Nov. 29, 1960 A. A. MEISTER 2,962,157

BAG CONSTRUCTION

Filed Dec. 31, 1956

Fig. 1

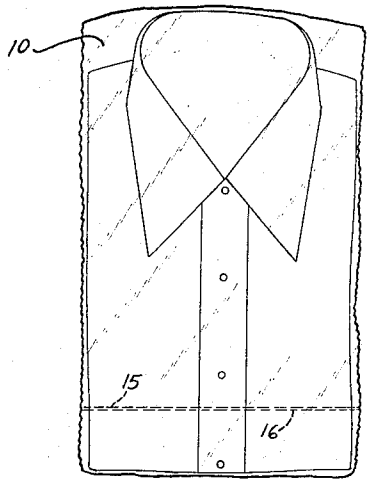


Fig. 2

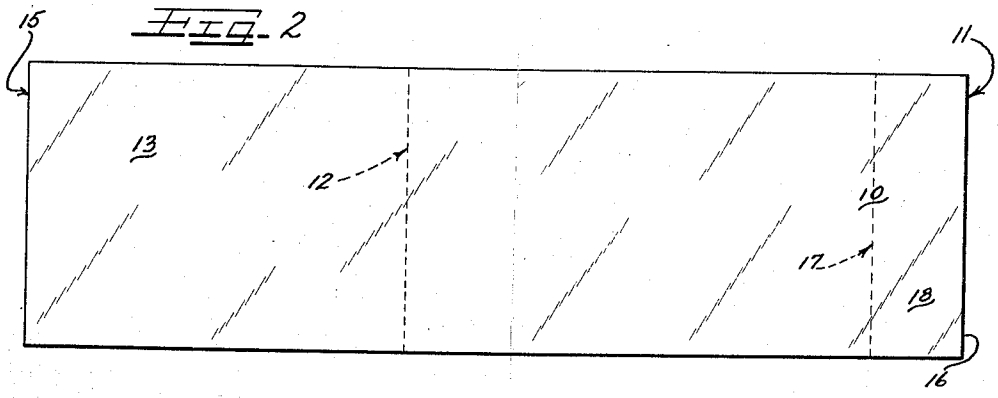


Fig. 3

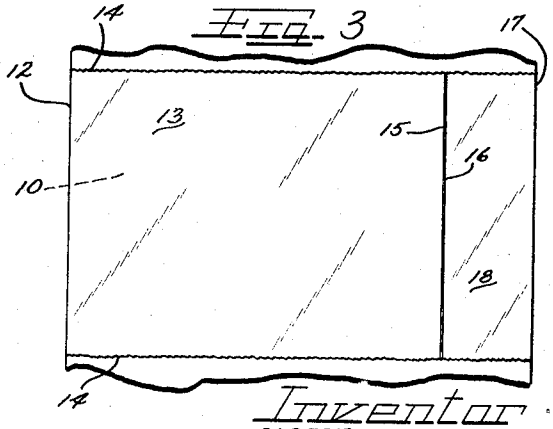
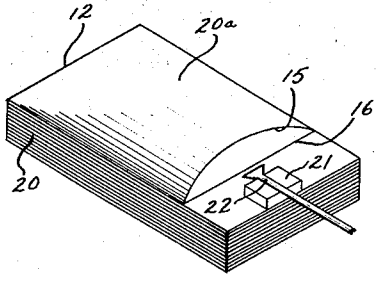


Fig. 4



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BAG CONSTRUCTION

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1 Claim. (Cl. 206—46)

This invention relates to a construction of a bag. Today, many types of goods are packaged in disposable bags for display, shipment, or storage. Where bags are used, there is the added expense of a bag, but this is offset by the improvment in merchandising, and in a reduction in soilage. In addition to the price of the bag, the user is also faced with the expense of the labor of inserting the goods into the bag. When the price paid by the ultimate consumer for the goods or service is low, the packaging expense becomes proportionately quite a factor.

Thus, in a high volume operation, a fractional part of a cent may well determine the difference between commercial success and commercial failure of a particular venture. A fractional part of a cent is typically a substantial percentage of the cost of packaging certain goods.

