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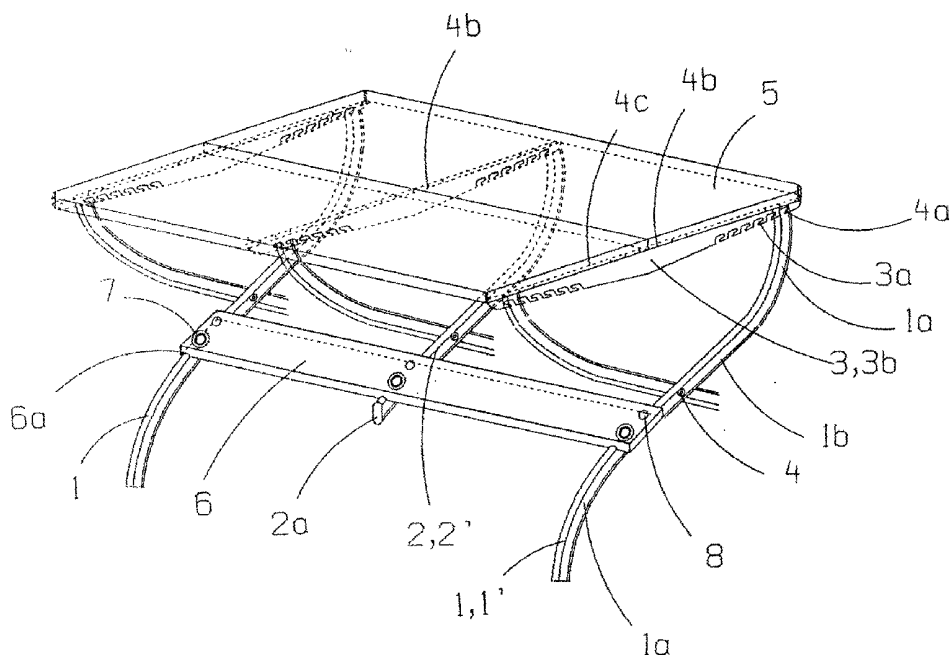
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MULTI-FUNCTION TABLE



(57) Abstract: The present invention concerns a multi-function table that can be used as a workbench, a sawhorse and a building stand. Said implement includes end legs (1), an intermediate leg (2), a workbench fastening rail (3), a workbench (5), a frame board (6), fastening means (4, 8) and workpiece fastening means (7, 10).



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Multi-function table

The present invention concerns a multi-function table that can be used as a workbench, a sawhorse and a bundling stand.

Household, vacation facility, residential building and similar real estate maintenance and repair involve numerous tasks that require workbenches, various types of stands and implements. Said tasks are often great in number but relatively short in duration. For this reason it is advantageous to purchase versatile implements that can be used to perform as many tasks as possible. By combining different features into one and the same implement, it is possible to expand the range of use of said implement, thereby lowering the total investment per task.

Practical handling of thin materials, in particular, such as timbers and twigs, requires proper equipment. For example, because the structural design of sawhorses according to the prior art does not provide for bundling of thin timbers to facilitate handling of said timbers, it is difficult to handle said thin timbers using said sawhorses. Sawhorses and workbenches often lack suitable means to fasten workpieces, which makes work less efficient.

The present invention can be used as a sawhorse, a workbench and a bundling stand, which makes it possible to bundle thin timbers, twigs or other thin materials into a tight bundle. The structure of the device is lightweight, convenient to manufacture and logistically advantageous. The device is comprised of end legs, an intermediate leg, a workbench, workbench fastening rails, frame boards and workpiece tightening devices. The device offers diverse possibilities of use and its structure is simple, reliable in operation and reasonably priced.

The present invention solves problems related to tasks particularly associated with real estate maintenance, which are great in number but relatively short in duration. The present invention eliminates the deficiencies of the prior art and achieves a multi-function table having diverse features and a simple, reliable structure.

Said advantages are achieved by means of a device according to the present invention, which is characterized by what is presented in the claims.

