June 24, 1969 J. BAGNALL 3,451,316

METHOD OF MAKING HANDLED BAGS

Filed Aug. 22, 1967 Sheet 1 of 2

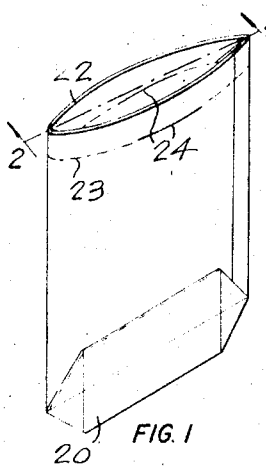


FIG. 1

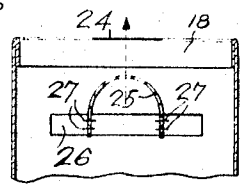


FIG. 2

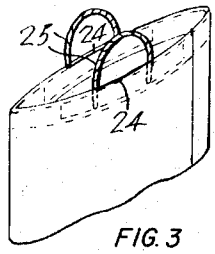


FIG. 3

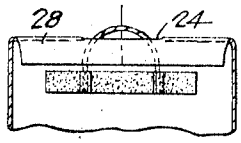


FIG. 5

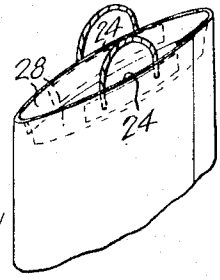


FIG. 6

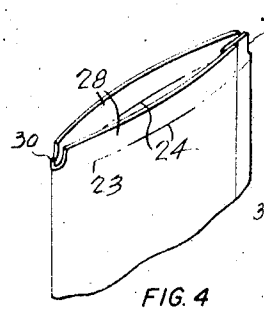


FIG. 4

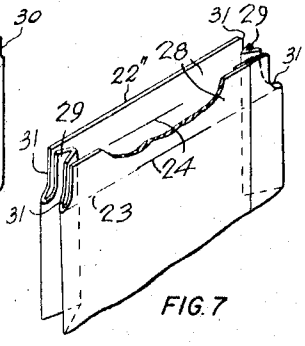


FIG. 7

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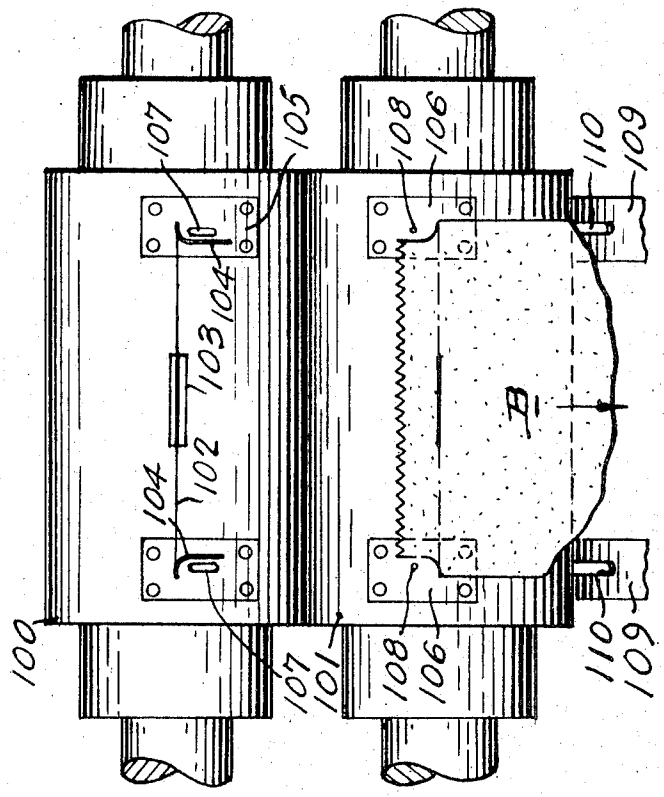


FIG. 8

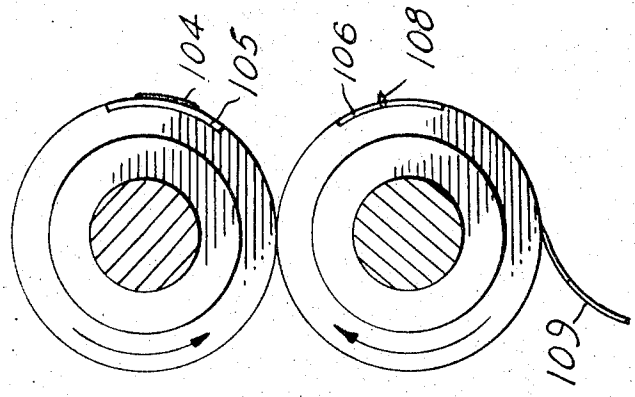


FIG. 9

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METHOD OF MAKING HANDLED BAGS

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Int. Cl. B31b 49/04
U.S. Cl. 93—35 1 Claim

ABSTRACT OF THE DISCLOSURE

A method of applying handles to bags having tabs formed at the mouth of the bag and slits in the tabs to receive the handle comprising: simultaneously folding the tab toward the side wall of the bag while inserting a preglued handle into position between the tab and side wall with a hand grasping portion of the handle extended through the slit.

The present invention relates to carrier bags for shoppers, more particularly to a new method for the insertion of carrier bag handles into the bags.

In the past the manufacture of handled bags has not lent itself to automation, particularly for folding of the top rim and inserting of the handles beneath the rim. These two operations are done manually in an inefficient manner requiring at least two operators to handle each bag. One operator turns the flange at the top of the bag and a second operator inserts the handles. This is an expensive procedure.

