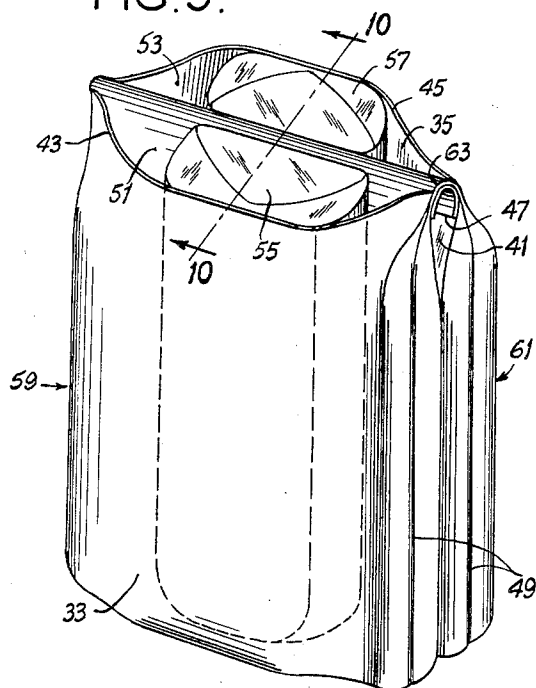


FIG. 11.

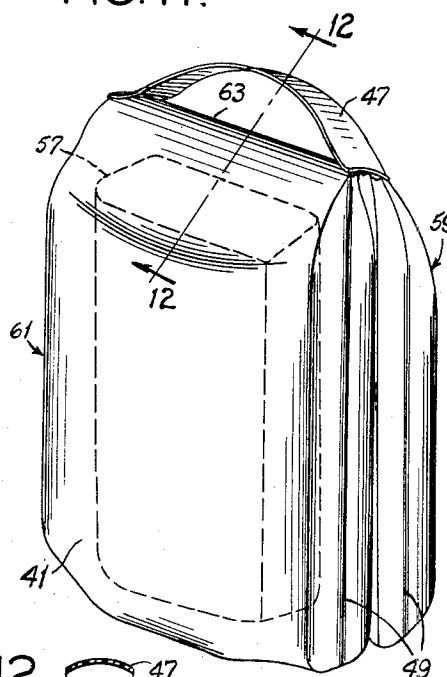


FIG. 10.

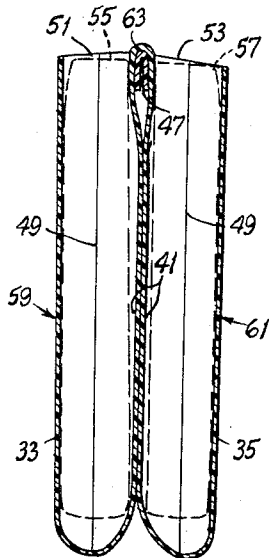
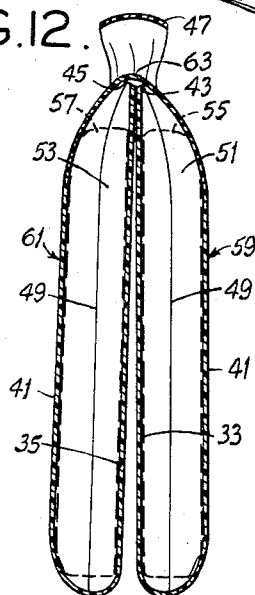


FIG. 12.



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3,069,978

METHOD OF MAKING BAGS

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4 Claims. (Cl. 93—35)

This invention relates to bags, and more particularly to double-pocket bags and the manufacture thereof.

This application is a continuation-in-part of my co-pending application Serial No. 491,829, filed March 3, 1955, entitled Manufacture of Bags, now abandoned.

Among the several objects of the invention may be noted the provision of methods of economically manufacturing double-pocket bags of a flexible heat-sealable sheet material such as polyethylene, wherein each bag is provided with a length of tape extending from one side edge of the bag to the other, this tape according to one species of the invention being adapted to serve as a closure means, and this tape according to another species of the invention being adapted to serve as a carrying handle for the bag; the provision of continuous production methods utilizing continuous lengths of the sheet material and tape for manufacturing such bags; and the provision of method of manufacturing double-pocket bags with a carrying handle constituted by a length of tape extending from one side edge of the bag to the other and so positioned that, with the bag held by the handle, both pockets of the bag are closed so that articles therein will not fall out. Other objects and features will be in part apparent and in part pointed out hereinafter.

The invention accordingly comprises the methods hereinafter described, the scope of the invention being indicated in the following claims.

In the accompanying drawings, in which several of various possible embodiments of the invention are illustrated.