A multi-function table according to the present invention includes two end legs, which are comprised of crossed profiles suitably curved at their ends. The profiles

are fastened to each other near their middle by means of a joint. The end legs are fastened to each other by means of frame boards, thus forming a stand-like structure supported by the end legs. Intermediate legs identical with the end legs are fastened to the frame boards between the end legs. In an alternative structure the intermediate leg does not extend to the ground, but is instead cut off immediately below the frame board. The frame boards have fastening devices for a cord, for example, with which cord workpieces can be fastened to the stand. The cord or part of the cord may be, for example, wire, string or a suitably flexible cord, which is pretightened and fastened to the fastening devices. If necessary, the tightening force can be increased by moving the profiles of the end legs closer to each other. Workbench fastening rails can be affixed to the end and intermediate legs by means of slots arranged in the rails and fastening means at the ends of the legs. A workbench is fastened to said rails using suitable fastening means. The height of the multi-function table can be adjusted by inserting the ends of the legs into the desired slots. The structure of the device is advantageous to manufacture and its parts can be packed into a small space and it is simple to assemble.

The present invention is described in detail below by means of certain exemplary advantageous embodiments and with reference to the enclosed drawings.

- Figure 1 presents a device according to the present invention in working position and viewed at an angle from above,
Figure 2 presents a device according to the present invention viewed from an end,
Figure 3 presents the device of figure 2 in working position and equipped with workpiece fastening devices,
Figure 4 presents a workbench fastening rail, and
Figure 5 presents workpiece fastening devices according to the present invention.

Figures 1 – 5 present a multi-function table according to the present invention, which includes end legs 1, intermediate legs 2, a workbench fastening rail 3, a workbench 5, a frame board 6, a workpiece fastening device 7, fastening means 4 and 8 and a workpiece fastening cord 10.

The end legs 1 and intermediate legs 2 are each comprised of two profiles 1', 2' having most advantageously an oval cross-section. The profiles are shaped into curves 1a at their ends, with a straight section 1b left between the curves. The profiles 1', 2' are fastened to each other at the middle of the straight section using jointed fastening means 4, such as a bolt and a nut or threads integrated into the structure. The open ends of the profiles can be sealed using plugs 2a or similar

means. Upon being fastened, the legs form a structure resembling a symmetric letter X.

The legs 1, 2 are fastened to each other by means of a frame board 6, which is fastened to the straight section 1b of the legs using fastening means 8. The intermediate legs 2 may be identical (not presented) or they may be cut off below the frame board 6 as presented in figure 1. The frame boards 6 together with the legs 1, 2 form a stand-like or horse-like structure. To improve the fastening of the profiles 1', 2' and the boards 6, transversal spaces 6a are arranged in the boards 6 into which said profiles fit. A workpiece fastening device 7 is arranged in conjunction with the frame boards 6 and the fastening means 8.

The fastening device 7 has a cup-like structure comprising a flange 7a, a curved cup shell 7b, a cup base 7c and a fastening hole 7d. In fastening device 7 to the board 6, a rounded, wedge-shaped space 7e is left between the flange 7a and the board, around which space a cord 10 can be fastened using known fastening techniques. The space 10e is smaller than the diameter of the cord 10. If necessary, the tightening of the cord can be enhanced by means of a suitable pulley tackle or winch (not presented) arranged in conjunction with the device 7.

A workbench 5 is formed from boards or sheets fastened to the fastening rail 3 using fastening means 4b. Most advantageously the fastening rail 3 is formed from a sheet bent to an angle, with the fastening means 4b arranged on the bent part 4c. The web 3b contains symmetrically located slots 3a into which the fastening means 4a at the ends of the legs 1, 2 fit.

The fastening means 4, 4a, 4b, 8 may be, for example, stud joints or bolt joints. Fastening means 4 and 8 may include parts that are integrated into the structure. For example, threads can be arranged in the profile 1', 2' by means of a rivet or by machining the wall of the profile.

A device according to the present invention may also have in conjunction with the end legs fastening means, such as a chain, which limits the distance between the profiles (not presented).

A device according to the present invention functions as follows. The device is assembled by fastening the profiles 1', 2' to each other using jointed fastening means 4, thus forming legs 1, 2 shaped like the letter X. The legs are fastened to each other by means of frame boards 6, whose transversal spaces 6a are fitted together with the profiles 1', 2'. The boards are fastened to the profiles using fastening means 8,

which also include workpiece fastening devices 7. The result is a horse-like structure which forms a stand into which workpieces 9 may be placed. If necessary, a workpiece 9 may be fastened using a cord 10 or similar device made of flexible material. Said cord passes over the workpiece and its ends are tied to the fastening devices 7. If necessary, the cord may be further tightened by moving the profiles 1', 2' of the legs 1, 2 closer to each other. It is also possible to arrange a separate tightening device, such as a suitable pulley tackle or winch, in conjunction with the fastening device 7. The horse-like stand can be converted to a workbench by using fastening means 4a to fasten a workbench 5 fitted with rails 3 to said stand. The height of the workbench can be selected by inserting the fastening means 4a in the desired slots 3a. Workpieces can also be fastened to the workbench using fastening means 7, 10.

