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(54) Pallet for storing and transporting goods

(57) A pallet particularly for storing and transporting goods, characterized in that it comprises a metallic grid-like platform (11) provided with legs (12) in a downward region.

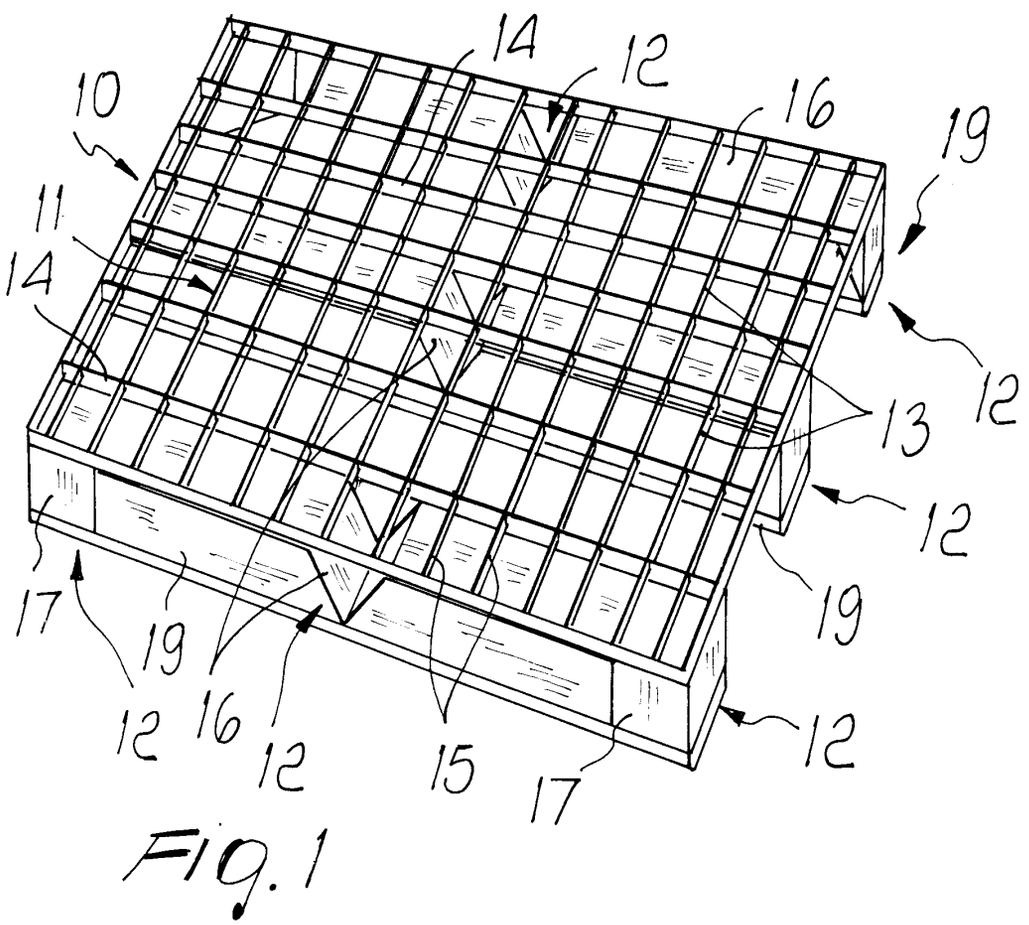

Fig. 1

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Description

[0001] The present invention relates to a pallet which is particularly but not exclusively useful for storing and transporting goods.

[0002] It is known that packaging, storage and transport of goods cause many problems.

[0003] Currently packagings are usually supported by structures commonly known as pallets.

[0004] Currently available pallets, notwithstanding the variety of embodiments (which however tend to a high level of similarity), are constituted by a structure which is formed by nailing or jointing wood strips and boards.

[0005] However, the above-described pallets suffer substantially two main problems.

[0006] First of all, wooden pallets have a considerable weight with respect to the load that they can actually carry or in any case bear without danger.

[0007] Accordingly, in many cases a significant share of the weight of the stored and/or transported item is due to the pallet, with an obvious waste of resources.

[0008] Secondly, wooden pallets, even if treated adequately, on the average have a limited resistance to the effects of weather and accordingly require frequent replacement, with a consequent cost increase affecting the transported goods.

[0009] The aim of the present invention is to provide a pallet which solves the drawbacks of pallets having a wooden structure, particularly achieving a distinctly better ratio between load weight and own weight than wooden pallets.

