

[54] BAGS

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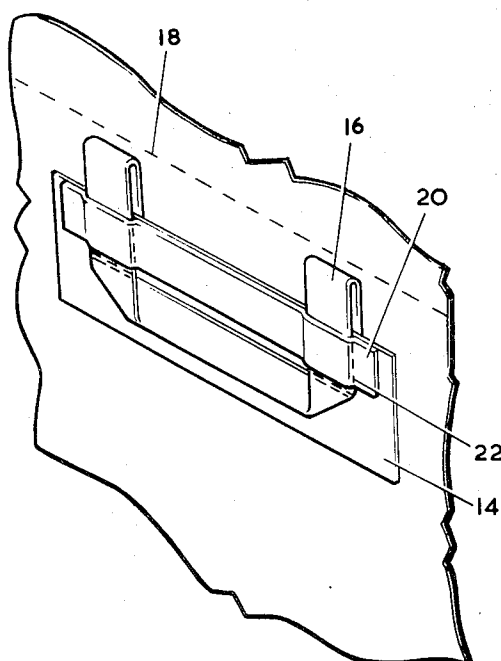
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[57] ABSTRACT

A method of making a plurality of carrier bags from a length of bag-making material including the steps of providing on the material at least one carrier handle for each bag in a position transverse to the longitudinal axis of the material, and cutting the material into predetermined lengths along lines adjacent to the handles, characterized in that prior to the cutting step each handle is folded back on itself away from the cutting line adjacent it, and releasably held in the folded-over position by means of strips weakly bonded across the folded over handles, or glue spots or inserts of malleable metal provided across the fold-lines.

