

Oct. 7, 1958

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2,855,137

BAG WITH CLOSING STRIP, A BLANK OF PAPER, CARDBOARD, OR OTHER SHEET  
MATERIAL FOR SUCH BAGS, AND A METHOD OF MANUFACTURING

BAGS FROM SUCH BLANKS  
Filed Jan. 5, 1956

Fig. 1

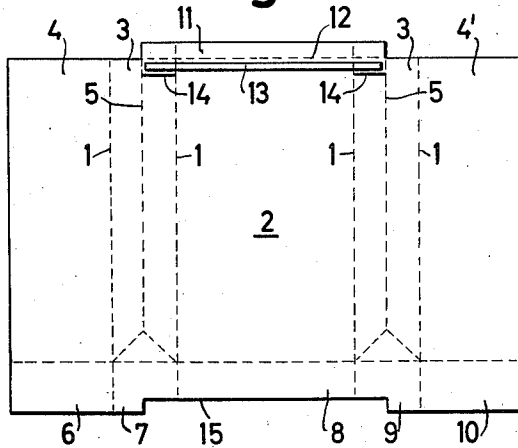
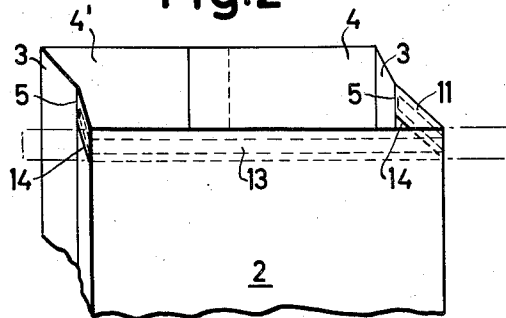


Fig. 2



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1

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**BAG WITH CLOSING STRIP, A BLANK OF PAPER, CARDBOARD, OR OTHER SHEET MATERIAL FOR SUCH BAGS, AND A METHOD OF MANUFACTURING BAGS FROM SUCH BLANKS**

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Application January 5, 1956, Serial No. 557,605

Claims priority, application Denmark January 10, 1955

3 Claims. (Cl. 229—65)

This invention relates to a bag of the type having a closing strip, e. g. a wire or strip of aluminum or a similar material, which is located in the transverse direction at the top end of the bag, secured to or in the wall thereof, and is bendable in a substantially inelastic way, and which previous to the closing of the bag by folding or rolling of its top end has at least one end portion projecting freely from the bag body to ensure the closing of the bag by being bent into contact therewith.

Bags of this type, which particularly are used to a steadily increasing degree in self-service shops, e. g. for the packing of coffee, having hitherto been produced in two stages, the bag proper having first been produced in the ordinary manner, whereupon the closing strip has been mounted in a latter operation. A bag filling machine is for example known which comprises a special unit for mounting closing strips by means of staples. This machine is, however, rather expensive, and it will only in few cases be economically reasonable for the user of the bags to provide such a machine.

It is, however, also known to provide the bags with a closing strip such as the one referred to. The closing strip may thus be glued or otherwise secured to the bag along its upper edge or top edge, but as its length must necessarily be greater than the width of the bag, the closing strip mounted in this way will with its ends project beyond the bag body, and these outwardly projecting ends will cause considerable inconvenience, e. g. during the dispatch of the bag to the user.

This drawback is remedied by the present invention, according to which the closing strip is secured to or in the wall of the bag in its full length, the section or sections of the wall of the bag covering the end part or end parts of the closing strip being arranged together with the said end part or end parts to be brought into the freely outwardly projecting position only after the finishing of the bag body, e. g. during its filling. This bag not only possesses the advantage that it can be packed and dispatched as ordinary bags without any closing strip, but it will furthermore be considerably cheaper to manufacture such bags than the hitherto known bags with closing strips. This will appear more clearly from the following description.

When the bag is of the type having front and rear walls and two side walls with a folding line extending in the height direction of the bag, and where the closing strip is carried by the front wall or the rear wall, the end parts of the closing strip are according to the invention preferably secured to the upper sections of the side walls of the bag and extend almost to the folding line in these walls. Such a bag may have exactly the same appearance as known bags without closing strips and can be carried to and gripped by an ordinary bag filling machine in exactly the same way as these known bags.

