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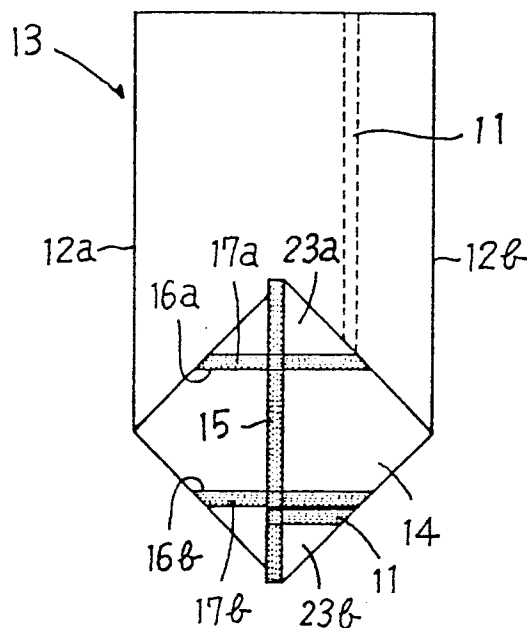
EUROPEAN PATENT APPLICATION

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Manchester M2 7BD(GB)(54) **Portable bottomed bag.**

(57) Portable bottomed bag of such construction that has a tubular body portion (13) with single fold each side, a flat upper opening portion and a hexagonal bottom face and is capable of completely sealing the bottom of the bag. Manufactured by the following manner: the lower end of a tubular body (13) is folded at a suitable fold or reference line, the distance of which from the lower end portion is a little longer than half of the face width of the tubular body so that there may be a square portion (14) with some margins overlapped with each other by fully expanding the lower portion up and down or by fully pulling apart the respective lower end centre portions of the front and rear layers of the tubular body. The margins are then heat sealed in edge joint style to form the first heat-sealed portion (15). The upper and lower halves of the square portion are heat sealed along parallel symmetrical lines (16a, 16b) at a suitable distance from the fold over a fixed width to form a hexagonal bottom face. Those portions outside the secondly heat-sealed portions of the upper and lower halves are cut off to leave reinforcing, self-sustaining fins, or the secondly heat-sealed portions alone.

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FIG 7



PORTABLE BOTTOMED BAG

BACKGROUND OF THE INVENTION

This invention relates to a portable bottomed bag, more particularly, to such a portable bottomed bag that has a hexagonal bottom face portion with reinforcing, self-sustaining fins formed thereon. Most conventional bottomed bags have a rectangular bottom face formed by inwardly folding and overlapping the lower end portion of a tubular body of the bag. Prior art bottomed bags with a hexagonal bottom face include such ones that are shown in Figures 1 to 3. Said prior art bottomed bags illustrated in Figures 2 and 3 can be constructed by expanding and folding the lower end portions 2, 2' along line L as shown in Figure 1 so that there can be formed right isosceles triangles A, A' and then folding along parallel lines L₁, L₂ upper and lower trapeziums T₁, T₂ thus formed respectively; the parallel lines L₁, L₂ are preferably set so that end portions 2, 2' of the tubular body may be completely overlapped, or in other words, each distance between the end portion 2 and 2' and L₁ or L₂ are equal to that between lines L₁ and L₂. The bottomed bag shown in Figure 2 can be used as it is as a finished one, but the bottom face thereof may be covered by sticking a film or sheet 4 thereon as shown in Figure 3 to reinforce it or to give a good appearance. However such bottomed bags cannot be watertightly sealed even if synthetic resin material or the like is employed, since the bottom face portion is not heat sealed. Further, it lacks self-sustainability since the bottom face is formed only by folding and overlapping the lower end portions 2, 2' or by further covering it with film or sheet 4.

OBJECT AND SUMMARY OF THE INVENTION

The object of the present invention is the provision of a portable bottomed bag which has a good appearance in itself and gives the accommodated contents an appearance of plentifulness aided by such unique configuration that has a flat upper opening portion and is capable of sustaining the bag itself upright by virtue of a hexagonal bottom face with reinforcing, heat-sealing fin portions projecting sideward therefrom. It is to be noted that, when an airtight and watertight material is employed for the formation of the bag, there can be provided a completely sealed, airtight and watertight bottom face in accordance with the present invention.

The gist of the present invention is to give a new and improved bottomed bag, the bottom face of which is hexagonal shaped which has lateral, parallel and symmetrical fin portions that are formed by the following method.

According to a first aspect of the present invention there is provided a portable bottomed bag defined by the features of claim 1.

According to a second aspect of the present invention there is provided a method of forming the portable bottomed bag defined in claim 1.