[0010] Within the scope of this aim, an object of the present invention is to provide a pallet which is particularly weather-resistant.

[0011] A further object of the present invention is to provide a pallet which has competitive purchasing and running costs with respect to commercially available pallets having a wooden structure.

[0012] A further object of the present invention is to provide a pallet which can be mass-manufactured with processes which can optionally be automated and according to models which can adapt to the different application requirements.

[0013] A further object of the present invention is to provide a pallet which can be manufactured with conventional technologies and systems.

[0014] This aim, these objects and others which will become apparent hereinafter are achieved by a pallet for storing and transporting goods, characterized in that it comprises a metallic grid-like platform provided with legs in a downward region.

[0015] Further characteristics and advantages of the present invention will become apparent from the following detailed description of an embodiment thereof, illustrated only by way of nonlimitative example in the accompanying drawings, wherein:

Figure 1 is a perspective view of a pallet according to the invention;

Figure 2 is a perspective view of a detail of the pallet of Figure 1;

Figure 3 is a side view of the pallet of Figure 1;

figure 4 is a front view of the pallet of Figure 1;

Figure 5 is a partially sectional view of a detail of the pallet of Figure 1;

Figure 6 is a view of a different embodiment of a detail of Figure 2;

Figure 7 is a view, similar to Figure 5, of another embodiment.

[0016] With particular reference to Figures 1 to 5, a pallet for storing and transporting goods, according to the invention, is generally designated by the reference numeral 10.

[0017] The pallet 10 comprises a metallic grid-like platform 11 which is provided, in a downward region, with legs designated by the reference numeral 12.

[0018] In particular, in this case, the legs 12 are also metallic and can be associated or not with corresponding pads 19 made of wood or plastics or metallic materials.

[0019] In particular, if the pads 19 are provided, they are replaceable, since they are connected to the legs 12 by way of reversible connection elements, such as screws 20 or lever-type engagement elements or the like (see Figures 5 and 7).

[0020] The grid-like configuration of the platform 11 can furthermore be produced by pressing or casting in an electric furnace or electric welding and can be optionally treated by hot or cold galvanization or coated.

[0021] In this embodiment, the grid-like configuration of the platform 11 comprises mutually parallel main elements 13 which are shaped so as to define a corrugated antislip upper profile 14 and are interlocked with transverse secondary elements 15.

[0022] In this embodiment, the secondary elements 15 are interlocked by pressing in the main ones 13, so as to be arranged on the upper part of the platform 11; however, in other cases they may be arranged below it.

[0023] The secondary elements may be of different kinds, obtained from metal strips, from rods, square-section elements or twisted square-section elements.

[0024] The legs 12, in this case, are constituted by plate-like elements 16 which are shaped by cutting metal plate and subjecting it to plastic deformation and which are associated with plates 17 in regions which are folded downward during assembly.

[0025] In the case of Figure 2, the plate-like elements 16 are V-shaped at the center.

[0026] Furthermore, the legs 12 have slotted holes 18 which can be effectively used to engage the pallet 10 during transport by lifting.

[0027] In a different embodiment shown in Figure 6, the plate-like elements, now designated by the reference numeral 16a, are folded in a U-like shape instead

of in a V-like shape in their central region and can be used both in the illustrated configuration and turned through 180 sexagesimal degrees, i.e., so that the wider resting surfaces are arranged downward.

[0028] Holes 16b are used for reversible fixing to the other components.

[0029] In practice it has been found that the present invention has achieved the intended aim and objects.

[0030] In particular, it should be observed that the metal structure of the grid-like platform associated with the legs allows a distinctly better ratio between load weight and the own weight of the pallet than pallets having a wooden structure.

[0031] It should also be noted that the pallet according to the invention allows high flexibility in application without however failing to meet construction and production requirements.

[0032] The pallet according to the invention can in fact be mass-manufactured with processes which in practice can be highly automated, thus achieving cost savings in production which make it competitive with respect to wooden pallets.

[0033] Attention is also drawn to the application flexibility of the pallet according to the invention, which can be configured adequately and rather easily with respect to different application situations.

[0034] Among said application situations, the pallet according to the invention can also deal with the situation of transport with lifting in a particularly simple and easy manner, since the pallet according to the invention can be effectively engaged by means of underlying portions thereof, such as its legs.

[0035] The present invention is susceptible of modifications and variations within the scope of the inventive concept.