The figures and accompanying explanation are only intended to illustrate the present invention. The details of the device may vary to the extent allowed by the enclosed claims and the presented inventive idea. The structure of the device may also consist of other than oval profiles. It is clear to a professional in the field that the dimensions and design of the device may vary according to its use. It is also obvious to a professional in the field that the embodiment of the present invention may vary according to the conditions it is used in, customer needs, serial work procedures and manufacturing solutions applied in mass production.

Claims

1. A multi-function table having end legs (1), an intermediate leg (2), a workbench fastening rail (3), a workbench (5), a frame board (6), fastening means (4, 8) and workpiece fastening means (7, 10), **characterized** in that
 - said end legs (1) and intermediate leg (2) are each formed from two profiles (1', 2'), the ends of which are suitable curved (1a), with a straight section (1b) between said curves
 - said profiles are fastened to each other at the middle of said straight section (1b) using jointed fastening means (4) in such a way that said legs form a structure resembling the letter X
 - said fastening means (4) and (8) have parts integrated on the structure
 - said legs (1, 2) are fastened to each other by means of said frame board (6)
 - said workbench (5) is formed from boards or sheets fastened to said fastening rail (3) using fastening means (4b)
 - said fastening rail (3) most advantageously comprises a sheet bent to an angle, having fastening means (4b) arranged in its bent part and symmetrically located slots (3a) in its web part.
2. The multi-function table according to claim 1, **characterized** in that
 - there is a space (7e), smaller than the diameter of said means (10), between the fastening device (7) and the board (6)
 - said fastening device has a cup-like structure, which comprises a flange (7a), a curved cup shell (7b), a cup base (7c) and a fastening hole (7d)
 - said fastening device (10) or part of it is a flexible cord
 - there is a rounded, wedge-shaped space (7e), smaller than the diameter of the cord (10), between the flange (7a) of the device (7) and the board (6).
3. The multi-function table according to claim 1 or 2, **characterized** in that there is a pulley tackle or winch mechanism for tightening the cord in conjunction with the device (7).
4. The multi-function table according to one of the claims 1 – 3, **characterized** in that the cross-section of the profiles (1', 2') is oval.
5. The multi-function table according to one of the claims 1 – 4, **characterized** in that the frame board (6) has transversal spaces (6a) into which the profile (1', 2') fits.

