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(71) Applicant: **Ribawood, S.A.**
50003 Zaragoza (ES)

(72) Inventor: **Rivera Ballarin, Carlos**
50003 Zaragoza (ES)

(74) Representative: **Carpintero Lopez, Francisco et al Herrero & Asociados, S.L.**
Alcalá 35
28014 Madrid (ES)

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(54) **Pallet for beer barrels and the like**

(57) Pallet for barrels that comprises a flat upper loading platform (2) provided with a plurality of corner protuberances (9), disposed in correspondence with the vertices of each loading platform (2), and a plurality of intermediate protuberances (12) and major protuberances (14) in correspondence with intermediate sections of

its edges, said protuberances (12, 14) being operationally spaced in correspondence with barrel (8) size, in such a manner that said protuberances (9, 12, 14) provide a means to retain the barrels (8) against the exterior of the pallet, so that said barrels (8) are disposed tangentially to each other when positioned on said loading platform (2) between the protuberances (9, 12, 14).

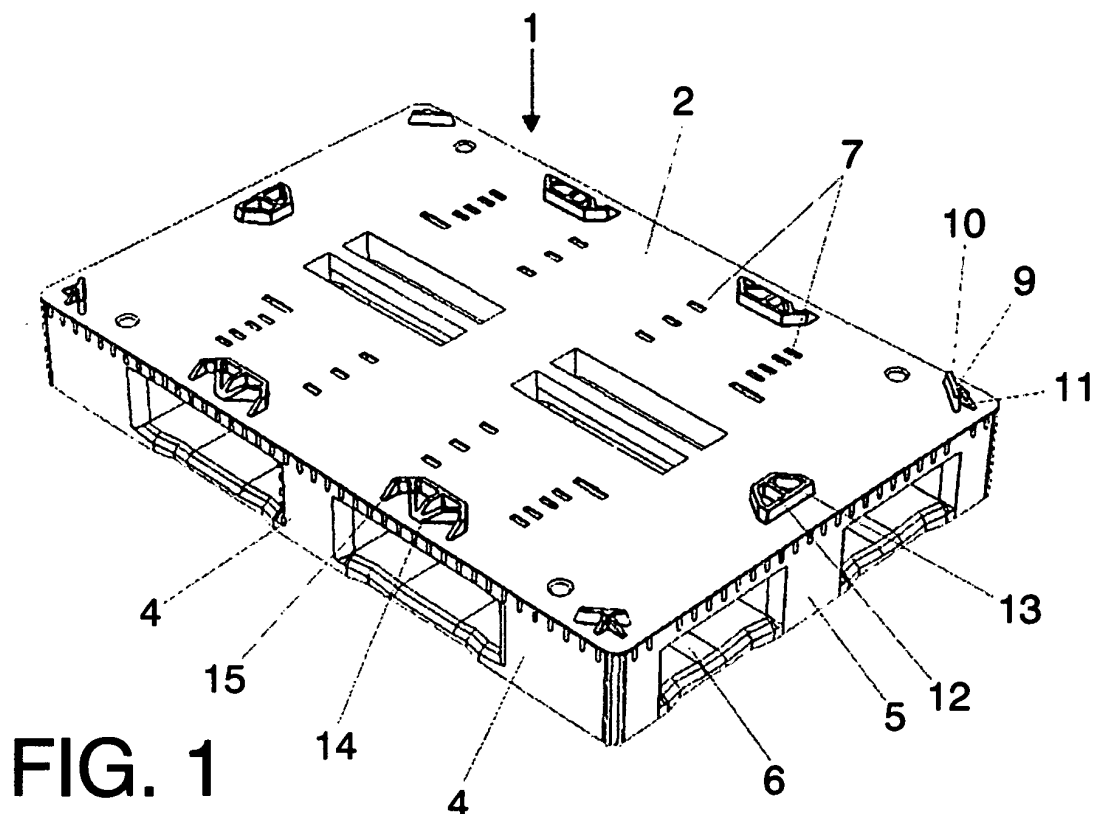


FIG. 1

Description

OBJECT OF THE INVENTION

[0001] The present invention relates to a pallet that has been especially conceived for transporting beer barrels, but is equally usable for transporting any other type of products contained within cylindrical kegs or tending towards this configuration.