9 Claims, 5 Drawing Figures



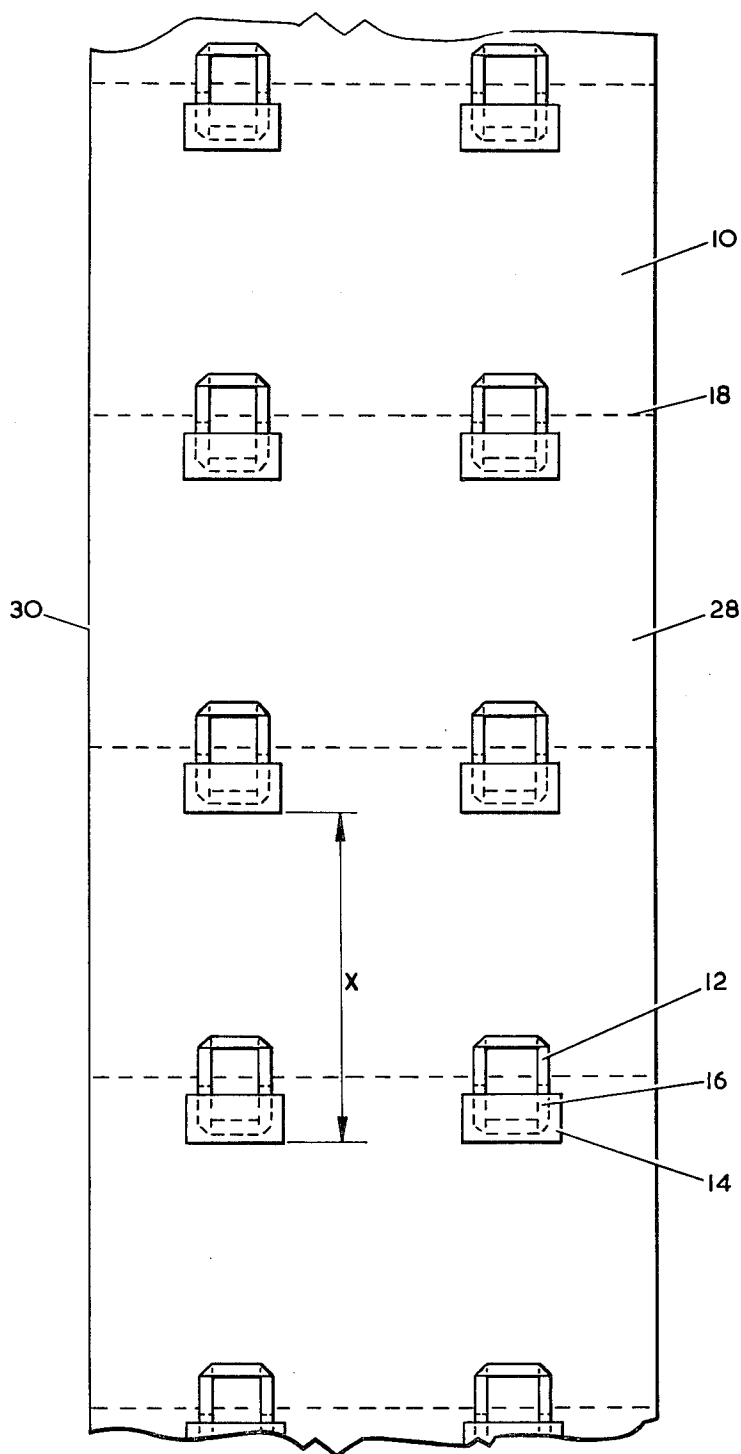


Fig 1

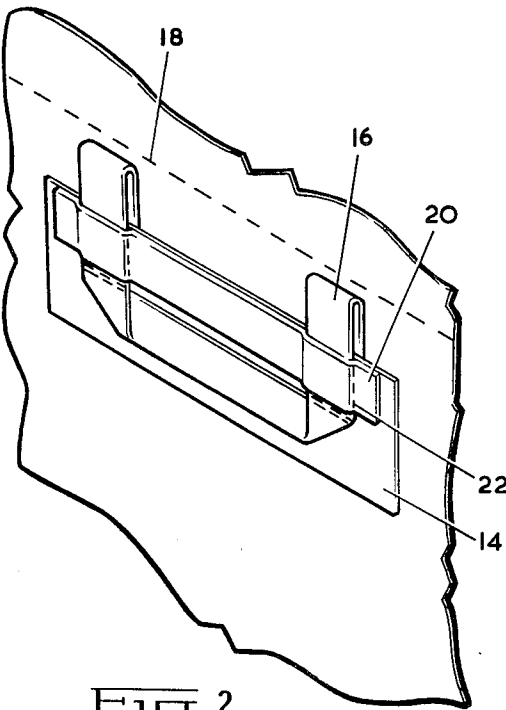


Fig 2

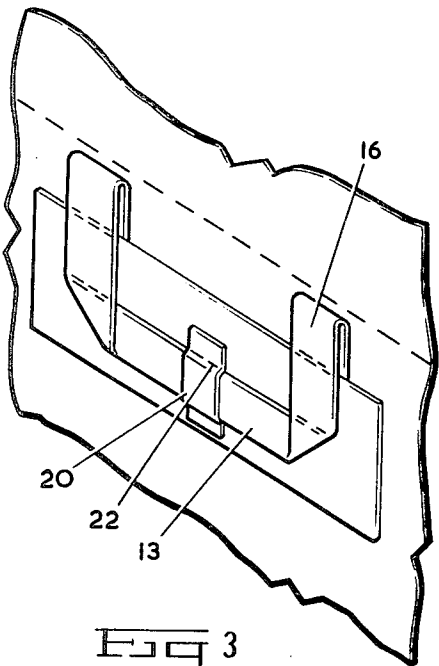


Fig 3

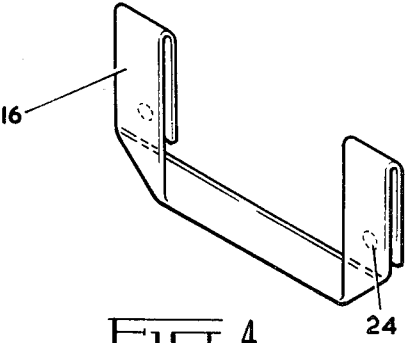


Fig 4

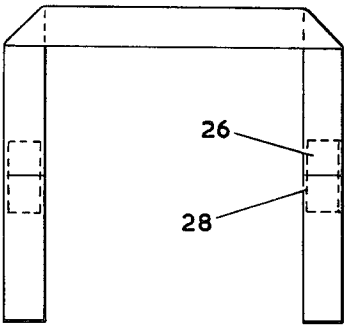


Fig 5

## BAGS

This invention relates to bags and to a method of making bags. It has particular application to carrier bags of the type supplied at shops for providing convenient carrying means for goods purchased by customers at the shop. Such bags include flat bags, satchell type bags, or generally any bags made in a continuous process from a length of material.

The manufacture of such bags, whether of paper or plastics material, generally includes the steps of forming a tube of the material from which the bag is made and cutting it into predetermined lengths. If the bag is to be provided with handles it is advantageous from the point of view of costs to secure the handles during manufacture to the bag prior to the cutting-to-length operation. However, a particular problem associated with this method is that the handles project out of what in use is the upper end of the bag and consequently, during manufacture, across the line of cut. Steps must thus be taken to prevent the handle being cut off. One way of achieving this is to provide that the cutters avoid cutting the tube in the vicinity of the handles. This is an expensive and delicate operation. The other way of solving the problem is of course, to put the handles on to the bags after the tubes are cut to length. Because of the difficulties encountered in the first mentioned method, the second method is the method most usually resorted to. Whatever method is used, is expensive, and it is an object of the invention to provide a method of making carrier bags which substantially cuts down this expense.

According to the invention there is provided a method of making a plurality of carrier bags from a length of bag-making material including the steps of providing on the material at least one carrier handle for each bag in a position transverse to the longitudinal axis of the material, and cutting the material into predetermined lengths along lines adjacent to the handles, characterized in that prior to the cutting step each handle is folded back on itself away from the cutting line adjacent to it, and releasably held in the folded-over position.

