(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 176 104 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
30.01.2002 Bulletin 2002/05

(51) Int Cl.[7]: **B65D 75/56**

(21) Application number: **01500190.2**

(22) Date of filing: **17.07.2001**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **24.07.2000 ES 200001975 U**

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(54) Bag with handle for packing bulk products

(57) BAG WITH HANDLE FOR PACKING BULK PRODUCTS, of a vertical tubular mesh (3) and with two opposite vertical bands (4,5), superimposed externally on the mesh (3) and joined by heat welding both on its horizontal lower and upper ends (6,8) as well as on its vertical ends. When the bag is full of products, the upper end of the tubular mesh and the corresponding upper ends of the bands, horizontally heat welded, establish the closure of the mouth (2) of the bag. The bag has another horizontal heat welding line (9) on its upper part and at a certain distance from the former. At the same time the upper ends of the mesh and the two bands are attached again prior inserting of a strip that constitutes the handle (11), the ends of which are fastened by heat welding.

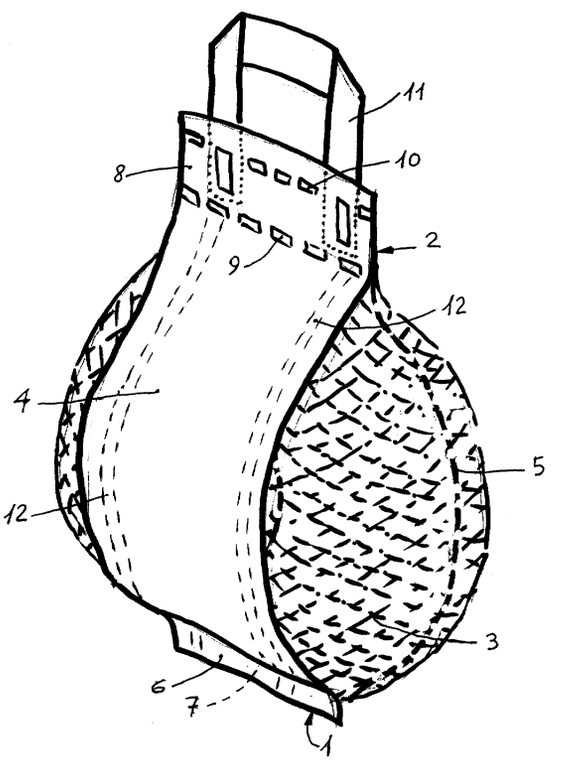

Fig. 1

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Description

SCOPE OF THE INVENTION

[0001] This invention is for a bag with handle for packing bulk products, such as fruit, vegetables or other, provided they have sufficient consistency to resist the stresses to which they could be subjected, especially during their transportation inside the bag.

HISTORY

[0002] According to EP 788 974 A2, a bag for bulk products is already known. It has two main walls, one consisting of a plastic material mesh and the other of a continuous sheet, also of plastic, that may exhibit advertising and/or data of the products contained therein. Both walls are joined by the vertical ends due to heat welding and the same occurs as regards their respective horizontal lower ends that shape the closed bottom of the bag.

[0003] Therefore, this is a bag with two walls made of respective plastic materials, one a mesh and the other a smooth plate that are heat welded by their corresponding vertical edges and by the lower horizontal edges, shaping a bag open at the top. Once it is filled with the desired products, its upper mouth is horizontally closed by heat welding repeated at a certain distance, delimiting a horizontal band space between both heat welds in which there are two orifices, shaped as handles, for the fingers of the purchaser of the packaged products to pass through, thus enabling it to be carried.

[0004] This known bag has an important disadvantage as a result of the heat welds, the unions of which in the described zones of the bag are critical and have a reduced mechanical resistance as regards what would be expected from such constituent materials. In other words, that the bag in question presents the inconvenience of having unions with a reduced mechanical resistance, moreover taking into account the mass manufacturing of bags and due to the difficulty of heat welding the structure itself of the mesh. Therefore, when the bags are full of products total or partial rupture may occur and in fact does occur with certain frequency in one or more of said heat welded unions, resulting in the products falling out and the corresponding damage.

[0005] Likewise, the orifices for the fingers of the buyer or carrier of the bag to pass through (which, by the way during normal use only one finger of the same hand can pass through each orifice) have their edges constituted by the two edges formed by the mesh and the plate. This results in the edges of the upper part of each of the two orifices literally sticking into the corresponding part of the fingers of the bag carrier, with the corresponding harm for the user due to the damage and discomfort caused by this way of grasping the bag.

[0006] Another mesh bag is known through the Spanish Utility Model no. 252.817, which has two flexible and laterally opposite laminar bands that are reinforced and able to receive graphic impression. Its bands are superimposed and joined through their ends to the mesh bag and separated in the remaining zones. On the upper end the bands are provided with at least one opening in the shape of a handle.