[0002] The object of the invention is to achieve a pallet with maximum structural simplification, without undermining its functional features.

BACKGROUND OF THE INVENTION

[0003] The applicant is the holder of Spanish Utility Model no. ESU200402431, wherein the loading platform is disclosed, which is also particularly suitable for beer kegs, materialized in the form of a single-part body, of a plastic nature, preferably produced by means of injection molding, having the capacity to receive and support fifteen kegs and provided with means, as any pallet-type loading platform, that allow its easy manipulation with a forklift fork or similar.

[0004] In this utility model, a plurality of reticularly disposed orifices are established on the upper base of the pallet, each of said orifices adopting a circular configuration, with annular and concentric grooves that adapt to the anatomy of the keg base.

[0005] So, regardless of the complexity that this configuration represents for the pallet manufacturing mold, and in addition to requiring a complex lower reticular structure with partitions of multiple heights, the results obtained for securing the kegs are susceptible to improvement.

[0006] Additionally, these significant irregularities that affect the whole pallet work surface considerably impede the coupling of each to their corresponding housing, as they either rest directly on said housing, which is complicated, or are disposed close to it, which requires the rear and lateral displacement thereof until finally implanted, a dragging manoeuvre that is significantly hindered by the irregularities of the loading surface.

DESCRIPTION OF THE INVENTION

[0007] The pallet proposed by the invention solves the previously expounded problems in an entirely satisfactory manner, providing a structurally simple and functionally effective solution.

[0008] For this purpose and more specifically, said pallet, which has been fundamentally conceived for the implantation of six barrels thereupon, has a particularly flat upper side or operating surface, the only exception being that it incorporates wedge-like protuberances along its periphery, intended for the lateral retention of the kegs, having a specific protuberance or wedge that corresponds to each of the corners of the loading surface,

another centred on the minor sides thereof and another two disposed on each of its major sides.

[0009] In this manner, the barrels may be deposited on any point of the pallet's operating surface and, thanks to the perfect flatness of said surfaces, may be easily displaced by dragging towards their final disposition, whereupon the barrels disposed at the corners are immobilized between three external protuberances or wedges, and the other two are disposed in correspondence with the transverse and central line of the barrel, each resting on two protuberances or wedges, in such a manner that the barrels are immobilized against the tendency towards outward displacement as a result of said wedges, while these are immobilized in the direction of displacement towards the centre by direct contact with each other.

[0010] The pallet, the body of which is produced by means of plastic injection molding, is conventionally provided with slides or prismatic blocks on its lower side, in correspondence with its major sides and longitudinal and central axis, which may also be disposed in correspondence with its minor edges, in accordance with the load to be supported, and has a plurality of small inner partitions that conveniently rigidify the structure with a minimum amount of material.

[0011] In accordance with another characteristic of the invention, the pallet body incorporates elastic pads, which are intended to rest upon the barrels of a pallet positioned immediately underneath, on its lower side and in correspondence with its corners, for the purpose of preventing the risk of lateral displacement of a loaded pallet with respect to another in the same circumstances.

[0012] The lower side of the pallet also has orifices capable of housing the protuberances or wedges of its upper side, during vacuum pallet stacking.

[0013] The access passageways for the forklift fork or pallet manipulating machine shall also be provided with non-slip pads, for the same purpose of preventing transverse displacement thereof with respect to said fork, in addition to other pads disposed at lower plane level, that correspond numerically, positionally and dimensionally with orifices on its upper side, for the same purpose of achieving a tongue-and-groove coupling between pallets upon vacuum stacking thereof.

DESCRIPTION OF THE DRAWINGS

[0014] For the purpose of complementing this description and to aid towards a better understanding of the characteristics of the invention, a set of drawings has been included as an integral part of said description, in accordance with an example of preferred embodiment thereof, wherein the following figures have been represented in an illustrative and non-limitative manner:

Fig. 1 shows a perspective view of a pallet for beer barrels and the like, embodied according to the object of the present invention, which funda-

- mentally represents its loading platform or surface;
- Fig. 2 shows a plan view of the same pallet represented in the preceding figure;
- Fig. 3 shows a side elevational view of the same pallet;
- Fig. 4 shows a profile of the pallet represented in the preceding figures;
- Fig. 5 shows a lower plan view of the pallet represented in the preceding figures;
- Fig. 6 shows a lower side perspective of the pallet;
- Fig. 7 finally shows a perspective view of the pallet similar to that of figure 1 but with said pallet in loading position, i.e. receiving the corresponding group of six barrels.

