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(54) CONTINUOUS BAND FOR THE PRODUCTION OF BASKET-TYPE BAGS FROM PLASTIC-COATED PAPER FOR FRUIT AND VEGETABLE PRODUCE AND SIMILAR PRODUCTS

(57) A continuous band for the production of basket-type bags from plastic-coated paper for fruit and vegetable produce and similar products, where the continuous band consists of a continuous sheet of plastic-coated paper whereon, in correspondence with each of the sectors of the same and longitudinally aligned, corresponding to the subsequent manufacture of the bags, a number of rectangular plastic-coated cardboard plates are disposed, located in such a way that on completion of the corresponding heat-seals, said rectangular plastic plates are located on opposite sides of the bag produced which, once filled with the product to be packaged, adopts the form of a box or basket.

The continuous band shall feature polyethylene reinforcements at the areas corresponding to the heat-seals and, as an option and in order to increase the mechanical strength of the basket-type bag, at the periphery of the windows and of the perforations.

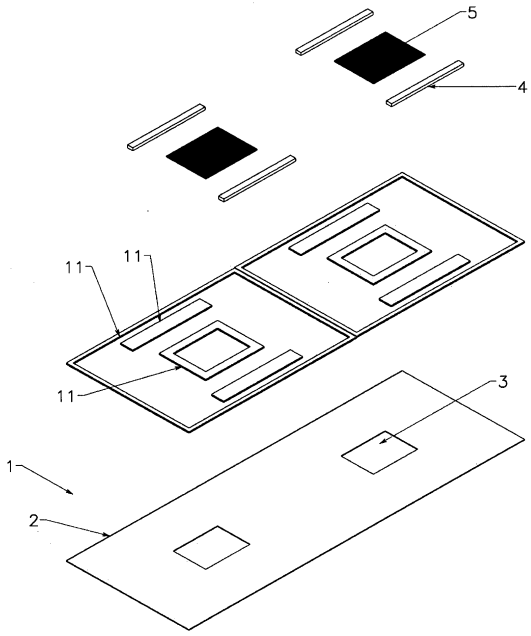

Figure 1

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Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a continuous band, especially conceived for the production of basket-type bags for fruit and vegetable produce and similar products, by means of longitudinal thermowelding, or any similar procedure, of said band along its longitudinal edges, so as to transform the same into a continuous tube; and, by means of transversal cutting and thermowelding parallel to said cut, the obtaining of unitary basket-type bags; also their closure and the independisation of the same.

[0002] The object of the invention is the obtaining of a continuous band, incorporating two rectangular plates of plastic-coated cardboard and a series of windows and, where applicable, perforations, from which, by means of the joining of its edges by thermowelding, a basket-type bag may be obtained, two of whose sides are rigid, and which, once filled with the product to be packaged, adopts the form of a tray or basket featuring one or more perforations in order to endow the bag with maximum mechanical strength, a correct aeration and optimal protection against crushing of the produce contained within, a greater capacity for printing on the bag and a greater speed of manufacture of the basket-type bag and a greater speed of filling the same.

[0003] Furthermore, the obtaining of a continuous band which is cheaper than traditional plastic or paper bags, and less harmful to the environment than plastic bags, is also the object of the invention.

BACKGROUND OF THE INVENTION

[0004] Certain fruit and vegetable products, such as tomatoes, cherries, oranges, etc., have been marketed for some time in paper or cardboard baskets or wooden or plastic boxes, which in many cases are protected and wrapped in perforated plastic bags which enable aeration of the produce, its direct viewing, its protection against crushing, and facilitate its storage or placement in the display stands or racks at sales outlets.

[0005] Prior baskets or boxes must be filled with the aforementioned products by hand, or by machinery with low operating speeds. Furthermore, these baskets or boxes must subsequently be wrapped in plastic bags. The packaging process of fruit and vegetable products in said baskets or boxes is slow, and the materials are costly.

