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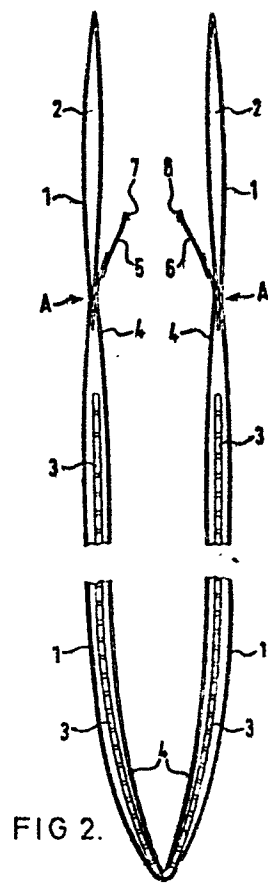
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⑤④ **Insulated carrier bag.**

⑤⑦ An insulated carrier bag comprises an outer bag of plastic film (1) including integral handle apertures bonded to an inner bag (4) of plastic film along top edges thereof below the handle apertures so as to enclose therebetween an insulating material (3) and further comprising an opposed pair of upstanding flanges (5, 6) of plastic film inside the outer bag and bonded to or integral with the inner bag (4), the pair of flanges (5) and (6) including a linear, resilient closure, e.g. a rib and groove (7, 8) adapted to interlock.



Insulated Carrier Bag

5 The present invention relates to carrier bags constructed of thermoplastic film and having an insulating interlining, particularly for the transport of chilled or frozen foodstuffs.

10 A variety of carrier bags are known and proposed in which two layers of thermoplastic film are used to encase a third layer of insulating material. Although elaborate constructions can be devised in which the bag is a three-dimensional structure with gussets and side walls, it is difficult to obtain a simple flat two-dimensional bag which can accommodate a large volume of frozen food, but can at the same time remain sealed. By a two-dimensional bag is meant a bag in which front and back faces are joined at the side and bottom edges without an intervening side wall or bottom panel. Bags of this type are obviously very much cheaper and easier to construct as they can be produced by simple welding of superimposed folded thermoplastic film. Many shopping carriers are constructed on this principle.

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It has now been found that a particular construction of bag having a closure of a type known as such, but mounted in a particular way, can be simply formed, can be packed flat, but can accommodate bulky food packages while remaining sealed.

According to the present invention there is provided an insulated carrier bag comprising an outer bag of plastic film including integral handle apertures the outer bag being bonded to an inner bag of plastic film along top edges thereof below the handle apertures so as to enclose therebetween an insulating material and further comprising an upstanding flange of plastic film inside the outer bag along each of the said top edges and bonded to, or integral with, the inner bag, the flanges being a pair of opposed flanges including a linear resilient closure.

Both the inner and outer bags can be formed of conventional thermoplastic film used for shopping carriers, typically a polyalkylene film such as polyethylene or polypropylene. The film may be transparent or opaque, although it is particularly preferred that the inner bag is transparent and the outer bag is opaque or metallised.

The bags may be constructed in the usual manner by superimposing sheets or tubes of film folded in the required arrangement and then cutting and welding to produce the appropriate bag edges. In a particularly preferred embodiment, the outer bag has top edges formed by a folded down portion of film; bottom edges formed by a simple fold or crease in the film and side edges formed by welding. The integral handle apertures are conveniently stamped at the top of the outer bag, conveniently in the area of double film provided by the folded down portion.

The inner bag is bonded to the outer bag along its top edges. Conveniently it is free elsewhere, but may be bonded along the side edges if required.

The insulating material lying between the two bags is conveniently a sheet material, especially a "bubble film" type of material comprising two layers of film bonded together and trapping firmly inflated film in a regular array. In a preferred construction, the insulating material is also bonded along the top edges of the inner bag and is free elsewhere.

A particularly important aspect of the bag according to this invention lies in the particular mounting of the closure. Each internal surface of the outer bag, at

about the line of bonding with the inner bag, is provided with an upstanding flange of plastic film, so that when the bag is flat, the two upstanding flanges form an opposed and superimposed pair. At a distance from the bond line and parallel therewith, the flanges of plastic film are provided with complementary parts of a linear resilient closure. A preferred type of closure comprises a rib and a groove which are adapted to interlock when pressed together. This type of closure is known as a Minigrip closure (registered Trademark). Other types include simple sliding clasp fasteners.

By placing the rib and groove on an upstanding flange between the handles of the outer bag, the seal can remain closed even when a relatively heavy load is placed in the bag. When required, the closure can be opened by simply peeling apart the pair of flanges. In a particularly preferred embodiment, the upstanding flanges are integrally formed with the inner bag.

A preferred embodiment of the bag according to the present invention will now be described with reference to the accompanying drawings in which

Figure 1 is a general view of the bag and

Figure 2 represents a section along AA in Figure 1.

An outer bag 1 is formed from a sheet of opaque metallised polyalkylene film folded in half lengthways and with the edges turned in to produce an area of overlap 2. Inside the outer film is disposed a folded layer of bubble film 3. Inside this is disposed a polyalkylene film 4 also folded in half lengthways and bearing on its margins attached strips of heavier gauge polyalkylene 5 and 6 bearing embossed rib and groove 7 and 8 parallel to the edges.

In a welding process all the layers are bonded together in the vicinity of point A so that bags of the appropriate width are provided by cutting the film transversely at appropriate intervals and welding the edges, at least of the outer bag. Carrying handles can be stamped in the overlap portion 2 of the outer film 1.

