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(54) **Warp knitted mesh fabric for the packaging of pallets**

(57) The invention relates to a mesh fabric (1), indicated for the packaging of pallets, manufactured by warp knitting technology. At least one row (7) of meshes, determined by the space between two longitudinal tapes (4), consists of at least two transversal tapes (3,3') and comprises at least one warning and/or information support (2) inserted vertically between the transversal tapes of said row and whereby the warning and/or information support is attached to the mesh fabric during the weaving process thereof. The warning and/or information support consists of at least a printed band, a printed strip, a cable or a similar element.

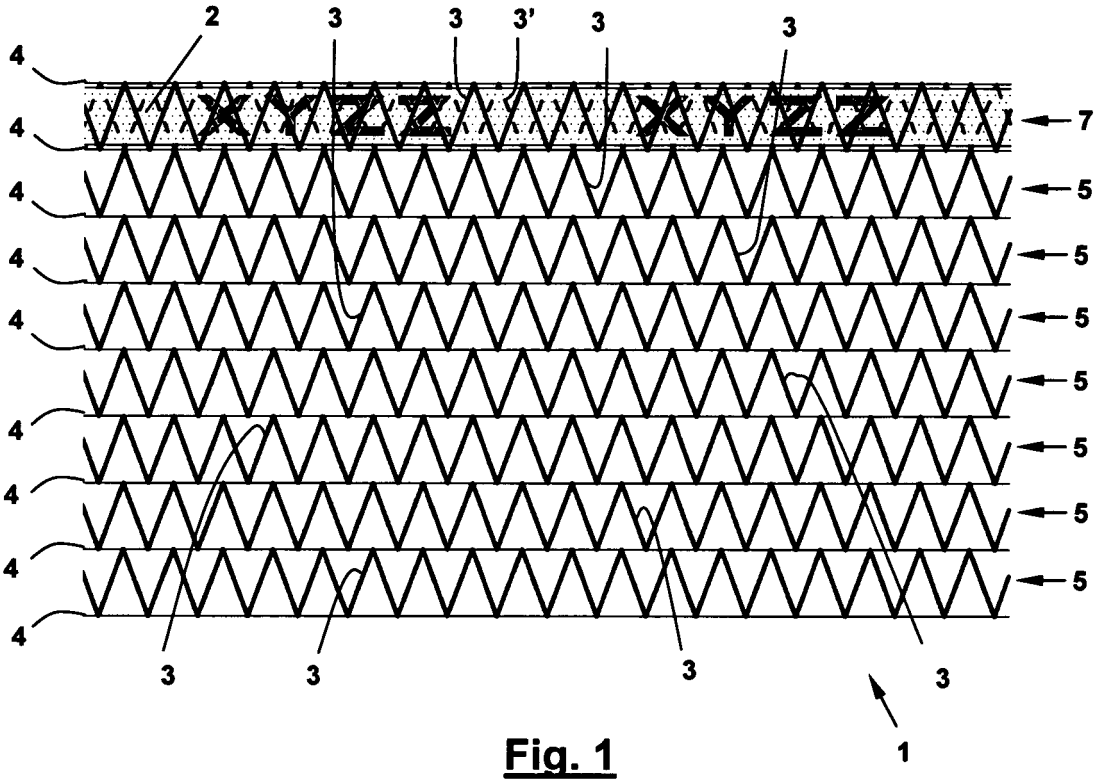

Fig. 1

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Description

Technical field of the invention

[0001] The present invention relates to a mesh fabric for the packaging of palletized loads, such as, for example, boxes of fruit or vegetables, bags of cereals or similar products. The mesh fabric allows the palletized goods to breathe and prevents the condensation thereof.

Background of the invention

[0002] Currently it is usual to use mesh fabrics to cover palletized loads of fresh products like fruit or vegetables, or of granulated or powdered products, since this type of packaging allows the products to breathe and prevents the condensations which would come arise if the goods were wrapped in a sheet or film made of waterproof plastic material.