DESCRIPTION OF THE INVENTION

[0006] The continuous band for the production of basket-type bags proposed by this invention represents a new technological breakthrough in this field and is founded upon the use of a continuous band intended to be folded over itself, by means of its longitudinal edges being joined by a heat-seal or other similar procedure parallel to said longitudinal edges, in order to form a continuous tube which is divisible into a plurality of sectors corresponding to the respective basket-type bags; said continuous band features one or more windows and, if applicable, equally- or differently-sized perforations. Said continuous band is a continuous sheet of paper, coated with plastic on at least one of its sides, and with a width equal to that of the continuous band. In correspondence with each of the sectors of the continuous sheet of plastic-coated paper intended for the obtaining of a basket-type bag, two rectangular plates of cardboard are affixed to the continuous sheet of plastic-coated paper; these are coated with plastic on at least one of their sides, and whose longitudinal axes are parallel to the longitudinal axis of the continuous sheet of plastic-coated paper. Likewise, polyethylene reinforcements are disposed at the areas foreseen for the handles, the heat-seals and, where applicable, at the edges or periphery of the windows and perforations, affixed to the sheet of plastic-coated paper by means of thermowelding or a similar procedure.

[0007] In a preferred embodiment of the invention, the distance between the longitudinal axes of the two rectangular plastic-coated cardboard plates is half the width of the continuous sheet of plastic-coated paper.

[0008] In another preferred embodiment of the invention, the length of the rectangular plastic-coated cardboard plates is less than the length of the sectors foreseen for the obtaining of a basket-type bag minus the width of said rectangular plastic-coated cardboard plates.

[0009] In another preferred embodiment the rectangular plastic-coated cardboard plates are affixed to the continuous sheet of plastic-coated paper by thermowelding or gluing.

[0010] Likewise, in correspondence with each of the sectors of the continuous sheet of plastic-coated paper, at least one window may be disposed, this being covered by means of a fragment of mesh netting, dimensionally and formally suited to said window, and affixed by thermowelding to the periphery of said windows, in such a way that the windows do not overlap the rectangular plastic-coated cardboard plates.

[0011] Furthermore, when only a single window is disposed in the continuous sheet of plastic-coated paper, said window may be centrally located with regard to the longitudinal axis of said continuous sheet of plastic-coated paper, and small perforations, without mesh netting and which do not coincide with the position of the rectangular plates, may be disposed on both sides of the same.

[0012] The continuous sheet of plastic-coated paper and the rectangular plastic-coated cardboard plates may be coated in plastic on both sides.

[0013] The mesh netting which covers the window may be a continuous strip of netting running longitudinally along the continuous sheet of plastic-coated paper.

DESCRIPTION OF THE FIGURES

[0014] As a supplement to the description made herein, and for the purpose of aiding the better understanding of the characteristics of the invention, in accordance with a preferred example of an embodiment of the same, a set of drawings is attached as an integral part of said description wherein, by way of illustration and not limitation, the following is portrayed:

Figure 1 depicts an exploded view in perspective of a continuous band of plastic-coated paper for the production of basket-type bags for fruit and vegetable produce and similar products.

Figure 2 depicts a perspective view of the continuous band in Figure 1, duly assembled.

Figure 3 depicts a continuous band, duly assembled, wherein the central windows are covered by a strip of mesh netting running longitudinally along the continuous sheet of plastic-coated paper.

Figure 4 depicts a continuous band, duly assembled, with a central window, covered by a fragment of netting, and a series of perforations on both sides of the central window.

Figure 5 depicts two perspective views of a bag obtained, portraying the basket- or tray-like shape acquired by the bag once filled with the product and with the heat-seals executed.

LIST OF REFERENCES

[0015]

1. Continuous band
2. Continuous sheet of plastic-coated paper
3. Window
4. Rectangular plastic-coated cardboard plate
5. Fragment of mesh netting
6. Basket-type bag
7. Longitudinal heat-seal
8. Transversal heat-seal
9. Perforations
10. Strip of netting
11. Polyethylene reinforcements

PREFERRED EMBODIMENT OF THE INVENTION

[0016] By studying the figures, particularly 1 and 2, it may be seen how the continuous band (1) for the production of basket-type bags, and which is the object of the present invention, is comprised of a continuous sheet of plastic-coated paper (2) of a width coinciding with that of the continuous band (1) and consequently of a width greater than double the width of the basket-type bag to be obtained. Throughout the length of the continuous sheet of plastic-coated paper (2) groups of windows (3) and, where applicable, perforations, both of these obtained by stamping, (9) are disposed; also the positions for the rectangular plastic-coated cardboard plates (4), preferably one group for each basket-type bag (6) to be obtained from said continuous band, there being at least one window (3) centred on what will become the upper side of the bag, and optionally, a series of perforations (9) which, there being no need to cover them with fragments of netting, contribute to the aeration of the product packaged. The position of the rectangular plastic plates (4) of each group shall be appropriate so that on producing the bag, they are located on the sides of the bag where there are no heat-seals.

