

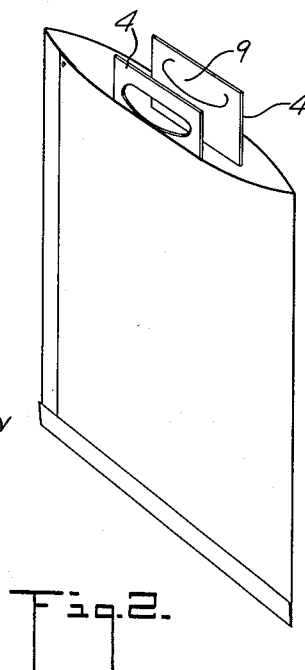
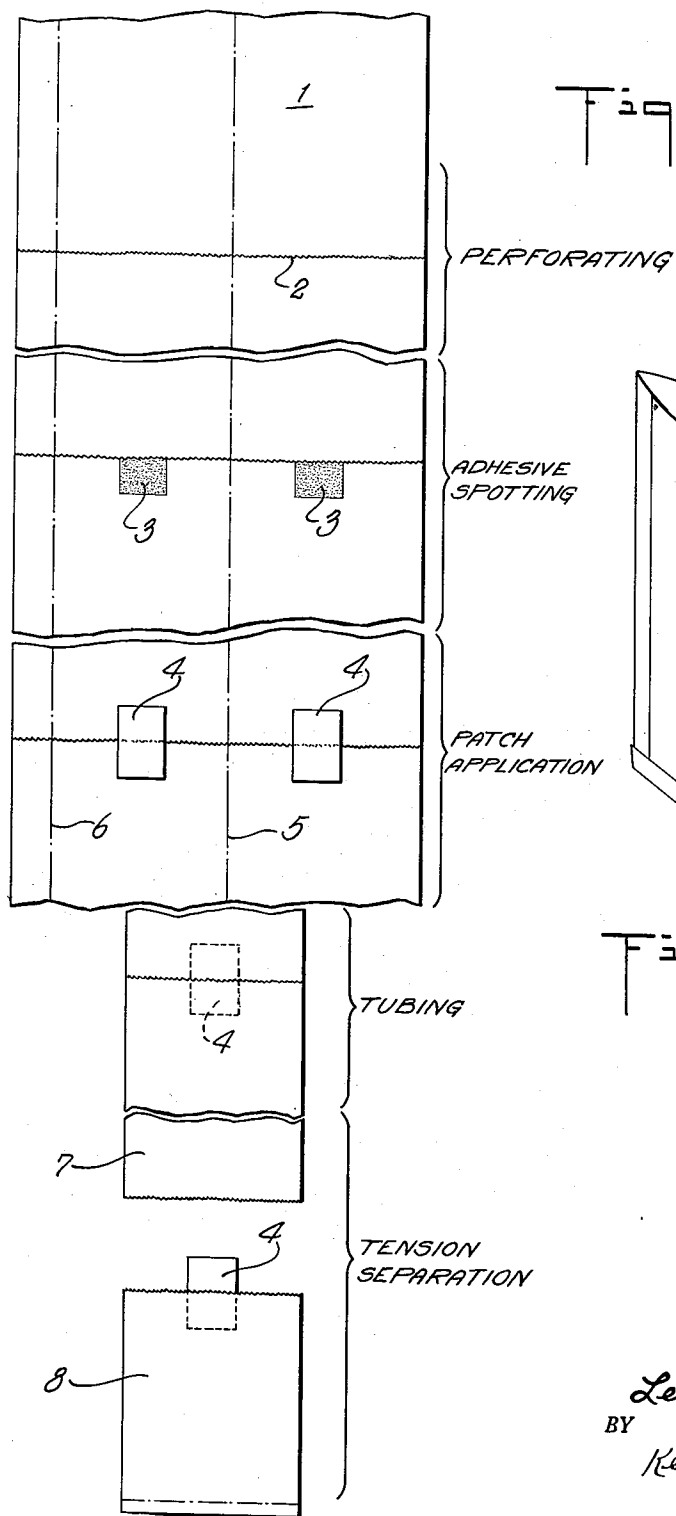
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L. E. CANNO