[0003] The use of mesh fabrics for the packaging of pallets is disclosed in ES 0466066, whereby a process for the packaging of a series of boxes placed on a pallet is known. The pallets, appropriately loaded with the goods to be packaged, are placed on a revolving platform operated by an electric motor, while a mesh reel is placed on a reel-holder head equipped with a vertical movement. For the packaging, the reel mesh is joined to one of the pallet boxes and the revolving platform is operated, so that while the platform revolves and the reel-holder performs the downward and/or upward vertical movement, the mesh wraps the whole set of boxes helically. Packaging systems are also known wherein the packaging of the load is carried out manually.

[0004] It is worth mentioning that the mesh fabric for the palletization has the drawback of the impossibility of labelling messages due to the fact that, because of its inherent constitution, it has a very small printing surface in comparison to the film.

[0005] What is noteworthy, therefore, is the lack of mesh fabric for the packaging of pallets which enables the labelling of messages.

Explanation of the invention

[0006] With the aim of providing a solution to the aforementioned problem, a new mesh fabric for the packaging of pallets is disclosed.

[0007] Essentially, the mesh fabric for the packaging of pallets object of the invention is characterized in that it is manufactured by warp knitting technology, and in that at least one row of meshes, determined by the space between two longitudinal tapes, is composed of at least two transversal tapes and comprises at least one warning and/or information support inserted vertically between the transversal tapes of said row and whereby the warning and/or information support is attached to the mesh fabric during the weaving process thereof.

[0008] According to another characteristic of the invention, the warning and/or information support consists of at least one printed band, a printed strip, a cable or a similar element.

Brief description of the drawings

[0009] In the attached drawings, by way of an unrestrictive example, three embodiments of the mesh fabric for the packaging of pallets object of the invention are illustrated. In said drawings:

Fig. 1 is an elevational view of a first embodiment of the mesh fabric for the packaging of pallets of the invention;
Fig. 2 is a detailed view of Fig. 1;
Fig. 3 is an elevational view of a second embodiment of the invention;
Fig. 4 is an elevational view of a third embodiment of the invention; and
Fig. 5 is a detailed view of Fig. 4.

Detailed description of the drawings

[0010] Fig. 1 shows a portion of mesh fabric 1 for the packaging of pallets. The mesh fabric 1 is manufactured by warp knitting technology, formed by transversal tapes 3 which intertwine with the longitudinal tapes 4 forming rows 5. Apart from the rows 5, it can be observed that the first row 7 of fabric meshes 1 consist of, as well as the transversal tape 3, the transversal tape 3', which, like the transversal tape 3 intertwines with the first two longitudinal tapes 4. Between the intertwinements of the transversal tape 3 of the first row 7 of meshes and the intertwinements of the transversal tape 3' there exists a phase lag of half a mesh.

[0011] In Fig. 1 it can be seen that the piece of mesh fabric 1 comprises a warning and/or information support 2 inserted vertically between the transversal tapes 3 and 3' in the first row 7 of meshes, between the first two longitudinal tapes 4. The warning and/or information support 2 consists of a continuous printed band bearing a message, that is to say, a set of signs, signals or symbols which are the object of a communication. Said message can be related to the palletized product wrapped in the mesh fabric 1, informing about the nature thereof or carrying a message of an advertising nature of the company which produces it or which packages it. During the weaving process of the mesh fabric 1, the warning and/or information support 2 is inserted vertically between the transversal tapes 3 and 3' by which the warning and/or information support 2 is attached to the fabric 1. In this way, the transversal tape 3 of the first row 7 of meshes is situated in front of the warning and/or information support 2, while the transversal tape 3' is situated behind the latter, the attachment of the warning and/or information support 2 on both sides being thus ensured.

[0012] In Fig. 2 it can be seen that the transversal tapes 3 and 3' are intertwined in a zigzag between two vertically

adjacent longitudinal tapes 4 . The warning and/or information support 2 is inserted between the transversal tapes 3 and 3' of the first row 7 of meshes, being attached in front by the transversal tape 3 and by the transversal tape 3' in the rear part.

[0013] The piece of mesh fabric 1 for the packaging of pallets of Fig. 3 comprises two warning and/or information supports 2 in the fourth and fifth rows 7 of meshes, unlike the other rows 5 of meshes which do not comprise any. Each one of the warning and/or information supports 2 is inserted between pairs of transversal tapes 3 and 3'. In the case represented, each warning and/or information support 2 comprises the part of a message, which in combination with the part of the warning and/or information support 2 situated in the other row 7, constitute a complete message.

