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(54) **PALLET WITH UPPER FIXING SURFACE**

PALETTE MIT BEFESTIGUNGSOBERFLÄCHE

PALETTE À SURFACE SUPÉRIEURE DE VERROUILLAGE

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Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a pallet made of plastic material, which comprises an irregular upper surface for loading goods, that is to say it presents irregularities that cause the goods to be immobilised, which in turn helps to secure the goods on the pallet object of the invention.

TECHNICAL PROBLEM TO ADDRESS AND BACKGROUND OF THE INVENTION

[0002] Placing goods such as beverage bottles inside plastic boxes is common practice both when storing and when delivering said goods. If said boxes are placed onto the type of pallets commonly known nowadays, they move and slide over them since the aforementioned pallets are made of stringers, usually made of wood, that make up a flat and smooth upper surface and do not contain means of securing the load placed on the pallets.

[0003] A common design of a pallet structure consists of a sufficiently rigid and resistant assembly of stringers, usually made of wood, which hold the weight of the load. In this rigid assembly there is an upper surface, generally flat, where the goods supported by the pallet are placed, and a lower supporting surface, which occasionally is replaced by legs or an assembly of legs, that distribute the load supported by the pallet to the ground. The legs can be linked together through longitudinal lower extensions, which constitute sections binding said legs together. There are always openings between the legs so that the arms of a fork lift truck or a hand pallet truck can be introduced inside these openings.

[0004] In the state of the art, several documents disclosing pallets used for storing and transporting products are known. Among others, the document ES 1 079 113 U discloses an improved structure of a pallet consisting of a modular structure, so that the parts or components that may be damaged during use may be replaced without having to discard the pallet in its entirety.

[0005] Another document, WO 2006 013 308 A1, disclosing a pallet made of plastic material, where the plastic material is mixed with nanotubes providing this way lightness, loading capacity and more resistance to impact is known. Another document, BE 1 010 793 A3, disclosing a modular pallet that allows the dimensions of the pallet to be modified according to the needs of the user, is also known. Accordingly, many known pallets offer a smooth upper surface where the load is placed, so none of them offer own securing means that prevent the load from moving and sliding on the pallet. When a load needs to be fixed to a pallet, the usual practice is to use external means to bind together the pallet and the load. Furthermore, pallets comprising ribbed upper surfaces are known. Reference is made to WO 2010/028334 A2 and US 2004/0007164 A1, both documents disclosing pallets according to the preamble of claim 1.

DESCRIPTION OF THE INVENTION

[0006] In order to avoid the drawbacks mentioned above and to achieve the aforementioned goals, the invention discloses a pallet according to claim 1. The pallet is made of plastic material that has an upper fixing surface, so that said upper fixing surface helps to secure the loads placed on the pallet.

[0007] The pallet with an upper fixing surface which is the object of the invention comprises an upper surface, a lower surface, and a side surface. In the aforementioned pallet, the upper surface comprises a perimeter edge, a series of main ribs arranged orthogonally in relation to each other, which divide the upper surface into quadrangular housings, forming a staggered configuration of the quadrangular housings.

[0008] In the pallet with an upper fixing surface which is the object of the invention, an upper surface with an irregular profile wherein a load is fixed is defined, by means of the perimeter edge, the main ribs and the quadrangular housings.

[0009] In the pallet with an upper fixing surface which is the object of the invention the quadrangular housings comprise inner ribs which divide each quadrangular housing into a series of fixing openings.

[0010] In the pallet with an upper fixing surface which is the object of the invention the fixing openings are through openings.

[0011] In the pallet with an upper fixing surface which is the object of the invention the lower surface comprises a perimeter area and a central area shaped like a cross, the perimeter area and the central area defining lower openings.

[0012] In the pallet with an upper fixing surface which is the object of the invention, the perimeter area and the central area comprise ribs that define openings between the aforementioned ribs.

DESCRIPTION OF THE DRAWINGS

[0013] To complete the description and in order to give a better understanding of the characteristics of the invention, this description is accompanied by a series of drawings that are an integral part thereof, wherein, for illustration purposes and without limitation, the following has been represented:

Figure 1 shows a perspective view of the pallet which is the object of the invention.

Figure 2 shows a plan view of the pallet which is the object of the invention, showing the upper surface of the aforementioned pallet, and a detailed view of a quadrangular housing.

