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(71) Applicant: **Cristóbal Meseguer, S.A.**
30570 Beniaján Murcia (ES)

(72) Inventor: **MESEGUER HUERTAS, José María**
E-30570 Beniaján (ES)

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(74) Representative: **Roeb Diaz-Alvarez, Maria**
Roeb & Co. S.L.
Plaza de Cataluna, 4-1.o
E-28002 Madrid (ES)

(54) **CONTINUOUS WEB FOR PRODUCING BAGS CONSISTING OF PLASTICISED PAPER AND COMPRISING A PLATE, FOR FRUIT AND VEGETABLE PRODUCTS AND THE LIKE**

(57) The invention relates to a continuous web for producing bags made of plasticised paper and including a plate, for fruit and vegetable products and the like, produced with plasticised paper on at least one of the faces thereof, incorporating a rectangular plate in the base of the future bag, that can be made of plasticised cardboard. The continuous web can comprise at least one window that can be closed with fragments of polyethylene network and reinforcements on the periphery of the windows and in the areas of the joints by means of thermowelding or a similar joining method.

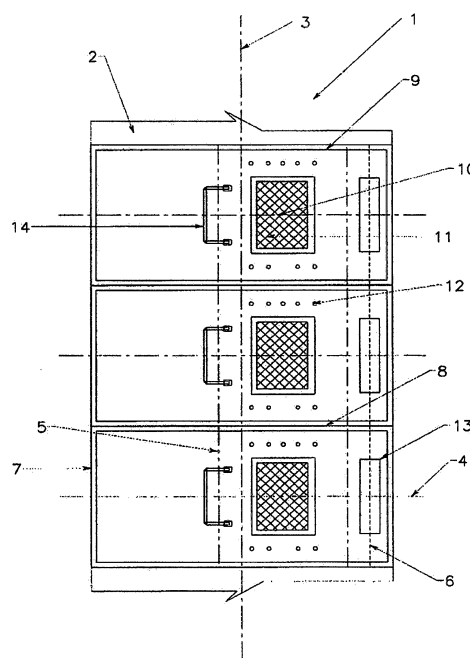


Figure 1

Description

OBJECT OF THE INVENTION

[0001] The object of the present invention is a continuous web of plasticised paper especially conceived for the subsequent production of bags for fruit and vegetable produce and the like, by means of the longitudinal thermowelding, or any other similar joining procedure, of its longitudinal edges, so as to transform the same into a likewise continuous tube; and, by means of transversal cutting and thermowelding, the obtaining of unitary bags by means of the closure and independisation of the same.

[0002] Another object of the invention is the obtaining of a continuous web combining totally closed areas of plasticised paper, a rectangular reinforcing plate, preferably of plasticised cardboard, located preferably at the base of the bag, windows covered with reticular material and, where applicable, perforations to enable the viewing, and in particular, the aeration of the products packaged. The reinforced paper bags provide maximum mechanical strength, optimal protection from the light of the products packaged, a greater capacity for printing on the bag than other prior bags and a high production rate, all featured by a bag produced from a totally recyclable material, and by means of the use of polyethylene reinforcements reducing the thickness and consequently the grammage of the plasticised paper and therefore its cost.

BACKGROUND OF THE INVENTION

[0003] Fruit and vegetable produce, such as oranges, potatoes, etc., are currently marketed in bags of reticular plastic material which enable the necessary aeration and viewing of the produce packaged.

[0004] In general, for the obtaining of these bags, a tubular body of reticular plastic material is closed at both ends subsequent to the packaging of the produce, one of said ends optionally featuring handles to facilitate the transport of the bags.

[0005] On other occasions, the origin is a continuous laminar web which is folded over itself to form the aforementioned tubular body via a longitudinal heat-seal, subsequent to which the aforementioned process is repeated, in such a way that the filling of the bags is executed simultaneously with their unitary independisation.

[0006] A notable evolution of the state of the art and which belongs to the same titleholder as does the present invention, consists of a laminar plastic web in which a series of openings are executed and then covered by a reticular material affixed to the web by means of thermowelding or other similar process.

[0007] The same inventor announces a second evolution, consisting of the use of a sheet of plasticised paper for the production of the continuous web, to which a series of polyethylene reinforcements are welded at the periphery of the windows and at the areas to be welded, enabling a reduction in the grammage of the plasti-

cised paper used.