[0007] This bag has the drawback that the mesh slackens on its side with no control and in an aleatory way, as when it is full the load (packaged products) moves towards one lateral or side only, hanging downwards or with both sides hanging downwards but with an aleatory distribution. This occurs because the mesh is free in the greater part of the bag with respect to the two bands. In both cases inconvenience is caused to the user (buyer of the corresponding packaged products) during transportation of the bag due to the instability in the shape of the bag and the lack of balance in the distribution of the load, especially during transportation, as the mesh becomes too deformed in some of its zones due to the accumulation of the packaged products and, therefore, may break in one or more points of said zones with the packaged products falling out. All of this added to the bad visual effect of the full bag that negatively affects marketing of the products packed inside.

[0008] Furthermore, the orifices for the fingers of the full bag carrier to pass through have their edges constituted by the ends of the upper ends of the mesh and the two bands. This results in the edges of the upper part of the orifices literally stick into the corresponding part of the fingers of the bag carrier, with the corresponding harm for the user due to the damage and discomfort caused by this way of grasping the bag during its carrying.

[0009] Also known and conventional is a bag open at the top, consisting in two mesh or similar walls of plastic material and joined by heat welding, stapled or sewn at its vertical ends and lower horizontal ends. In the case of unions by stapling or sewing, the fabrication becomes difficult, especially its automation, as foreign elements have to be applied to the bag. There is a variant consisting in that the two walls are obtained by horizontal doubling of a mesh material through its medium part, in which case the union should be made by heat welding or sewing of the vertical ends of the two opposite walls. In both cases, the bag normally has two handles respectively joined to each of the two walls of the bag and the handles are usually fastened by heat welding. Another variant is known where the bag has, on each of its two walls, longitudinal fringes with a greater mesh density than the rest.

These bags have, apart from the disadvantages described, those corresponding to the bag mentioned above as regards the decrease in the mechanical resistance of the heat welds and the increase in its fabrication cost. This type of bag belongs to the description in the Spanish Utility Model no. 8701106 (publication no. 1 001 987), which also has a transparent sack adjoined to one

of the two sheets of the bag to receive an identifying tag of the products it contains on the inside. Lastly, it includes a thin horizontal band as a cord in the mouth of the bag to close it. And this last bag has the described disadvantages, apart from having a relatively complex constitution and fabrication, which results in a comparatively cost than the conventional bags used for the same purpose, taking into account also the labor needed to introduce the band through the mesh of the mouth in order to close it.

[0010] According to the above, the upper mouth of these bags and their variant remains open and does not constitute a closed bag with the products inaccessible for the buyers and the access to which implies breaking with conventional means (for example scissors) it upper part, as happens with the bags closed at the top described above. On the other hand, the bags open at the top are used by the buyers to fill them with the products they buy in shopping centers and these bags are purchased in specific shops, whilst the bags closed in origin, once filled with the products, are closed packages of the products to be sold by the shops.

[0011] Lastly, the German request for patent no. 2636821 shows a container made up of a mesh bag welded at its lower and upper ends and with its sides closed. The bag contains various products. The bag has a longitudinal band relatively thin in comparison to the width of the bag and in its center. It is joined by its two ends to the corresponding ends of the bag. This band is either on the outside or inside of the bag.

[0012] The disadvantages of the described bag result from the heat welds, the unions of which in the described zones of the bag are critical and have a reduced mechanical resistance as regards what would be expected from such constituting materials. Thus, the result is that this bag has the disadvantage of having unions with a reduced mechanical resistance that the union of the mesh, especially taking into account the mass manufacturing of bags and due to the difficulty in heat welding the structure itself of the mesh. Therefore, when the bags are full of products total or partial rupture may occur and in fact does occur with certain frequency in one or more of said heat welded unions, resulting in the products falling out and the corresponding damage due to reduced mechanical resistance of the heat welds and an increase in the fabrication cost. Another disadvantage of the bag in question consists in the lack of a handle for its carrying, which make its utilization and handling difficult.

SUMMARY OF THE INVENTION

[0013] The bag with handle for packing bulk products, purpose of the invention, eliminates the disadvantages of known bags mentioned above, as will be described later on.

[0014] This bag is of the type composed of a mesh material with its bottom and mouth closed once filled with the desired products and with a means for grasping. It is made of heat-weldable plastic materials and has two opposite vertical bands, superimposed and joined at the ends to the corresponding upper and lower ends of the bag.