Figure 3 shows a view of the lower surface of the

pallet which is the object of the invention.

Figure 4 shows a view of the pallet which is the object of the invention, loaded with boxes.

[0014] The numerical references featured in the drawings correspond to the following parts or components:

1. pallet,
2. perimeter edge
3. rib,
4. quadrangular housing,
5. openings,
6. box,
7. upper surface,
8. lower surface,
9. side surface,
10. junction
11. inner rib,
12. fixing opening,
13. slot,
14. perimeter area,
15. central area,
16. lower openings,
17. side openings.

DESCRIPTION OF PREFERRED EMBODIMENT

[0015] The pallet (1) which is the object of the invention is a pallet especially designed to support, on its upper surface (7) boxes (6) of the type used to store and distribute beverage bottles, so that the shape and the components that configure the upper surface (7) provide said upper surface (7) with an irregular surface that prevents the aforementioned boxes (6) from moving.

[0016] The pallet (1) which is the object of the invention (as seen on figure 1), comprises an upper surface (7), a lower or supporting surface (8), and a series of junctions (10) between the two surfaces (7, 8). The junctions (10) configure a series of side openings (17) in the side surfaces (9) where the arms of a fork lift truck or a hand pallet truck are introduced in order to move the pallet (1).

[0017] The terms upper and lower, which refer to the surfaces, are relative terms that refer to the position of the pallet (1) according to figure 1, where the pallet (1) is ready to be loaded.

[0018] What has been described above, except for the fact that the pallet (1) which is the object of the invention is made of plastic material, conforms to the description of any pallet (1) in use nowadays.

[0019] The novelty of the invention is the upper surface (7) of the pallet (1) which is the object of the invention, since until now the upper surface (7) of pallets (1) has frequently been designed as a smooth surface where goods are placed, but when goods need to be fastened to a pallet (1), external means to secure the goods are used, either wrapping the goods with a plastic film or using bands or strips fastening the goods to the pallet (1).

[0020] The upper surface (7) of the pallet (1) which is the object of the invention comprises a series of main ribs (3), arranged orthogonally in relation to each other, which divide the upper surface (7) into quadrangular housings (4) and a perimeter edge (2) around the entire upper surface (7) of the pallet (1), that helps to secure the goods.

[0021] The main ribs (3) form a staggered configuration of the quadrangular housings (4), so that the quadrangular housings (4) provide a surface located at a lower height in comparison with the main ribs (3).

[0022] Similarly, the quadrangular housings (4) comprise inner ribs (11) which divide each of the quadrangular housings (4) into a series of fixing openings (12) where the boxes making up the goods for which the pallet (1) object of the invention has been designed for, are embedded and secured. The fixing openings (12) are holes, which provide savings in plastic material when the pallet (1) is made.

[0023] Since the boxes (6) making up the goods are placed on the upper surface (7) so that, due to the configuration of said upper surface (7), they cannot move or slide over it but the boxes (6) are nevertheless unattached to it, removing the boxes from the pallets is simple, which facilitates the job of workers in charge of delivering the boxes on arrival to any location since the boxes (6) are easily removed from the pallet (1) by lifting the boxes (6). Similarly, if the pallet (1) loaded with all the boxes (6) needs to be removed from the delivery vehicle, it can also be easily removed using a fork lift truck or a hand pallet truck, without taking the risk of the boxes (6) to move or slide over the pallet (1) and fall, since they are fixed to the upper surface (7).

[0024] Finally, the lower surface (8) of the pallet (1) (as seen in figure 3) comprises a perimeter area (14) and a central area (15) shaped like a cross, defining a series of inner openings (16); similarly, both the perimeter area (14) and the central area (15) comprise a series of ribs (3), which give shape to openings (5) between the aforementioned ribs (3). The configuration of the lower surface (8) of the pallet (1) prevents the pallets (1) from sliding when they are stacked, both when stacked empty as well as when stacked loaded with boxes (6). Similarly, when several pallets (1) loaded with boxes (6) are stacked with the pallets (1) placed immediately above each other, the shape of the lower surface (8) gives stability to the stack and connects the boxes (6) locking them together by means of ribs (3).