In order to close the bag the upstanding flange portions 5 & 6 of the inner bag are pressed together so that the rib and grooves 7 and 8 interlock. To open the bag the top edges of the inner bag are simply peeled apart. Alternatively, the ribbed and grooved flanges 5 and 6 may also be provided with a sliding clasp arranged to draw the two sides together into a locked configuration when pulled along the rib and groove 7 and 8.

Claims:-

1. An insulated carrier bag comprising an outer bag of plastic film including integral handle apertures the outer bag being bonded to an inner bag of plastic film along top edges thereof below the handle apertures so as to enclose therebetween an insulating material and further comprising an upstanding flange of plastic film inside the outer bag along each of the said top edges and bonded to, or integral with, the inner bag, the flanges being a pair of opposed flanges including a linear resilient closure.
2. A carrier bag according to claim 1 in which the upstanding flanges include a closure comprising a rib and groove adapted to interlock.
3. A bag according to claim 1 or claim 2 in which the insulating material is a bubble film type of construction.

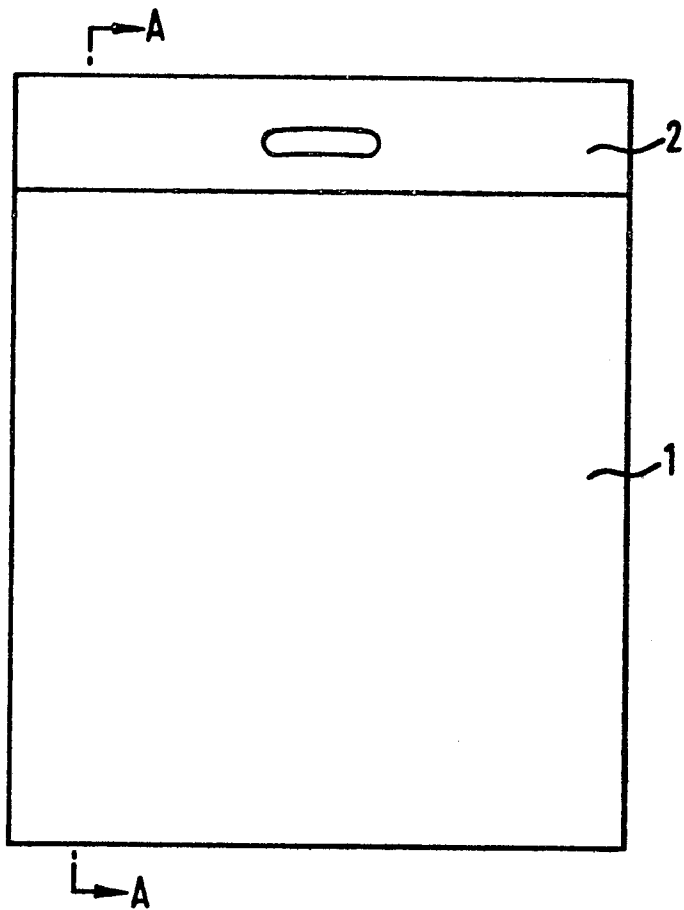


FIG. 1.

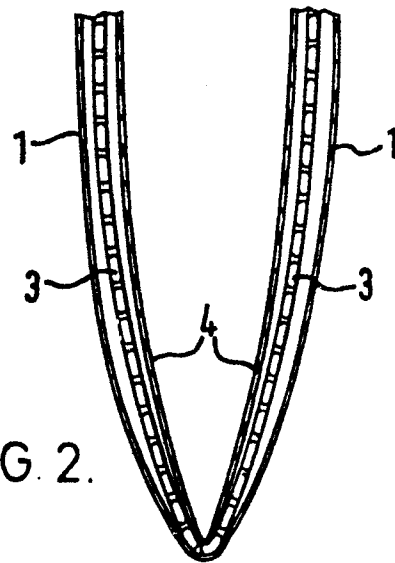
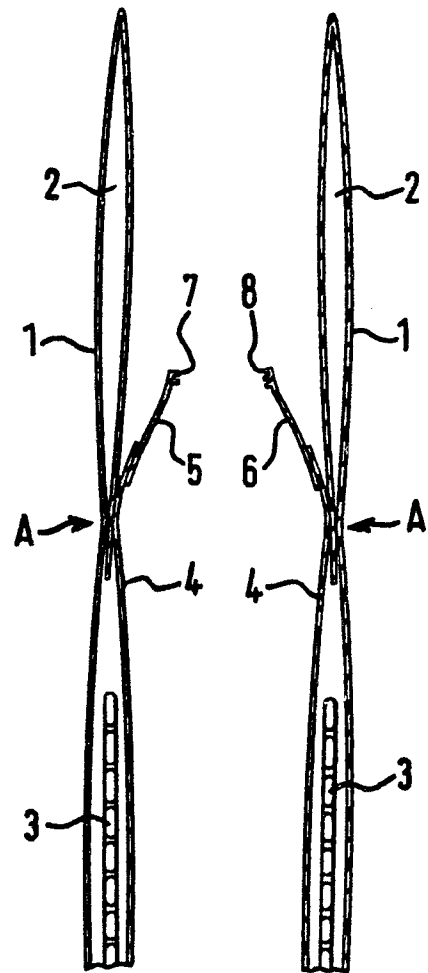


FIG. 2.