[0015] The bag according to the invention is characterized by the fact that it is composed of a vertical tubular mesh on which two vertical and opposite bands are superimposed, so that the lower end of the mesh and the respective lower ends of the two bands are heat welded, joining the tubular mesh to the two bands by vertical heat welded lines located next to the two vertical ends of said bands; by the fact that, when the bag is full of products, the upper end of the tubular mesh and the corresponding upper ends of the bands are also horizontally heat welded, thus forming the closure of the mouth of the bag. The bag has another horizontal heat welded line on its upper part and located above, in parallel to and at a certain distance from the former, delimiting the bag at the top and, at the same time, securing the upper ends of the mesh and the two bands again by inserting a strip forming the handle, which is advantageously folded according to an inverted "U" general shape the ends of which are fastened by heat welding.

[0016] The bag with handle for packing bulk products, according to this invention, provides amongst others the following advantages:

a) As the tubular mesh body in contact with the packed products is an element of one laterally continuous material, its mechanical resistance does not depend on an additional joining means (welding, sewing or similar), that is, it belongs to said continuous elements and, therefore, there are no determined union lines in mechanically weakened zones.
b) The fabrication is simplified on eliminating the vertical welds of the bag edges, which must be made between two mesh sheets and implies careful welding difficult to regulate, with the resulting saving in time and cost - including the preparation prior to performing the welds.
c) The handle offers a support surface for all the fingers of the hand - although in practice the thumb is not used due to its position - and, on being a strip it does not damage or cause discomfort to the user. Furthermore, it is unique with the subsequent cost economy both in material as well as the operations for its joining to the bag.

[0017] The bag with handle for packing bulk products, in accordance with the invention, offers the advantages described above apart from others that will be easily inferred from the performance example of said bag to be described in detail later on. In order to facilitate understanding of the characteristics mentioned above and at the same time to make known various details, a drawing is attached to this description in which a practical performance case of the mentioned bag is represented as

an example and not limitative of the scope of this invention.

BRIEF DESCRIPTION OF THE DRAWING

[0018] The sole figure corresponds to a perspective view of the bag with handle for packing bulk products, in which the structure and shape of the bag are seen. It should be mentioned that for a better understanding of its characteristics, the packed products are not represented, which would normally fill the bag, although it is shown as if it was full of products.

PERFORMANCE DESCRIPTION ACCORDING TO THE INVENTION

[0019] The bag according to the invention is represented in the drawings as the type that has its bottom -1- and mouth -2- closed. The corresponding products (not represented) are found inside the bag, whilst this is made up of plastic materials that are normally able to be heat welded. In what follows, the references to the locations of parts of the bag will be made in relation to the drawing (for example: vertical, lower, upper, front, back).

[0020] The bag, constituting the container itself, is made up of a tubular mesh -3- in the vertical position and inside which the corresponding products are arranged. Two vertical and opposite front -4- and back -5- bands are superimposed on the tubular mesh and occupy part of the outside surface of the tubular mesh. The lower end of the tubular mesh -3- and the respective lower ends of the two bands (such as the lower end -6- of the front band -4-) are horizontally and jointly heat welded according to the weld -7-, establishing the closed bottom -1- of the bag; and the upper end of the tubular mesh -3- and the corresponding upper ends of the two bands (such as the upper end -8- of the front band -4-) are also horizontally and jointly heat welded according to the weld -9- (logically once the bag has been filled with the desired products), establishing the closed mouth -2- of the bag.

[0021] At a certain distance and above the welding -9- the bag has another welding -10- of the same characteristics and conditions as the previous one and parallel to it, that is, the weld -10- once again attaches the upper end of the tubular mesh -3- and the corresponding upper ends of the two bands, after inserting a strip (also of thermoplastic material) that constitutes the handle -11-, advantageously folded in the way shown in the drawing, that is, it adopts an inverted "U" general shape, obtained by suitable folds of the strip. Thus, the two ends of the handle are placed on the inside or the outside (according to fabrication needs) of the upper end of the tubular mesh. In turn, this end is enclosed between the bands -4- and -5-, establishing a secure attachment of the handle to the bag and a reinforcement of this part of said bag.

[0022] The bag also has vertical heat welds -12- (indicated by lines in the drawing as regards the front band -4- and that are also made as regards the band -5- although they have not been represented) that are vertical joints between the tubular mesh and the two bands. Thus, two are established in the tubular mesh in the way of lateral pleats that permit the bag to expand when filled as represented but without showing the corresponding products contained in the bag. Obviously, the weld lines may be continuous or discontinuous, provided they are suitable for the purpose.

