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

ENDLOS BAND AUS KUNSTSTOFFBESCHICHTETEM PAPIER ZUR HERSTELLUNG VON
BEUTELN FÜR OBST UND GEMÜSE UND ÄHNLICHE PRODUKTE

BANDE CONTINUE EN PAPIER PLASTIFIÉ POUR LA FABRICATION DE SACS POUR PRODUITS
HORTOFRUTICOLES ET SIMILAIRES

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Description

Object of the invention

[0001] The present invention relates to a continuous band of plastic-coated paper, which has been especially designed for the subsequent production of bags for horticultural produce and other similar products, by means of longitudinal heat-sealing or any other similar process of said band along its longitudinal seams, in order to convert it into a continuous tube, by means of parallel sealing and transverse cutting, to obtain independent, closed unitary bags.

[0002] The object of the invention is to obtain a continuous band that combines completely closed plastic-coated paper areas and mesh areas, and, when appropriate, perforations, in order to allow for the visibility and, especially, the aeration of the products contained therein, with maximum mechanical resistance of the bag, optimal protection of the products contained therein against light, greater bag printing capacity, a higher production rate, recyclable bags and a reduction in the thickness and weight of the plastic-coated paper, and, consequently, a lower cost.

Background of the invention

[0003] For a long time, certain horticultural produce, such as oranges, potatoes, etc., have been marketed in plastic bags with a lattice structure, which allow for both aeration of the produce and visibility thereof. Sometimes, the production of these bags starts from a tubular mesh body closed on both ends after packaging of the product, optionally with one of said ends being equipped with handles that facilitate the transport thereof.

[0004] On other occasions, the process starts from a continuous laminar band, closed upon itself to configure the aforementioned tubular body, along a longitudinal heat-sealed line, after which the aforementioned process is repeated, such that filling of the bags is performed simultaneously with the unitary separation thereof.

[0005] The best solution adopted up to date belongs to the same applicant of this invention, and consists of a laminar plastic band with a number of openings, which are closed by a mesh material that is bound to the sheet by means of heat-sealing or a similar process.

[0006] Another solution is disclosed in patent document DE 29.506.855, which consists of a continuous band of plastic-coated paper for the production of bags formed from a continuous sheet of paper, synthetic material or a composite of these materials, with a width equal to that of said continuous band; a continuous sheet of plastic-coated paper where reinforcements of the same material as that of the continuous band, or another material, are placed on the seams or the periphery of the windows and, where appropriate, the perforations, said polyethylene reinforcements being bound to the sheet of plastic-coated paper by means of sealing with an adhesive material.

The solution proposed in the present invention improves that disclosed in document DE 29.506.855 in various aspects, noteworthy amongst them the use of plastic-coated paper for the band, wherein the reinforcements are made of polyethylene and, moreover, are placed on the heat-sealed areas and the handle areas.

Description of the invention

[0007] The continuous band proposed in the present invention represents a technological advance in this field and is based on the use of single continuous sheet of plastic-coated paper, whose width coincides with that of the band, such that said band is designed to close upon itself by means of heat-sealing along its longitudinal seams, in order to configure a continuous tube that may be fragmented into a plurality of sectors corresponding to respective bags, said continuous band having one or more windows and, where appropriate, perforations of equal or different size that may be closed with the aid of a mesh fragment, formally and dimensionally suitable for each window and fixed to the periphery thereof. The continuous band is made from a continuous sheet of plastic-coated paper on at least one of its sides, with a width equal to that of said continuous band; a continuous sheet of plastic-coated paper where, coinciding with each of the sectors thereof provided for the production of a bag, polyethylene reinforcements are placed in the areas proposed for the handles, the heat-sealings and the seams or the periphery of the windows and, where appropriate, the perforations, bound to the sheet of plastic-coated paper by means of heat-sealing or a similar process.

[0008] In a first preferred embodiment, at least one window is created coinciding with each of the sectors of the continuous sheet of plastic-coated paper, which is closed with the aid of a mesh fragment, formally and dimensionally suitable for said window and fixed to the periphery of said window by means of heat-sealing.

