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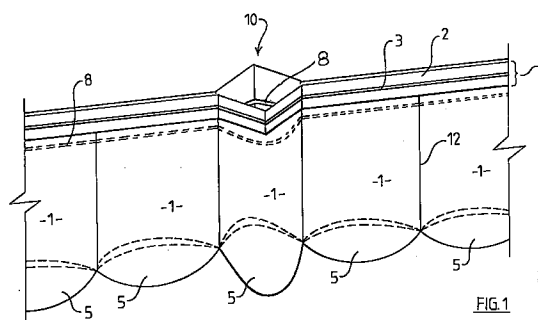
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(54) Method for filling a reclosable bag

(57) A method of filling a bag (1) of the type having a mouth end and a foot end is provided. The foot end is shaped to provide a substantially stable base (5) to allow the bag (1) to stand on a surface and has recloseable elements (8) adjacent the mouth to allow the bag to be opened and reclosed. The method comprises the steps of providing a string of bags (1) interconnected by elongated support members (3) adjacent said mouth or interconnected by the recloseable elements (8), opening the mouth of the bag (1), filling the bag (1), closing the bag (1), closing the recloseable elements (8), and separating the bags (1) into individual closed bags.



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Description

This invention relates to a method of filling a bag and/or a bag.

At present when filling a recloseable plastic bag having a stand up feature, that is to say a bag of the type with a base shaped so that the bag can stand when in its filled position such as, for example, the bags known as a duoy pack there are disadvantages. Because of the nature of the foot of the bag the bag must be filled through the mouth rather than by the more usual method of filling through the base of the bag before closing that base. At present there are two ways in which such bags can be filled. In the first method the bag or pouch is made in a completed fashion by providing a sheet material, forming this into a bag and putting a base such as the duoy in the base, connecting that bag to a load/fill machine and engaging recloseable elements to the bag. However in order to effect such a method it has been found that the techniques are relatively expensive and require a high degree of operator skill. This gives rise to issues of quality as if the operator skill level falls away a substantial number of defective bags can be formed.

In the second method a number of individual bags/pouches are formed and these are used on an individual pouch filling machine, the bags or pouches being supplied from a magazine of unfilled bags or pouches.

Again this is disadvantageous as the need to present individual bags to a filling station means that the capital cost of the machinery is high.

It is therefore an object of the present invention to provide a method of filling a bag and/or a bag which will obviate or minimise the foregoing disadvantages in a simple yet effective manner or which will at least provide the public with a useful choice.

Accordingly in one aspect the invention consists in a method of filling a bag of the type having a mouth end and a foot end, the foot end being shaped to provide a substantially stable base to allow the bag to stand on a surface and having recloseable elements adjacent the mouth to allow the bag to be opened and reclosed, said method comprising the steps of providing a string of bags interconnected by elongated support members adjacent said mouth or interconnected by the recloseable elements, opening the mouth of the bag, filling the bag, closing the bag, closing the recloseable elements, and separating the bags into individual closed bags.

Preferably said method further includes the step of heat sealing the mouth of the bag after filling and closing of the recloseable elements.

Preferably said support members are provided on a separate tape positioned adjacent the mouth of the bag and the method further includes the step of separating said tape from the remainder of the bag.

In a further aspect the invention may broadly be said to consist in a filled bag when filled by a method according to any one of the preceding paragraphs.

To those skilled in the art to which the invention relates, many changes in construction and widely differing embodiments and applications of the invention will suggest themselves without departing from the scope of the invention as defined in the appended claims. The disclosures and the description herein are purely illustrative and are not intended to be in any sense limiting.

One preferred form of the invention will now be described with reference to the accompanying drawings in which,

Figure 1 is a diagrammatic representation of the method of filling of the invention,

Figure 2 is a diagrammatic end elevation of a bag of the type to which the preferred forms of the invention relate, and

Figure 3 is a diagrammatic view as in figure 2 with the bag in the process of being filled.

Referring to the drawings a method of filling a bag and a filled bag are provided as follows.

A string of bags are provided so that bags 1 are interconnected and the interconnection may be by means of a tape 2 which is connected to the mouth end of the bag. The tape 2 is provided on each outer side surface of the bag and each tape carries an elongated support such as the support indicated at 3. This enables an interconnected chain of bags to be provided.

The bags have a stand up feature, that is to say the lower end of the bags 5 are shaped as necessary to provide a stable foot or base on which the bag can stand. The material from which the bag is made is also sufficiently rigid to allow the bag to stand up on its base. A particularly useful type of end for a plastic bag is that known by the name of duoy.

The bag also includes that its mouth end recloseable elements 8 which may comprise on one face a channel having a narrow mouth and on the other channel a rib having a bulbous head. These can extend from a narrow tape which is adhered to the inner surface of each face of the bag. Other methods of attaching the interconnection elements may be used such as the use of strips and direct attachment.

The supports 3 are held in suitable machinery so that the bags can be moved through a number of stations. It is possible to use the recloseable elements 8 for this purpose but in the preferred form a separate tape carrying ribs are provided as above described.