[0036] In the particular embodiment shown in Figure 7, the plate-like element 16 is connected, at its lateral ends, to a plate 37 which has a tip 30 which protrudes toward the ground, affecting part of the thickness of the pad 19.

[0037] A wing 31 is accordingly formed which acts as an abutment for a tip 32 of the pad 19.

[0038] Such wing allows to prevent the flexing of the pallet if the pad is made of plastics or wood.

[0039] Advantageously, the wing 31 has an extension which is approximately equal to half the thickness of the end 32 of the pad 19.

[0040] The technical details can be replaced with other technically equivalent elements.

[0041] The materials and the dimensions may be any according to requirements.

[0042] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A pallet for storing and transporting goods, characterized in that it comprises a metallic grid-like platform provided with legs in a downward region.

2. The pallet according to claim 1, characterized in that it comprises pads connected to said legs.

3. The pallet according to claim 2, characterized in that said pads are removably connected to said legs.

4. The pallet according to claim 3, characterized in that said pads are reversibly connected to the legs by means of screws.

5. The pallet according to claim 3, characterized in that said pads are reversibly connected to the legs by means of lever-type hooks.

6. The pallet according to claim 1, characterized in that said platform comprises grid elements which are shaped to as to define a corrugated antislip upper profile.

7. The pallet according to claim 1, characterized in that said grid-like platform comprises main elements made of metal plate which are parallel one another and are joined to secondary elements which lie transversely thereto.

8. The pallet according to claim 7, characterized in that said secondary elements are arranged on the upper part of said platform.

9. The pallet according to claim 7, characterized in that said secondary elements are arranged below said platform.

10. The pallet according to claim 1, characterized in that said legs are formed by the joining of plate-like elements which are shaped by cutting and plastic deformation of metal plate and are associated, in regions which are folded downward on assembly, with plates which are also metallic.

11. The pallet according to claim 1, characterized in that said legs have holes for engaging said pallet during transport by lifting.

12. The pallet according to claim 1, characterized in that said legs are made of metal.

13. The pallet according to claim 2, characterized in that said pads are made of wood.

14. The pallet according to claim 2, characterized in that said pads are made of plastics.

15. The pallet according to claim 2, characterized in that said pads are metallic.

16. The pallet according to claim 10, characterized in that said plate-like elements are connected, at their lateral ends, to plates which have a tip which affects part of the thickness of said pads.

17. The pallet according to claim 16, characterized in that at said plate there is a wing at which the tip of said pad abuts.

18. The pallet according to claim 17, characterized in that said wing affects approximately half of the thickness of said pad.

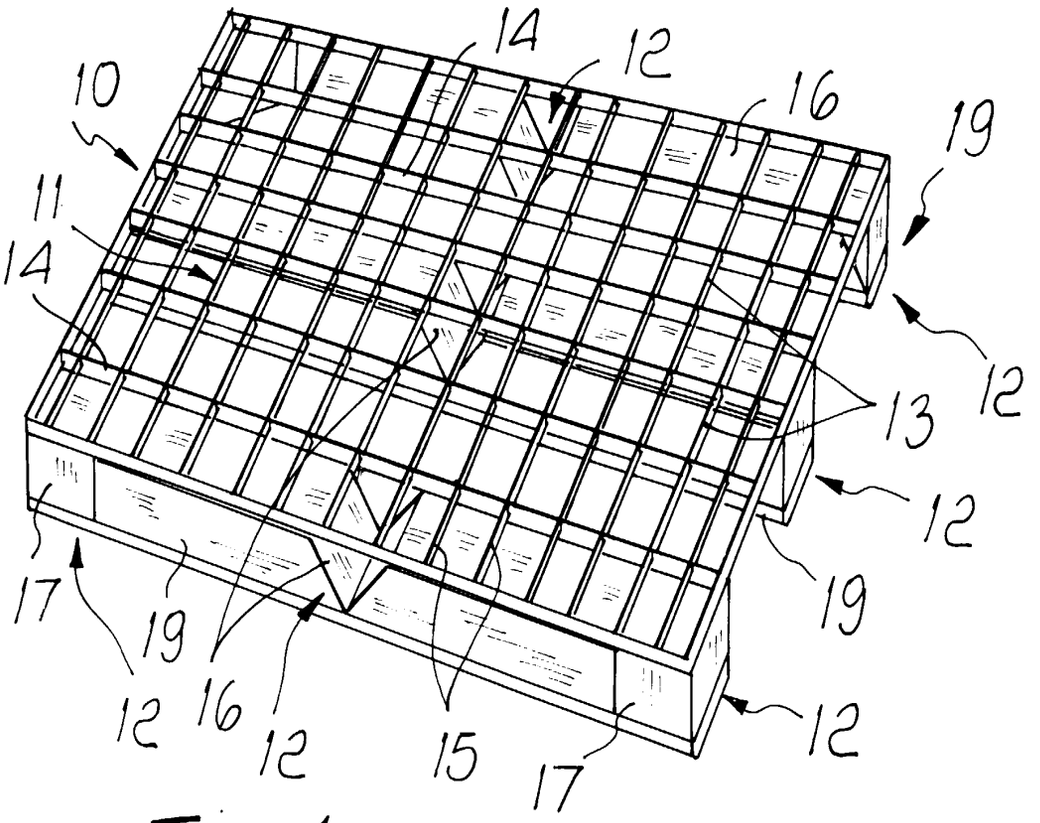
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FIG. 1