[0009] The sheet of plastic-coated paper may be plasticised on both sides.

[0010] In a second preferred embodiment, when a single window with its corresponding mesh is created in each sector of the continuous sheet of plastic-coated paper, said window is centred with respect to the longitudinal axis of the continuous sheet of plastic-coated paper, and small perforations, without a mesh, are created on both sides thereof.

[0011] Optionally, the mesh that closes the window is a continuous strip of mesh that runs longitudinally along the continuous plastic sheet.

[0012] On the other hand, in addition to the polyethylene reinforcements placed on the handle areas, a second polyethylene reinforcement fixed to the polyethylene reinforcement may be placed by means of heat-sealing or any other means, with the special feature that the second reinforcement is fixed to the polyethylene reinforcement on the surface of the latter, unrelated to the U-shaped

strip delimited by a punched line that affects both the polyethylene reinforcement and the sheet of plastic-coated paper, the strip forming a handle designed to emerge through the mouth of the body of the bag.

[0013] The punched lines that determine the U-shaped strip may be pre-cut or sliding lines which keep said U-shaped strip in a co-planar position with respect to the rest of the polyethylene reinforcement and the sheet of plastic-coated paper.

[0014] Moreover, each sector of the band designed to produce a bag incorporates polyethylene reinforcements that coincide with two points of the bag mouth, diametrically opposed to one another, such that the base incorporates two handles that emerge from said bag mouth, also diametrically opposed to one another.

[0015] Using the continuous band of plastic-coated paper of the preceding description, we obtain a product with all the advantages of continuous plastic bands, but at a lower cost and with the possibility of recycling a part of the materials used in the production thereof, which makes it less harmful to the environment.

Description of the figures

[0016]

- fig. 1 shows the sheet of plastic-coated paper with the fixed polyethylene reinforcements;
- fig. 2 shows an exploded view of the sheet with the windows, the punched perforations, the mesh fragments and the handles;
- fig. 3 shows the continuous band of plastic-coated paper with the mesh fragments and the handles placed at their final position;
- fig. 4 shows various bag models that may be obtained.

List of references used

[0017]

- 1. Continuous band of plastic-coated paper
- 2. Sheet of plastic-coated paper
- 3. Polyethylene reinforcement
- 4. Central window
- 5. Lateral window
- 6. Mesh fragment
- 8. Handle
- 9. Bag

Preferred embodiment of the invention

[0018] In light of the figures incorporated into the present specification, and especially Figures 1-3, it may be observed that the continuous band of plastic-coated paper for the production of bags is formed from a continuous sheet of plastic-coated paper; in this preferred embodiment, the paper is plasticised on both sides, and its

width coincides with the width of the band of plastic-coated paper and, therefore, is twice as wide as the bag to be obtained; along the sheet of plastic-coated paper, groups of windows are placed, obtained by means of punching, of different sizes and shapes, with at least one window centred on what will become the front of the bag, and, in this embodiment, another pair of longer windows are placed at the sides of the central window. The windows are closed by formally and dimensionally suitable mesh fragments. Optionally, groups of perforations that are not closed by mesh fragments may be placed, in order to increase aeration of the packaged products.

[0019] In order to increase the mechanical resistance of the bag in the areas designed to be heat-sealed, the handles and the periphery of the windows, polyethylene reinforcements are placed in said areas which are bound to the continuous sheet by means of heat-sealing or any other similar process. In this embodiment, the windows are created after sealing the mesh fragments.

[0020] Figure 4 shows various types of bags that may be obtained from the continuous band of plastic-coated paper of the present invention.