PREFERRED EMBODIMENT OF THE INVENTION

[0015] As already seen from the preceding figures, particularly figures 1 and 2, the specified pallet consists of a single-part body (1), made of plastic, whereon a loading platform (2) is defined in correspondence with its upper side, the lower side whereof is conveniently rigidified by means of a plurality of gussets (3), reticularly and orthogonally disposed, and from the lower side wherefrom longitudinal legs (4) emerge, disposed in correspondence with their longitudinal edges and longitudinal and central axis, and also optionally in correspondence with their transverse edges (5), as shown in the example of practical embodiment represented in the figures, said slides (4) and (5) being in any case affected by orifices or hollows (6), conveniently disposed face to face so as to allow the passage of a forklift fork or similar, attachable to the pallet both longitudinally and transversely.

[0016] The loading platform (2) is affected by a plurality of orifices (7) of different sizes, which facilitate the unmolding of the single constituent part of the pallet.

[0017] So, in accordance with the invention, the specified pallet centres its characteristics on the fact that said loading platform (2) is mainly flat, as inferred from figure 1, from which marginal protuberances or wedges emerge for the purpose of securing the barrels (8).

[0018] More specifically, a wedge or protuberance (9) is disposed in correspondence with each of the loading platform (2) vertices, with a front and inner wall (10) in a tilted disposition, specifically perpendicular to the bisector of the angle corresponding to the vertex next to which it is disposed, and rigidified by means of outer gussets (11). Other protuberances or wedges (12), the base of which tends towards an isosceles trapezium, are established next to the middle point of the minor edges of the platform (2), in such a manner that two oblique flat planes (13) are defined in each for adapting the barrels.

[0019] Finally, two protuberances or wedges (14) are established in each of the major sides of the loading platform (2) which are similar, in turn, to those mentioned earlier and wherein supporting oblique planes (15) are also defined on the respective barrels.

[0020] In this manner, four barrels (8) are disposed in correspondence with the corners of the pallet (1) loading platform (2), stabilized between a wedge (9), a wedge (12) and a wedge (14), specifically between the walls (10), (13) and (15) of said wedges, while the two intermediate barrels (8) are inserted between the four wedges (14) of the major edges of the loading platform (2) and, more specifically, between the oblique partitions (15) of these protuberances or wedges (14), position wherein the six barrels that comprise the group are disposed tangentially to each other, due to which their stability is fully ensured.

[0021] Complementing the structure described, the pallet incorporates elastic pads (16) at the ends of its longitudinal and side legs or slides, which are operational upon loaded pallet stacking, i.e. in the position shown in figure 7, in such a manner that, in said position, said elastic pads (16) rest upon the barrels (8) disposed on the pallet positioned immediately underneath, thereby impeding accidental and transverse displacement between pallets.

[0022] Other pads (17), also elastic, are also disposed at a different level, specifically at the same level as the rigidifying gussets (3) of the body, disposed in correspondence with the longitudinal and transverse (6) orifices, specifically centred thereupon, in such a manner that said pads (17) are intended to rest upon a forklift fork, transpallet or similar, also in order to prevent the pallet's transverse displacement with respect to said fork, thanks to the elastic and adhesive nature of said pads.

[0023] Finally, other pads (18) intended to be inserted into complementary orifices (19) of the pallet platform (2), for the purpose of immobilizing the pallets transversely upon vacuum stacking thereof, are disposed in an area relatively close to the corners and bottom of the pallet.

[0024] The only remaining point is that, as is obvious, housings (20) to receive the wedges or protuberances (9) and (14) are established in the inner side of the body, also upon vacuum pallet stacking.