[0014] The warning and/or information support 2, as well as of a printed band, can consist of a printed strip, a cable or a similar element. Fig. 4 and 5 represent a warning and/or information support 2, consisting of a cable, inserted vertically between two transversal tapes 3 and 3' which constitute the first row 7meshes. The arrangement of cables inserted and the grouping thereof between the transversal tapes 3 and 3' can provide information about the palletized product, taking into account the fact there can exist a code of information according to the colour of the cables, its shape, its calibre, etc.

[0015] In accordance with an embodiment of the mesh fabric 1 for the packaging of pallets not represented in the drawings, the transversal tapes 3 and 3', and the longitudinal tapes 4 are made of transparent plastic material, which facilitates the observation of the warning and/or information support or supports 2 inserted, and, consequently of the message that the latter contain.

Claims

1. Mesh fabric (1) for the packaging of pallets, **characterized in that** it is manufactured by warp knitting technology, and **in that** at least one row (7)meshes, determined by the space between two longitudinal tapes (4), consists of at least two transversal tapes (3 and 3') and comprises at least one warning and/or information support (2) inserted vertically between the transversal tapes of said row and whereby the warning and/or information support is attached to the mesh fabric during the weaving process thereof.

2. Mesh fabric (1) for the packaging of pallets according to claim 1, **characterized in that** the warning and/or information support (2) consists of at least a printed band, a printed strip, a cable or a similar element.

