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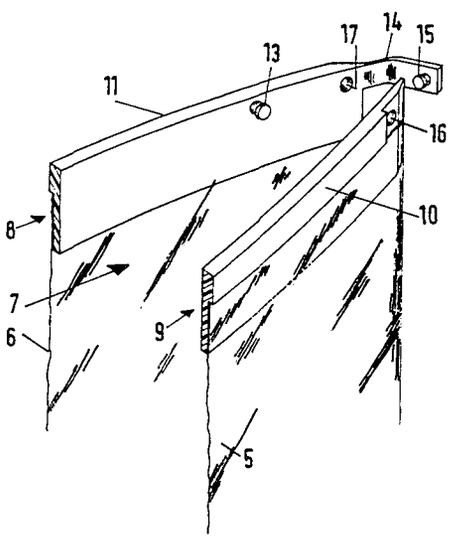
(54) Bag closure.

(57) A bag closure comprising two strips (10, 11) and a handle and/or hanger member, each strip being connected to an edge of a bag opening. For closing the bag opening the strips can be held together by snap closures, and the strip ends are interconnected by hinges in the form of relatively thin, flexible lips (14) co-extensive with the strips.



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Title:

Bag Closure.

This invention relates to a bag closure, and in particular to a bipartite bag closure, the parts of which each comprise a strip with a handle or hanger member, each strip being attached to an edge of a bag opening, and the strips having cooperating means, distributed along their lengths, for closing the bag opening by holding the strips together, and a hinge element being provided at opposite ends of the bag closure.

For properly closing a bag equipped with such a closure, it is necessary for the parts of the closure members, which are often press buttons, and generally snap closures, to become firmly inter-engaged. This means, however, that, to open the bag, the halves of the closure must be pulled apart with a considerable force, and it is then virtually inevitable that, at the place where the bag edges connected to the strips meet, such a force is exerted on the bag material as to tear it.

This drawback is generally recognized, and various proposals have therefore been made to avoid it. The most elegant of these appears to be to make the bag closure of integral construction, that is to say, to mould the bag closure in one piece to a so-called continuous handle in which the two strips are connected together at their ends. One disadvantage of this is that a relatively

expensive, tripartite die is required with a movable centre part. It is clear that this adversely affects the cost price of the bag closure.

According to another prior proposal (Dutch patent application No. 74,08683), the handle strip is made of singular construction with two score lines spaced apart a distance corresponding to the length of the bag opening, with the sum of the lengths projecting on opposite sides beyond the score lines also corresponding to the length of the bag opening. These projecting strip portions can be folded over towards each other about the score lines, and when the free ends are interconnected there is formed a bag closure with two strips fixedly interconnected at their ends, but one of which carries a coupling member e.g. halfway its length. Not only is this less elegant from an estetic point of view, but the die required for making such a bag closure is relatively expensive, and it is not an easy matter to make dimensional variations.

It is observed that virtually all of such bag closures are intended for plastics bags, which in most cases consist of two rectangular superimposed sheets interconnected at three of the four edges, with the bag opening and the closure strips being at the fourth edge. Partly depending on the method of making the bags, the closed edges are fold lines or heat-sealed seams.

In summary it may be stated, generally speaking, that singular bag closures are relatively expensive, and that bipartite closures involve the risk that the bag

material becomes torn during opening.

According to French patent 1,426,390, this drawback can be avoided by ensuring that the ends of the strips remain connected to each other as the bag closure is being pulled open, i.e. that the strips never become fully detached from each other. This is realized, according to the French patent, by providing the strips with closure elements not only in the central portion, but also at the ends, of which those at the strip ends remain coupled together under all circumstances and keep the end portions of the trips in surface-to-surface contact with each other.

The solution proposed in this French patent, however, introduces another problem. Owing to the fact that the ends of the strips remain flatly pressed together under all circumstances, it is not possible for the bag to the optimally opened. This is a disadvantage, in particular because bags provided with such a closure with a handle or hanger member are required, as a package, to enclose the article to be packed as closely as possible. If the article in question is more or less dimensionally stable, it will be impossible to remove it from the bag without destroying the package, in which case the precaution proposed in the French patent is meaningless.

A bipartite bag closure which does admit of being optimally opened is proposed in French patent 2,088,777, in which the closure strips are interconnected at their ends by a hinge element comprising a pin and a sleeve

rotatable about the pin. Making such a hinge by means of the injection-moulding process is rather a complicated procedure, while the hinges can hardly prevent the strips from becoming detached from each other when the closure has been pulled open.

It is an object of the present invention to provide a bag closure which combines the advantages of bipartite bag closures, i.e. cheap manufacture, with those of the singular or continuous closures described hereinbefore and bipartite closures with hinge elements, namely, the possibility of optimally opening a bag provided with such a closure.

For this purpose, according to the invention, a bipartite bag closure as defined in the opening paragraph of this specification is characterized in that each hinge element is a flexible lip formed on a strip end and adapted to be folded and to be secured to the juxtaposed end of the other strip.

