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(54) Leg for stackable bed

(57) This consists of a single-part leg for children's camp-type bed provided with a leg (1) placed on a central body (2) which holds a top part (3). It has holes (14) for housing tubes (16) holding a mesh (17). The upper and central parts have an extension (12) for supporting the mesh (17). The top part has a recess in its external angle essentially identical to that of the leg which rests on a corresponding surface when a set of beds is piled up.

For application in making stackable beds.

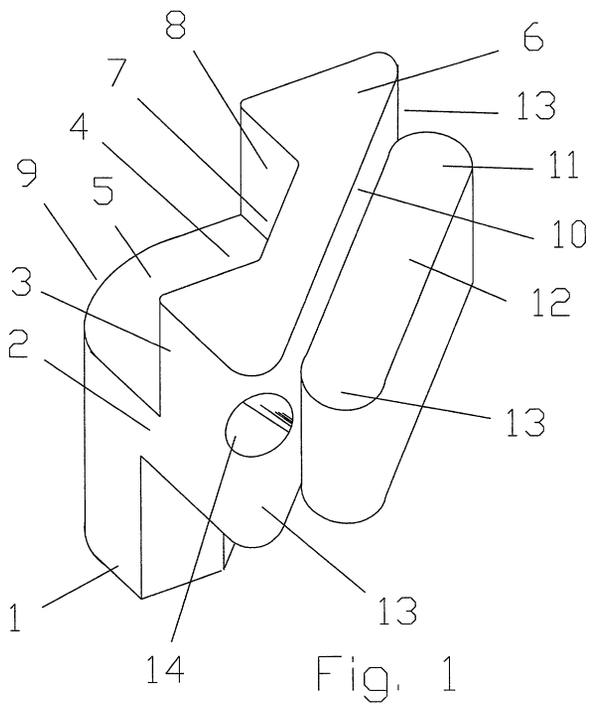


Fig. 1

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Description

[0001] The technical field involved in this invention is furniture making, in particular children's furniture and, more particularly still, children's furniture for use at infants' schools or places where a large number of young children are present.

[0002] Nurseries or infants' schools admit children of pre-school age, that is, prior to ordinary schooling, ranging from roughly a few months of age to 4 years or more.

[0003] The smaller children need to sleep several times a day and those from two or three years of age normally do so after lunch. These establishments generally have a space for this purpose where the smaller children have a siesta, whilst the older ones go on with their normal activities.

[0004] Since it is not practical to have a lot of cots available, due to the large amount of space that these would occupy, mattresses placed on the floor have occasionally been used. Mattresses involve the disadvantage that if these are made of or covered with plastic materials they can be unhealthy through not transpiring properly. Mattresses can also be foci for parasites such as fleas, so commonly found at schools, meaning that this solution is not hygienic and thus not desirable.

[0005] As a solution to this problem children's camp beds have been made fitted with roughly triangular shaped legs at each of their corners, with tubes placed between said legs for holding a plastic mesh material. We specifically refer to a bed marketed under MTA or KSM makes or by the firm CWR S.r.1.. These beds are stackable through having a recess at the base of each leg for supporting other similar beds in the interior angle, in accordance with the position of the leg, whilst the joining tubes are held together at an outer zone. This solves the hygiene problem of the mattress, and the space problem involved with the cot, too. There are nevertheless several disadvantages with these beds. First of all there is still a hygiene problem, since after a number of beds are stacked up on others after having been on the floor, part of the dirt goes to a cavity at the bottom of the bed in a zone accessible to the child, this dirt also being very difficult to clean and remove.

[0006] There is also a safety problem with camp beds now existing like the ones that have been mentioned. The tubes on which the mesh is fastened are located farther out than the farthest end of the corresponding legs. Children, who are so prone to standing up in awkward places, can thus rest a foot on the tube with their weight producing sufficient moment to make the bed tilt up on two legs, thus running the risk of receiving a severe blow on the head, since this is the part of the body which is roughly at the same distance as the length of the bed, with the serious and irreversible consequences that such a blow could entail.

