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(54) **Multi-functional article of furniture**

(57) Disclosed is an article of multi-functional furniture comprising a frame, the frame comprising: a bottom cross member (2); at least one upright member (4) attached to the bottom cross member at one end thereof;

at least one upright member (6) rotatably mounted or hinged at an opposite end of the bottom cross member; and a top cross member (8) releasably engagable with at least a portion of the rest of the frame.

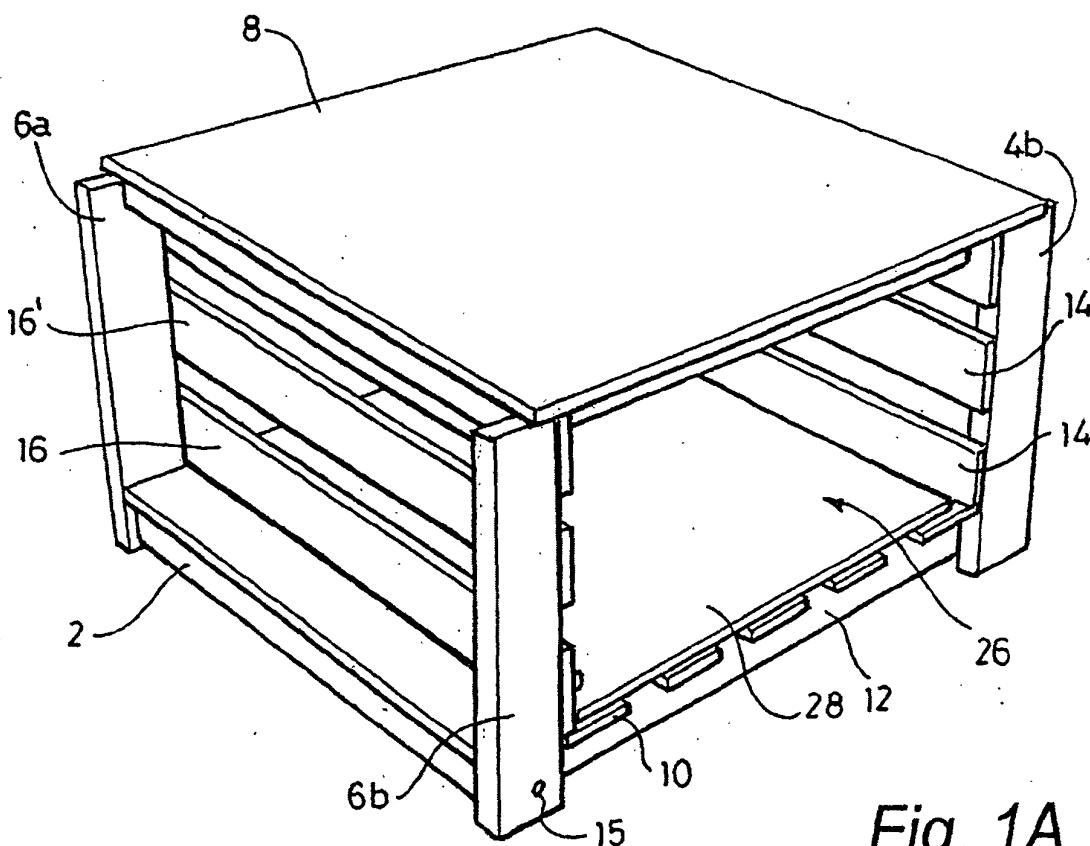


Fig. 1A

Description

Field of Invention

[0001] The present invention relates to a multi-functional article of furniture.

Background of the Invention

[0002] It is well known to provide multi-functional articles of furniture i.e. articles of furniture which may adopt two or more configurations, each configuration adapted to use for a different respective purpose. For example, futons are well-known, which may be configured either as a seat or as a bed. Multi-functional articles of furniture are also disclosed, for example, in US 4,925,245, US 5,772,101, US 6,367,874 and GB 2243543.

[0003] The present invention aims to provide an improved multi-functional article of furniture, as elaborated below.

Summary of the Invention

[0004] In a first aspect of the invention provides an article of multi-functional furniture comprising a frame, the frame comprising: a bottom cross member; at least one upright member attached to the bottom cross member at one end thereof; at least one upright member rotatably mounted or hinged at an opposite end of the bottom cross member; and a top cross member releasably engagable with at least a portion of the rest of the frame. Typically the article of furniture in accordance with the invention may be deployed in at least three different configurations: in a first configuration as a table; in a second configuration as a seat frame with a relatively horizontal seating surface and a relatively vertical backrest; and in a third configuration as a bed frame with a substantially horizontal surface of sufficient dimensions to support a human body when reclining.