25 Claims

- 1. Continuous band of plastic-coated paper (1) for the production of bags for horticultural produce and other similar products, wherein said band (1) is designed to close upon itself, its longitudinal edges being bound by means of heat-sealing, in order to configure a continuous tube that may be fragmented into a plurality of sectors corresponding to respective bags, said continuous band (1) having one or more windows (4, 5) and, where appropriate, perforations of equal or different size, and said band being formed from a continuous sheet of plastic-coated paper (2) on at least one of its sides, with a width equal to that of said continuous band (1); a continuous sheet of plastic-coated paper (1) wherein, coinciding with each of the sectors thereof designed to obtain a bag, polyethylene reinforcements (1) are placed in the areas designed for the handles (1), the heat-seals and the edge seams or the periphery of the windows (4, 5), and, where appropriate, the perforations, said polyethylene reinforcements (3) being bound to the sheet of plastic-coated paper (3) by means of heat-sealing or a similar process.
- 2. Continuous band of plastic-coated paper for the production of bags for horticultural produce and other similar products according to claim 1, wherein, coinciding with each of the sectors of the continuous sheet of plastic-coated paper (3), at least one window (4, 5) is created, which is closed with the aid of a mesh fragment (6), formally and dimensionally suitable to said window and fixed to the periphery of said window (4, 5) by means of heat-sealing.

3. Continuous band of plastic-coated paper for the production of bags for horticultural produce and other similar products according to claim 1, wherein, on each sector of the continuous sheet of plastic-coated paper (2), a single window (4) is created, with its corresponding mesh, said window being centred with respect to the longitudinal axis of the continuous sheet of plastic-coated paper (2), and with small perforations, without a mesh, placed on both sides thereof. 5
4. Continuous band of plastic-coated paper for the production of bags for horticultural produce and other similar products according to claim 2, wherein the mesh that closes the window is a continuous strip of mesh that runs longitudinally along the continuous plastic sheet (2). 10
5. Continuous band of plastic-coated paper for the production of bags for horticultural produce and other similar products according to any of the preceding claims, wherein the sheet of plastic-coated paper (2) is plasticised on both sides. 15
6. Continuous band of plastic-coated paper for the production of bags for horticultural produce and other similar products according to any of the preceding claims, wherein each sector of the band (1) designed to obtain a bag (9) incorporates polyethylene reinforcements (3), coinciding with two points of the bag mouth diametrically opposed to one another, such that the base incorporates two handles (8) that emerge from said bag mouth, also diametrically opposed to one another. 20

Patentansprüche

1. Durchgehendes Band aus kunststoffbeschichtetem Papier (1) zur Herstellung von Säcken für Gartenbauerzeugnisse und ähnliche Produkte, wobei dieses Band (1) selbstschließend ausgelegt ist und seine Längskanten durch Heißsiegeln miteinander verschweißt sind, um einen durchgehenden Schlauch auszubilden, der in eine Vielzahl von den jeweiligen Säcken entsprechenden Abschnitten unterteilt werden kann, wobei dieses durchgehende Band (1) ein oder mehrere Fenster (4, 5) und gegebenenfalls Durchlochungen gleicher oder unterschiedlicher Größe aufweist und dieses Band auf mindestens einer seiner Seiten aus einer durchgehenden Folie aus kunststoffbeschichtetem Papier (2) besteht, die genauso breit ist wie das durchgehende Band (1); eine durchgehende Folie aus kunststoffbeschichtetem Papier (1), wobei in Übereinstimmung mit den jeweiligen, zum Herstellen eines Sacks ausgelegten Abschnitten derselben Polyethylenverstärkungen (1) in den für die Griffe (1), die Wärmeversiegelungen und 25

die Kantennähte oder den das Fenster (4, 5) umgebenden Bereich und gegebenenfalls die Durchlochungen vorgesehenen Bereichen angebracht sind, und wobei diese Polyethylenverstärkungen (3) durch Heißsiegeln oder einem ähnlichen Verfahren mit der Folie aus kunststoffbeschichtetem Papier (3) verbunden sind.