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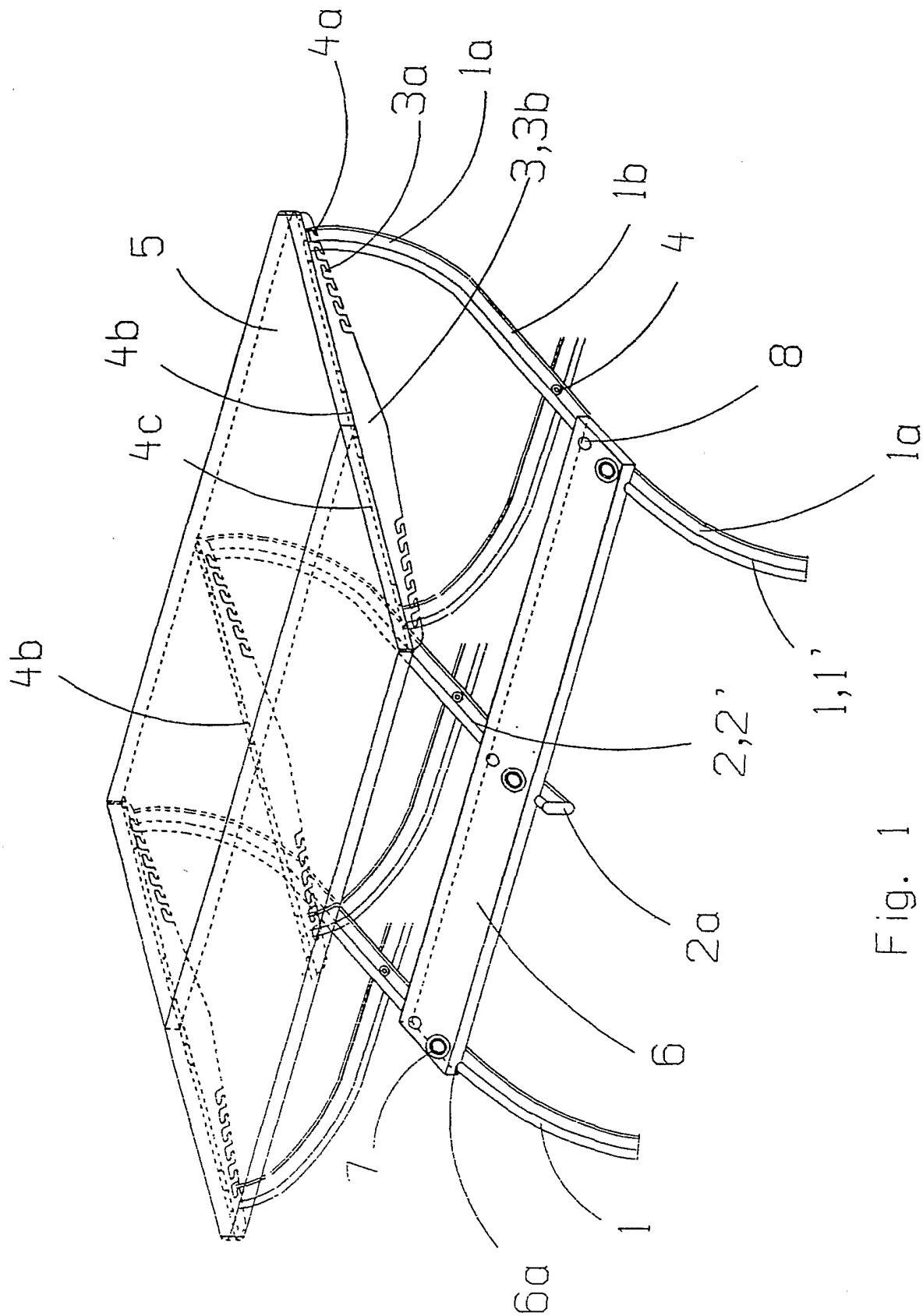