Claims

1. Pallet for barrels, constituted by a single-part body (1) that comprises an upper loading platform (2) and a plurality of support legs (4, 5) among which orifices (6) are configured for the purpose of housing a forklift fork, **characterized in that** said loading platform (2) is substantially flat and provided with a plurality of corner protuberances (9), disposed in correspondence with the vertices of said loading platform (2), and a plurality of intermediate protuberances (12) and major protuberances (14) in correspondence with intermediate sections of their edges, said protuberances (12, 14) being operationally spaced in correspondence with barrel (8) size, in such a manner that said protuberances (9, 12, 14) provide means to retain the barrels (8) against the exterior

of the pallet, so that said barrels (8) are disposed tangentially to each other when positioned on said loading platform (2) between the protuberances (9, 12, 14).

2. Pallet, according to claim 1, which comprises at least one intermediate protuberance (12) centred on each minor edge of the loading platform (2), and at least two major protuberances (14) centred on each major edge of the loading platform (2). 10

3. Pallet, according to any of the preceding claims, wherein the corner protuberances (9) of the loading platform (2) comprise an inner wall (10), perpendicular to a bisector of each vertex, configured to support a barrel (8), wherein the configuration of the intermediate protuberances (12) tends towards an isosceles trapezium, each intermediate protuberance (12) comprising two oblique inner walls (13), having the same tilt angle with respect to the body of the respective barrels. 15
20

4. Pallet, according to any of the preceding claims, wherein the loading platform (2) comprises a plurality of lower gussets (3) and a plurality of legs (4) in correspondence with the major edges and having a central longitudinal axis, comprising at least one transverse leg (5) in correspondence with each minor edge, with orifices (6), operationally disposed face to face between said legs (4, 5) to allow the passage of a forklift fork. 25
30

5. Pallet, according to claim 4, which comprises a plurality of elastic fork pads (17) on its lower side, in correspondence with intersecting orifices (6), configured to rest upon said forklift fork. 35

6. Pallet, according to any of the preceding claims, which comprises a plurality of housings (20) on its lower side, operationally disposed and sized to receive the protuberances (9, 12, 14) disposed on the upper side to allow the vacuum stacking of at least two pallets. 40

7. Pallet, according to any of the preceding claims, which comprises elastic stacking pads (18) on its lower side, disposed next to the vertices, configured for tongue-and-groove coupling to orifices (19) in the loading platform (2) to allow the vacuum stacking of at least two pallets in a transversely immobilized position between said pallets. 45
50

8. Pallet, according to any of the preceding claims, which comprises elastic pads (16) on its lower side disposed next to the vertices, configured to rest upon an upper end of the barrels (8) in a stacking position provided with at least two loaded pallets. 55

9. Pallet, according to any of the preceding claims, which has a capacity of six barrels (8), and comprises two intermediate protuberances (12) centred on the respective minor edges of the loading platform (2), comprising two major protuberances (14) on each major edge of said loading platform (2).