2. Durchgehendes Band aus kunststoffbeschichtetem Papier zur Herstellung von Säcken für Gartenbauerzeugnisse und ähnliche Produkte nach Anspruch 1, wobei in Übereinstimmung mit den jeweiligen Abschnitten der durchgehenden Folie aus kunststoffbeschichtetem Papier (3) mindestens ein Fenster (4, 5) erzeugt wird, das mit Hilfe eines Gitterstücks (6) verschlossen wird, das eine für das Fenster geeignete Form und Größe aufweist und durch Heißsiegeln an dem das Fenster (4, 5) umgebenden Bereich befestigt ist. 30
3. Durchgehendes Band aus kunststoffbeschichtetem Papier zur Herstellung von Säcken für Gartenbauerzeugnisse und ähnliche Produkte nach Anspruch 1, wobei in jedem Abschnitt der durchgehenden Folie aus kunststoffbeschichtetem Papier (2) ein einziges Fenster (4) mit seinem entsprechenden Gitter erzeugt wird, wobei dieses Fenster in Bezug auf die Längsachse der durchgehenden Folie aus kunststoffbeschichtetem Papier (2) zentriert ist und an seinen beiden Seiten kleine Durchlochungen ohne Gitter aufweist. 35
4. Durchgehendes Band aus kunststoffbeschichtetem Papier zur Herstellung von Säcken für Gartenbauerzeugnisse und ähnliche Produkte nach Anspruch 2, wobei das Gitter, das das Fenster verschließt, ein durchgehender Gitterstreifen ist, der längs entlang der durchgehenden Kunststoffolie (2) verläuft.
5. Durchgehendes Band aus kunststoffbeschichtetem Papier zur Herstellung von Säcken für Gartenbauerzeugnisse und ähnliche Produkte nach einem der vorhergehenden Ansprüche, wobei die Folie aus kunststoffbeschichtetem Papier (2) auf beiden Seiten weichgemacht ist. 40
6. Durchgehendes Band aus kunststoffbeschichtetem Papier zur Herstellung von Säcken für Gartenbauerzeugnisse und ähnliche Produkte nach einem der vorhergehenden Ansprüche, wobei jeder zum Herstellen eines Sacks (9) ausgelegte Abschnitt des Bands (1) Polyethylenverstärkungen (3) aufweist, die mit zwei diametral gegenüberliegenden Punkten des Sackmundes übereinstimmen, sodass die Basis zwei ebenfalls diametral gegenüberliegende, aus diesem Sackmund hervortretende Griffe (8) aufweist. 45

Revendications

1. Bande continue en papier plastifié (1) destinée à la fabrication de sacs pour produits horticoles et autres produits similaires, où ladite bande (1) est conçue pour se fermer sur elle-même, ses bords longitudinaux étant reliés par thermoscellage, afin de configurer un tube continu qui peut se diviser en une pluralité de sections qui correspondent aux sacs respectifs, ladite bande continue (1) ayant une ou plusieurs fenêtres (4, 5) et, le cas échéant, des perforations de même taille ou de taille différente, et ladite bande est formée par une feuille continue en papier plastifié (2) sur au moins l'une de ses faces, avec une largeur égale à celle de ladite bande continue (1) ; une feuille continue en papier plastifié (1) où, en coïncidence avec chacune de ses sections conçues pour obtenir un sac, des renforts en polyéthylène (1) sont placés dans les zones prévues pour les poignées (1), les thermojoins et les joints de bordure, ou la périphérie des fenêtres (4, 5), et, le cas échéant, les perforations, lesdits renforts en polyéthylène étant reliés à la feuille en papier plastifié (3) par thermoscellage ou autre procédé similaire. 5
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2. Bande continue en papier plastifié destinée à la production de sacs pour produits horticoles et autres produits similaires selon la revendication 1, dans laquelle, en coïncidence avec chacune des sections de la feuille continue en papier plastifié (3), on a disposé au moins une fenêtre (4, 5), qui se ferme à l'aide d'un morceau de maille (6), lequel s'adapte de manière adéquate à la forme et aux dimensions de ladite fenêtre et qui va se fixer sur la périphérie de ladite fenêtre (4, 5) par thermoscellage. 30
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3. Bande continue en papier plastifié destinée à la production de sacs pour produits horticoles et autres produits similaires selon la revendication 1, dans laquelle, sur chaque section de feuille continue en papier plastifié (2), est disposée une unique fenêtre (4), avec sa maille correspondante, ladite fenêtre étant centrée par rapport à l'axe longitudinal de la feuille continue en papier plastifié (2), et ayant de petites perforations, sans maille, placées sur les deux faces de celle-ci. 40
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4. Bande continue en papier plastifié destinée à la production de sacs pour produits horticoles et autres produits similaires selon la revendication 2, où la maille qui ferme la fenêtre est une bande continue de maille qui s'étend longitudinalement le long de la feuille continue en plastique (2). 50
5. Bande continue en papier plastifié destinée à la production de sacs pour produits horticoles et autres produits similaires selon l'une quelconque des revendications antérieures, où les deux faces de la 55