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METHOD OF MAKING CARRY BAGS

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INVENTOR.
Leonard E. Canno
BY
Kenyon & Kenyon
ATTORNEYS

UNITED STATES PATENT OFFICE

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METHOD OF MAKING CARRY BAGS

Leonard E. Canno, New York, N. Y., assignor to
Equitable Paper Bag Co., Inc., Long Island City,
N. Y., a corporation of New York

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This invention relates to carry bags. It is particularly concerned with paper carry bags of the type usually given away by retail merchants to their customers and which are therefore preferably produced as inexpensively as is consistent with providing a strong bag equipped with adequate carrying handles.

An object of the invention is to provide a method for making such bags which reduces manufacturing costs to a minimum while resulting in the production of a satisfactory carry bag. Other objects may be inferred from the following disclosure of what is now considered the best form of the invention.

The accompanying drawings show in Fig. 1 the progress of a paper bag web as it is processed into bag tube lengths in accordance with the invention and in Fig. 2 a perspective of finished bag resulting after closing of the bottom of one of the bag tube lengths.

More specifically the paper bag web 1 is sufficiently heavy paper for the purposes demanded of a carry bag of the conventional size range and it is wide enough to permit it being folded longitudinally along two fold lines so that its opposite edges can overlap sufficiently to provide an adequately strong seam when the overlapped portions are adhesively secured together.

The first step is to form transverse lines of weakness in this web 1 at bag length intervals, transverse lines of perforations 2 being shown. The bag length intervals should be just enough longer than the ultimate bag length to provide for folding up and adhesively securing a portion of each bag tube length bottom as required to make a bag bottom closure for each bag.

The next step is to apply spots of active adhesive 3 to the surface of the web 1 that will be the bag inside with these spots 3 applied entirely on one side of each of the lines 2 and adjacent thereto and on the same side of all of the lines 2. Thus the drawings show the spots 3 as all applied beneath the lines 2. The spots 3 are shown arranged in sets of two with the spots of each set spaced transversely of the web 1 and located as required to bring them at the transverse centers of the ultimate bag front and back walls. The active adhesive 3 may be wet paste such as is used in paper bag making.

Next paper patches 4 are applied to the spots of active adhesive 3. These patches 4 are long enough to span the lines 2 in each instance and to project substantial patch portions across these lines longitudinally of the web to the opposite sides which are free from the adhesive spots

3. The patches 4 are shown as being rectangular in shape and they should be adequately long and wide to permit secure fixing to the web with the projecting free or unattached portions providing room for the formation of handle openings. These patches 4 are made of paper of substantially heavier weight than the paper of the web 1. The adhesive spots 3 are contoured to cause substantially the entire areas of the patches 4 to adhere to the web 1 on the one side of the lines 2 in each instance. If the ordinary wet paste is used the patches are applied prior to drying of the paste and while it is therefore still active.

The web 1 is next tubed to form a bag tube. This is done by folding the web longitudinally on one fold line 5 which is located so that one of the web edge portions is offset from the other, and then folding this offset edge portion along a fold line 6 so it overlaps the opposite edge portion. Conventional tubing methods may be resorted to including the usual edge pasting and seam pressing to provide a suitable bag seam on the back wall of the ultimate bag. This operation is not illustrated in detail since bag tubing is well known to those skilled in the art.

A bag tube 7 results from the foregoing that looks like a conventional bag tube with transverse lines of perforations at the bag length intervals. However, the inside of this bag tube, of course, contains the patches now aligned and superimposed in registration with each other and with the portions beneath the lines of perforations firmly secured to the tube insides but with their portions projecting above their lines of perforations free from the tube insides.