[0025] In the pallet (1) object of the invention, a series of slots (13) are located all along the lower surface (8) that help to hold the pallet (1) when it is stacked with boxes (6).

[0026] The invention must not be limited to the particular embodiments disclosed in this document. Those skilled in the art can develop other embodiments in view of the disclosure made herein. In consequence, the scope of the invention is defined by the claims that follow.

Claims

1. A pallet (1) with an upper fixing surface comprising an upper surface (7), a lower surface (8) and a side surface (9) where the upper surface (7) comprises:

   - a perimeter edge (2),
   - a series of main ribs (3) arranged orthogonally in relation to each other, which divide the upper surface (7) into quadrangular housings (4),

   characterized in that

   - the main ribs (3) form a staggered configuration of the quadrangular housings (4), so that the quadrangular housings (4) provide a surface located at a lower height in comparison with the main ribs and formed by inner ribs (11) which divide each quadrangular housing (4) into a series of fixing openings (12),
   - the inner ribs (11) are arranged orthogonally in relation to each other,
   - the fixing openings (12) are through openings, such that, by means of the perimeter edge (2), the main ribs (3), the quadrangular housings (4) and the fixing openings (12) an irregular profile of the upper surface (7) is defined, said upper surface (7) being configured to receive a load to be fixed therein.

2. A pallet with an upper fixing surface according to claim 1, **characterized in that** the lower surface (8) comprises a perimeter area (14) and a central area (15) shaped like a cross, the perimeter area (14) and the central area (15) defining lower openings (16).

3. A pallet with an upper fixing surface according to claim 2, **characterized in that** the perimeter area (14) and the central area (15) comprise ribs (3) defining openings (5) between the aforementioned ribs (3).

Patentansprüche

1. Palette (1) mit einer oberen Befestigungsoberfläche, umfassend eine obere Fläche (7), eine untere Fläche (8) und eine Seitenfläche (9), wobei die obere Fläche (7) umfasst:

   - einen Umfangsrand (2),
   - eine Reihe von Hauptrippen (3), die orthogonal relativ zueinander angeordnet sind und die obere Fläche (7) in viereckige Gehäuse (4) unterteilen,

   dadurch gekennzeichnet, dass

   - die Hauptrippen (3) eine gegeneinander versetzte Konfiguration der viereckigen Gehäuse (4) bilden, so dass die viereckigen Gehäuse (4) eine Oberfläche bereitstellen, die sich auf einer höheren Höhe im Vergleich zu den Hauptrippen befindet und von inneren Rippen (11) gebildet wird, welche die einzelnen viereckigen Gehäuse (4) in eine Reihe von Befestigungsöffnungen (12) unterteilen,
   - die innere Rippen (11) orthogonal im Verhältnis zueinander angeordnet sind,
   - die Befestigungsöffnungen (12) Durchgangsöffnungen sind, so dass, mithilfe des Umfangsrandes (2), der Hauptrippen (3), der viereckigen Gehäuse (4) und der Befestigungsöffnungen (12) ein unregelmäßiges Profil der oberen Fläche (7) definiert wird, wobei die obere Fläche (7) dazu konfiguriert ist, eine darin zu befestigende Last aufzunehmen.

2. Palette mit einer oberen Befestigungsoberfläche nach Anspruch 1, **dadurch gekennzeichnet, dass** die untere Fläche eine Umfangsfläche (14) und eine zentrale Fläche (15) umfasst, die wie ein Kreuz geformt ist, wobei die Umfangsfläche (14) und die zentrale Fläche (15) untere Öffnungen (16) definieren.

3. Palette mit einer oberen Befestigungsoberfläche nach Anspruch 2, **dadurch gekennzeichnet, dass** die Umfangsfläche (14) und die zentrale Fläche (15) Rippen (3) umfassen, welche Öffnungen (5) zwischen den zuvor genannten Rippen (3) definieren.