It is thus the main object of the present invention to provide a new bag structure and a new method of folding and inserting of handles into bags.

The various aspects of the invention are more particularly described by reference to preferred embodiments which are illustrated in the accompanying drawings, in which:

FIG. 1 shows in perspective a known type of carrier bag preform.

FIG. 2 is a cross-sectional view of part of the bag of FIG. 1 illustrating the known technique for affixing carrier bag handles thereto.

FIG. 3 shows in perspective a portion of the bag of FIG. 1 with a handle inserted.

FIG. 4 is a perspective view of the upper part of a carrier bag preform modified in accordance with one aspect of the invention.

FIG. 5 is a view similar to FIG. 2 showing the insertion of a handle into the modified bag of FIG. 4.

FIG. 6 is a view similar to FIG. 3 showing the top part of a completed carrier bag made from the preform of FIG. 4, and

FIG. 7 shows a different type of carrier bag, in a view similar to FIG. 4, and modified in accordance with an aspect of the invention, the bag being a gussetted bag.

FIG. 8 is a front view of a pair of cutting rolls with special cutting means added to modify the bag blank in accordance with the present invention, and

FIG. 9 is an end view of the rolls of FIG. 8.

FIG. 1 shows a known type of carrier bag preform having a satchel bottom portion **20**, manufactured by well-known means. The bag is provided with an overlapping seam **21** which is adhered in place, and the open end of the bag has a plain rim **22**. A narrow band **22'** adjacent the rim **22** is adapted to be folded inwards about a line **23**, and slits **24** are provided along part of this line on opposite sides of the bag for the insertion of carrier bag handles, as shown in FIG. 2.

The known type of handle shown in FIG. 2 has a U-shaped gripping portion **25**, the limbs of which are attached by means of staples **27** to a rectangular piece of stiff cardboard **26**.

The prior art method of inserting bag handles was done in the following manner. A first operator working at a conveyor line folds the bag inwardly about the line **23** to the form shown in FIG. 2. Then a second operator takes a handle with the cardboard section **26** coated with glue in one hand and, while holding the bag and lifting the band **22'** with the other hand to provide a space between the band **22'** and the body of the bag, slips the handle in the direction of the arrow under the inwardly turned band **22** forming the rim of the bag. The finished bag appears as in FIG. 3 with the carrier portion **25** of the handle protruding through slit **24** in the bag.

In accordance with the present invention, the narrow band **22'** at the top of the bag preform is cut away at shown at **30** in FIG. 4 to form two long tabs **28** with the slits **24** on fold line **23** at the mid-point of the tabs **28**. It has been found that a preform of this kind can be folded simultaneously with insertion of the handle as indicated in FIG. 5. The operator folds one of the tabs **28** inwards with one hand and slips the carrier handle through the slot **24** with the other hand and then turns the bag over to repeat the process with the other handle. A considerable saving in time and/or economy is thus effected. The finished bag appears as in FIG. 6. Naturally, if desired, the tabs **28** can be folded outside instead of inside the bag.

The slitting of the top edges of the bag down to the line **23** to form the slightly tapered tabs **28** can readily be effected in the manufacture of the preforms.

For example, FIGS. 8 and 9 showm a modification of the rolls forming the crease line **23** and slot **24** to permit cutting the top corners of the bag. There is shown a pair of rolls **100** and **101**, the roll **100** being provided with a creasing blade **102** and knife **103** for forming respectively the fold line **23** and slit **24** in a bag of the type of FIG. 1. The roll **101** is provided with a groove **111** to receive the creasing blade and knife. At the ends of the creasing blade are a pair of U-shaped dies or knives **104**, which, as shown, extend from mounting plates **105** which are recessed in the roll **100**. Matching mounting plates **106** are provided in the roll **100** and contain grooves adapted to receive the knives **104**. The mounting plates **105** have recesses **107** adapted to receive spikes **108** extending from the mounting plates **106**. The purpose of the spikes **108** is to pierce and carry the corner portions which the cut off by the knives **104**. A pair of stripping plates **109** are maintained in engagement with the periphery of roll **101**, each having a groove **110** through which the spikes **108** pass as the roll **101** rotates. The stripping plates strip the cut corners from the spike **108**. The mountings **106** are in the form of suitably hardened dead plates.

The method of the present invention may also be practiced with gussetted bags when these bags are clipped as shown at **31** in FIG. 7 to divide the band **22'** into a pair of tabs **28** and a second pair of tabs **29**. The tabs **28** will be folded and the handles inserted through the slits **24** in the same manner as described above with respect to FIGS. 4 and 5 while the tabs **29** must also be folded but in a separate operation either before or after the insertion of the handles. Applying the present method to gussetted bags simplifies the manufacure of these bags even more so than it simplified the manufacture of bags of the type shown in FIG. 1 or 4.

I claim:

1. A method of forming a handled bag comprising: forming a bag with a narrow band at the open end thereof, including cutting said band to form two discrete tabs joined to the open end of the bag along fold lines and slitting to form slits extending part way along said fold

lines adjacent the mid-point of said tabs, and applying handles to said bag by folding one of said tabs toward one side wall of said bag while simultaneously slipping a handle having a hand gripping portion between said one tab and said one wall into a position where said hand gripping portion extends through one of said slits and securing said handle in position between said one tab and said one wall and then folding the other of said tabs toward another wall of said bag while simultaneously slipping a second handle having a hand gripping portion between said another wall and said other tab into a position where said hand gripping portion of said second handle extends through the other of said slits and securing said second handle between said another wall and said other tab.

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UNITED STATES PATENTS

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BERNARD STICKNEY, *Primary Examiner.*