FIG. 1 is a perspective view showing certain steps involved in one method of manufacturing bags with closure means in accordance with this invention;

FIG. 2 is a front elevation of a completed bag made according to FIG. 1, the bag being shown in its open condition;

FIG. 3 is a perspective view of the FIG. 2 bag closed; FIG. 4 is an enlarged section taken on line 4—4 of FIG. 3;

FIG. 5 is a perspective view showing steps involved in another method of this invention for manufacturing bags with closure means;

FIG. 6 is a perspective view showing certain steps involved in one method of manufacturing bags with carrying handles in accordance with this invention;

FIG. 7 is an enlarged section taken on line 7—7 of FIG. 6;

FIG. 8 is a perspective view showing certain steps involved in another method of manufacturing bags with carrying handles in accordance with this invention;

FIG. 9 is a perspective view showing a bag with a carrying handle made according to FIG. 6 or FIG. 8 in a folded condition with items inserted in the two pockets thereof;

FIG. 10 is a vertical section taken on line 10—10 of FIG. 9;

FIG. 11 is a perspective view showing a bag with a carrying handle in a reversely folded condition from that of FIG. 9; and,

FIG. 12 is a vertical section taken on line 12—12 of FIG. 11.

Corresponding reference characters indicate corre-

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sponding parts throughout the several views of the drawings.

Referring to FIG. 1 of the drawings, there is indicated at 1 a continuous web of flexible heat-sealable sheet material such as polyethylene. In accordance with one method of this invention, side marginal portions 3 and 5 of the web are folded over on lines 7 and 9, respectively, to lie flat against the surface of an intermediate portion 11 of the web. As shown in FIG. 1, the folded-over side marginal portions 3 and 5 are of equal width, slightly less than one-quarter the total width of the web 1, and their edges 13 and 15 are slightly spaced apart on opposite sides of the longitudinal center line of the web so as to form a gap between these edges 13 and 15. It will be understood, however, that portions 3 and 5 need not be of equal width.

The folding over of the side marginal portions of the web 1 is carried out while the web is being fed in the direction of the arrow shown in FIG. 1. A continuous tape 17 of flexible heat-sealable sheet material such as polyethylene is unwound from a supply roll thereof (not shown) and applied to one of the outside surfaces of the folded web extending longitudinally of the web and spaced from the adjacent edges 13, 15 of the folded-over portions 3 and 5. This tape is preferably applied to the outside surface of one of the folded-over portions 3 or 5 (being shown as applied to the outside surface of 5). It will be understood, however, that it might be applied to the outside surface of the portion 11 of the web (the bottom surface of 11 as viewed in FIG. 1).

The folded web with the tape 17 applied thereto is then heat-sealed and segmented on transverse lines 19 spaced along the length of the web. The segmenting and heat-sealing may be effected simultaneously by using a hot knife. This forms bags B, one of which is illustrated in FIGS. 2—4. As shown, the bag B has two opposed open pockets constituted by the folded-over portions 3 and 5 and the portion 11 forming a back wall common to both pockets. The pockets have heat-sealed side edges at 19 and the portion of the tape 17 which is segmented along with the segmentation of the web extends from one side of the bag to the other and has its ends heat-sealed to the side edges.

Bags B made as above described are particularly useful for packaging two related items. After the items have been placed in the respective pockets, the bag is folded on a line at the mouths of the pockets and the pocket formed by the folded-over portion 3 is disposed under the tape 17 to hold the bag in folded condition (see FIGS. 3 and 4).

FIG. 5 illustrates another method of this invention for manufacturing bags B wherein the bags are made from continuous seamless tubing 21 of heat-sealable sheet material such as polyethylene. As shown, the method includes as its initial step the slitting of one wall of the tubing as by means of a knife 23. This result of the slitting operation is a folded web like that of FIG. 1, and the remainder of the method is the same as that of FIG. 1.

FIG. 6 illustrates a method of this invention for manufacturing double-pocket bags with carrying handles, the method being similar to that shown in FIG. 1 for the manufacture of double-pocket bags with closure means except in respect to the position of the tape. As shown in FIG. 6, a continuous web 31 of flexible heat-sealable material such as polyethylene has side marginal portions 33 and 35 folded over on lines 37 and 39, respectively, to lie flat against the surface of an intermediate portion 41 of the web. As shown, the folded-over side marginal portions 33 and 35 are of equal width, slightly less than one-quarter the total width of the web 1, and their edges 43 and 45 are slightly spaced apart on opposite sides of

the longitudinal center line of the web. As shown in FIG. 6, the folding over of the side marginal portions is downward instead of upward as in FIG. 1, so that the intermediate portion 41 of the web is upward instead of downward.

The folding over of the side marginal portions of the web 31 is carried out while the web is being fed in the direction of the arrow in FIG. 6. A continuous tape 47 of flexible heat-sealable sheet material such as polyethylene is unwound from a supply roll thereof (not shown) and applied to the outside of the intermediate portion 41 of the folded web extending longitudinally of the web along the longitudinal center line of the web, thus being in centered relation with respect to the opposed edges 43 and 45.