[0008] The present invention provides an innovative continuous web which, by means of the use of a plasticised cardboard plate welded preferably at the location intended to be the base of the bag, provides among other advantages that the bag remains in the desired position on the racks in sales outlets for the enhancement of the product and the resulting desired increase in sales.

10 DESCRIPTION OF THE INVENTION

[0009] The continuous web proposed by the present invention represents a technological breakthrough in this field, and is based on the use of a continuous sheet of paper, plasticised on at least one of its sides, of a width coinciding with that of the continuous web, of the type where said web is intended to fold over itself, and by means of the joining of its longitudinal edges by thermowelding or other similar joining process to form a continuous tube which is divisible into a plurality of sectors corresponding to respective bags, said continuous web featuring one or more windows and, if applicable, equally- or differently-sized perforations which may be covered by means of fragments of mesh netting, dimensionally and formally suited to each window, and affixed to the periphery of said windows. The continuous web is formed from a continuous sheet of plasticised paper on which, in correspondence with each of the sectors of the same foreseen for the obtaining of a bag, polyethylene reinforcements are disposed at the areas foreseen for the handles, the heat-seals and at the periphery of the windows and, if applicable, the perforations, affixed to the sheet of plasticised paper by thermowelding or other similar joining process. In correspondence with each of the sectors of the continuous sheet of plasticised paper foreseen for the obtaining of a bag, a rectangular plate is affixed to said continuous sheet of plasticised paper at the area of the web intended to be the base of the bag, the longitudinal axis of said plate being parallel to the longitudinal axis of the sheet of plasticised paper. The rectangular plate, which may be cardboard plasticised on at least one of its sides, and may feature a weakening line on its longitudinal axis in order to facilitate its folding and unfolding, enables the bag, once filled with the fruit or vegetable produce, to remain in a vertical position once placed on the sales racks, improving its display to customers and enhancing the product.

[0010] In a first preferred embodiment, in correspondence with each of the sectors of the continuous sheet of plasticised paper, at least one window is disposed, which is 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.

[0011] The sheet of plasticised paper may be plasticised on both sides.

[0012] In a second preferred embodiment, when a single window with its corresponding mesh netting is disposed in each sector of the continuous sheet of plasti-

cised paper, said window is located centrally with regard to the transversal axis of the continuous sheet of plasticised paper, and on both sides of the same, small perforations, devoid of netting, may be disposed.

[0013] As an option, the netting which covers the window is a continuous strip of netting running longitudinally along the continuous sheet of plasticised paper.

[0014] On the other hand, in addition to the polyethylene reinforcements disposed in the area of the handles, a second polyethylene reinforcement may be disposed, affixed to the polyethylene reinforcement by thermowelding or any other means, with the particularity that the second reinforcement is fixed to the polyethylene reinforcement on the surface of this last, and to a U-shaped strip demarcated by a die-stamped line affecting both the polyethylene reinforcement and the sheet of plasticised paper; said strip constitutes a handle intended to project through the mouth of the bag body.

[0015] The die-stamped lines which determine the U-shaped strip may be pre-cut or sliding lines which maintain said U-shaped strip in coplanar disposition with the remainder of the polyethylene reinforcement and of the sheet of plasticised paper.

[0016] Furthermore, each sector of the web intended for the obtaining of a bag features polyethylene reinforcements corresponding to two diametrically opposite points at the mouth of the bag, in such a way that the base accommodates two handles protruding from said mouth of the bag, these also being diametrically opposite.

[0017] By means of the continuous web of plasticised paper which is the subject of the description above, we may obtain a product with all the advantages of continuous plastic webs, but at a lower cost and with the possibility of recycling part of the materials employed in its manufacture, it thus being less damaging to the environment, and facilitating its placement in a vertical position on the shelves or racks at the sales outlets.

DESCRIPTION OF THE FIGURES

[0018]

Figure 1 is a plan view of the continuous web;

Figure 2 is a perspective exploded view of a sector of the continuous web;

Figure 3 is a perspective view of a bag, devoid of handles, manufactured from the continuous web.