[0005] In the present specification, the terms "relatively horizontal" and "relatively vertical" as applied to the seating surface and backrest, respectively, of the seating configuration, are intended to indicate the relative dispositions of the seating surface and backrest, rather than imply any absolute requirement that the seating surface be exactly horizontal or that the backrest be exactly vertical.

[0006] When arranged in the third configuration the bed frame, at least in embodiments intended for use by adults, will typically be at least 5½ feet long, and preferably at least 6 feet long, and will typically be at least 2 feet wide, preferably at least about 2½ feet wide.

[0007] In a preferred embodiment the top and bottom cross members will each typically be in the form of a square or rectangle, with at least first and second upright members joining the top and bottom cross members. Typically at least one upright member (preferably two) is provided at one end or side of the cross members and

a corresponding number of upright members is provided at the opposed end or side of the cross members. Desirably there four upright members, arranged in two pairs, each pair being disposed towards opposed sides of the top and bottom cross members. Thus, for example, where the cross members are rectangular or square, there may be one upright generally located at each corner of the cross members. Preferably there will be provided at least one, more preferably two or more, substantially horizontal, bracing member between members of pairs of uprights. Advantageously the number and positioning of the bracing members will be the same for each pair of uprights.

[0008] The upright or uprights at one end are preferably essentially fixedly attached to the bottom cross member (although in some embodiments they may be movably attached thereto) and the upright or uprights at the opposite end are rotatably mounted or hinged on the bottom cross member, so as to be allowed to rotate relative thereto to describe an arc through at least 90° and preferably through at least 170°, more preferably through at least 250° and typically through about 270°, such that in a preferred embodiment the rotatable upright or uprights can be laid substantially flat beneath the bottom cross member, or project outwards therefrom in substantially the same plane as the bottom cross member, or project upwards therefrom at an angle of approximately 90°.

[0009] The uprights will typically be rectangular or square in section but may be, for example, triangular or right-angled in section or any other suitable shape.

[0010] The top cross member is locatable on top of the upright members and typically releasably engages with the uprights and in such a location functions as a table top. The top cross member is however preferably readily releasable from such engagement, typically by a simple upward lifting movement, so as to be deployed in alternative positions, as explained elsewhere.

[0011] Accordingly, in a typical embodiment, an article of furniture in accordance with the invention, presents a generally cube-like appearance (at least when in a table configuration).

[0012] The frame may be comprised of wood or wood products (e.g. chipboard, plywood, fibreboard etc.), metal or synthetic plastics materials or any combination thereof. Desirably, the bottom cross member comprises a plurality of depressions, recesses, apertures or grooves, as explained elsewhere. These may conveniently be provided by forming the bottom cross member with a plurality of slats with apertures between adjacent slats.

[0013] Desirably the article of furniture further comprises a removable shelf member, which is preferably locatable between the upright members of the frame. Conveniently the shelf member is locatable at a selected one of two or more different positions within the frame (e.g. at variable heights between the top and bottom cross members, so as to provide in the "table" configu-

ration, a shelf at a variable height). In addition, the shelf member is preferably locatable in a storage position, so as to maximise a storage space defined within the frame between the top and bottom members and between the upright members. It is preferred that the shelf member is provided with a plurality of retaining members which releasably engage with or abut the frame. Typically the retaining members comprise downwardly projecting flanges or ribs at opposed sides of the shelf, which engage or abut with a brace member provided between pairs of uprights and/or with the uprights themselves.

[0014] Further optional components of the furniture article may conveniently be stored within the storage space of the frame. In particular, a preferred optional component is a plurality of (preferably three) cushion pads, which are preferably connected or connectable by a flexible linkage. The flexible linkage may be reversibly rupturable e.g. comprising a zip fastening, press stud, or "Velcro"TM or the like, or may alternatively simply comprise a flexible web of textile, fabric or the like, to form a folding cushion member. In a stowed configuration, the cushion pads may be positioned one above another and received within the storage space. Alternatively, the cushion pads may be removed from the storage space and used to provide cushion seating on the floor. In a preferred arrangement a single, removable fabric cover may be provided for the folding cushion member, portions of which cover are engagable e.g. by means of a slide fastener, press studs or the like. By folding the cushion pads one above the other and enclosing them within the removable cover, a single pouffe-style seat may be formed.

[0015] The preferred embodiment described above may be deployed in any one of at least three configurations: table, seat, and bed. The arrangement of the various components in each of these configurations will now be described.