The handles may be releasably held in the folded over position in a number of ways. For example, strips can be weakly bonded across the folded-over handles, the handles being sandwiched between the strips and the material. Alternatively, the strips can be bonded to the material across the folded-over handles and lines of weakness can be provided around a portion of the area of contact between the handles and the strips. The lines of weakness may comprise lines of perforations. The handles may also be held in the folded-over position by means of glue spots of a weak adhesive or strips of malleable material provided in the handles across the fold-lines.

The length of material may be of a suitable paper or plastics for making carrier bags. When the material is plastics, the length will generally be in the form of an extruded tube. In the case of paper, the length will generally be in the form of a web which is preferably formed into a tube prior to the cutting step.

Preferably, a pair of handles are provided for each bag. The handles of each pair are so spaced that on formation of the bag the handles are located on opposite sides thereof. The handles may comprise conventional

U-shaped handles, the limbs of the U being fixedly located to the bag-making material by means of a suitable adhesive or they may be integrally formed with the bag-making material.

Embodiments of the invention will now be described with reference to the accompanying drawings, in which :

FIG. 1 is a plan view of a length of bag-making material for use in making carrier bags, and,

FIGS. 2 and 5 are perspective views of a handle for a carrier bag illustrating four alternative methods of releasably holding the handle in a folded-over position,

Referring to the drawings, a plurality of carrier bags are made from a length of bag-making paper 10. The bags may be made using standard bag making apparatus and includes the steps of forming the length of material into a tubular form, cutting the material into predetermined lengths and then making a bottom for the bag. The bags may be of the flat type or the satchell type, in the latter case gussets being formed in the sides of the bag.

The carrier bags are provided with handles on opposite sides thereof and these handles are located on the bags in the following manner. Pairs of handles 12 are fixedly located on the bag-making paper prior to to the tubing step. The distance X between each pair of handles 12 corresponds with the length of the bags to be made. The handles may be fixedly located in position by bonding strips 14 across the limbs 16 of each handle. For bonding purposes an adhesive such as PVC adhesive or hot melt glue may be used. A portion of the limbs 16 of each handle is thus sandwiched between the strips 14 and the paper 10. The length of paper is then tubed by standard apparatus and cut into lengths along the lines 18.