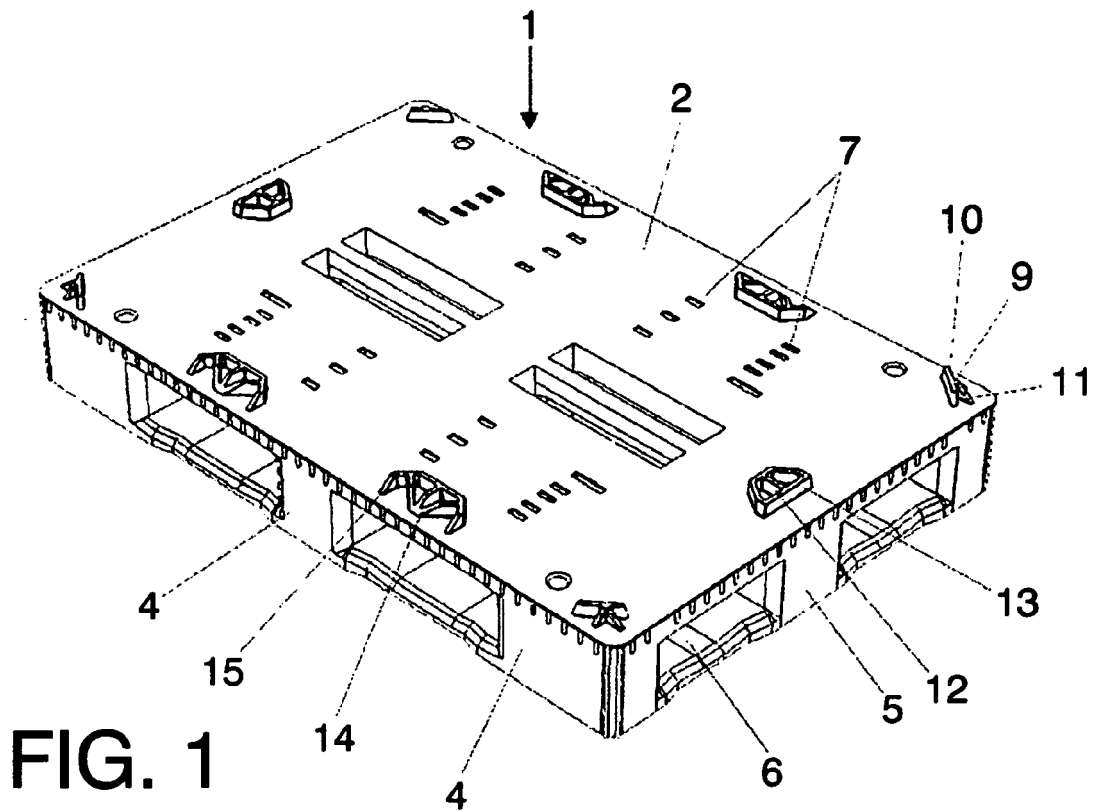


FIG. 1

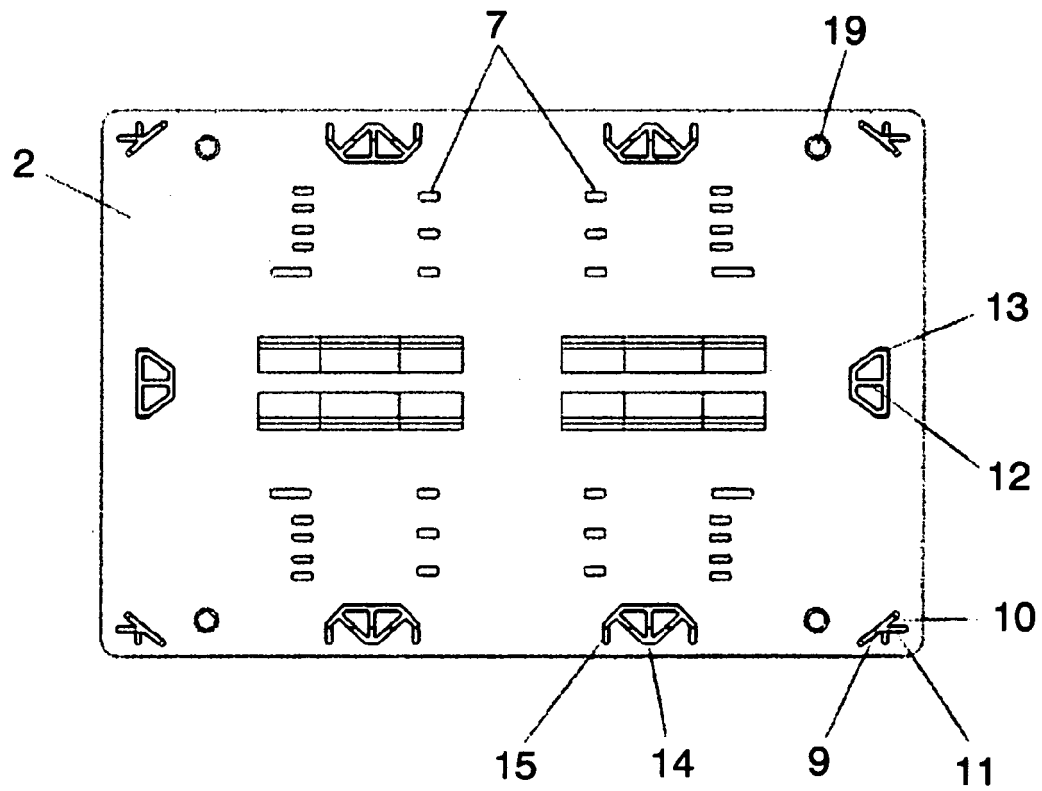


FIG. 2

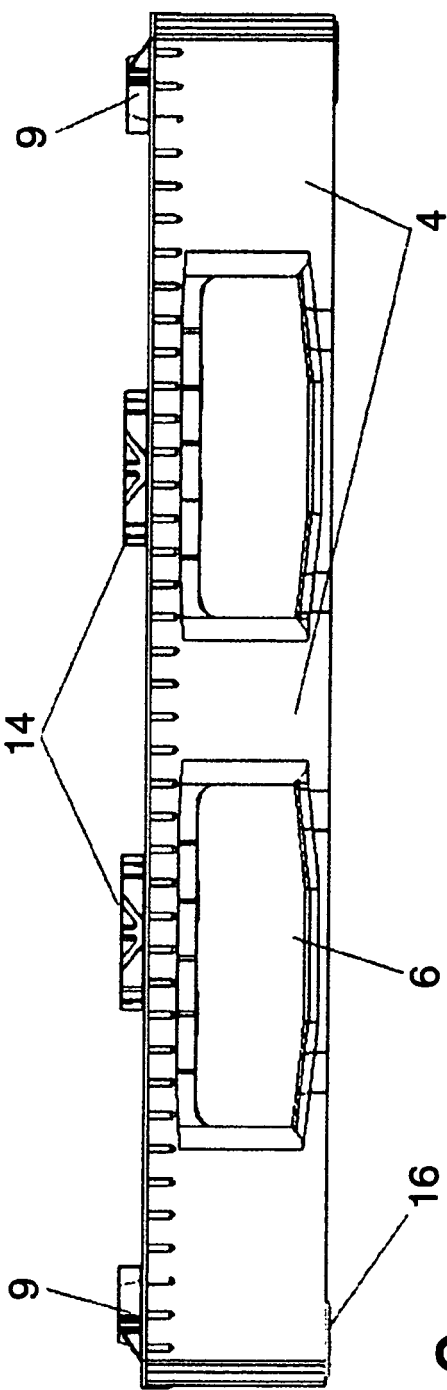


FIG. 3

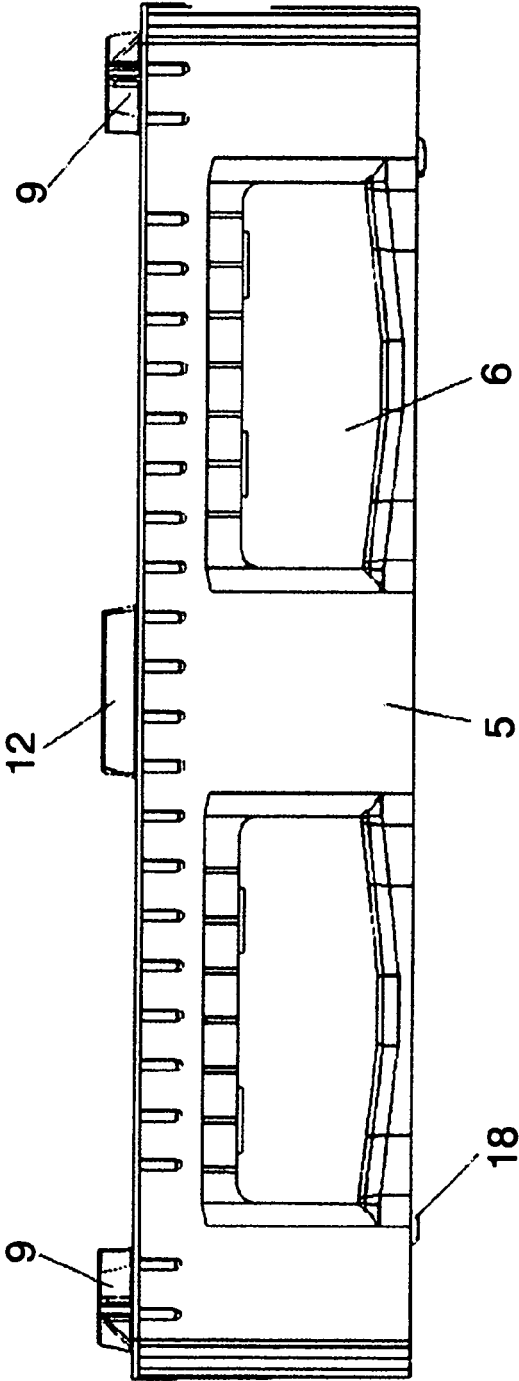