It is also desirable to provide a gas jet 14 so that a jet of gas, for example, air or a gas flushing gas, can be directed to the mouth 15 of the bag.

As the string of bags or chain of bags move through the apparatus the sides of the bag are forced apart substantially as shown at position 10 so that a spout 11 can be inserted into the bag and the bag filled. It is desirable that the spout 11 extend below the recloseable elements 8 so as to minimise splatter and any possibility of

contamination through, for example, food stuff remaining in the mouth of the bag exterior of the recloseable element 8.

The spout 11 is then withdrawn and the bags move on to enable the recloseable elements 8 to be engaged and if desired to allow for heat sealing of the mouth and removal of the tape 2 with the supports thereon.

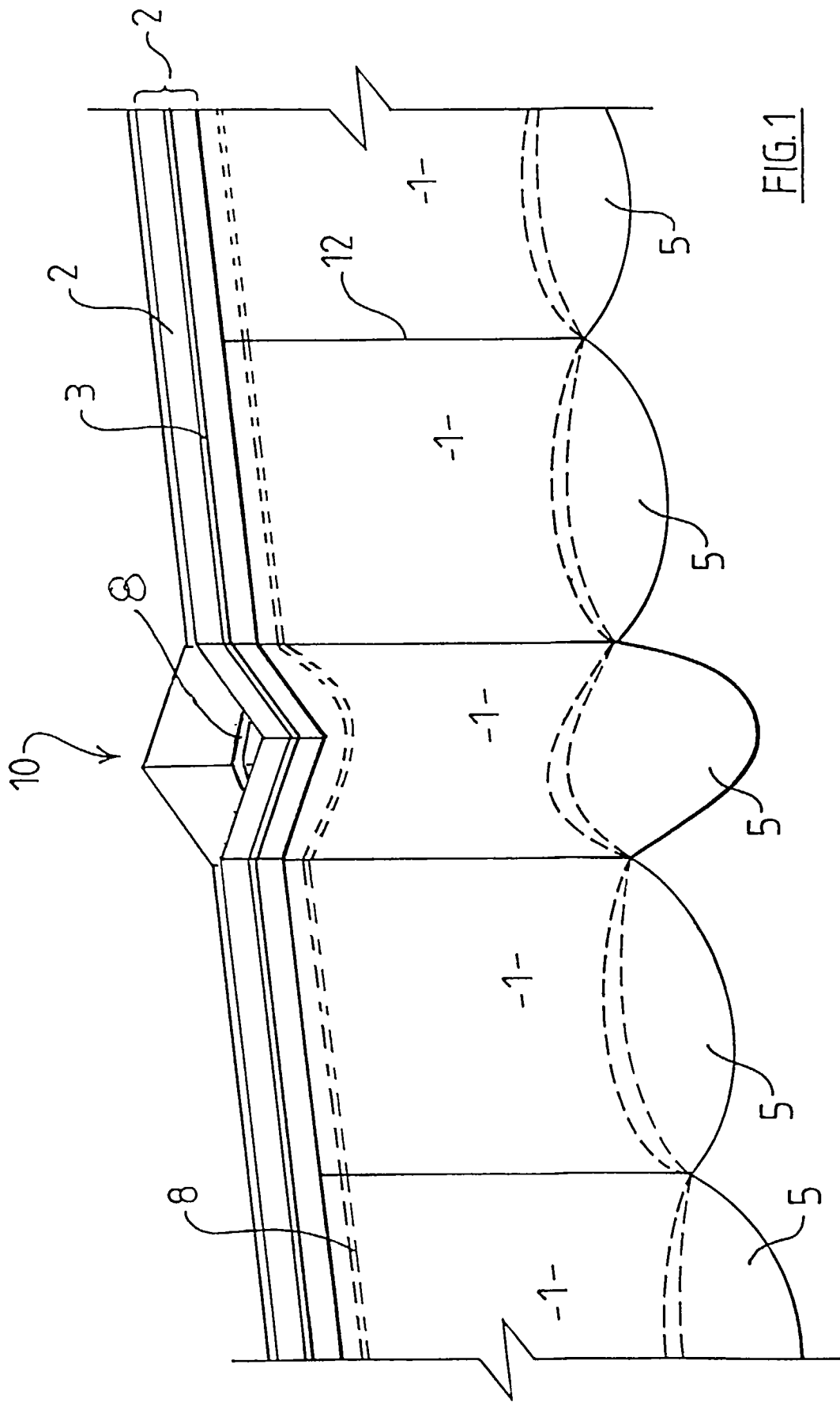
Where the gas jet 14 is provided this is activated prior to the spout 11 being inserted. The gas jet will force the recloseable elements into an open position and also inflate the bag. Where a gas flushing gas is used the interior of the bag will also be gas flushed.

The bags, once the tape 2 has been removed, become individual bags or if the recloseable elements 8 are used for support then of course the slits such as 12 between the bags can be extended to the mouth extremity to sever each bag from its neighbour.