Revendications

1. Palette (1) avec une surface de fixation supérieure comprenant une surface supérieure (7), une surface inférieure (8) et une surface latérale (9) où la surface supérieure (7) comprend :

   un bord périmétral (2),
   une série de nervures principales (3) agencées de manière orthogonale les unes par rapport à aux autres, qui divisent la surface supérieure (7) en logements quadrangulaires (4),
   caractérisée en ce que :

   les nervures principales (3) forment une configuration en quinconce des logements quadrangulaires (4), de sorte que :

   les logements quadrangulaires (4) fournissent une surface positionnée à une hauteur plus basse par rapport aux nervures principales et formée par des nervures internes (11) qui divisent chaque logement quadrangulaire (4) en

une série d'ouvertures de fixation (12), les nervures internes (11) sont agencées de manière orthogonale les unes par rapport aux autres,
les ouvertures de fixation (12) sont des ouvertures débouchantes, de sorte que, au moyen du bord périmétral (2), les nervures principales (3), les logements quadrangulaires (4) et les ouvertures de fixation (12), on définit un profil irrégulier de la surface supérieure (7), ladite surface supérieure (7) étant configurée pour recevoir une charge à fixer à l'intérieur de cette dernière.

2. Palette avec une surface de fixation supérieure selon la revendication 1, **caractérisée en ce que** la surface inférieure (8) comprend une zone périmétrale (14) et une zone centrale (15) en forme de croix, la zone périmétrale (14) et la zone centrale (15) définissant des ouvertures inférieures (16).

3. Palette avec une surface de fixation supérieure selon la revendication 2, **caractérisée en ce que** la zone périmétrale (14) et la zone centrale (15) comprennent des nervures (3) définissant des ouvertures (5) entre les nervures (3) mentionnées précédemment.