feuille en papier plastifié (2) sont plastifiées.

6. Bande continue en papier plastifié destinée à la production de sacs pour produits horticoles et autres produits similaires selon l'une quelconque des revendications antérieures, où chaque section de la bande (1) conçue pour obtenir un sac inclut des renforts en polyéthylène (3), en coïncidence avec deux points de l'embouchure du sac diamétralement opposés entre eux, de telle sorte que la base inclut deux poignées (8) qui dépassent de ladite embouchure du sac et qui sont aussi diamétralement opposées entre elles.

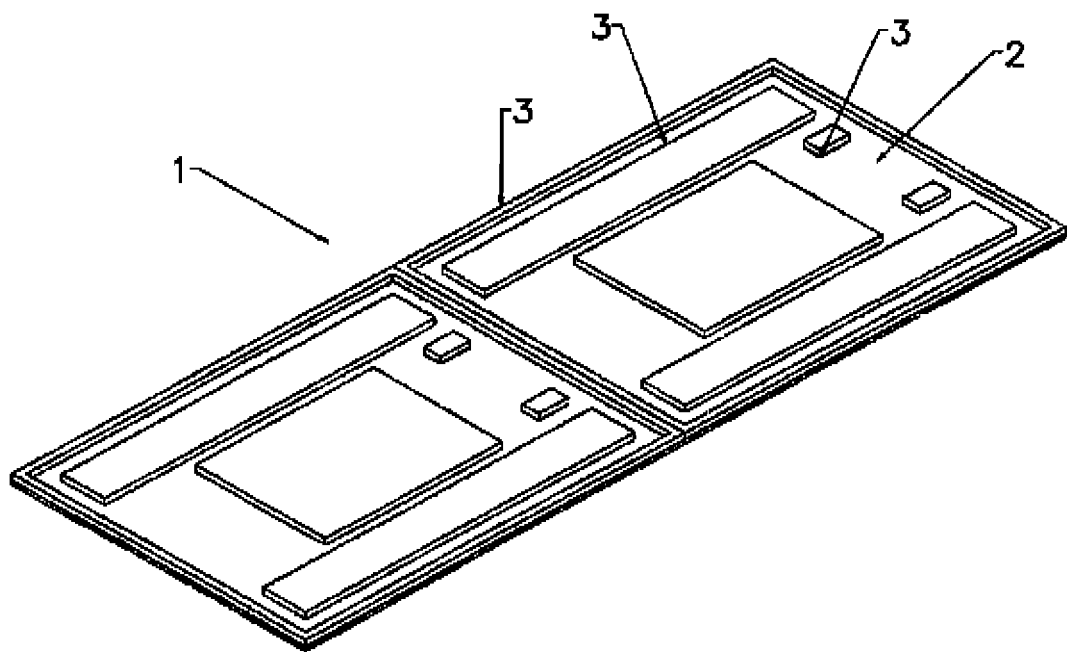


Figure 1

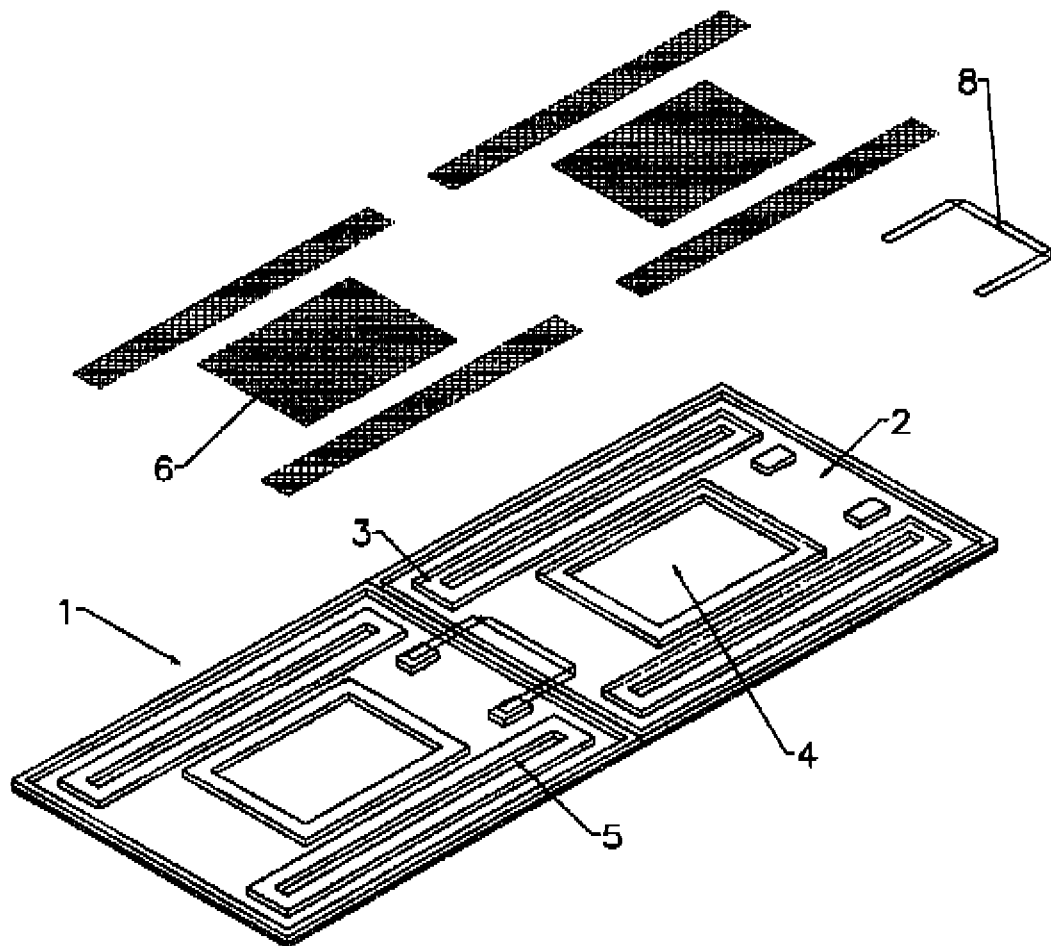


Figure 2

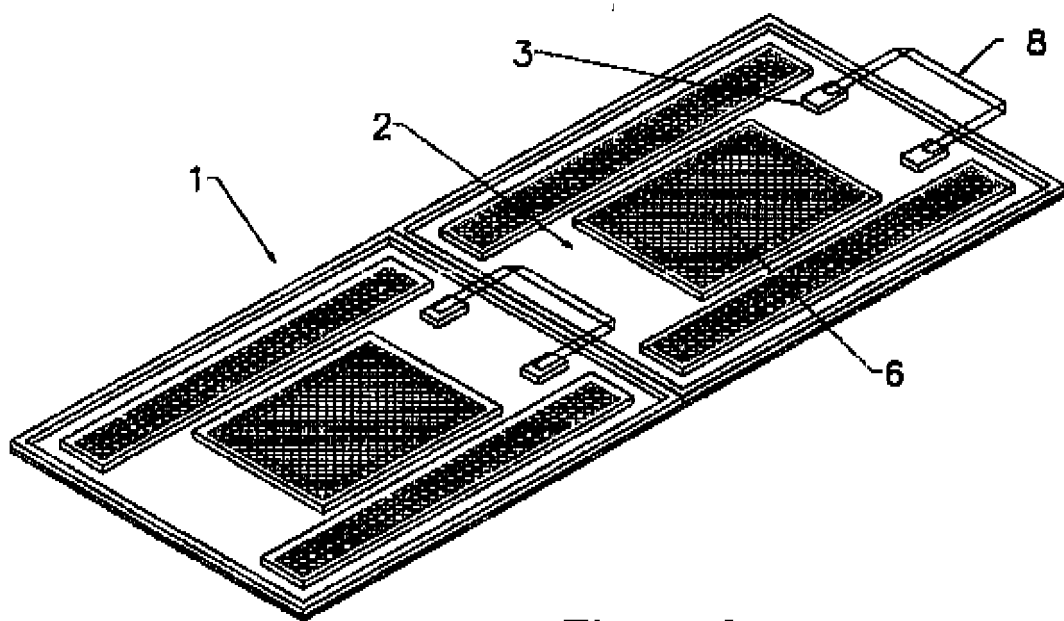


Figure 3

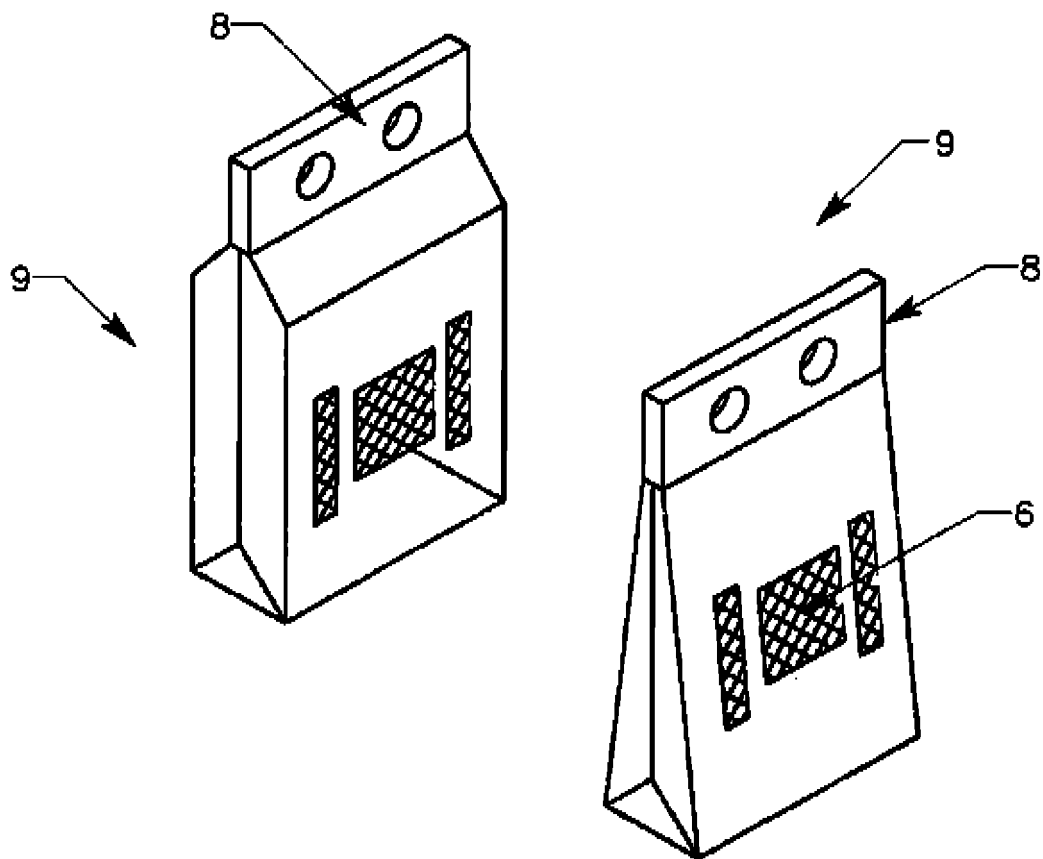


Figure 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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