[0017] Polyethylene reinforcements (11) are disposed at the areas foreseen for the handles, the heat-seals, and at the edges or periphery of the windows and perforations, in order to reinforce the basket-type bag at its possible areas of breakage and to reduce the thickness and grammage of the plastic-coated paper used.

[0018] The polyethylene reinforcements (11) are executed by means of polyethylene patches of a shape similar to that of the heat-seals, handles, windows and perforations, but with greater dimensions than these, affixed to the continuous band of plastic-coated paper by thermowelding; subsequent to this affixing, the handles, windows and perforations are executed by stamping.

[0019] The continuous sheet of plastic-coated paper (1) is joined together along its longitudinal edges by means of a longitudinal heat-seal (7) and by means of a double transversal heat-seal (8) to form the basket-type bag.

[0020] The fragments of netting (5) which cover the respective windows (3) are affixed by means of thermowelding.

[0021] The rectangular plastic-coated cardboard plates may be affixed to the continuous plastic sheet by means of the thermowelding of their edges to the continuous plastic sheet or by gluing.

[0022] In another preferred embodiment, the windows are covered by a strip of mesh netting (10) running longitudinally along the sheet of plastic-coated paper and affixed to said sheet by means of the corresponding heat-seals.

[0023] In the embodiments revealed above, the resulting basket-type bag, once filled with the chosen fruit or vegetable product, adopts the shape of a tray or basket where two of its sides are formed by two rectangular plastic-coated plates (4) which provide optimal strength to prevent the crushing of the product packaged.

[0024] In any of the cases revealed above, the resulting basket-type bags provide ample areas for the printing of graphics referring to the products contained in the same.

Claims

1. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar

products, of a type where said band is intended to be folded over itself, by means of its longitudinal edges being joined by thermowelding, in order to form a continuous tube which is divisible into a plurality of sectors corresponding to the respective basket-type bags; said continuous band features one or more windows and, if applicable, equally- or differently-sized perforations which may be covered by means of a fragment of mesh netting, **characterised in that** it consists of a continuous sheet of paper, coated in plastic on at least one of its sides, with a width equal to said continuous band; a continuous sheet of plastic-coated paper whereto, in correspondence with each of the sectors thereof foreseen for the obtaining of a basket-type bag, two rectangular plastic-coated cardboard plates are affixed on at least one of their sides, the longitudinal axis of which are parallel to the longitudinal axis of the continuous sheet of plastic-coated paper; likewise, polyethylene reinforcements are disposed at the areas foreseen for the handles, the heat-seals and, where applicable, at the edges or periphery of the windows and perforations, affixed to the sheet of plastic-coated paper by thermowelding or a similar procedure.

2. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in claim 1, **characterised in that** the distance between the longitudinal axes of the two rectangular plastic-coated cardboard plates is half the width of said continuous sheet of plastic-coated paper.

3. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in claims 1 and 2, **characterised in that** the length of the rectangular plastic-coated cardboard plates is less than the length of the sectors foreseen for the obtaining of a basket-type bag minus the width of said rectangular plastic-coated cardboard plates.

4. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in claims 1-3, **characterised in that** the rectangular plastic-coated cardboard plates are affixed to the continuous sheet of plastic-coated paper by thermowelding or gluing.

5. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in any of claims 1-4, **characterised in that** the rectangular plastic-coated cardboard plates are coated in plastic on both sides.

6. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in any of claims 1-5, **characterised in that** in correspondence with each of the sectors of the continuous sheet of plastic-coated paper at least one window is disposed, this being covered by means of a fragment of mesh netting, dimensionally and formally suited to said window, and affixed by thermowelding to the periphery of said window, in such a way that the position and size of the window do not overlap the rectangular plastic-coated cardboard plates.

7. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in claim 3, **characterised in that** when a single window with its corresponding mesh netting is disposed in each sector of the continuous plastic-coated paper, said window is centrally located with regard to the longitudinal axis of the continuous sheet of plastic-coated paper, and on both sides of the same small perforations without mesh netting are disposed; these do not coincide with the position of the rectangular cardboard plates.

8. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in claim 7, **characterised in that** the mesh netting which covers the window is a continuous strip of netting running longitudinally along the continuous sheet of plastic-coated paper.

9. A continuous band for the production of basket-type bags for fruit and vegetable produce and similar products, as claimed in any of the preceding claims, **characterised in that** the plastic-coated cardboard plates are coated in plastic on both of their sides.