The instant invention provides a construction for a bag which is extremely simple and, therefore, one which has a low manufacturing cost and low selling price. Still more important, however, is the fact that a novel construction has been provided which enables the packer to substantially reduce the labor cost per package.

Very briefly, this bag construction typically may consist of a pair of sheets joined together at all of their outer edges, one of the sheets having a transverse slit extending across such sheet to define a first pocket adjacent one end of the bag and a second pocket adjacent the opposite end of the bag.

Accordingly, it is an object of this invention to provide an extremely simple bag construction.

Another object of this invention is to provide a bag construction which requires a very small amount of labor to be filled and in closing thereof.

A further object is to provide a bag which may be used with goods of various kinds in order to enhance them, thereby serving as an aid to merchandising.

Another object is to provide a bag which may be manufactured readily on presently available automatic machinery.

Still another object is the provision of a bag which will not require any type of auxiliary sealing means such as tape, staples, or other fasteners.

Other presently available bags also have an end pocket, but their use requires the added labor of turning such pocket inside out. Thus a still further object of the present invention is to provide a bag which may be used without a labor expenditure for turning pockets inside out.

Other objects, features and advantages of this invention will be apparent from the following detailed description of the attached sheet of drawings, which by way of a preferred embodiment illustrates the invention.

On the drawings:

Figure 1 illustrates a shirt packaged in a bag corresponding to this invention;

Figures 2 and 3 diagrammatically illustrate how one form of this invention may be manufactured; and

Figure 4 illustrates how the bag of Figure 3 may be filled.

As shown on the drawings:

Referring to Figure 1, there is shown a schematic presentation of a shirt in a bag constructed in accordance with this invention. This shirt may have been placed in such a bag by its manufacturer or by a laundry. As such it is ready for shipping, handling, or storage without danger of soilage. In this figure, only the front, first wall or panel **10** of the bag is visible.

Referring to Figures 2 and 3, there is illustrated a form of this invention constructed from a unitary sheet. The unitary sheet, generally indicated at **11**, is illustrated as being folded adjacent to one end as at **12** to define a quadrilateral first wall **10** and a quadrilateral second wall **13**. Walls or panels **10** and **13** may be joined together by a heat seal **14** as illustrated in Figure 3, particularly when the unitary sheet is made of polyethylene or other heat sealable materials. While this material is particularly advantageous, it is not intended to limit this invention to such material. Any other material having the necessary qualities as stretchiness, sufficiently low cost, imprintability, sealability, and the like may be used in place thereof.

It will be noted that wall or panel **10** is somewhat longer than wall or panel **13**. Panel **13** has a free edge **15** while panel **10** has a free edge **16**. It will be noted that edges **15** and **16** extend transversely of their lengths from side to side of the bag. While in the form illustrated, the free edges **15** and **16** have been shown as being at right angles to the edges of sheet **11**, and also as each comprising straight edges, such design of free edges is not a necessary feature but merely a desirable one. Thus free edges **15** and **16** may have any configuration and do not necessarily have to be at right angles to the seals **14**. However, the two edges have configurations which correspond with each other so that a transverse slit or opening is defined, and which does not have any portion of one edge overlapping any portion of the other edge.

Referring to Figure 2, it will be noted that panel **10** is folded at **17**, the folded portion **18** being directed over the non-folded portion of the same panel, the fold **17** running transversely and lying at a point beyond the free edge **15** (Fig. 3), thus insuring that the folded portion is so directed that free edge **16** is directed toward free edge **15** to overlie solely a portion of panel **10** and not to overlie any portion of panel **13**.

It will be noted that the folded portion **18** of panel **10** also has its side edges secured to the edges of the overlaid portion of panel **10** by the seals **14**.

While Figure 2 illustrates a bag made from a unitary sheet, the bag may also be constructed from two or three sheets, folds **12** and **17** in Figure 3 then being linear seals, such as heat seals. Thus it may be desirable to construct panel **10** from one sheet and panel **13** from a second sheet, so that one of said sheets can be imprinted with appropriate matter.