Claims

1. BAG WITH HANDLE FOR PACKING BULK PRODUCTS, of the type made of mesh material with its bottom and mouth closed once filled with the desired products and including a grasping means. It is made of plastic materials able to be heat welded and has two opposite vertical bands superimposed and joined by their ends to the corresponding upper and lower ends of the bag. It is **characterized by** the fact it consists of a vertical tubular mesh on which two vertical and opposite bands are superimposed so that the lower end of the mesh and the respective lower ends of the two bands are heat welded. The tubular mesh is joined to the two bands by vertical heat-welded lines located next to the two vertical ends of said bands; by the fact that, when the bag is full of products, the upper end of the tubular mesh and the corresponding upper ends of the bands are also horizontally heat welded, thus forming the closure of the mouth of the bag. The bag has another horizontal heat welded line on its upper part and located above, in parallel to and at a certain distance from the former, delimiting the bag at the top and, at the same time, securing the upper ends of the mesh and the two bands again by inserting a strip forming the handle, which is advantageously folded according to an inverted "U" general shape the ends of which are fastened by heat welding.

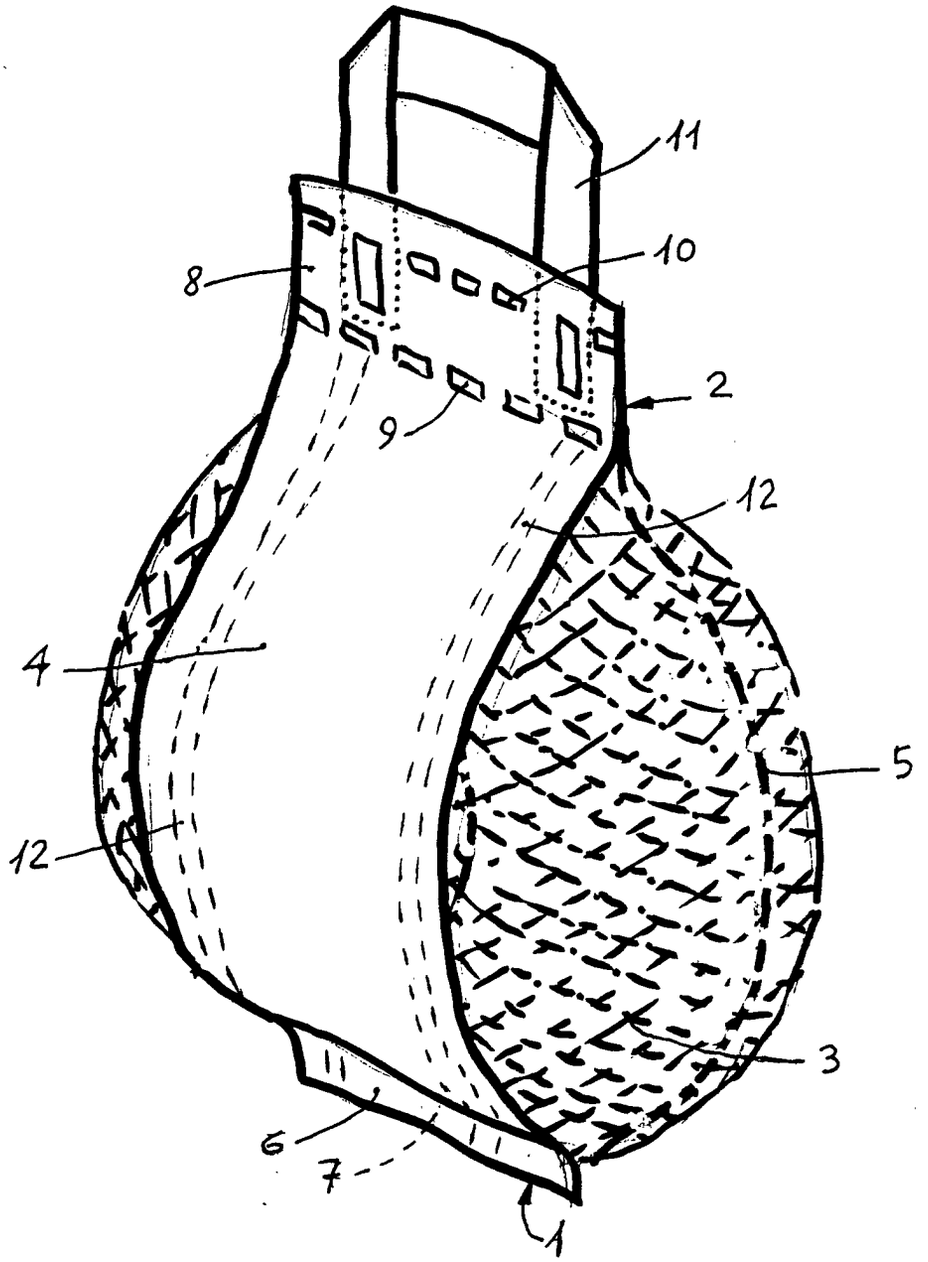

Fig. 1