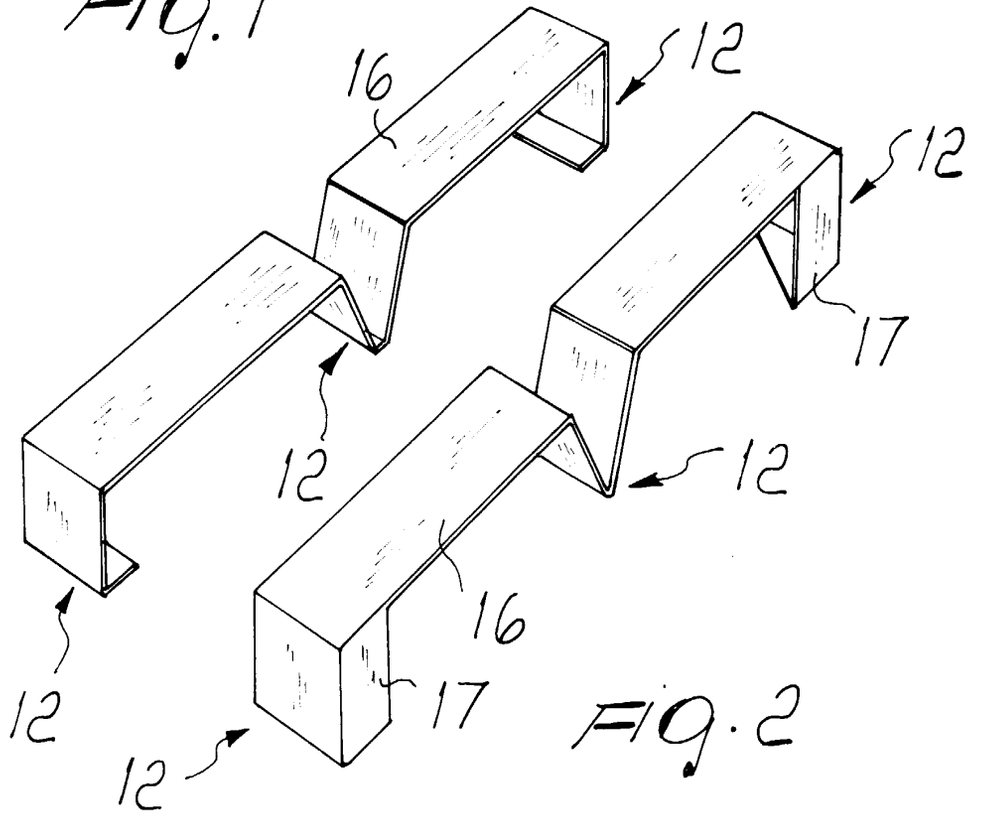
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FIG. 2