Figure 3 illustrates the bag as being constructed from a continuous strip of material, whose edges **15** and **16** have been folded inwardly. It is also possible to construct this bag from sheeting which is running lengthwise rather than transversely to the longer dimension of the bag as illustrated.

It has already been mentioned that free edges **15** and **16** do not overlap each other. This is very important. Thus they may be brought up to each other so as to touch each other, but at no time do they overlap. Conversely, the width of the slit or gap between the edges

may be widened. Thus a structure is produced which at no point has more than two thicknesses of material.

When the bag is filled, as shown in Figure 1, there will be no more than one thickness of bag material at any point between the outside and the contents. Thus an economy in use of material is attained.

Referring to Figure 4, there is shown a stack of bags **20** which are lightly held down by a block **21**. The uppermost bag **20***a* is subjected to a stream of air coming from a source or nozzle **22** which air stream is directed toward the narrow slit between free edges **15** and **16**. It can be seen that the air causes the bag to billow outwardly, exposing a rather large mouth through which the contents may be inserted. The contents may thus be inserted up to the fold or seal **12** and will extend slightly to the right of free edge **16**. The bag **20***a* and its contents may now be removed from the stack of bags, and free edge **16** may then be brought around and over the projecting portion of the goods. Since polyethylene it stretchy, it can be seen that at this point, the stretching property is particularly advantageous. Of course, edge **16** may be brought around the goods before block **21** is released, assuming that block **21** is so shaped and directed as to permit adequate freedom of motion, e.g. a pair of fingers acting only at the corners. Also, the bag's contents may be inserted by hand, or through a funnel shaped or shovel loading device.

Thus it will be noted that a bag construction has been provided which is closed along its entire outer edge and the only opening is in a slit, which in this particular illustration happens to be about three inches from one end of the bag.

It may also be desirable to place a second slit, such as defined by free edges **15** and **16**, adjacent to fold or seam **12**. If this be done, it will not be necessary when using the bag with a loading fixture to keep the bags all oriented in one direction.

While a shirt has been used as an example in this description, any garment, textile product, laundered product, or in fact any object of a similar nature could be packaged in this fashion.

The pocket defined by portion **18** need not be reversed as is the case of certain prior art bags; on the other hand, it need merely be pulled over the bottom end of the contents which extends to a point to the right of the slit as drawn. Once the edge is pulled over the end of the contents, the contents cannot fall out of the bag. Thus it will be noted that a structure has been provided which does not rely on the use of tape, staples, or any other fasteners. Thus the labor of folding down, of sealing, of turning something inside out, and the like which are quite prevalent in industry, is thereby avoided for a cost saving. It will also be noted that the corners automatically fall smoothly into place and it is not necessary, after drawing free edge **16** around the contents, to straighten out corners or the like to get a neatly appearing package.

It is also apparent that while a rectangular form has been illustrated, these principles may be utilized in square forms, other four-sided or other shaped forms of bag.

It will also be seen that panel **13** and folded portion **18** may be considered as being a rear wall or panel having a transverse slit. From the nature of this invention, such rear wall and the front wall should be congruent.

It will be understood that numerous further modifications and variations may be effected without departing from the scope of the present invention, that it is understood that this application is to be limited only by the scope of the appended claim.

I claim as my invention:

A flexible quadrilateral bag receiving a deformable non-breakable article of substantially the same length as the interior length of the bag, said bag consisting of a pair of superposed flat walls of a unitary thin polyethylene sheet, said walls having a closed joined-together relationship to each other about the entire bag periphery before being filled, one of said walls having a slit extending transversely to said length and fully across said one wall along a line spaced a substantial distance from the closer end of said bag to define an edge abutting opening and a pair of oppositely-directed confronting article-receiving pockets, one of which pockets has the physical characteristic that it is air-billowable for filling, and the other one of which pockets has the physical characteristic that it is sufficiently flexible so as to be deformable about the article projecting from said one pocket.

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