The hinge element could be made as a loose element and be connected to both strip ends, but preferably the lip is formed as a prolongation of each strip end and carries a coupling member moiety at its free end, the other moiety of which is arranged on the corresponding end of the other strip. Such a flexible prolongation lip may be provided at its free end with a press button moiety, the other moiety of which is arranged on the opposite strip end. When the strips are placed in contact with each other

and the terminal press-button moieties are snapped together there is formed a continuous bag closure, the strip members of which can be pulled apart with great force without it being possible for the terminal press-button joints to become detached, because the forces exerted on the strip ends are taken up by the hinging lip.

Preferably, each lip connected to a strip end carries a press-button moiety, the other moiety of which is arranged on the side of the other strip end facing away from the strip end connected to the lip. Accordingly, in the coupled condition, the lip is folded over the strip end connerned, and when the two strips are pulled apart, the forces exerted on the hinge do not tend to open the press-button closure, but on the contrary force the one press-button moiety into the direction of the other press-button moiety, so that the terminal press buttons are effectively prevented from being opened.

Although each strip of the bag closure according to the invention may be provided on one end with a lip and at the other end with a press-button moiety, it is simpler, from the point of view of manufacturing technique, to provide one strip with a prolongation lip on both ends, and the other strip just with press-button moieties at both ends.

The prolongation lips may be made thin compared to the strip material, so that they are very flexible. It is thus ensured that the strips can be pressed flatly against each other by the co-operating closure members

virtually throughout their entire length. This is in particular of importance in case the package is a display package, and a packed article may be on display for a long period of time. With the bag closure according to the invention it is ensured that during such presentation in the shop the packed article cannot be soiled by the ingress of dust and the like.

One embodiment of the invention will now be described, by way of example, with reference to the accompanying drawings, in which

Fig. 1 is a plan view of the bag closure according to the invention in the opened condition;

Fig. 2 shows a perspective view of a detail of a bag equipped with the bag closure shown in Fig. 1; and

Fig. 3 is a side-elevational view of a bag with closure according to the invention.

Referring to the drawings, and in particular Fig. 3, a plastics bag 1, comprising two sheets 5 and 6 interconnected by side edges 2 and 3 and a bottom edge 4, has an opening 7 defined by edges 8 and 9, with which the bag is connected, by heat sealing or otherwise, two strips 10 and 11 forming part of a bipartite bag closure. At least one of the strips 10, 11 is equipped with a handle or hanger member 12. Snap closures, such as press buttons, are spaced uniformly over the length of the strips, of which Fig. 1 shows spigot moieties 13 on the

side of strip 11, and of which the corresponding socket moieties are provided in strip 12.

As shown by Figs. 1 and 2, hinge elements in the form of relatively thin, flexible lips 14 are formed at the ends of strip 11 which lips have a spigot press-button moiety 15, and socket press-button moieties in the form of holes 16 are formed in the ends of strip 10. Opposite to hole 16 in strip 10 another hole 17 may be provided in strip 11, which hole 17 can receive the head of press-button 15 which projects through hole 16 when the strip ends lie flat against each other. Fig. 1 clearly shows that the bag can be optimally opened without there being a risk of snap closures 15, 16 becoming detached, and hence of bag edges 2 and 3 being torn.

It is clear that various variants of the embodiment shown are possible without departing from the scope of the present invention. Thus lips 14 may be formed not both on one strip, but one on either, or alternatively loose hinge lips may be used, which are snap-fastened to both strips. It is also possible for press button 15 to engage with strips 10 from the inside.

CLAIMS:

1. A bipartite bag closure, the parts of which each comprise a strip with a handle or hanger member, each strip being attached to an edge of a bag opening, and the strips having cooperating means, distributed along their lengths, for closing the bag opening by holding the strips together, and a hinge element being provided at opposite ends of the bag closure, characterized in that each hinge element is a flexible lip formed on a strip end and adapted to be folded and to be secured to the juxtaposed end of the other strip.

2. A bag closure as claimed in claim 1, characterized in that said lip is formed as a prolongation of each strip end and carries a coupling member moiety at its free end, the other moiety of which is arranged on the corresponding end of the other strip.

3. A bag closure as claimed in claim 2, characterized in that each lip connected to a strip end carries a press-button moiety, the other moiety of which is arranged on the side of the other strip end facing away from the strip end connected to the lip.

4. A bag closure as claimed in any one of the preceding claims, characterized in that one of the strips is provided with a prolongation lip on both ends.