[0007] Another serious disadvantage involved with these camp beds is that children can get their feet between the mesh and the leg (the only zones where this is possible, as on the tubes the mesh surrounds these totally) since one part of said leg is left in the air, as has already been shown, through requiring this space for supporting the leg of another bed when being stacked.

[0008] One further disadvantage is that when there is a large number of beds and these are piled up, a transport trolley with wheels becomes necessary for these to be moved about conveniently. Due to the structure of these legs, the trolley must be made with legs different to those of the beds, as these do not have means for incorporating wheels, which could act as transport trolleys.

[0009] The subject of this invention is a leg of a bed and a camp-type bed made with said legs, which, apart from overcoming all the aforementioned disadvantages, considerably increases the user's safety, apart from reducing production costs.

[0010] In order to illustrate the explanation to follow, this report includes three sheets of drawings, in which four figures represent the essence of this invention, and in which:

Figure 1 shows a perspective view of the leg of the bed according to the invention, seen from above in a normal use position;

Figure 2 shows a perspective view of the same leg of the bed in which the top part shown matches the bottom one in usage conditions;

Figure 3 shows a perspective view of part of the bed fitted with the bed leg according to the invention, on which the support mesh is fitted, and

Figure 4 shows a perspective view of a stacked group of beds.

[0011] In accordance with the preferential embodiment described and illustrated herein, said figures display a bed leg which, in a plan view, has an essentially triangular shape, one of whose vertices forms an external angle which matches the corresponding external angle of a bed.

[0012] Even though the leg of the bed of the invention is made in a single piece with no interruptions, different zones can be defined in this. From a top view three zones forming this can be appreciated, namely:

[0013] A support leg 1, which has a roughly trapezoidal shape, with its largest base convex; a central body 2 which holds this leg, and an upper body 3 which is partially located over the central body 2.

[0014] We can thus see that the central body 2 has an essentially triangular shape, whilst the leg 1 only occupies a part in trapezoidal shape. The upper body 3 has a thickness of roughly twice that of the central body 2, and roughly the same as that of leg 1.

[0015] In the external corner of the upper body 3 a recess 4 or indentation has been made, with a shape essentially identical to that of the section of leg 1. The base of this recess, shown as 5, is the support surface for the leg of a possible bed located over this. 6 shows

the upper surface of the upper body 3, which will be the only one normally accessible to the child occupying this, and which involves no hygiene problems whatsoever through its position and smoothness.

[0016] Recess 4 made in the upper body 3 has a central indentation 7, also trapezium-shaped, at whose two ends two projections or wedges 8 are located.

[0017] Even when the trapezium shape is not necessary, this particular embodiment has been chosen since it facilitates fitting one bed over the next, at the same time as preventing them from sliding apart.

[0018] Beside body 3 there is an extension 12 located on the interior side 10, opposite to the external vertex 9, said body forming a prismatic body with rounded edges.

[0019] Said extension 12 has an upper surface slightly below the surface 6 of body 3, but over the visible surface of the central body 2. It is intended to have reinforcements on the inside of the support for possibly screwing a mesh securing plate onto this.

[0020] The angles 13 of the bed leg intended to be joined with the corresponding one of the next leg have a hole 14, for housing a tube 16 holding the mesh 17 which acts as base for supporting the child.

[0021] As can be appreciated from figure 3, the mesh practically fully covers the tubes 16 which join the legs, thus holding said mesh and leaving only the leg zone free. Extension 12, fitted on body 3, thus acts as a support for the mesh and prevents accidental insertion of a child's arm or leg.

[0022] Furthermore, the support for the legs, when these are stacked, is located on the outside, which facilitates cleaning these very much indeed and also means this is out of the immediate reach, or at least difficult to reach for any child using said bed.

[0023] Given the nature of the users of said bed, all the vertices are obviously rounded, meaning that the danger of being hurt by a bed fitted with the legs of the invention is practically non-existent.

[0024] On the other hand, given that support leg 1 is located over the more external part, it is practically impossible, during its use, for there to be any moment lifting up any part of the bed.

[0025] Figure 2 shows us the same leg of the invention, in which other characteristics not appreciated in the other figures can be seen.