It will be noted that the handles 12 project across the lines 18 and in order to avoid the handles being cut-off during the cutting operation the handles are folded back on themselves (illustrated by dotted lines in FIG. 1) and releasably held in the folded-over position. The holding of the handles in the folded-over position may be achieved by a number of methods illustrated by FIGS. 2 to 5.

Referring to FIG. 2, a strip 20 is weakly bonded across the folded-over handle 12 and the strip 14 using a weak adhesive such as a diluted gum adhesive or a flour paste.

The handle 12 in this position is in no way affected by the cutting operation along the line 18.

To use the handle when the bag is made, it is a simple matter to rupture the bond between the two strips 20 and 14 and thereby enable the handle to project across the line 18 (which ultimately forms the mouth of the bag).

Referring to FIG. 3, the strip 20 is weakly bonded across the portion 13 of the handle instead of across the limbs 16 as is the case with the method illustrated by FIG. 2. In all other respects of the method is the same.

In both the methods illustrated by FIGS. 2 and 3, it is possible to bond the strips 20 in position and provide a line of perforations 22 to facilitate tearing the handle from the folded-over position.

Referring to FIG. 4, glue spots 24 of a weak adhesive are provided on the limbs 16 of the handle. When the handle is folded on itself, the glue spots releasably hold

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it in this position. Rupture of the bond formed by the glue spots is relatively easy.

Referring to FIG. 5, inserts 26 of a malleable material such as a metal may be provided in the limbs 16 of the handle in a position across the fold-line 28 of the folded-over handle. The malleability of inserts 26 holds the handle in the folded-over position while allowing the handle to be bent back to its original position, when desired.

As mentioned, the steps in manufacturing the bags are standard save for the step of protecting the located handles. The length of paper 10 is generally first tubed by glueing or otherwise securing the opposed edges 28, 30 together and then effecting the cutting operation. Once each bag has been cut to size, a bottom is formed on the end remote the handles by standard methods and the handle torn away from its folded over position to project out of the mouth of the bag.

A particular advantage to be gained by the method of the invention is that standard apparatus with a slight modification to provide means for folding the handles back on themselves can be used. The bags may thus be manufactured using a single apparatus and there is no necessity to provide manual labor to secure handles to the bags after manufacture thereof. A great saving in the costs of manufacture is achieved.

I claim:

1. A method of making a plurality of carrier bags from a length of bag-making material, comprising the steps of providing on the material at least one carrier handle for each bag in a position transverse to the longitudinal axis of the material adjacent a cutting line defining respectively the top and bottom edges of adjacent bags, folding each said carrier handle back on itself away from said cutting line, releasably securing

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each said carrier handle in the folded-over position, and subsequently cutting the material into predetermined lengths along the cutting line adjacent to the handles.

2. A method of claim 1 wherein a pair of handles is provided for each bag, the handles of each pair be so spaced from each other adjacent the same cutting line that on forming the bag the handles are on opposite sides of the bag.

3. A method of claim 2 wherein the handles are releasably held in the folded-over position by weakly bonding a strip across each folded-over handle, the handle being sandwiched between the strip and the bag-making material.

4. A method of claim 2 wherein the handles are releasably held in the folded-over position by bonding strips of material across the handles, the handles being sandwiched between the strips and the bag-making material, and providing lines of weakness around a portion of the area of contact between the strips and the handles.

5. A method according to claim 4 wherein the lines of weakness comprise lines of perforations.

6. A method of claim 2 wherein the handles are releasably held in the folded-over position by providing the handles with strips of malleable material across the fold-lines.

7. A method according to claim 6 in which the malleable material is a metal.

8. A method according to claim 2 wherein the handles are releasably held in the folded-over position by means of glue spots of a weak adhesive.

9. A method according to claim 2 wherein the handles are of U-shape, the limbs of the U being fixedly located to the material.

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