LIST OF REFERENCES

[0019]

1. Continuous web of plasticised paper
2. Sheet of plasticised paper
3. Longitudinal axis of the continuous sheet of plasticised paper
4. Transversal axis of each sector
5. Upper fold line of the bag

6. Fold line at the base of the bag
7. Longitudinal heat-seal areas
8. Transversal heat-seal areas
9. Polyethylene reinforcement
10. Central window
11. Fragment of mesh netting
12. Perforations
13. Rectangular plate
14. Handle
15. Bag

PREFERRED EMBODIMENT OF THE INVENTION

[0020] The figures accompanying the present description depict a preferred embodiment of the invention, where the continuous web for the manufacture of bags of plasticised paper and featuring a plate, for fruit and vegetable produce and the like, is constituted by a continuous sheet of plasticised paper; in this preferred embodiment the continuous sheet of paper is plasticised on both sides.

[0021] The continuous sheet of plasticised paper features the same width as the continuous web; this being the sum of the length of the two lateral faces of the bag plus the width of the base of the bag.

[0022] At the predetermined locations for the windows, the areas where heat-seals will be executed, and the area where the two extremities of the handle will be located, dimensionally and formally suited polyethylene reinforcements are affixed to the continuous sheet of plasticised paper and subsequently, the windows and perforations are die-stamped. Subsequent to the thermowelding of the fragment of mesh netting, of the rectangular plate -in this embodiment of cardboard, plasticised on both sides- and of the handle, the continuous web which is the object of the present description is finally obtained.

[0023] Once the continuous web has been manufactured, the procedure for the manufacture of the bag commences, joining the longitudinal areas for heat-seals by means of thermowelding or any other similar joining procedure, thus obtaining a continuous tube forming the longitudinal part of the bag, for the subsequent execution of heat-seals at the lower transversal area for heat-seals of the continuous tube, filling the same with the fruit or vegetable produce, and executing the heat-seal at the upper transversal area for heat-seals, thus obtaining the bag.

Claims

1. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, of the type where said web is intended to fold over itself, and by means of the joining of its longitudinal edges by thermowelding or other similar joining process to form a continuous tube which is divisible into a plurality of sectors corresponding to respective bags, said continuous web

- featuring one or more windows and, if applicable, equally- or differently-sized perforations which may be covered by means of fragments of mesh netting, dimensionally and formally suited to each window, and affixed to the periphery of said windows, **characterised in that** the continuous web consists of a continuous sheet of paper, plasticised on at least one of its sides, on which, in correspondence with each of the sectors of the same foreseen for the obtaining of a bag, polyethylene reinforcements are disposed at the areas foreseen for the handles, the joins made by thermowelding or other similar joining process, and at the edges or periphery of the windows and, if applicable, the perforations, affixed to the sheet of plasticised paper by thermowelding or a similar joining process; in correspondence with each of the sectors of the continuous sheet of plasticised paper foreseen for the obtaining of a bag, a rectangular plate is affixed, by thermowelding or other similar joining process, to said continuous sheet of plastic; the longitudinal axis of said plate being parallel to the longitudinal axis of the continuous sheet of plasticised paper, located at the area of the web intended to be the base of the bag.
2. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in claim 1, **characterised in that** the continuous sheet of plasticised paper is plasticised on both sides.
 3. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in any of the preceding claims, **characterised in that** the rectangular plate is made of cardboard, plasticised on at least one of its sides.
 4. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in claim 3, **characterised in that** the rectangular plate features a weakening line along its longitudinal axis.
 5. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in claim 4, **characterised in that** in correspondence with each of the sectors of the continuous sheet of plasticised paper, at least one window is disposed, which is covered by means of a fragment of mesh netting, dimensionally and formally suited to said window, and affixed by thermowelding or a similar joining procedure to the periphery of said window.
 6. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in claim 5, **characterised in that** small perforations, devoid of netting, are disposed on both sides of the window.
 7. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in claim 5, **characterised in that** the netting which covers the window is a continuous strip of netting running longitudinally along the continuous sheet of plasticised paper.
 8. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in any of the preceding claims, **characterised in that** in addition to the polyethylene reinforcements disposed in the area of the handles, a second polyethylene reinforcement is disposed, affixed to the polyethylene reinforcement by thermowelding or any other means, with the particularity that the second reinforcement is affixed to the polyethylene reinforcement on the surface of this last, and to a U-shaped strip demarcated by a die-stamped line affecting both the polyethylene reinforcement and the sheet of plasticised paper; said strip constitutes a handle intended to project through the mouth of the bag body.
 9. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in claim 8, **characterised in that** the die-stamped lines which determine the U-shaped strip are pre-cut or sliding lines which maintain said U-shaped strip in coplanar disposition with the remainder of the polyethylene reinforcement and the sheet of plasticised paper.
 10. A continuous web for the production of plasticised paper bags including a plate, for fruit and vegetable products and the like, as claimed in any of the preceding claims, **characterised in that** each sector of the web intended for the obtaining of a bag features polyethylene reinforcements corresponding to two diametrically opposite points at the mouth of the bag, in such a way that the base accommodates two handles protruding from said mouth of the bag, these also being diametrically opposite.