5. A bag or other package provided with a closure as claimed in any one of the preceding claims.

FIG. 1

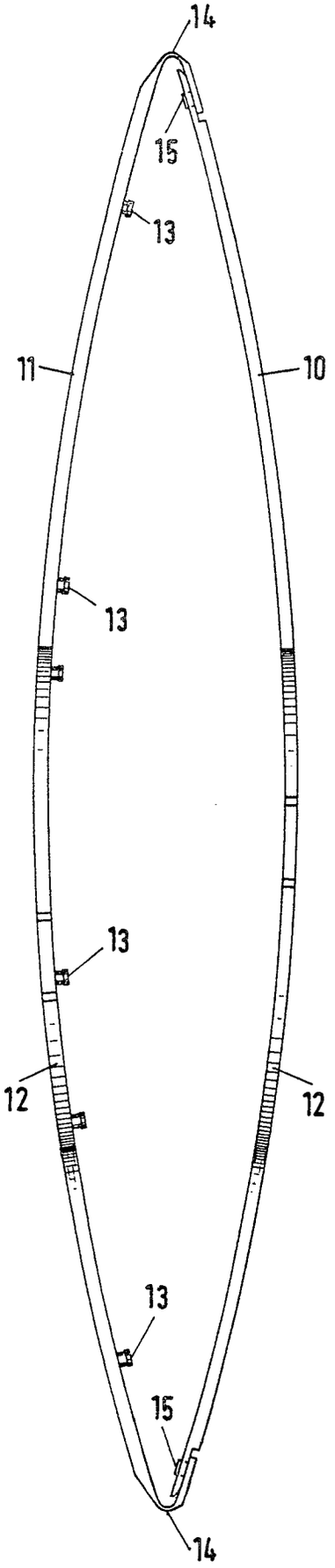


FIG. 2

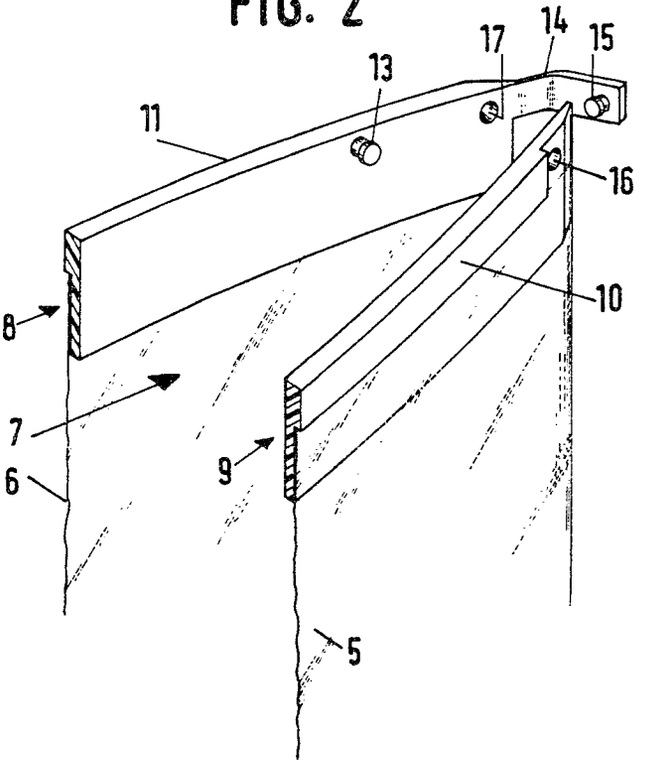
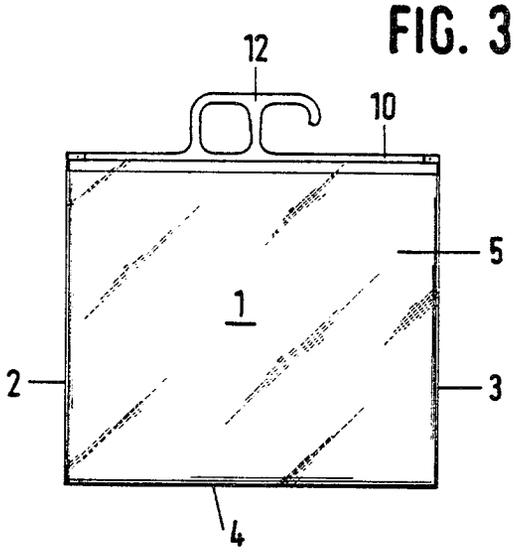


FIG. 3



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EUROPEAN SEARCH REPORT

0029270
Application number
EP 80 20 1067

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
D/A	FR - A - 2 088 777 (HUNI) * the whole document * --	1,5
	FR - A - 2 184 972 (SCHUILING) * the whole document * --	1,5
	GB - A - 1 291 776 (GRACE) * the whole document * --	1,5
	DE - A - 2 528 057 (SCHUILING) * the whole document * -------	1,2,4,5

CLASSIFICATION OF THE APPLICATION (Int. Cl.³)

B 65 D 33/16

TECHNICAL FIELDS SEARCHED (Int. Cl.³)

B 65 D

CATEGORY OF CITED DOCUMENTS

X: particularly relevant
A: technological background
O: non-written disclosure
P: intermediate document
T: theory or principle underlying the invention
E: conflicting application
D: document cited in the application
L: citation for other reasons

&: member of the same patent family, corresponding document

X The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	10-02-1981	VANTOMME

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