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[54] BAG
7 Claims, 2 Drawing Figs.

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[51]	Int. Cl.....	B65d 33/28
[50]	Field of Search.....	229/63; 150/11

[56] **References Cited**
UNITED STATES PATENTS
3,010,640 11/1961 Kugler.....
3,114,497 12/1963 Kugler.....
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ABSTRACT: A flat mass-produced bag, preferably of plastic, of a rectangular shape made of two layers and having a mouth at one side adapted to be closed by draw strings which are slidable in hems formed adjacent to the mouth by folding over the free ends of both layers and securing them to the layers. The draw strings have a length greater than the width of the bag and the ends of each pair of corresponding strings are knotted together outside of each lateral side of the bag. When the two knotted pairs of strings are pulled in opposite directions, the mouth of the bag will be drawn closed toward its center.

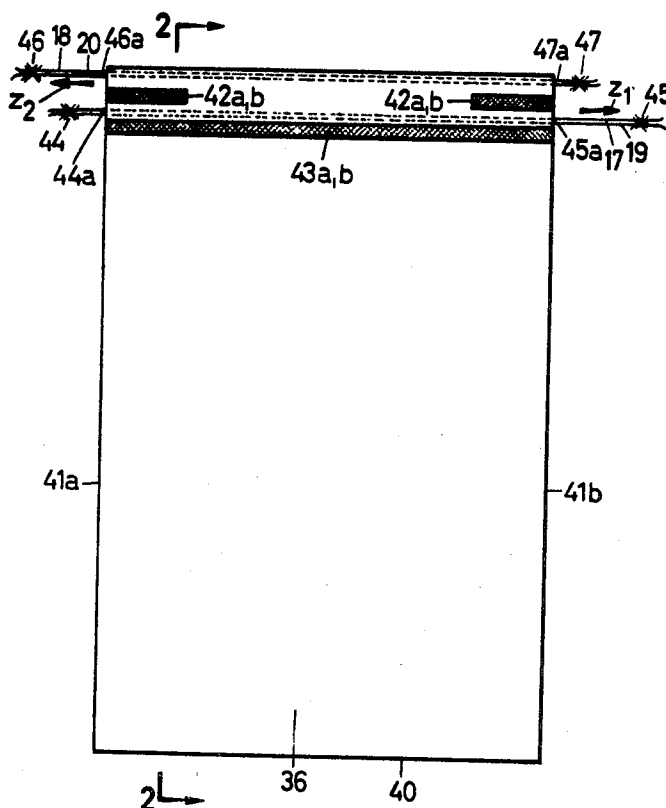


FIG.1

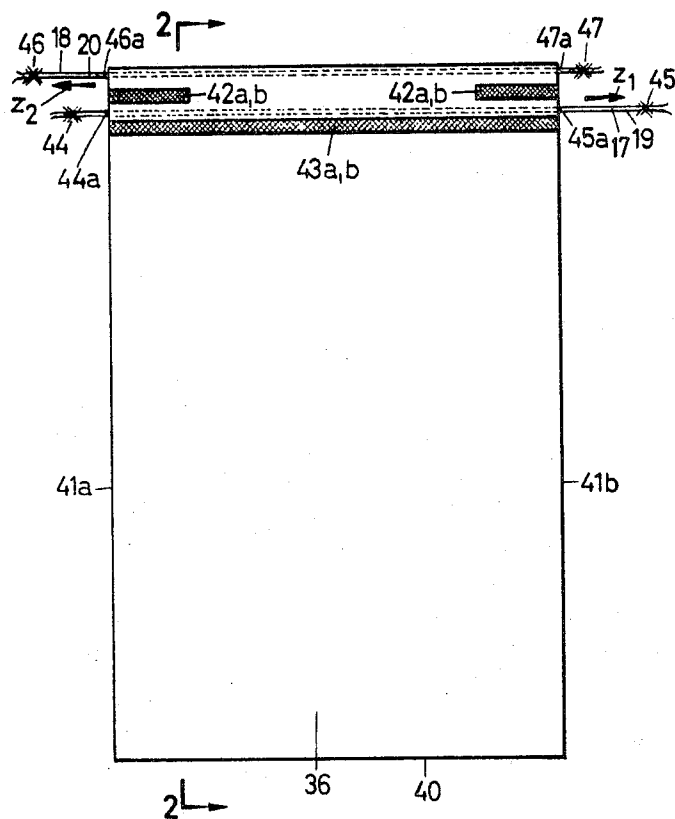
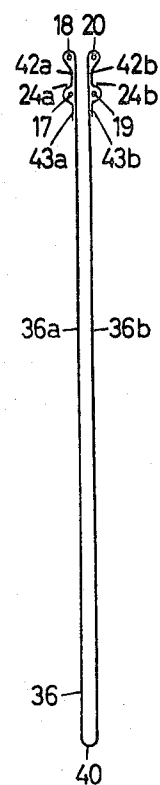


FIG.2



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BAG

The present invention relates to a bag, preferably of plastic, which is provided with draw strings within and extending from a hem adjacent to the mouth of the bag, as disclosed in my copending application, Ser. No. 547,567, filed on May 4, 1966, now U.S. Pat. No. 3,512,456 of which the present application is a division.