[0026] Here we can see how leg 1 is hollow and has inside it at least one plate 18 which holds a central rod 19 in which there is a hole 20.

[0027] This hollow body has a cover with the same shape, which has a surface 21 fitted with a central cutaway so that when the cover is fitted on the leg the hole 20 and the central projection 22 are aligned.

[0028] This allows a wheel to be fitted on the leg itself, where necessary, with no need to redesign and inject a different part for mobile pulling bases.

[0029] It can be seen that the cover has ribs 23 for proper adjustment and, to give the part the required elasticity, cuts 24, which prevent any possible breakages, all of this not meaning that the finish cannot be achieved by means of adhesives suitable for to this kind of items.

[0030] 25 is the external part of each of the holes of the joining elements seen from the inside of the leg, on which a support 26 for fitting a screw is placed, to fasten the tube, preferably by going right through it. The support has securing flanges 27.

[0031] Extension 12 optionally has on the inside reinforcements for possibly fixing the mesh from the top by means of a securing plate (not shown).

[0032] Finally it can be seen that the interior structure has a number of bracing walls which mean the structure can be given great solidity or rigidity without needing to use great thicknesses of material on the outside.

[0033] The leg can have a clamp, made for example of transparent plastic, essentially of the same shape as the leg, which can contain some kind of label, for example the name of the bed's user.

[0034] The use of the aforementioned leg in furniture other than items for children, such as deck chairs, swimming pool or garden furniture, amongst others, is not outside the scope of the protection requested for this invention, as long as its structure is defined by the characteristics described.

[0035] This item is for use in industrial applications in making children's beds.

Claims

1. Leg for stackable bed, with this camp-type bed being formed of a set of legs between which there are tubes carrying a mesh which forms the base of the bed, said tubes being inserted in holes set in each of the two adjacent angles of the leg, and with an upper zone for supporting a similar leg of another bed in order to stack these up, **characterised by**:

   - having from a plan view an essentially triangular shape, which has an external angle (9) and two angles for joining to other legs by means of joining tubes (16) and
   - from an elevation view having three differentiated zones, with said zones being:

     - one lower one formed by a leg (1),
     - one central one (2) between the leg and an upper body,
     - said upper leg (3) defining the surrounding enclosure of the bed,

   the upper body having at its adjacent angles (13) holes (14) for inserting tubes (16) for joining this to two other bed legs, and said upper body having a recess or indentation (4) with a section essentially the same as the section of the leg (1); the leg

(1), recess (4) and support base (5) being located at the corresponding external part of the external angle (9) and said support base being located lower in height than the mesh which defines the support base of the bed.

2. Leg for stackable bed, according to claim 1, **characterised in that** the central and upper bodies have, at the zone opposite to the external angle (9) which forms an internal side (10), an extension (12) which is at the height of the mesh, whose upper surface is located lower in height than that of the upper surface (6) of the upper zone (3) and roughly at the same height as the centre of the holes (14) for holding the bars (16) for holding the mesh (17).

3. Leg for a stackable bed, according to claims 1 or 2, **characterised** because the section of the leg (1) and the recess (4) and the corresponding support surface (5) has a trapezoidal shape, whose largest base is formed by a convex curve.

4. Leg for stackable bed, according to claims 1 to 3, **characterised in that** the leg (1) is hollow and can be opened, having inside a plate (18) holding a rod (19) provided with a hole inside able to house the thread of a screw or support for a wheel-fixing rod.

5. Leg for a stackable bed, according to claim 4, **characterised in that** the leg (1) has a cover with an outside surface (21) and a preferably circular recess (22) located in a position matching the hole (20) located in the rod (19).

6. Leg for a stackable bed, according to claim 4, **characterised in that** the leg cover has an insertion skirt, provided with fixing ribs, and slots which help to make this more elastic for fitting over the plate (18).

7. Leg for a stackable bed, **characterised** according to claim 1, in that the bottom part has a number of reinforcement walls.