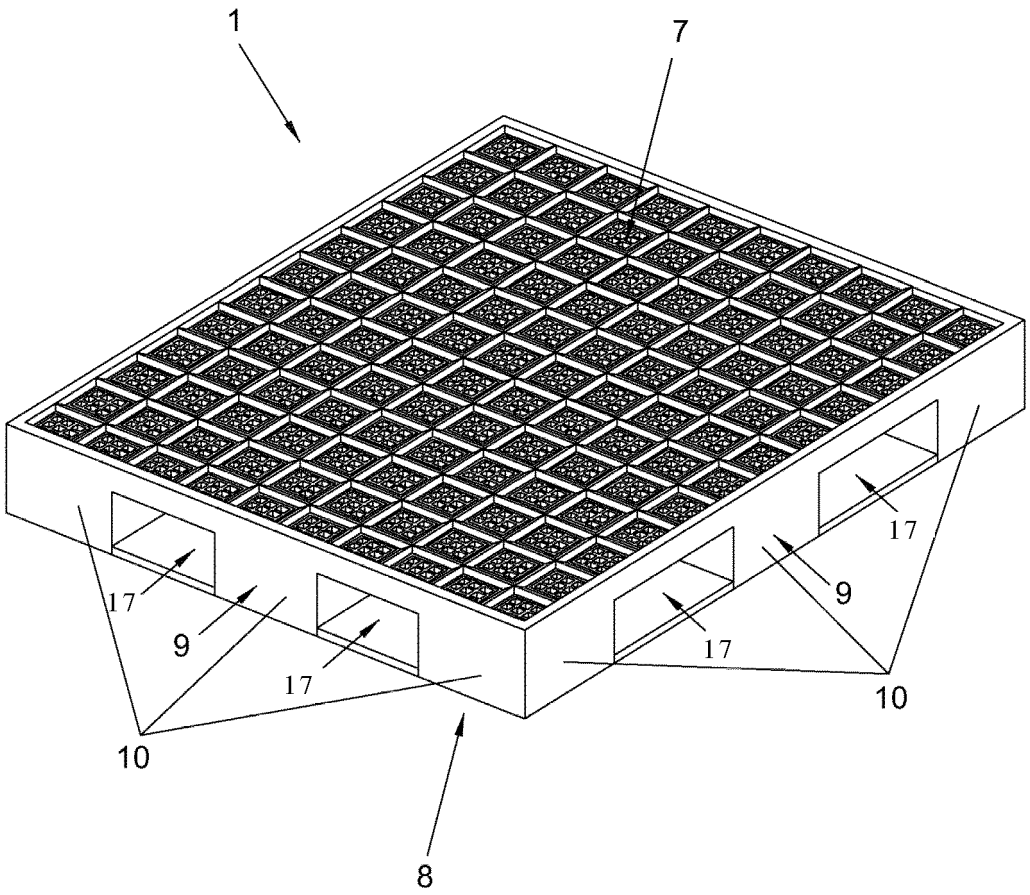


FIG. 1

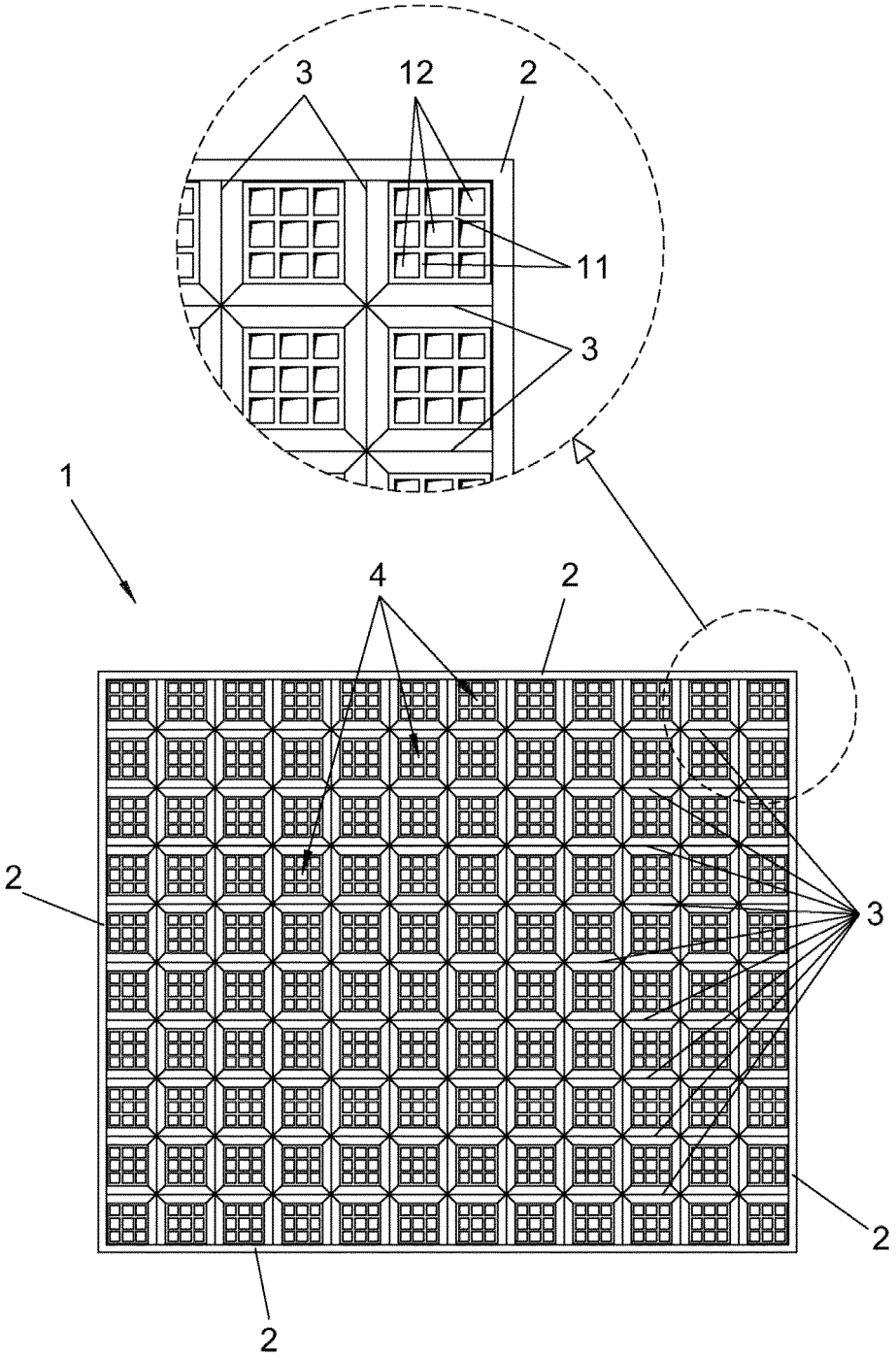


FIG. 2

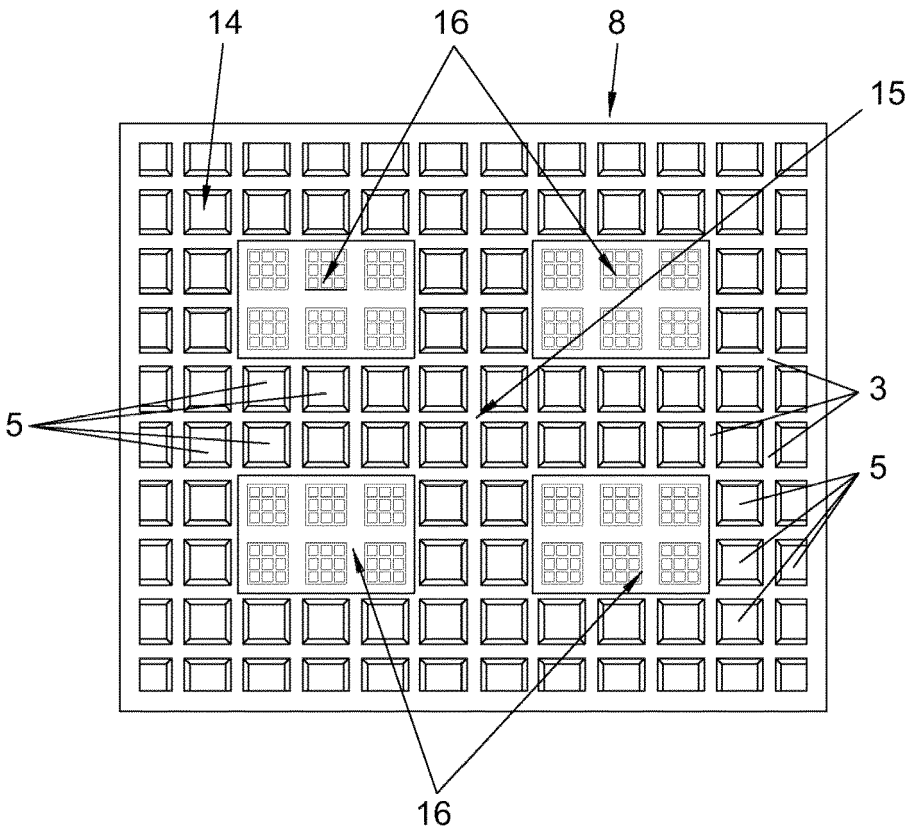


FIG. 3