[0016] In the table configuration, the uprights of the frame are at substantially vertical positions, at approximate right angles to the bottom cross member, which may serve the function of a bottom or lowermost shelf of the table. The rotatably movable uprights are conveniently held in a substantially vertical position by releasable engaging means, such as a latch or a nut and bolt or similar. The top cross member provides the table top and is located on top of the uprights.

[0017] It is a preferred feature of the invention that the top cross member is removable from engagement with the frame, and the article can thus be deployed in a second table configuration, providing two separate tables: one (subsidiary) table has a top provided by the top cross member, the other (main) table may be formed by either: the remainder of the frame, with the removable shelf member in position acting as a table top; or, by inverting the remainder of the frame, such that the bottom cross member thereof becomes the top of the main table.

[0018] In order to facilitate its deployment as a sepa-

rate subsidiary table, the top cross member will desirably be provided with downwardly projectable legs. These may be, for example, fixed relative to the top cross member and shaped and positioned so as to abut the inner surfaces of the upright members of the frame; or may be retractably, rotatably or foldably mounted on the top cross member, being located in a retracted or folded position when the top cross member is situated on top of the uprights, but being positionable in a lowered or deployed position when the top cross member is used in its separate table function. Preferably a locking or retaining means is provided to lock the retractable, rotatable or foldable legs in the retracted/folded position and the same or a different locking or retaining means is provided to lock the legs in the lowered or deployed position, as desired.

[0019] In order to alter the configuration of the article of furniture from table to chair, the top cross member must be removed from the frame. The rotatably mounted uprights may then be rotated inwards through approximately 90° or, more preferably, rotated outwards through approximately 270°, such that the uprights assume a generally horizontal position essentially parallel with the bottom cross member of the frame and (preferably) located below the bottom cross member. Thus the bottom cross member and/or the folded uprights (with any associated bracing members) provide a relatively horizontal seating surface. The other uprights and any associated bracing members may provide a relatively vertical backrest for the seat frame. More preferably, however, a further component is positioned against the other uprights, so as to provide an angled (but relatively vertical) backrest and more comfortable support. The further component may comprise that which is the top cross member in the table configuration. Alternatively, and more preferably, the top cross member is deployed in its separate subsidiary table mode, and the angled (relatively vertical) backrest is instead provided by the removable shelf member.

[0020] Conveniently a bottom edge of at least one of the downward projecting flanges or ribs (advantageously present on the shelf member), engages with a depression, recess, aperture or groove provided on the bottom cross member of the frame, which engagement serves to retain the shelf member in a particular position when functioning as a backrest and/or holds the shelf member above the floor. Desirably, a plurality of such depressions, recesses, apertures or grooves are provided on the bottom cross member, located generally parallel to, but at different distances from, the fixed uprights, such that by locating a bottom edge, flange or rib of the shelf member in a selected one of the plurality of depressions, recesses, apertures or grooves, and by resting an upper portion of the shelf member against the (preferably) fixed pair of uprights and/or a brace member provided therebetween, the rake of the backrest may be adjusted.

[0021] To complete the seat, the cushion pads are arranged on the seat frame. Typically, where the cushion

pads are provided as a folding cushion member, part of the cushion member is located against the backrest and the rest (typically the majority) of the cushion member is provided on the relatively horizontal seating surface.

[0022] In order to alter the configuration of the article from chair to bed, the removable shelf member (acting as the relatively vertical backrest) is removed and, if positioned on the floor, can act as a low-level bedside surface. The ribs, which act as retaining members in the shelf or backrest modes, are now able to act as short legs to raise the shelf member off the floor.

[0023] The rotatably mounted uprights are rotated to a substantially horizontal position, extending outwards from the bottom cross member. The top cross member is then releasably attached to the ends of the rotatably mounted uprights and/or a bracing member provided therebetween, such that the article of furniture now presents a bed frame with a substantially horizontal surface (composed of the bottom cross member; the rotatably mounted uprights rotated into a horizontal position, together with any associated bracing members; and the top cross member) of sufficient dimensions to support a human body when reclining. The other pair of uprights and their associated bracing members form a headboard. To complete the bed, the cushion pads are placed on top of the bed frame.

[0024] It is a preferred feature that the article of furniture is provided with releasable engagement means such that, in at least one (and preferably more than one) configuration the article of furniture may be releasably engaged with at least one further article of furniture in accordance with the invention. Typically the two or more articles so releasably engaged will be arranged side by side in the same configuration, but may alternatively be arranged in different configurations (e.g. one as a table and one as a chair; or one as a table between two articles in the chair configuration and so on). Typically the releasable engagement means comprises one or more brackets on each side of the article.