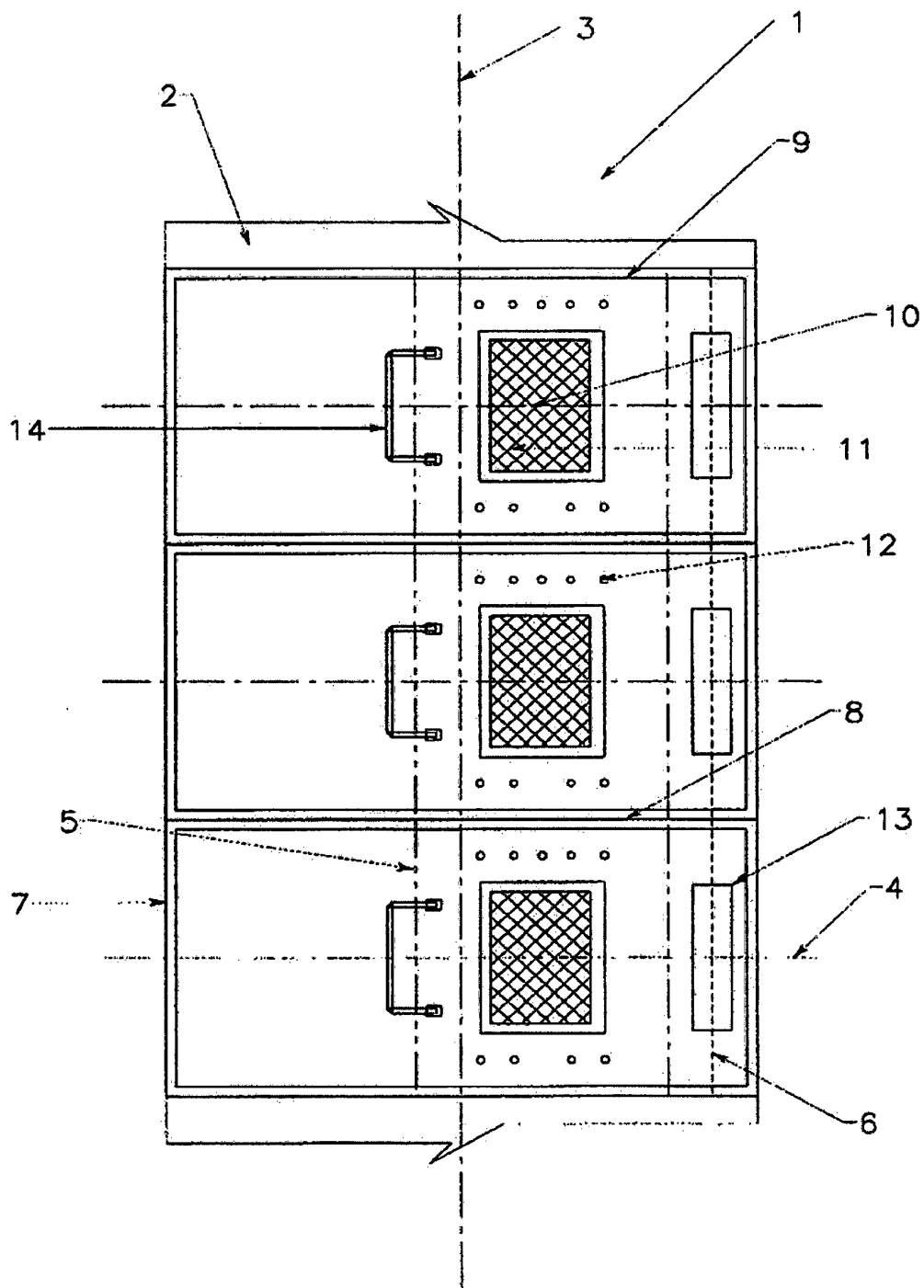


Figure 1

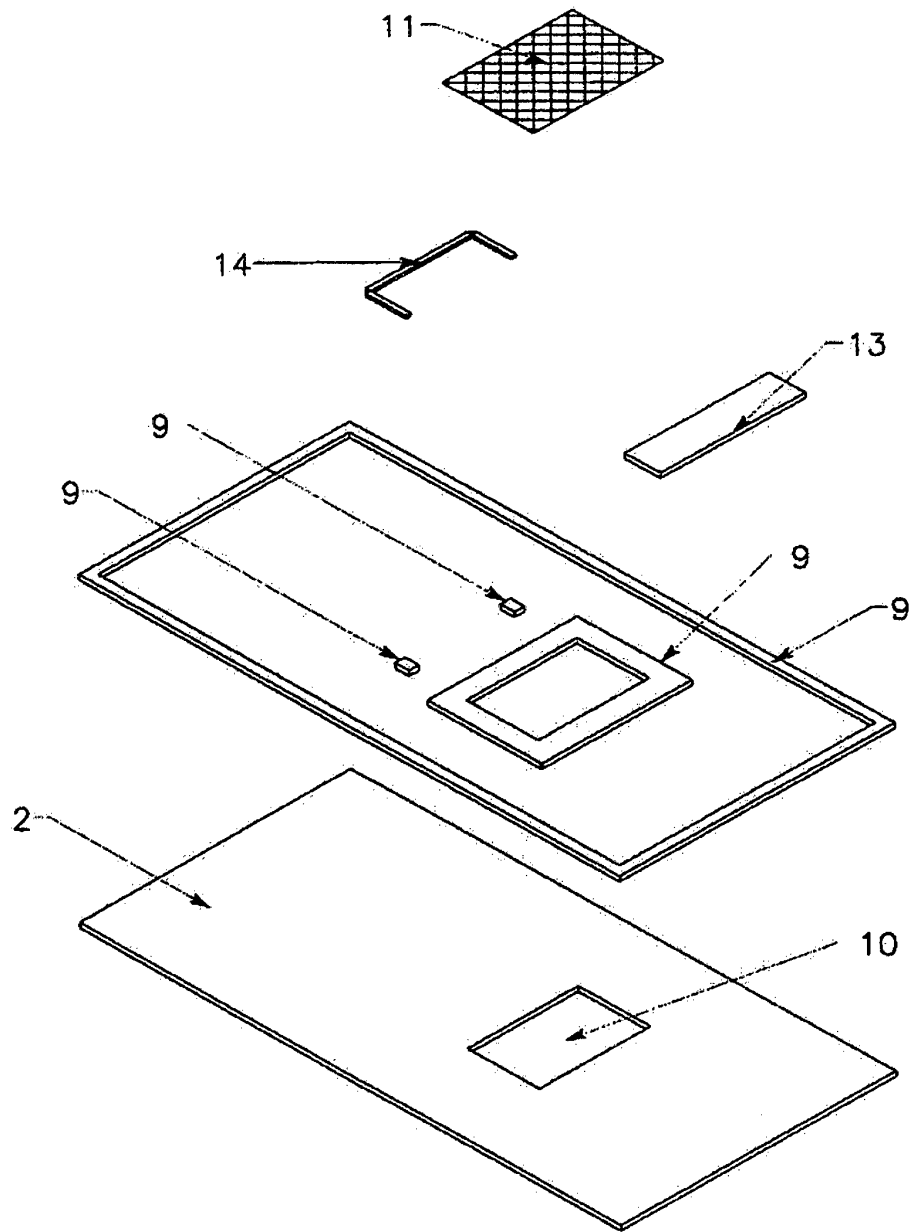


Figure 2

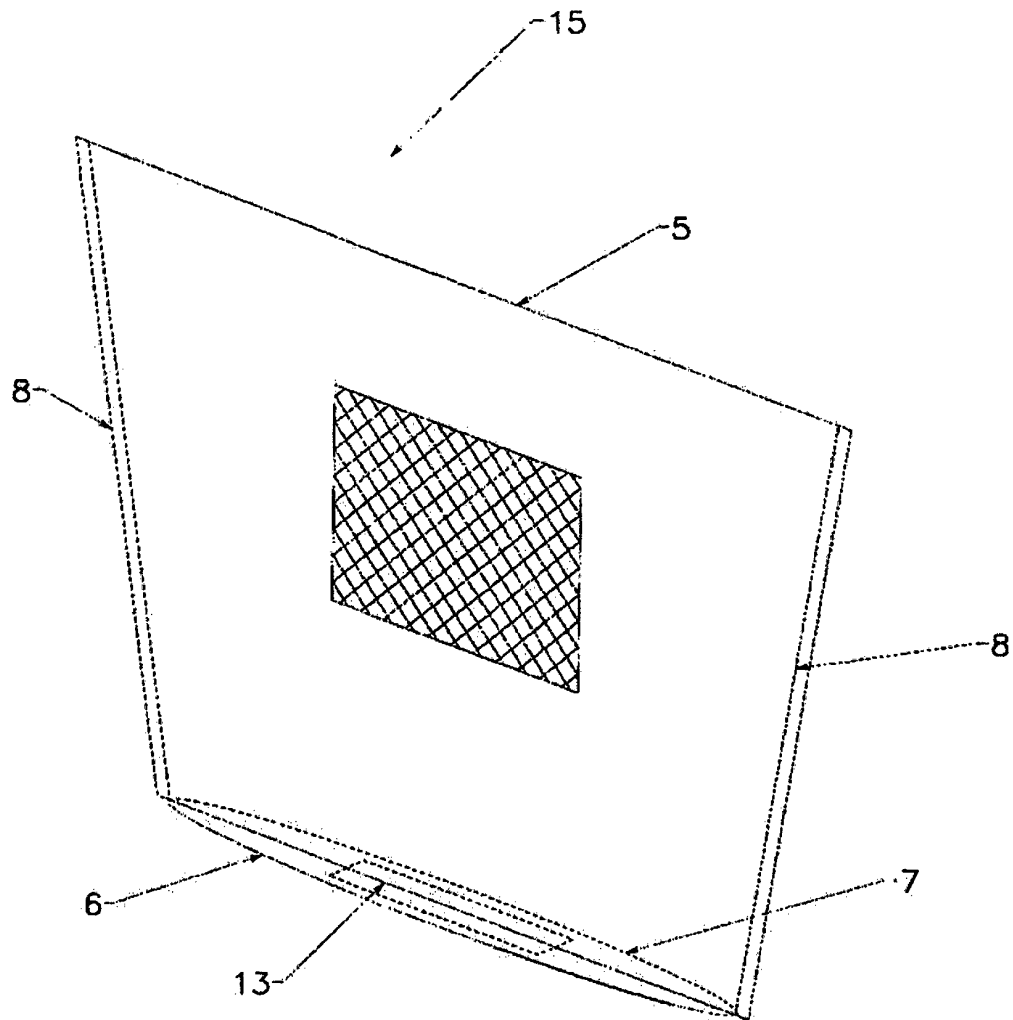


Figure 3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/ES2013/070589

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.	1-10
Y	WO 2012044452 A1 (NARULA VIR ET AL.) 05/04/2012, description; figures 1 - 9.	1-10
A	ES 1040772U U (MESEGUER CRISTOBAL SA) 16/05/1999, description; figures 1 - 4.	1-10
A	WO 2009122451 A1 (GIACOMETTI FERNANDO) 08/10/2009, description; figures 1 - 20.	1-10
A	JP 2010013127 A (ISHIZAKI SHIZAI KK) 21/01/2010, figures 1 - 5; Abstract from DataBase WPI; Retrieved from EPOQUE; AN JP-2008172323-A	1-10

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

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Date of the actual completion of the international search
07/02/2014Date of mailing of the international search report
(12/02/2014)

Name and mailing address of the ISA/

Authorized officer
J. Moreno RodriguezOFICINA ESPAÑOLA DE PATENTES Y MARCAS
Paseo de la Castellana, 75 - 28071 Madrid (España)
Facsimile No.: 91 349 53 04

Telephone No. 91 3495556

Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.

Information on patent family members

PCT/ES2013/070589

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