The lower end portion of a tubular body is folded at a suitable fold or reference line, the distance of which from the lower end portion is a little longer than half of the face width of the tubular body so that there may be formed a square portion with some margins overlapped with each other by fully expanding the lower end portion thus formed up and down or by fully pulling apart the respective lower end centre portions of the front and rear-layers of the tubular body. The margins are then heat sealed in edge joint style to form the first heat-sealed portion. The upper and lower halves of the square portion are heat sealed each at desired positions over a fixed width to form a hexagonal bottom face. Those portions outside of the secondly heat-sealed portions of the upper and lower halves are cut off to leave reinforced, self-sustaining fins, or the secondly heat-sealed portions alone.

BRIEF DESCRIPTION OF THE DRAWINGS

The feature of the present invention which is believed to be novel may be understood by reference to the following description taken in conjunction with the accompanying drawings inclusive of prior art bottomed bags, in which:-

Figure 1 is a front view illustrating the first stage for formation of a bottomed bag according to a prior art;

Figure 2 is a front view illustrating the second stage of the formation or a finished form of the bottomed bag;

Figure 3 is a front view illustrating the third stage of the formation or another finished form of the bottomed bag;

Figure 4 is a front, perspective view illustrating the first stage for the formation of the present invention;

Figure 5 is a front view illustrating the second stage for the formation thereof;

Figure 6 is a front view illustrating the third stage for the formation thereof;

Figure 7 is a front view illustrating the fourth stage for forming the bottomed bag; and

Figure 8 is a perspective view of the bottomed bag charged with content for example with small candies.

Referring now to Figures 4 to 8, there is illustrated a bottomed bag formed from a synthetic resin material. In order for the construction of the bottomed bag of the present invention to be fully understood, manufacturing stages thereof will be described with reference to Figures 4 to 7. In this connection, it is to be noted that although there is illustrated a tubular body 13 as having a heat-sealed portion 11 formed by heat sealing in edge joint both the side edges of a synthetic resin film of a suitable width folded in half, such heat sealing is not required when the tubular body 13 is originally of such an endless or seamless annular type. Further, the heat sealing may be of course effected by lap jointing together both side edges of the film which are folded in half instead of the above edge joint style.

As shown in Figure 4, both side edge portions of a fixed width of rectangular film of suitable size are previously heat sealed in edge joint style to form the tubular body 13. There are provided fold lines 12a, 12b at both side edges to permit expansion or contraction of the tubular body 13. In cases where the heat sealing is effected by edge jointing, the sealed portion 11 is folded to or further heat sealed with either side of the base layer so as to mate with the tubular body portion 13.

Figures 4 to 7 illustrate formation stages of an embodiment of the bottomed bag according to the present invention, wherein the lower end of the tubular body is folded so as to form a hexagonal bottom face 14 which will be described in detail hereinafter.

The lower portion of the tubular body 13 is folded onto the front layer to form a fold or reference line as shown in Figure 4. The fold line is positioned on such distance D from the lower end of the tubular body 13 to permit the formation of a square bottom portion 14 defined by four sides 21a, 21b, 22a and 22b as shown in Figures 4 to 7 with sufficient margins to be then edge-jointed with each other formed on line J-J, which margins are also to be heat sealed to constitute the bottom of the bag as shown in Figures 6 and 7 such distance D being a little longer than half of the bag face width W. In other words, when the distance D is

exactly equal to half of the bag face W, then there is formed only the square portion 14 without leaving any margins which serve to constitute a sealed portion.

The formation of the square bottom portion 14 is effected as shown in Figure 5 by opening the lower end of the tubular body 13 and bending side folds 12a, 12b respectively centrewards while stretching both margins 15 along the line J-J. The margins are jointed with each other and then heat sealed in edge joint style to constitute a centre heat-sealed joint 15 as shown in Figure 5. The centre heat-sealed joint 15 is then bent to either side, for example, to the left in the Figure, of the square portion 14 as clearly shown in Figure 6.

Then, as shown in Figure 7, both upper and lower halves of the square portion 14 are heat sealed along upper and lower parallel and symmetrical heat sealing lines 16a, 16b to form parallel symmetrical heat-sealed portions 17a, 17b. Edge or tip triangular portions 23a, 23b outside the heat-sealed portions 17a, 17b of the upper and lower halves are cut off thereafter to leave the hexagonal bottom face 14 with upper and lower fins or the heat-sealed portions 17a, 17b which project sideways from the bottom face.