Fig. 1

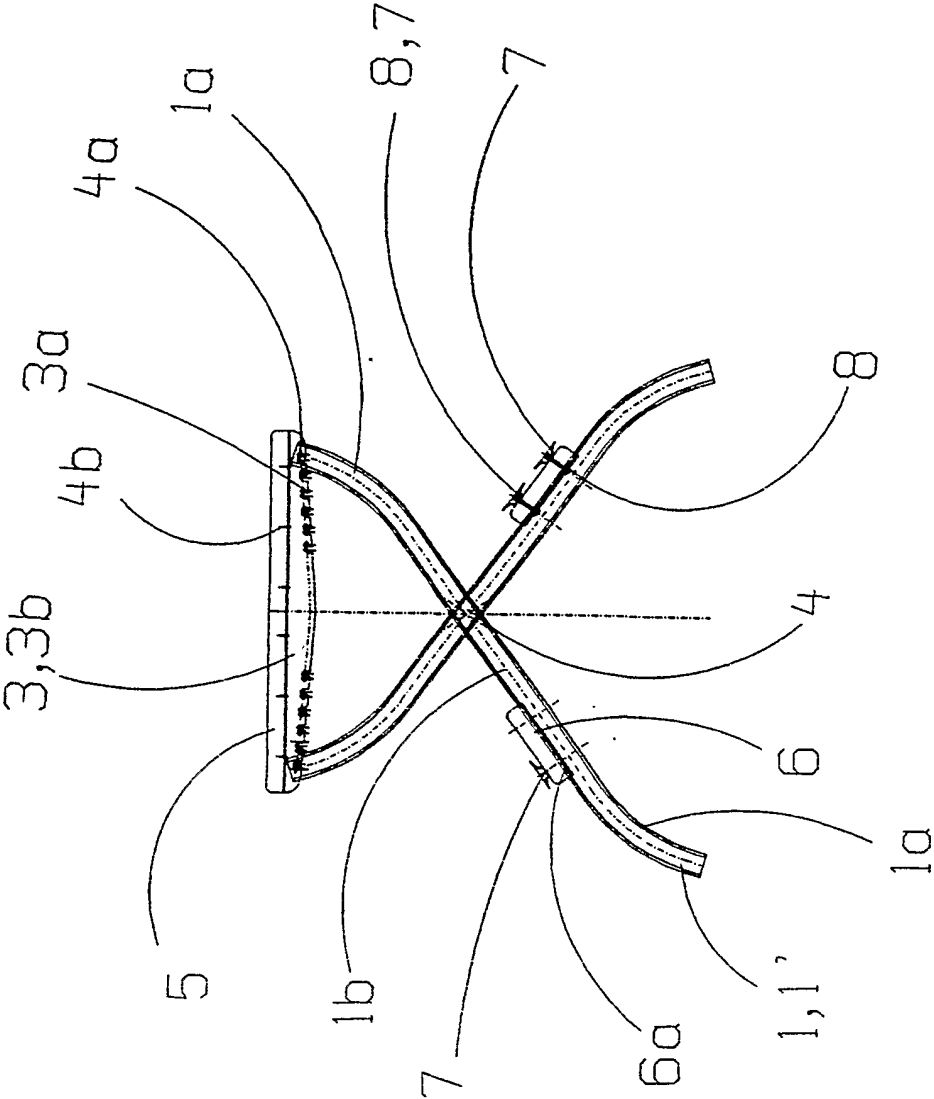


Fig. 2

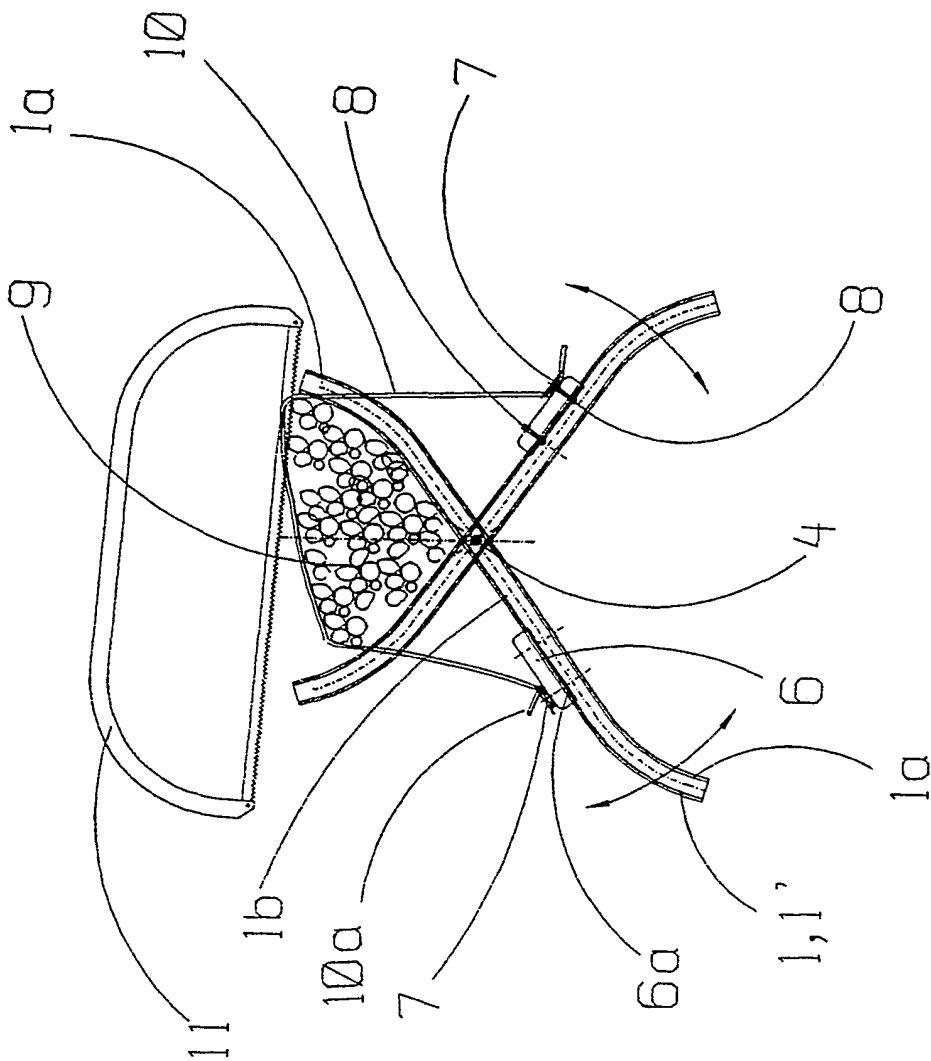


Fig. 3

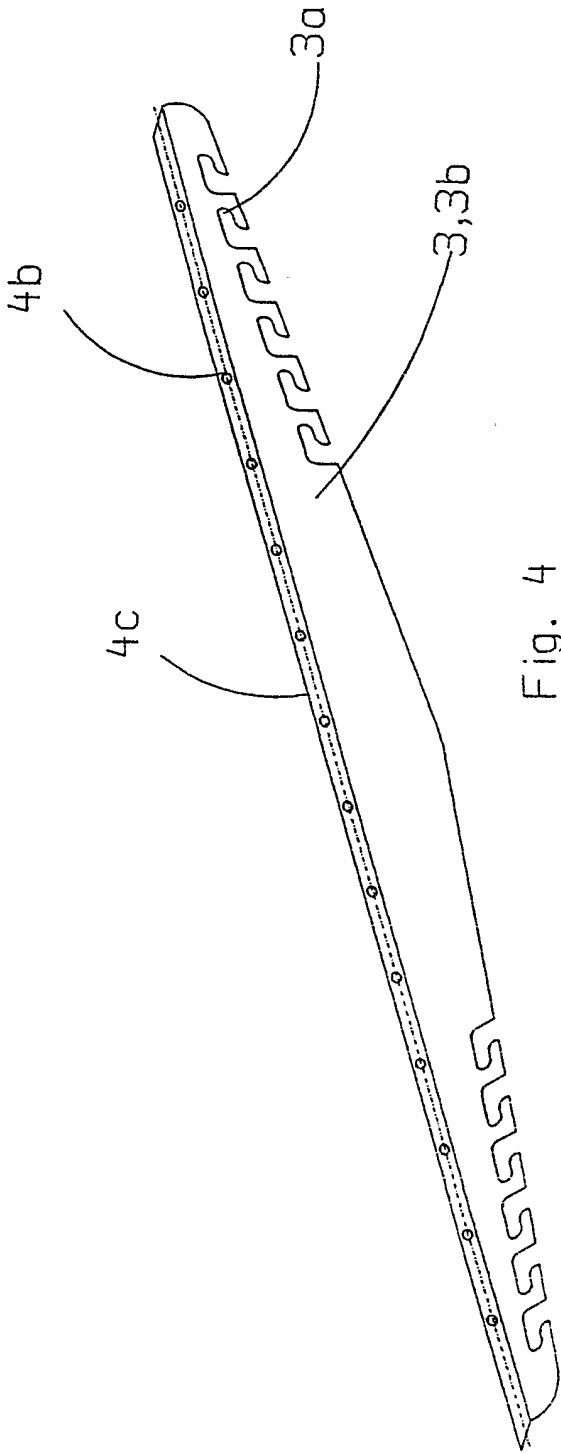


Fig. 4

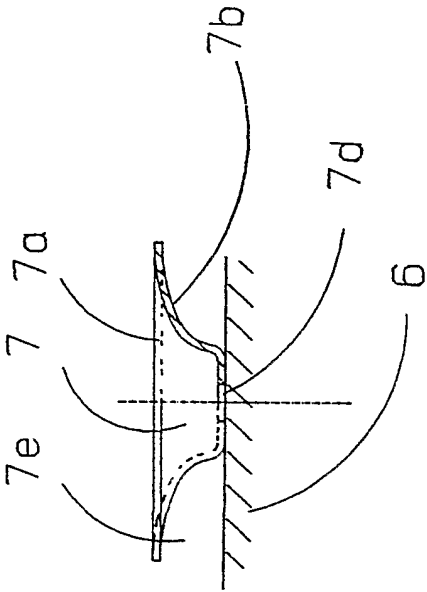


Fig. 5

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A47B 85/06, B25H 1/02, B27B 5/16 // A47B 13/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A47B, B25H, B27B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,N0 classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 1104103 A (P.J. CARPENTER, JR), 21 July 1914 (21.07.14), curved X-legs with straight section (5) between curved sections (4,7) --	1
A	US 3236485 A (R.L. STAPLES), 22 February 1966 (22.02.66), end legs and intermediate legs (12, fig.11) --	1,4

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 01/00580

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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International application No.

PCT/FI 01/00580

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