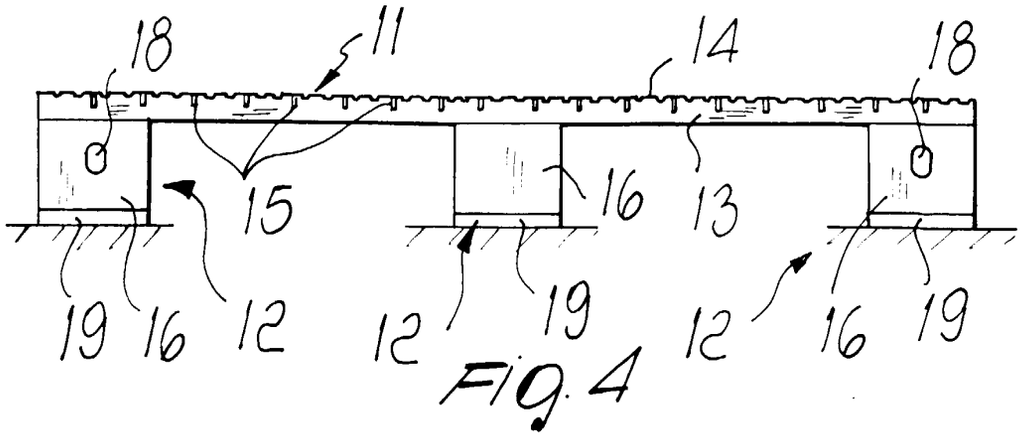

Fig. 4

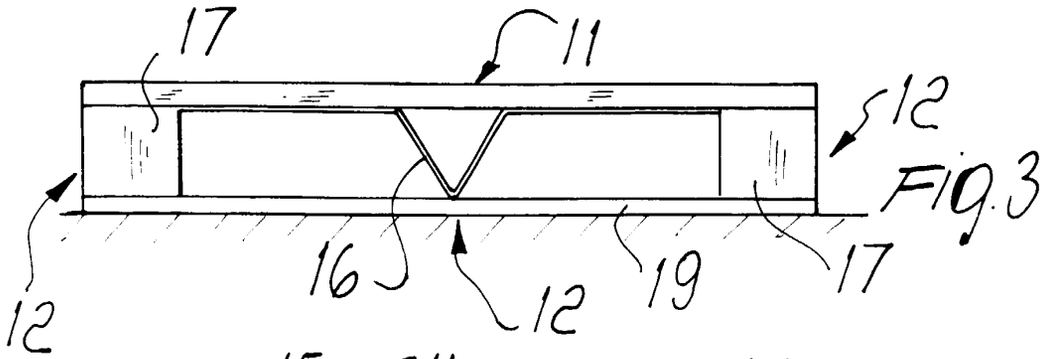

Fig. 3

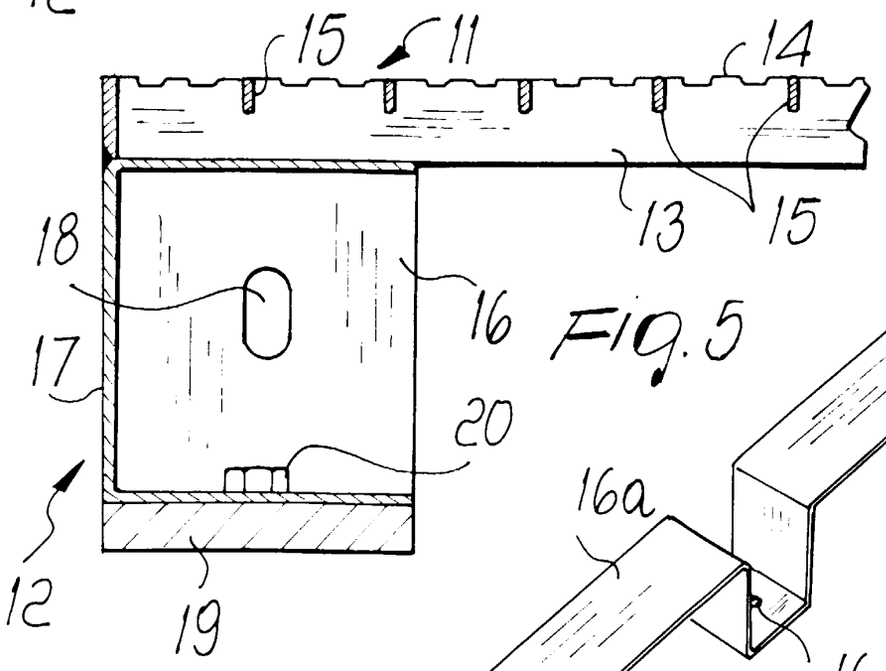

Fig. 5

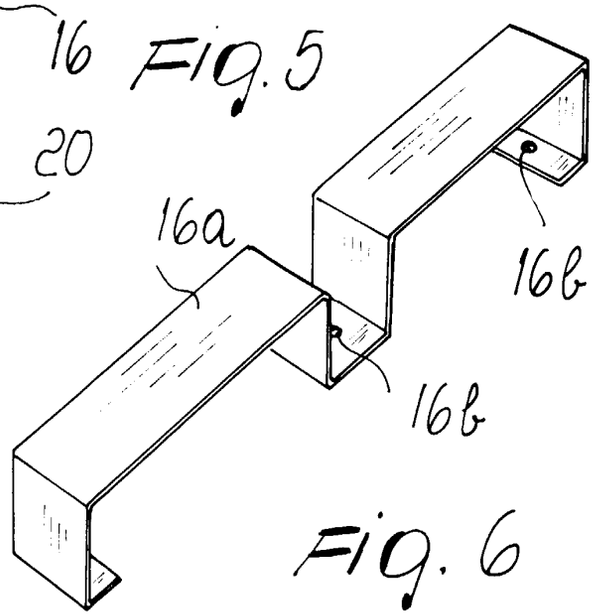

Fig. 6

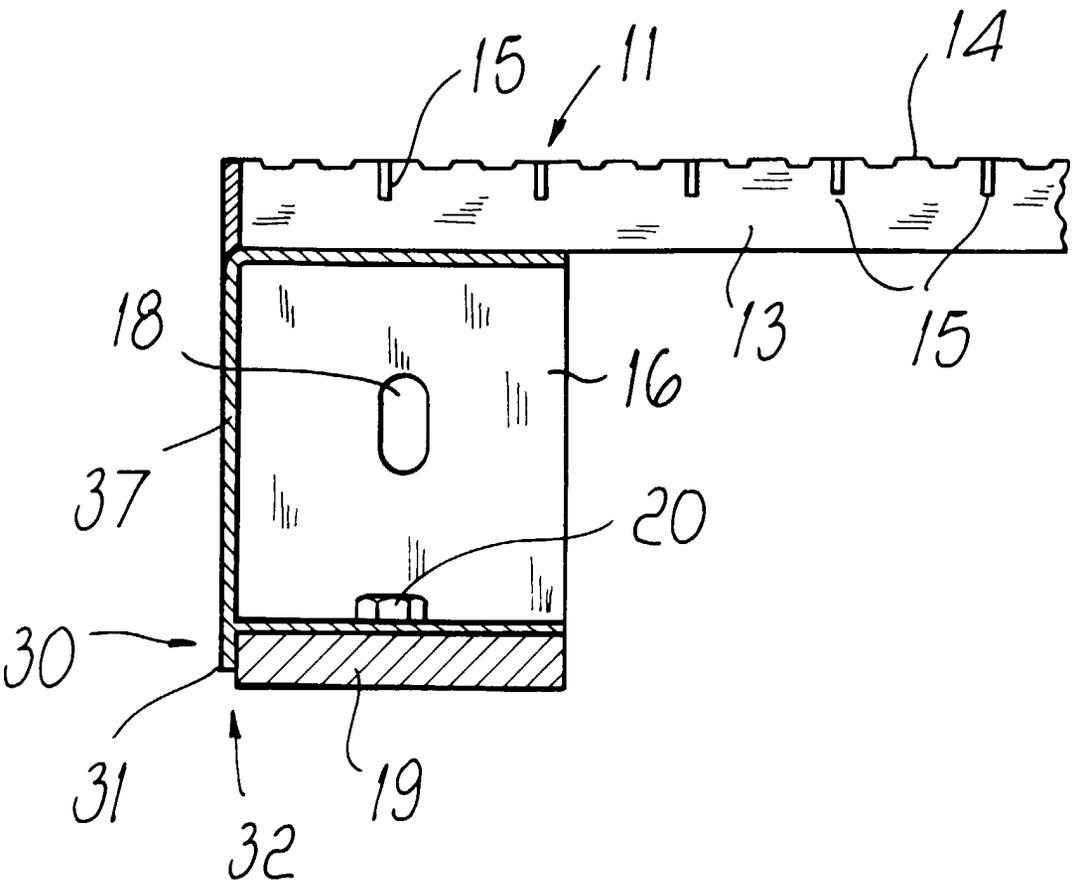

Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 99 11 3587

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 3 895 588 A (MILLER ERVIN W) 22 July 1975 (1975-07-22) * column 1, line 51 - column 2, line 32; figures *	1-3,6-15	B65D19/00
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A	FR 2 686 582 A (PHENIX SA CHARPENTES) 30 July 1993 (1993-07-30) * page 4, line 28 - page 6, line 11; figures *	1	
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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
BERLIN	25 November 1999	Olsson, B

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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