FIG. 4

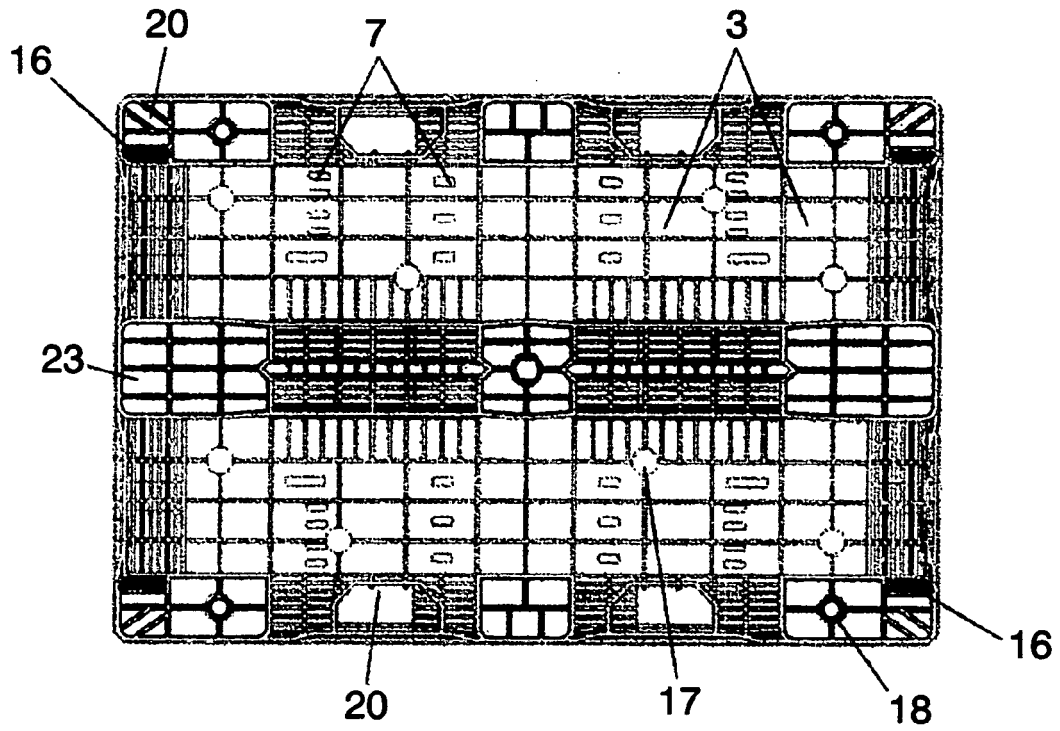


FIG. 5

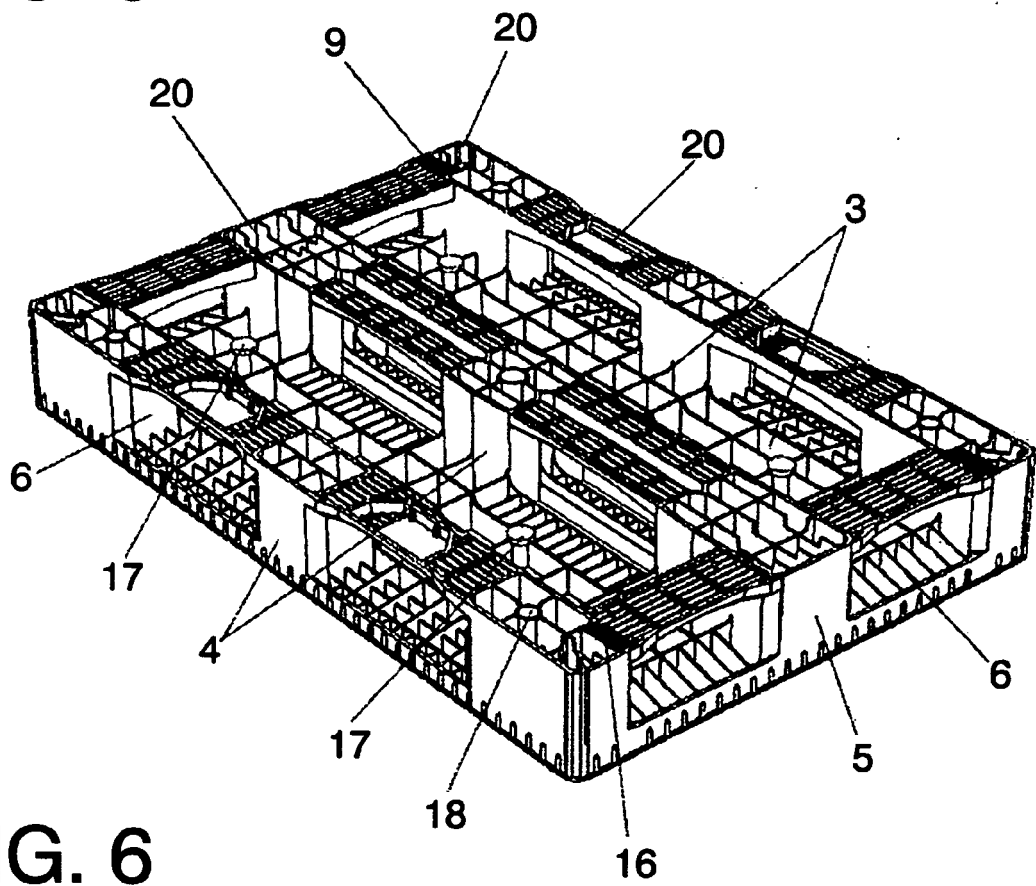


FIG. 6

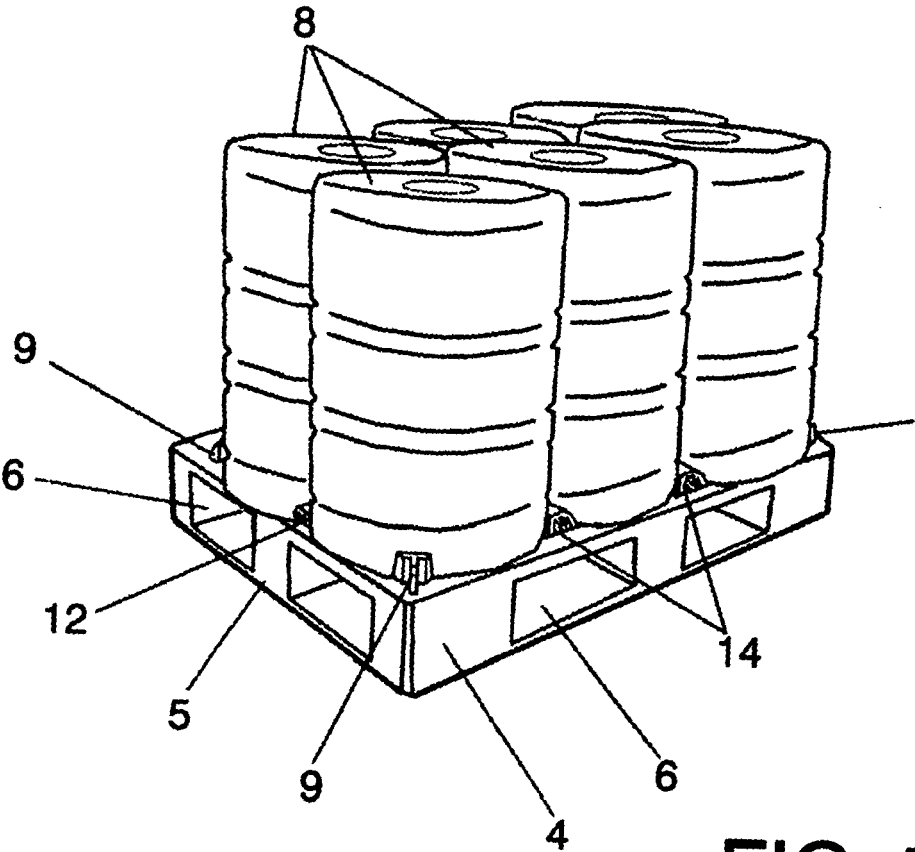


FIG. 7



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 08 38 0037

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 5 June 2008	Examiner Dederichs, August
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 38 0037

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05-06-2008

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