[0025] In particular, an article of furniture in accordance with the invention will typically comprise one or more male bracket members on one side of the frame (conveniently provided on the uprights) and the same number of female bracket members in a corresponding position on the other side of the frame, the male bracket members comprising a projecting pin, knob or the like receivable and retainable by the female bracket members on another article of furniture according to the invention.

[0026] The invention will now be further described by way of illustrative example and with reference to the accompanying drawings, in which:

Figure 1A shows a perspective view of an article of furniture in accordance with the invention, employed in a main table configuration, with a removable shelf member stowed in a storage position (with a storage space for storing cushions, cushions

omitted for clarity);

Figure 1B shows a sectional view (to a different scale) of the article illustrated in Figure 1A - in the Figure are shown two shelf members - one stowed in a storage position and one, at 90 to the stored member, in an upper shelf position.

Figures 2A-2D show the top cross member of the embodiment depicted in Figure 1A, removed from the rest of the frame, Figure 2A showing a plan view from the underside with legs folded, 2B is a side elevation and 2C is an end elevation, both with legs folded, and 2D is a perspective view from the underside with legs unfolded;

Figures 3A and 3B are sectional views showing one embodiment of means whereby the top cross member of the article shown in Figure 1A may be releasably engaged with the rest of the frame, in either the table configuration (Fig. 3A) or the bed configuration (Fig. 3B);

Figure 4 is a perspective view of the article shown in Figure 1A (to a different scale), with the top cross member removed and with the shelf member located in the lowermost shelf position;

Figures 5A-C are views of the removable shelf member; 5A is a plan view from the underside, 5B is an end elevation and 5C a side elevation;

Figure 6 is a perspective view of the top cross member of the article shown in Figure 1A, removed from the rest of the frame and with legs deployed in a downward position for use as a secondary table;

Figure 7 is a perspective view, (to a different scale) from the side and front of the article shown in Figure 1A, deployed in a chair configuration.

Figure 8 is a perspective view from side and rear of part of the article shown in Figure 1A, to a different scale, in the chair configuration;

Figure 9 is a sectional view of the article shown in Figures 7 and 8 in chair configuration;

Figure 10 is a perspective view, from front and side, of the article shown in Figure 1A (to different scale) deployed in a bed frame configuration (cushions omitted for clarity);

Figure 11 is a plan view, from underside, of part of the article shown in Figure 10 in bed frame configuration, showing the underside of the top cross member and the rotatably mounted uprights; and

Figures 12-14 are perspective views of releasable engagement means which may be provided on articles of furniture in accordance with the invention, to allow for releasable engagement of two or more such articles.

Example

[0027] A preferred embodiment of an article of furniture in accordance with the invention is shown in Figure 1 and comprises a four-sided wooden frame of generally cuboidal shape, comprising a bottom cross member 2, first 4a, b and second 6a, b pairs of uprights (only one of the first pair of uprights can be seen in Figure 1A), and a top cross member 8. In its table configuration, the article has dimensions of about 19 inches in height, 31 inches in width, and 36 inches in length.

[0028] The bottom cross member comprises five horizontal wooden slats (one of which is denoted by reference numeral 10) joined at their opposed ends to transverse supports (one of which is denoted by reference numeral 12). At one end region of the bottom cross member is the first pair of wooden uprights 4a, b, which are (preferably) rigidly fixed to the cross member 2 in a substantially vertical position. A pair of substantially horizontal bracing members 14, 14' is provided between the members of the first pair of uprights. At the opposite end region of the bottom cross member 2 is provided a second pair of wooden uprights 6a, b, which are rotatably mounted on the bottom cross member 2 so as to allow for rotation about the bottom cross member through an arc of at least about 250°, preferably through about 270°. A pair of horizontal bracing members 16, 16' is provided between the members of the second pair of uprights, at a position which corresponds to that of the bracing members 14, 14' provided between the members of the first pair of uprights. A hinge 15, about which upright 6b can rotate, is shown.

[0029] The arrangement is such that the rectangular, nearly square, bottom cross member 2 is held in a generally horizontal position, a little above the floor or other supporting surface upon which the article is placed, by the two pairs of uprights, with one upright at each of the four corner regions of the bottom cross member.