It is an object of the present invention to provide a plastic bag of the above-mentioned type which is designed so as to permit it to be easily produced and to be very reliably closed.

Another object of this invention is to design such plastic bags in a manner which permits them to be easily mass-produced from a moving tubular sheet or a strip of plastic which is folded over at the end opposite to that which subsequently forms the mouth of each bag so as to form two superimposed layers from which sections of a width of one bag are then cut off in a direction transverse to the feeding movement, while the draw strings which are enclosed by hems, for example, during the feeding movement of the plastic strip are severed from the following strings so as to be of the desired length.

An important feature of the invention for attaining these objects consists in providing a hemmed border or "hem" on each of the two layers or walls of each bag adjacent to the mouth thereof, in providing two adjacent draw strings in each of these hems, in dividing each hem into two channels each of which contains one of the draw strings, and in connecting each pair of draw strings to each other which pass through the corresponding channels in the hems of both layers.

Another feature of the invention consists in connecting the draw strings of each of these pairs to each other by means of knots which are located at the outside of the opposite lateral edges of the bag.

A further feature of the invention consists in dividing each hem into two channels in which the adjacent draw strings are separated from each other by providing each hem substantially centrally of its width with at least one spacing weld.

These features and advantages of the present invention will become more clearly apparent from the following detailed description thereof which is to be read with reference to the accompanying sheet of drawings, in which:

FIG. 1 shows a plan view of a bag according to the invention, while;

FIG. 2 shows a cross section which is taken along the line 2-2 of FIG. 1.

As illustrated in the drawings, the bag 36 according to the invention consists of two superimposed layers of plastic or other suitable sheet material forming the two walls 36a and 36b of the bag which are produced, for example, of a tubular sheet material by being connected by the fold at its lower edge 40 and by severing its opposite fold so as to form the open mouth of the bag. The lateral edges 41a and 41b of the two walls of each bag are formed by welds which also separate the adjacent bags from each other.

The upper edges of the two walls 36a and 36b are folded over to form the hems 24a and 24b each of which is connected substantially centrally of its width to the wall 36a or 36b by an intermediate or spacing weld 42a or 42b respectively, while the lower edge of each hem is connected to the wall 36a and 36b by a weld 43a or 43b respectively. The draw strings 17 and 19 are thus loosely hemmed in between the lower welds 43a and 43b and the spacing welds 42a and 42b while the strings

18 and 20 are loosely hemmed in between the spacing welds 42a and 42b and the upper folded edges of the two layers or bag walls. The free ends of strings 17 to 20 then project from both sides of the bag 36 for any distance as may be desired, and the corresponding ends of each pair of strings, that is, of strings 17 and 19 and of strings 18 and 20, are tied together by knots 44, 45, 46, and 47, respectively, in the manner as illustrated in FIG. 1.

If the two pairs of strings 17, 19 and 18, 20 are then pulled outwardly in the opposite directions, as indicated by the arrows z_1 and z_2 , either on the knots 45 and 46 or on the knots 44 and 47, the mouth of the bag will be drawn together toward its center and tightly closed.

Although my invention has been illustrated and described with reference to the preferred embodiment thereof, I wish to have it understood that it is in no way limited to the details of such embodiment but is capable of numerous modifications within the scope of the appended claims.

I claim:

1. A drawstring bag comprising two opposite walls connected to each other along all except one side of said bag to provide at said one side an opening forming the mouth of said bag, each of said two walls having at said mouth a portion folded outwardly toward the respective wall so as to form a hem having a free edge substantially parallel to the outer edge of said mouth, and each of said folded portions being connected along said free edge and along a line between said edge of said mouth and said free edge to the adjacent unfolded portion of the respective wall so as to form two substantially parallel channels in each hem, each defined at one side by said folded and at the opposite side, by said unfolded portion of the respective wall; a string extending through each of said channels, each of said strings in one hem being disposed opposite to one of said strings in the other hem and together forming a pair; and means for connecting the corresponding ends of the strings of each pair at points outside of said hems to each other.

2. A bag as defined in claim 1, in which said strings have such a length and said connecting means are located in such positions that at least one of said connecting means on each of said pairs of strings is spaced considerably from said bag.

3. A bag as defined in claim 1, in which said connecting means are formed by knots tying said corresponding ends of each pair of said strings to each other.

4. A bag as defined in claim 1 in combination with means forming welds for connecting said folded hem parts of said bag walls to said adjacent unfolded parts of said walls along said two lines extending substantially parallel to the folded outer edge of said mouth.

5. A bag as defined in claim 4, in which said weld means which are disposed on each of said hems along a line which is spaced at a greater distance from said folded mouth edge form a continuous line of weld, while said weld means disposed on each of said hems along a line which is spaced at a smaller distance from said folded mouth edge and located between said two parallel channels form an intermittent line of weld.

6. A bag as defined in claim 1, in which said two walls of said bag consist of a single sheet and are connected to each other by folding said sheet at the side of said bag opposite to the side forming said mouth and by welds along the lateral sides of said bag up to said hems adjacent to said bag mouth.

7. A bag as defined in claim 1, in which said two walls of said bag consist of sheet plastic.