In order to facilitate the outward bending of the end parts of the closing strip into the freely outwardly projecting position it is according to the invention expedient that the upper sections of the side walls of the

2

bag body covering the end parts of the closing strip are partly freed by cuts extending parallel to the upper edge of the bag body and are arranged for being cut completely free from the side walls by vertical cuts at the ends of the closing strip during or after the filling of the bag. These vertical cuts may by way of example easily be produced with a simple knife mechanism built into the bag filling machine. The said cuts may also be effected by a simple tearing of the bag material at the said points.

The invention furthermore relates to a blank of paper, cardboard, or some other sheet material for a bag of the type specified, which blank in a known manner consists of sections for forming a front wall, two side walls integral with this front wall, a rear wall, and a bottom, and is characterized in that along the top edge of the front wall it is provided with a projecting tongue of a length greater than the width of the front wall, and along the bottom edge has a recess of the same shape and size as said tongue. In such blanks, the top and bottom edges are in other words fashioned in exactly the same way, and consequently it will be possible without waste of material to cut out the blanks from a continuous web of the sheet material. The recess at the bottom edge will entail no weakening of the finished bag, the remaining parts of the bottom tongues of the bag overlapping each other amply.

For the sake of completeness it should be pointed out that from U. S. specification No. 1,719,347 a blank for a bag is known, the top and bottom edges of which have the same shape as the bottom edge and top edge, respectively, of the blank according to the present invention. While thus this blank is provided with a more or less centrally located, projecting tongue at the top edge, the said known blank can be said at its top edge to have two projecting tongues, each of which extends to a side edge of the blank. This apparently rather small difference results in considerable differences for the finished bags produced from the two blanks. Only after the folding together of the known blank the two tongues of the latter at the top edge form an integral tongue for securing a closing strip, and consequently the latter cannot be placed in the bag until this has been formed by folding the blank. After the insertion, the end parts of the closing strip will lie so as to project freely in the transverse direction of the bag. As pointed out above it is, however, the main purpose of the present invention to avoid such transversely outwardly projecting end parts, until the bag shall be used, and this is possible when the manufacture is started with a blank of the type defined having an approximately central tongue at the top edge.

The invention still further relates to a method of manufacturing bags from such blanks. According to this method a strip or a wire of a material that is bendable in a substantially inelastic way is in a way known per se placed on the blank immediately below the central tongue at the top edge thereof and is secured by folding down the tongue over the strip or wire and securing it in this position, e. g. by gluing or welding, whereupon the blank is in a way known per se formed into a bag.

An embodiment of the invention is by way of example more fully described with reference to the drawing, in which:

Fig. 1 illustrates a blank according to the invention, and

Fig. 2 the upper end of a bag, which may be produced from the blank shown in Fig. 1, on a larger scale.

The blank shown in Fig. 1 is substantially rectangular and is scored in the usual manner by vertical folding lines, which extend from the bottom edge of the blank to its top edge, divided into portions corresponding to

3

the front wall 2 and two side walls 3 of the finished bag, and a rear wall consisting of two portions 4 and 4'. The two side walls have ordinary longitudinal folding lines 5 which make possible the plane folding of the finished bag, and at the bottom edge the blank is likewise provided with usual flaps or blank portions 6, 7, 8, 9, and 10 which by folding and assembling form the bottom of the finished bag.

At the upper edge or top edge the blank shown in Fig. 1 has a projecting tongue 11 which extends from the folding line 5 in one side wall to the folding line 5 in the other side wall and thus extends the full width of the front wall 2. Between the tongue 11 and the bag blank proper a folding line 12 is shown. Directly below this folding line 12 of the tongue 11 is placed a strip 13 of a material which can be bent in a substantially inelastic way. The length of this strip substantially corresponds with that of the tongue 11, whereas the width of the strip is somewhat smaller than the width of the tongue. Consequently, the tongue 11 may by folding around the folding line 12 and subsequent securing to the front wall 2 and the upper sections of the side walls 3 connected therewith secure the strip 13 to the blank. In Fig. 1 the blank is viewed from the inside, so that after the folding the tongue 11 will lie on the inside of the blank and consequently be hidden in the finished bag.