Thus it can be seen that at least in the preferred form of the invention a method of filling a bag of the type having a mouth end and a foot end, the foot end providing a stable base for the bag to stand on and/or a filled bag of that type are provided which has the advantage that the filling operation, by making use of a chain of bags, is able to use simple and effective machinery for the purpose. The bags can be satisfactorily closed in a suitable manner and are expected to be effective in use.

Claims

1. A method of filling a bag of the type having a mouth end and a foot end, the foot end being shaped to provide a substantially stable base to allow the bag to stand on a surface and having recloseable elements adjacent the mouth to allow the bag to be opened and reclosed, said method comprising the steps of providing a string of bags interconnected by elongated support members adjacent said mouth or interconnected by the recloseable elements, opening the mouth of the bag, filling the bag, closing the bag, closing the recloseable elements, and separating the bags into individual closed bags.
2. A method as claimed in claim 1 wherein the method further includes the step of heat sealing the mouth of the bag after filling and closing of the recloseable elements.
3. A method as claimed in either claim 1 or claim 2 wherein the support members are provided on a separate tape positioned adjacent the mouth of the bag and the method further includes the step of separating said tape from the remainder of the bag after the step of filling the bag.
4. A method as claimed in any one of the preceding claims further including the step of directing a jet of gas at the mouth of the bag to open the recloseable elements and inflate the bag prior to filling thereof.
5. A method substantially as herein described with reference to the accompanying drawings.
6. A filled bag when filled by a method according to any one of the preceding claims.
7. A filled bag as claimed in claim 5 substantially as herein described with reference to the accompanying drawings.



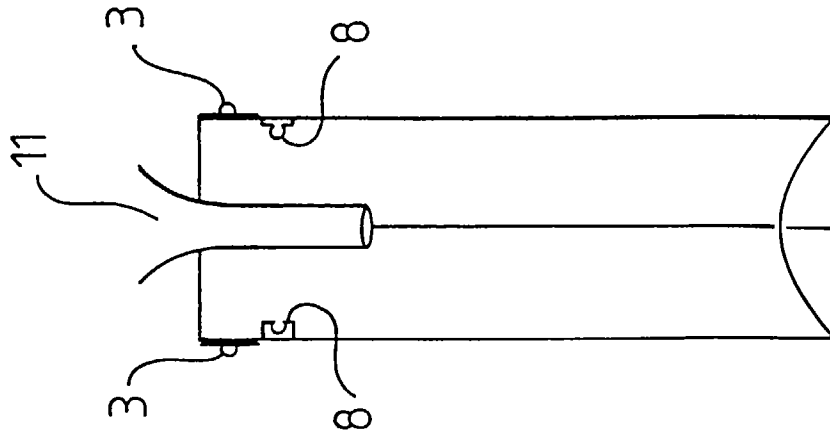


FIG. 3

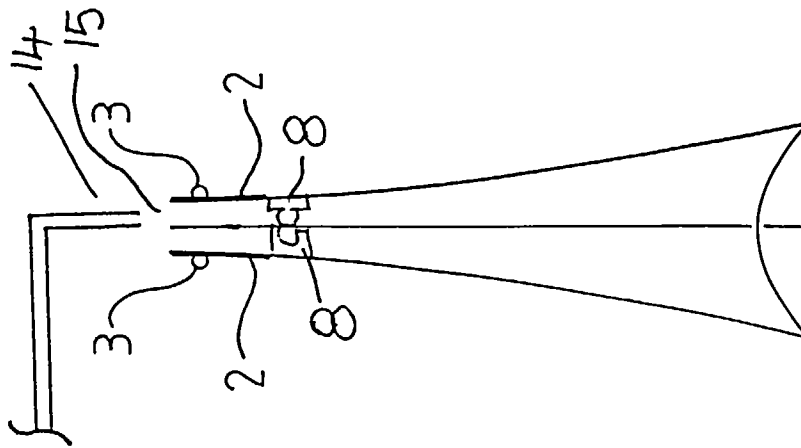


FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 96 30 9230

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 205 852 A (MINIGRIP EUROPE)	1,3,6	B65B43/12
Y	* column 5, line 15 - column 6, line 44; figures *	2,4	B65B61/18
	---		B65D33/25
X	EP 0 266 438 A (MINIGRIP EUROPE)	1,3,6	
	* column 3, line 45 - column 4, line 28 *		
	* column 6, line 1 - line 37; figures 1,5,7 *		

Y	EP 0 516 393 A (KRAFT GENERAL FOODS)	2	
	* column 3, line 49 - column 8, line 15; figures *		

Y	DE 38 39 336 A (NEW PAC SYSTEMS)	4	
	* column 3, line 61 - column 4, line 15; figures *		

A	US 4 945 714 A (W. BODOLAY)		

A	US 4 522 017 A (R. SCHEFFERS)		

A	FR 2 533 892 A (FLEXICO FRANCE)		

			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65B B65D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		4 April 1997	Jagusiak, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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