Constructed as above, the portable bottomed bag of the present invention has not only a good appearance derived from its unique configuration that has wide upper end opening portions while a rather narrow or tapered lower end portion in front view with both side corner portions 18a, 18b turned up when it is filled with contents and the upper opening is closed or sealed by heat sealing or the like conventional means, but also provide a self-sustainability as a result that the reinforced heat-sealed fin portions projecting sideways from the hexagonal bottom face portion serve as legs for supporting the bag upright. In Figure 8 reference numeral 9 denotes an upper end sealing line, and 20 denotes a notch for tearing the bag.

Claims

1. A portable bottomed bag which is made of an airtight, watertight and heat-sealable film or sheet material and comprises a tubular body portion with single fold each side, a flat upper sealable opening portion and a bottom face portion having a hexagonal shape and said bottom face portion further having a reinforcing, self-sustaining heat-sealed fin portion projecting sideways therefrom.

FIG 1

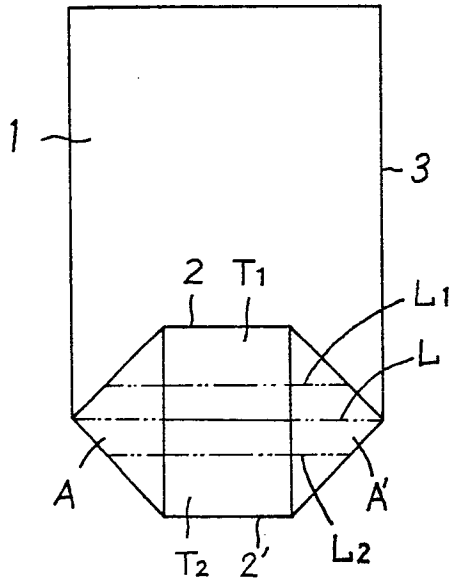


FIG 2

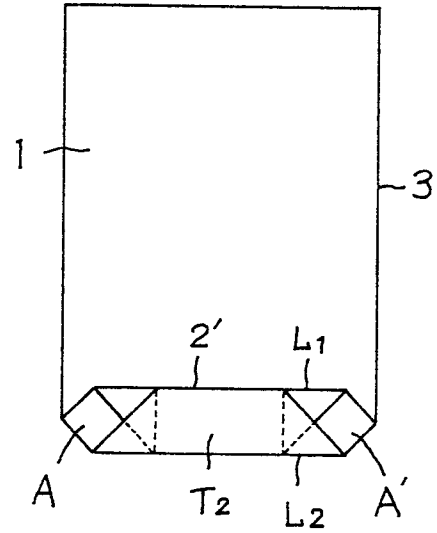


FIG 3

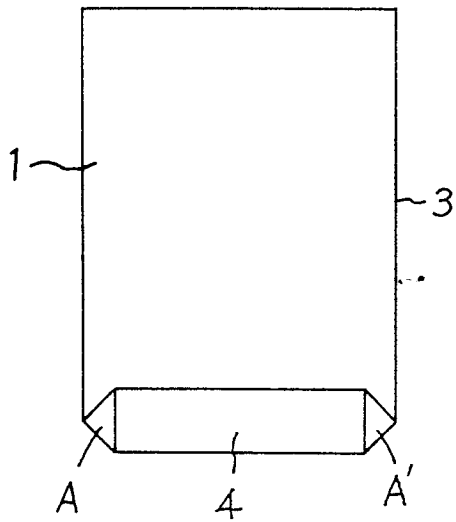


FIG 4

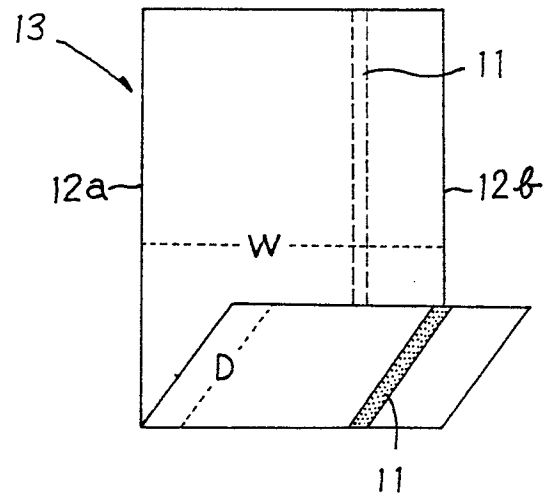


FIG 5

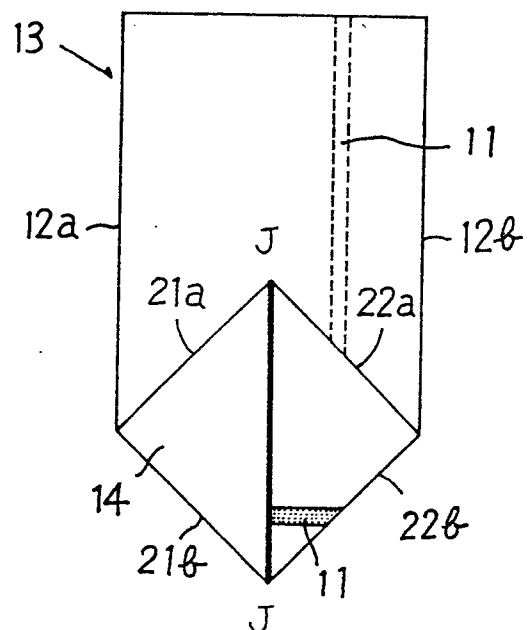


FIG 6

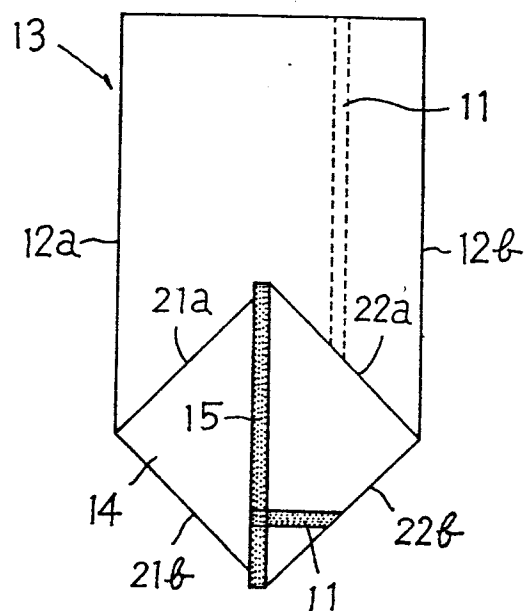


FIG 7

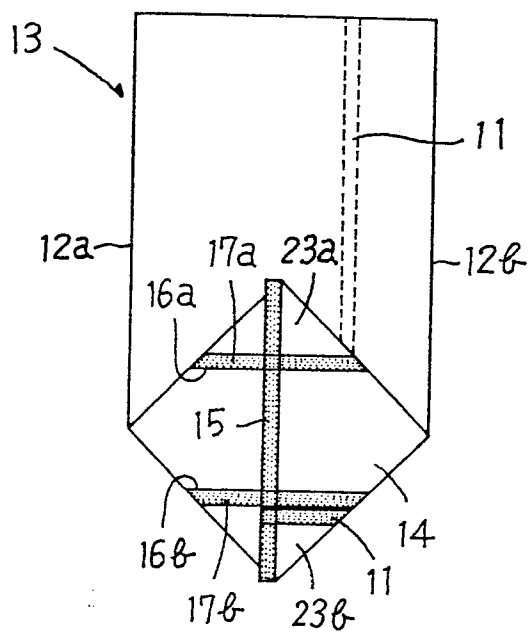
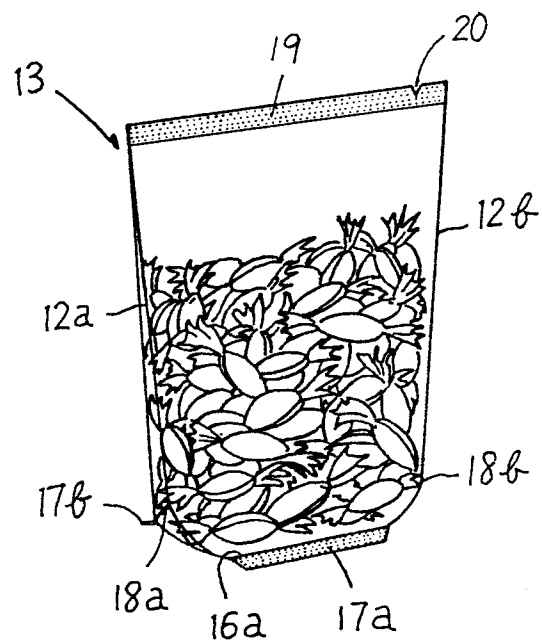


FIG 8





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. 4)
X	US-A-3 237 845 (PIAZZE) * Column 2, lines 33-53; column 3, lines 1-21; figure 2 *	1	B 65 D 30/10
A	--- GB-A- 937 010 (BARRACLOUGH) * Page 2, lines 99-106; figure 10 *	1	
A	--- US-A-3 017 069 (KARDON) * Figures 4,6 *	1	

			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			B 65 D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 07-04-1986	Examiner GOETZ P.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	