8. Leg for a stackable bed, according to claim 1, **characterised in that** the outer part (25) of the joining parts (14) located inside the body of the leg has a support (26) for a screw for fixing the tubes (16) which hold the mesh (17) joined by means of flanges (27) to the body of the leg and to the leg reinforcement walls.

9. Leg for a stackable bed, according to claim 1 and 2, **characterised in that** the extension 12 has reinforcements at the bottom for possibly screwing on a plate for securing the mesh.

10. Leg for a stackable bed, according to claim 1, **characterised in that** this has a surrounding clamp able to be fixed by pressure onto the leg (1) in a shape and size similar to the external outline of this leg, and able to hold a label with the name of the user of the bed, for example.

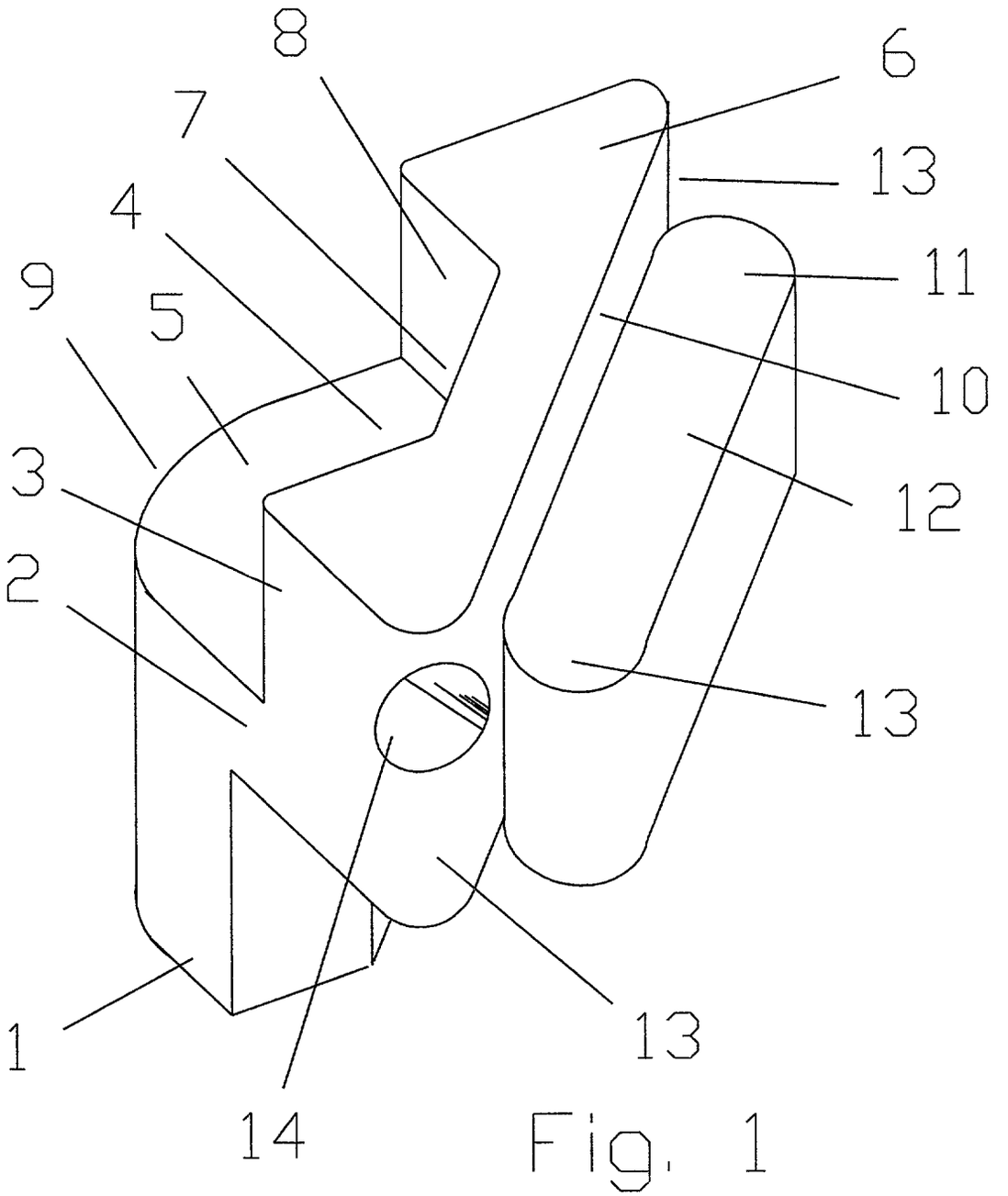


Fig. 1

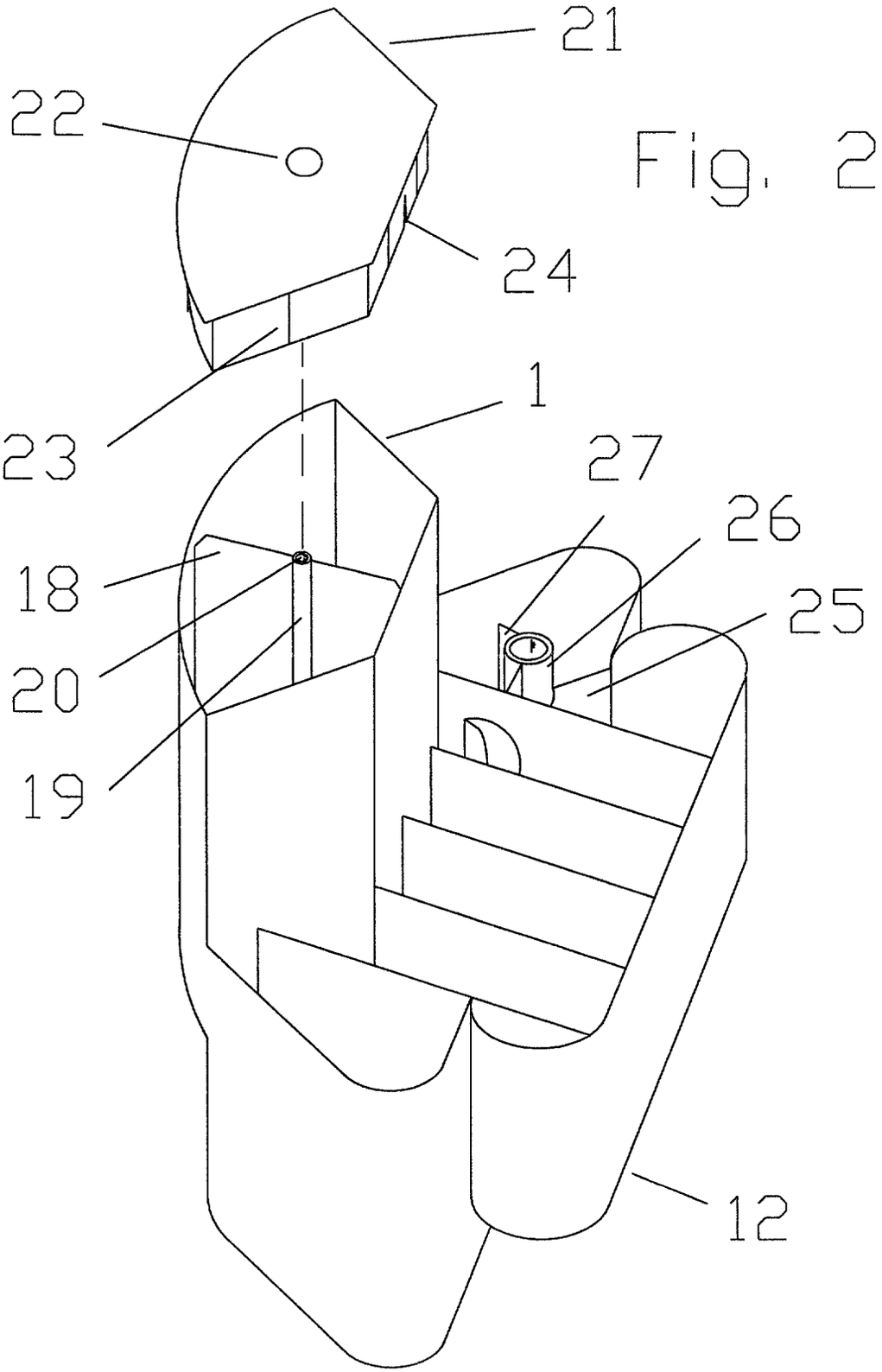
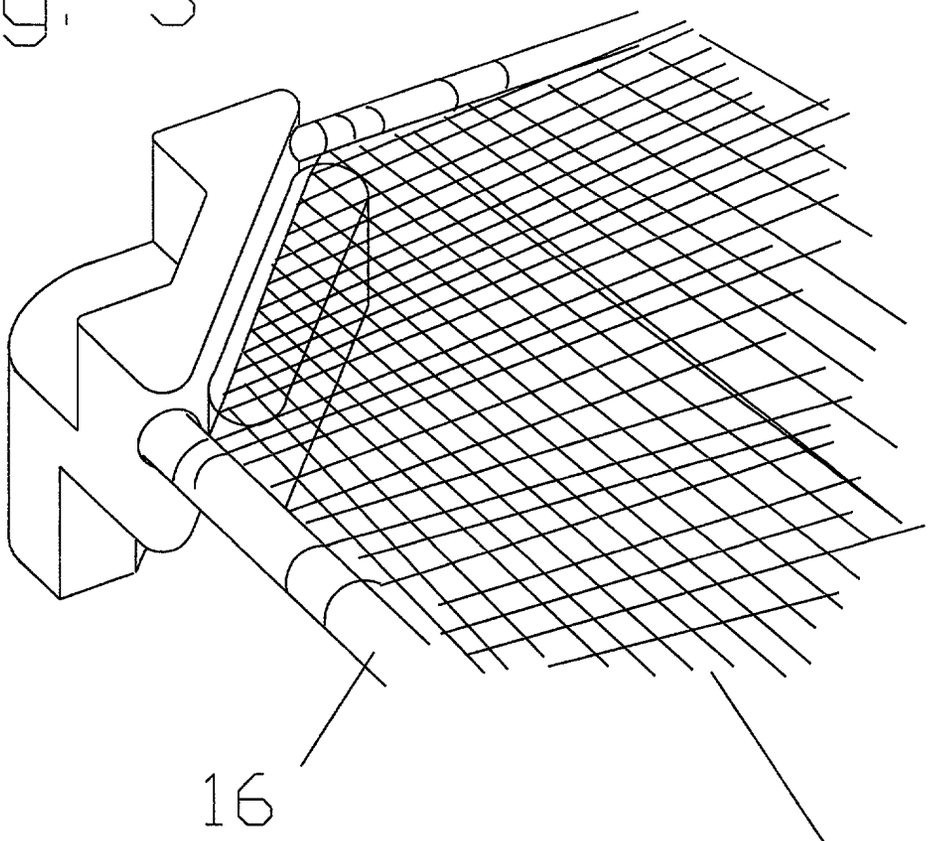


Fig. 2

Fig. 3



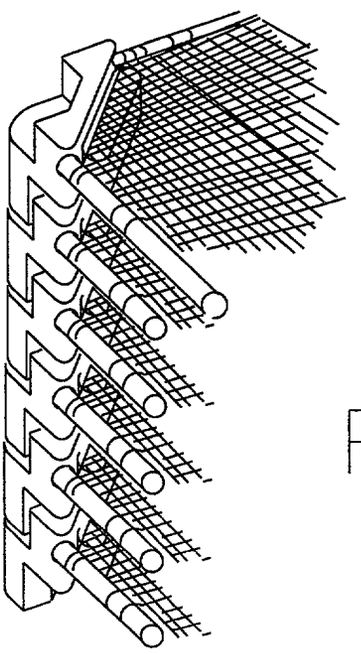


Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 00 56 0003

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 4 958 390 A (MENDENHALL) 25 September 1990 (1990-09-25) * abstract; figures *	1	A47C19/20 A47D7/00
A	------	2-10	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)
A47C A47D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	28 May 2001	VandeVondele, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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28-05-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4958390 A	25-09-1990	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82