Under the end sections of the tongue 11, which sections form continuations of the two side walls 3, there are in these side walls provided cuts 14 which are parallel to the top edge of the blank and the distance of which from said top edge corresponds with the width of the tongue 11.

At the bottom edge of the blank a recess 15 is provided, the shape and size of which corresponds exactly with the shape and size of the tongue 11. The material saved in this manner shall form the tongue 11 of a succeeding blank, the blanks being supposed cut out from a web of material, the longitudinal direction of which corresponds with the height direction in Fig. 1.

From a blank like that shown in Fig. 1 a bag can be fashioned as shown in its open position in Fig. 2. In the position shown in full lines this bag can be filled, e. g. in an automatic filling machine, and next the end parts of the closing strip, which end parts lie in the side walls 3, can be completely released from these side walls by short cuts in the folding lines 5. These cuts should extend all the way down to the previously provided cuts 14 which extend parallel to the top edge of the bag. Then the end parts can be unfolded into the position shown in dot-and-dash lines, whereupon the bag can be closed by folding-in the upper end portions of the side walls 3. Next the upper end of the bag is folded or rolled, after which the sideways projecting end parts of the closing strip are in a known manner bent into contact with the bag body and thereby prevent an opening or unrolling of the top of the bag.

The invention is obviously not limited to the embodiment shown on the drawing, it being, for example, not necessary that the end parts of the closing strip extend exactly to the folding lines 5 in the side walls 3 of the bag. Nothing prevents the said end parts from extending the full width of the side walls of the bag, e. g. if the latter walls are particularly narrow. Furthermore,

4

it is not strictly necessary that the bag blank is provided with the cuts 14, as instead of these, weakening lines may be provided which make possible an easy tearing off of the ends of the strip from the side walls 3. Finally it should for the sake of completeness be mentioned that the invention may also advantageously be used for other types of bags than that shown on the drawing. The bag need not, for example, have inwardly folding or collapsing side walls, but may in its plane state have only a front wall and a rear wall. In this case the closing strip should extend the full width of the bag in its plane state. When during the filling such a bag assumes a tubular form, the ends of the closing strip will project slightly from the wall of the bag, which is a necessary feature for their functioning in the intended manner.

In the bag referred to the closing strip may also in certain cases advantageously be combined with a tearing wire which may be so mounted that it functions for opening the bag after it has been securely closed without the use of the closing strip, which is only used for repeated closings of the bag.

I claim:

1. A bag formed from a blank of flexible material comprising a front wall, a rear wall, two folding side walls, and a strip of substantially inelastic bendable material carried by and extending generally parallel to the top edge of one of said front and rear walls, said strip having a main portion secured to said one wall and an end portion extending along and secured to a top edge portion of the adjacent side wall, said top edge portion being attached to the remaining portion of said adjacent side wall by a weakened tearable line and separable therefrom to form a lateral extension of said main portion for securing the bag in closed position.

2. A blank of thin flexible material for a bag comprising sections for forming a front wall, two side walls, a rear wall and a bottom, said front wall forming section being connected by a fold line along its top edge with a projecting flap having a length greater than the width of said section, at least one of said side wall forming sections having a horizontal cut extending from the adjacent edge of the front wall section to a point below an end edge of said flap and being located at a distance below said fold line equal to the height of said flap.

3. A blank of thin flexible material for a bag comprising sections for forming a front wall, two side walls, a rear wall and a bottom, said front wall forming section being connected by a fold line along its top edge with a projecting flap having a length greater than the width of said section, at least one of said side wall forming sections having a vertical cut extending downwardly in line with an edge of said flap and a horizontal cut intersecting said vertical cut and extending therefrom to the adjacent edge of the front wall section, said horizontal cut being located at a distance below said fold line equal to the height of said flap.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

1,719,347 Weinstein ----- July 2, 1924

##### FOREIGN PATENTS

13,559 Australia ----- of 1933