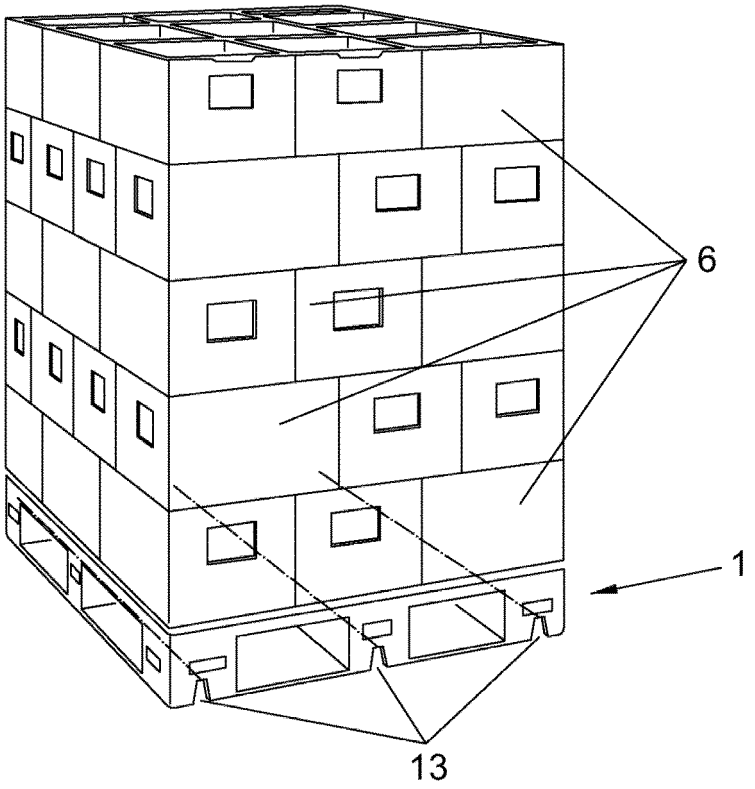


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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