The folded web with the tape 47 applied thereto is then heat-sealed and segmented on transverse lines 49 spaced along the length of the web. This forms bags C such as are shown in FIGS. 6, 7 and 9-12. As shown, bag C has two opposed open pockets constituted by the folded-over portions 33 and 35 and the portion 41 forming a back wall common to both pockets. Portions 33 and 35 constitute front wall portions, portion 33 extending inward over the back wall 41 from one end thereof (the fold 37) and portion 35 extending inward over the back wall 41 from the other end thereof (the fold 39). The front wall portions 33 and 35 are joined along the sides thereof to the sides of the back wall 41 by heat-sealed seams 49. Portion 33 is integrally joined at its outer end to back wall 41 at fold 37. Portion 35 is integrally joined at its outer end to the back wall 41 at fold 39. The inner ends of the front wall portions 33 and 35 at edges 43 and 45 are free of the back wall, thereby providing pocket mouths 51 and 53 (see FIGS. 9 and 10). The portion of the tape 47 which is segmented along with the segmentation of the web extends transversely of the bag from one side edge of the bag to the other on the outside of the back wall 41 and is located centrally of the length of the back wall 41. The ends of the tape are heat-sealed to the side edges of the bag at 49.

As shown in FIGS. 9 and 10, the bag C may be folded in half along the longitudinal center line of the tape 47 with the back wall 41 and the tape on the inside and items of merchandise such as indicated at 55 and 57 placed in the two pockets 59 and 61 of the bag through the pocket mouths 51 and 53. One type of item for which the bag C is particularly adapted is a pair of shoes, one shoe being placed in one pocket, the other shoe in the other pocket. Then, as shown in FIGS. 11 and 12, the folding of the bag is reversed to bring the tape 47 to the outside and the pocket mouths 51 and 53 to the inside. In this condition of the bag, the tape 47 serves as a carrying handle and the mouths of the pockets are effectively closed by the fold 63 made in the back wall 41.

FIG. 8 illustrates another method of carrying out the manufacture of bags C such as illustrated in FIGS. 7 and 9-12, similar to the method illustrated in FIG. 5 in that the bags are made from continuous seamless tubing 71 of flexible heat-sealable sheet material such as polyethylene. As in FIG. 5, this method includes as its initial step the slitting of one wall of the tubing as by means of knife 23. The result of the slitting operation is a folded web like that of FIG. 6, and the remainder of the method is the same as that of FIG. 6.

In view of the above, it will be seen that the several

objects of the invention are achieved and other advantageous results attained.

As various changes could be made in the above methods without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. The method of making double-pocket bags comprising forming a continuous longitudinally split flat tube of flexible heat-sealable sheet material having an intermediate portion constituting a back wall and marginal portions folded over on one surface of the back wall with a gap between the opposed edges of the folded-over portions, applying a continuous length of relatively narrow flexible heat-sealable material to one surface of the folded web with said narrow material extending longitudinally of the web and in spaced relation relative to said opposed edges, then simultaneously heat-sealing and segmenting the folded web, with the narrow heat-sealable material thereon, on transverse lines spaced along the length of the web to form bags each having two opposed open pockets having heat-sealed side edges with a portion of the narrow heat-sealable material extending from one side edge of each bag to the other and heat-sealed to the side edges.

2. The method of claim 1 wherein the narrow heat-sealable material is applied in centered relation with respect to the opposed edges of the said folded-over portions on the outside surface of the back wall thereby being spaced from said opposed edges by the back wall, said narrow material constituting a carrying handle.

3. The method of making double-pocket bags comprising slitting one wall of a tube of flexible heat-sealable sheet material to form a continuous web having an intermediate portion and portions folded over on one surface of the intermediate portion with a gap between the opposed edges of the folded-over portion, applying a continuous length of relatively narrow heat-sealable material to one surface of the folded web with said narrow material extending longitudinally of the web and in spaced relation relative to said opposed edges, then simultaneously heat-sealing and segmenting the folded web, with the narrow heat-sealable material thereon, on transverse lines spaced along the length of the web to form bags each having two opposed open pockets having heat-sealed side edges with a portion of the narrow heat-sealable material extending from one side edge of each bag to the other and heat-sealed to the side edges.

4. The method of claim 3 wherein the narrow heat-sealable material is applied to the outside surface of one of the folded-over portions offset laterally from said opposed edges.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,069,978

December 25, 1962

Arthur D. Hoeppner

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 1, lines 21 and 22, for "inventon" read -- invention --; lines 37 and 38, for "illustrated." read -- illustrated, --; column 4, line 37, for "portion" read -- portions --; line 39, after "folded" insert -- web --.

Signed and sealed this 18th day of June 1963.

(SEAL)

Attest:

ERNEST W. SWIDER
Attesting Officer

DAVID L. LADD
Commissioner of Patents