Now by tensioning this bag tube at the transverse lines of perforations bag tube lengths 8 are created, each equipped with a pair of projecting patch portions firmly secured to its inside. Therefore, after the ordinary step of closing each bag tube length bottom by folding up a portion thereof and pasting it against the portion of the bag outside it overlaps, suitable die cutting of the projecting portions of the patches 4 to provide for example, displaceable tongues 9, a finished bag is produced. The tongues 9 may be formed by simultaneously severing the superimposed patch portions so that a single die cut does the job. Any type of handle opening may be formed as exemplified by merely forming transversely elongated handle holes. Preferably the tongues 9 are formed, by appropriate severance, because this permits these tongues to be swung simultaneously in a single direction so as to

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interlock the tube handles together, close the bag tight and provide a rounded surface for grasping by the hand.

Although the method has been described as though carried out by hand operations, the method is adapted for use in connection with machine production methods. The spots 3 may be applied by suitable spotting equipment as the web 1 leaves the usual large supply roll with the lines of perforation formed either shortly before or after this spotting. Preferably the perforations are formed prior to spotting to avoid the danger of the adhesive contaminating the perforator. The patches 4 may be applied automatically from two separate rolls of paper strip of adequate weight. Then when the web goes over the former and through the seamer and on to the tube tensioner or "snap off" and finally through the bottom closer, the machine delivers bags that are completely finished excepting for the die cutting of the handles automatically provided by the practice of the invention. Die cutting equipment may be applied to the end of the bag machine so that the machine delivers completely finished bags.

In connection with the application of the patches, a machine particularly adapted for this purpose is disclosed and claimed by an application filed by George W. Poppe, bearing Serial No. 747,264, and having a filing date of May 10, 1947 (now abandoned). A bag making machine particularly adapted for tension severing the bag tube into bag tube lengths is disclosed and claimed by Patent No. 2,466,823, which issued April 12, 1949, on an application filed by George W. Poppe, bearing Serial No. 702,627, and having a filing date of October 11, 1946.

In connection with machine operations, placement of the patches 4 remotely from the edges of the web 1 and from the tube folding lines 5 and 6 avoids interference by these patches with the tubing step. Thus they are free from the fold and bag seam forming element.

The method disclosed herein produces paper carry bags with what is believed the ultimate in economy. This naturally permits the selling price of the carry bags so made to be lowered to a degree making carry bags available to the public under many circumstances where the public has heretofore been denied the convenience of these bags due to the economics involved.

It is important to note that this desirable object is attained by using patches that are simply fiat strips of material and which are each an integral part throughout. The patches are not used as attachments for other handle parts but themselves are long enough for attaching to the bag walls and to project above the bag wall tops to by themselves form the handle portion. One

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die cut forms the handle opening. The resulting handles project upwardly from the bag insides and permit flat stacking of a number of the bags while providing a pair of handles each having the same sized finger opening, as contrasted to one being smaller than the other. Hence the described tongue arrangement is possible and the user is provided greater comfort in carrying the bag.

Although the invention has been exemplified as applied to a plain bag, it might also be used with other types of bags. For example, when greater size is desired a satchel bottom could be used. Other variations may prove desirable.

I claim:

1. A method for making carry bags comprising the steps of forming transverse lines of weakness in a web at bag length intervals, applying patches adhesively to said web with the patches spanning said lines but adhesively secured only on one side thereof, tubing said web, and tensioning the resulting tube at said lines to separate said tube into bag lengths with said patches projecting beyond the bag length tubes so they may provide carrying handles.

2. A method as defined by claim 1 with said patches applied remotely from the edges of said web and from the tube folding lines to avoid interference with the tubing step by said patches.

3. A method as defined by claim 1 with said patches applied on the web side forming the tube inside so that said patches extend upwardly from the ultimate bag inside.

4. A method of making a paper carry bag comprising the steps of forming transverse lines of perforations in a paper bag web at bag length intervals, applying spots of active adhesive to the surface of said web that will be the bag inside with said spots applied entirely on one side of each of said lines and adjacent thereto and on the same side of all of said lines, applying patches to said spots of active adhesive with said patches long enough to span said lines and project substantial patch portions thereacross to the sides free from said adhesive, tubing said web, and tensioning the resulting tube at said lines to separate said tube into bag length tubes with said patches projecting beyond the tops thereof to form carry handle members.

LEONARD E. CANNO.

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