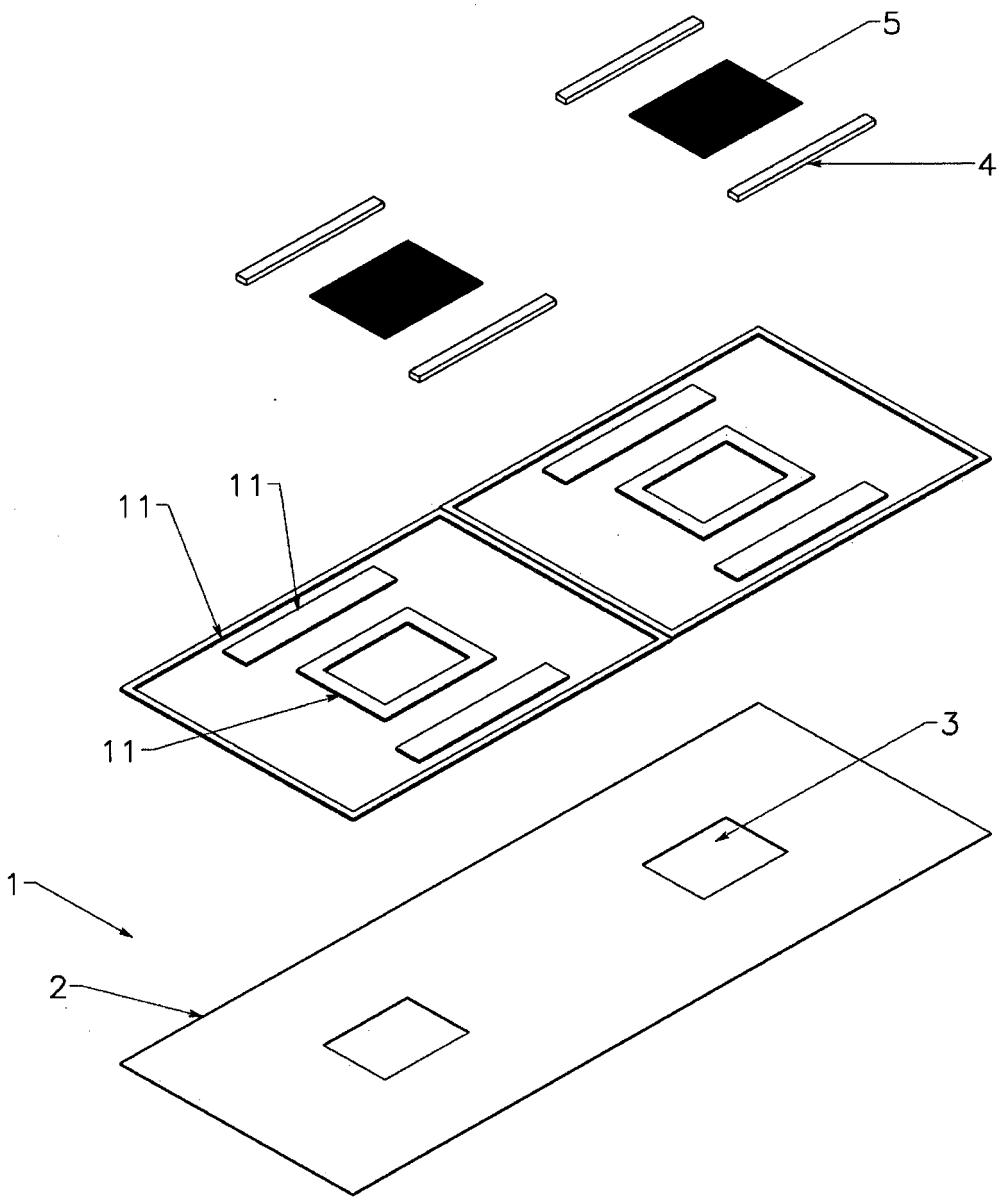

Figure 1

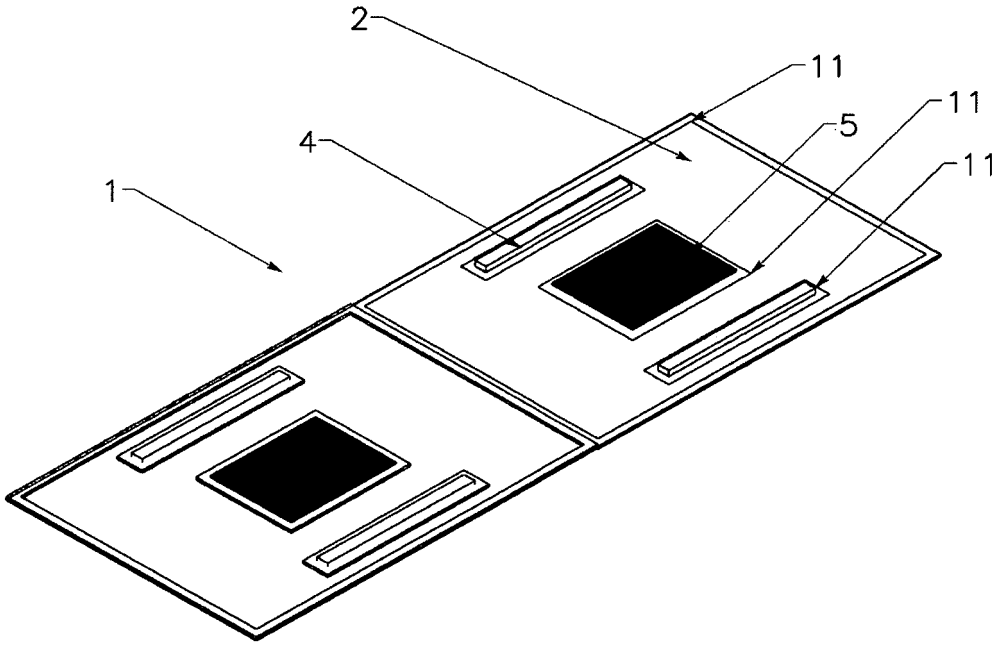

Figure 2

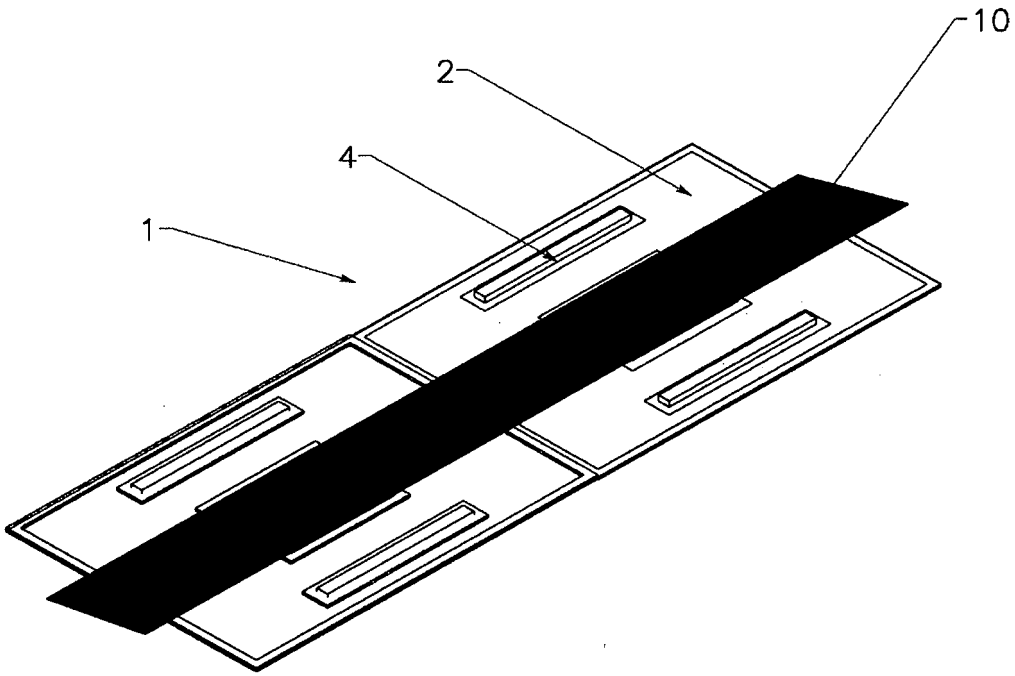

Figure 3

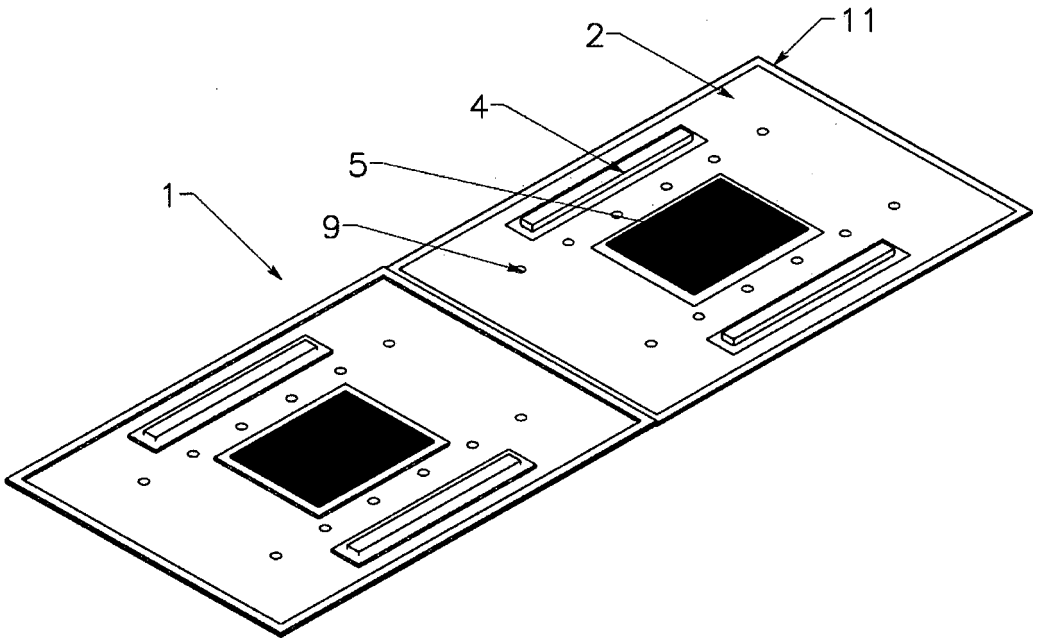

Figure 4

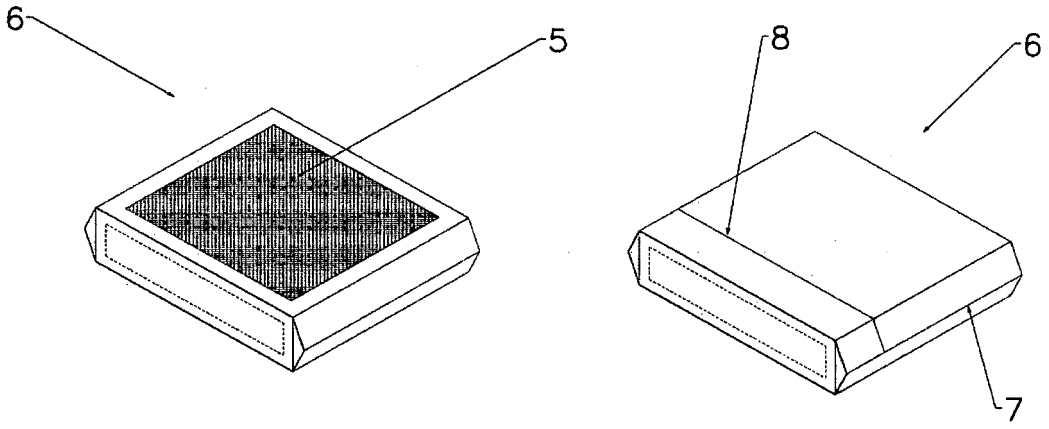

Figure 5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2013/070584

A. CLASSIFICATION OF SUBJECT MATTER

B65D30/10 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, INVENES, WPI

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2008040826 A1 (MESEGUER CRISTOBAL SA ET AL.) 10/04/2008, description; figures 1 - 10.	1-9
Y	WO 2012044452 A1 (NARULA VIR ET AL.) 05/04/2012, description; figures 1 - 9.	1-9
A	ES 1040772U U (MESEGUER CRISTOBAL SA) 16/05/1999, description; figures 1 - 4.	1-9
A	WO 2009122451 A1 (GIACOMETTI FERNANDO) 08/10/2009, description; figures 1 - 20.	1-9
A	JP 2010013127 A (ISHIZAKI SHIZAI KK) 21/01/2010, figures 1 - 5; Abstract from DataBase WPI; Retrieved from EPOQUE; AN JP-2008172323-A	1-9

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27/01/2014	**(28/01/2014)**
Name and mailing address of the ISA/ OFICINA ESPAÑOLA DE PATENTES Y MARCAS Paseo de la Castellana, 75 - 28071 Madrid (España) Facsimile No.: 91 349 53 04	Authorized officer J. Moreno Rodriguez Telephone No. 91 3495556

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
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