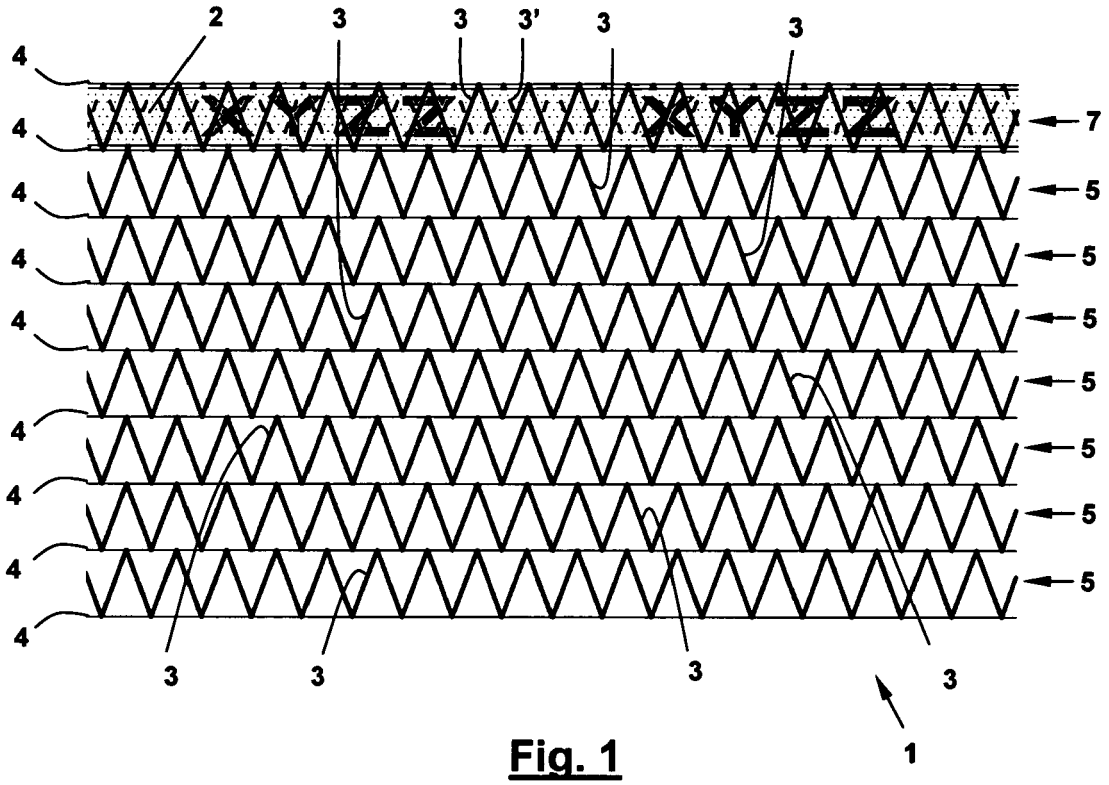

Fig. 1

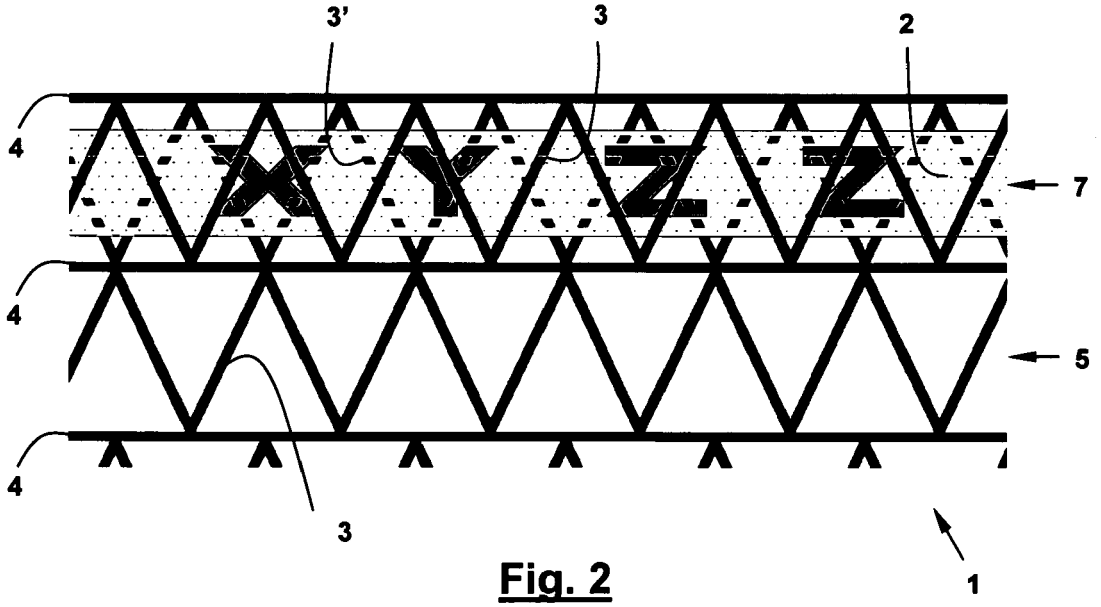

Fig. 2

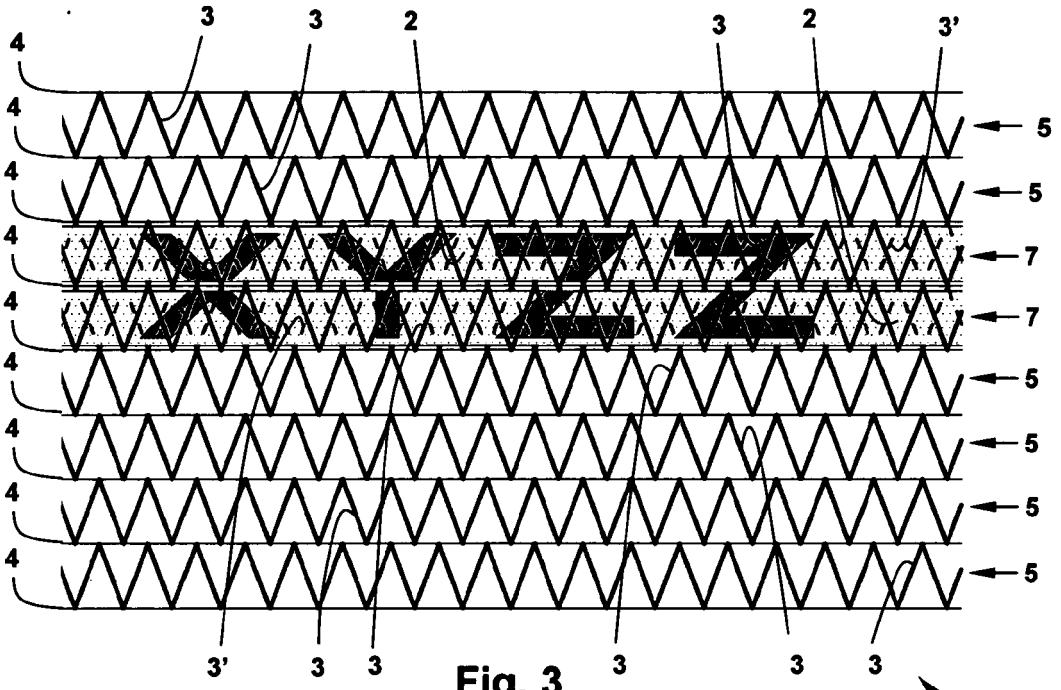

Fig. 3

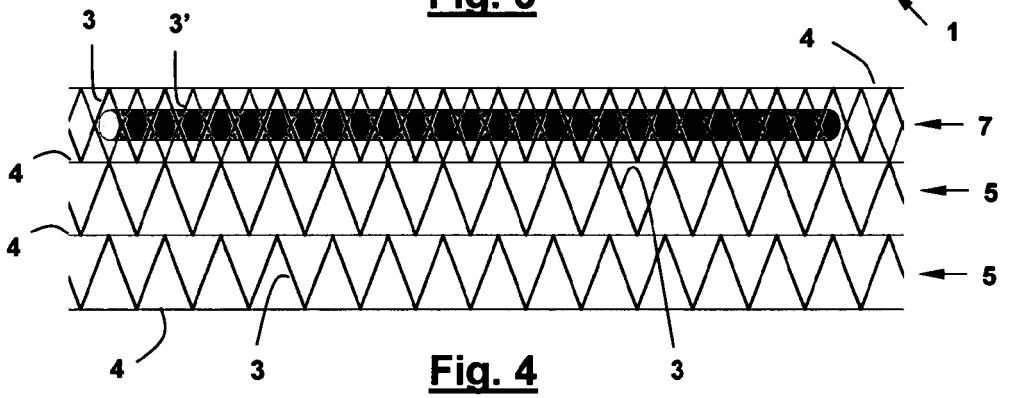

Fig. 4

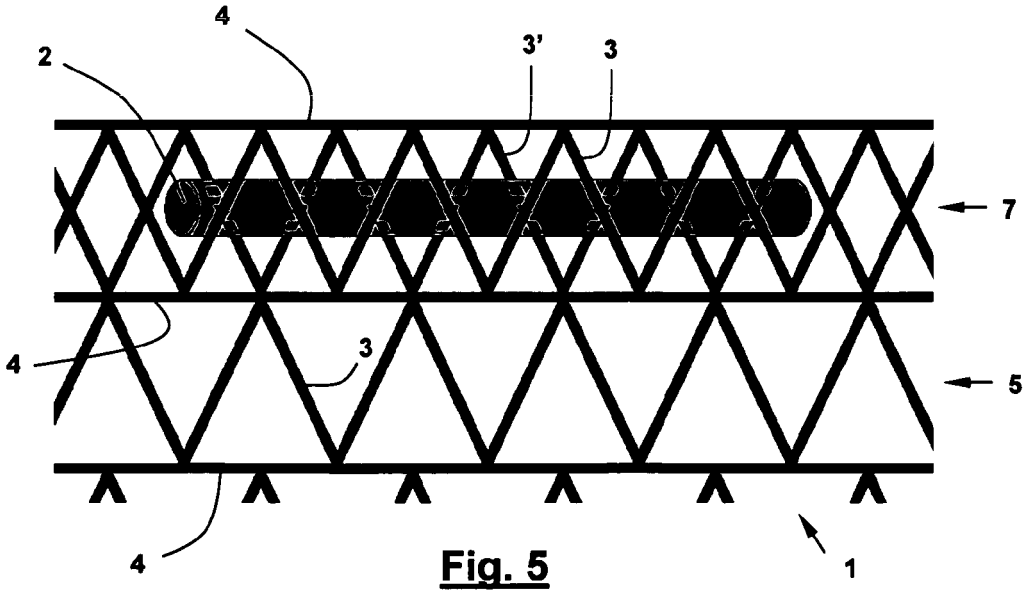

Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 06 38 0168

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	19 September 2006	Dreyer, Claude

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