[0030] In the primary table configuration, a top cross member 8 is located on top of the uprights. The top cross member 8 comprises a sheet of medium density fibre-board (MDF), plywood, wood, synthetic plastics material or similar, of generally similar dimensions to those of the bottom cross member 2. On at least two opposed sides of the four sides of the top cross member, but slightly inwardly disposed therefrom, are a pair of downward projecting ridges. These are shown as 20 a, b and 22 a, b in Figure 2A, which is a view of the underside of the top cross member 2 of the item of furniture shown in Figure 1. The top cross member 8 may however easily be removed from the frame by a simple upward lifting movement. If desired, additional releasable attachment

means (e.g. nuts and bolts, screws or the like) may be provided to attach the top cross member to the uprights and/or bracing members.

[0031] Defined within the frame between the top and bottom cross members and the first and second pairs of uprights is a storage space indicated generally in Figure 1 by reference numeral 26. This may be occupied, for example, by a folding cushion member, comprising a foldable chain of three cushion pads, adjacent pads being flexibly linked together by a web of textile material. Alternatively, the folding cushion member may be removed from the storage space and use as a pouffe cushion, or in other configuration, to provide a seating area.

[0032] The exemplified embodiment additionally comprises a removable shelf member 28, comprising a generally flattened sheet of metallic material, synthetic plastics material, wood or similar, of generally similar size and shape as the top cross member. When the folding cushion member is located within the storage space, the removable shelf member may be stowed in a storage position (typically, resting on or just above the bottom cross member, as in Figure 1A, or on or just above the folding cushion member). However when the folding cushion member is removed, the shelf member 28 may be deployed as a shelf, the height of which may be adjusted between at least an upper and lower position. In the upper position the shelf member 28 is supported by the uppermost horizontal 14, 16 bracing members, whilst in the lower position the shelf member 28 is supported by the lowermost bracing members 14, 16. Figure 4 shows the article of furniture with the top cross member 2 removed and the shelf member 28 deployed in its lower shelf position.

[0033] Figure 1B is a sectional view of the article shown in Figure 1A. The Figure shows the article in the table configuration with a removable shelf member in the storage position 28 and also in an alternative upper shelf position 28'. Note that in the storage position, downward projecting ribs 30a, b 32a, b on the underside of the shelf member 28 are located in apertures between adjacent slats 10 of the bottom cross member. In the upper shelf position, the shelf member is rotated 90° relative to the storage position. The shelf member rests on top of bracing members 14' and 16' and the longer ribs abut the bracing members. Similarly the shelf member abuts the inside of the uprights, such that the shelf member resists translational movement in the horizontal plane.

[0034] As explained elsewhere, these downward extending flanges or ribs have a further function when the shelf member 28 is deployed as a backrest in the chair configuration, or as a separate bedside surface. These are best seen in Figures 5A, B & C which is a view of the underside of the shelf member 28, an end view and side view, respectively. As apparent from Figures 5A-C, each pair of ribs comprises one 'long' rib (30b, 32b) and one 'fat' rib (30a, 32a). The longer ribs are adjacent to,

but inside, the 'fat' ribs.

[0035] As mentioned above, the top cross member 8 may be readily removed from the rest of the frame and used as a separate, subsidiary table, e.g. as shown in Figure 6. The rest of the frame can continue to be used

[0036] In order to facilitate its use as a separate, subsidiary table, the top cross member 8 is provided with two pairs of foldable or otherwise retractable legs. These are best seen in Figures 2A-2D. As shown in Figures 2A and 2D, legs 34 a, b are attached to cross piece 36 which is hingably mounted on the underside of top cross member 8, and legs 38a, b are attached to cross piece 40 which is similarly hingably mounted on the underside of the top cross member 8. The pairs of legs 34a, b, 36a, b are mounted to the lower surface of the cross member 8 so as to allow for limited rotation of the legs, such that the legs may be rotated downwards through about 90° for deployment or rotated upwards out of the way, resting flush against the underside of the top cross member when it is attached to the rest of the frame. Four rotatable catches 42 are provided to lock the legs in their downward position when the top cross member 8 is deployed as subsidiary table, and two similar rotatable catches 44 are provided to retain the legs in their folded position when the top cross member is attached to the rest of the frame in the table configuration.

[0037] The exemplified article of furniture in accordance with the invention may be deployed in a chair configuration, as illustrated in Figure 7. To go from the table configuration to the chair configuration the procedure is as follows. Firstly the top cross member 8 must be removed from the top of the frame. The rotatably mounted pair of uprights 6a, b may then be rotated outwards through approximately 270°, such that the pair of uprights assume a generally horizontal position essentially parallel with the bottom cross member 2 of the frame and located below the bottom cross member. Thus the bottom cross member 2 and/or the folded uprights 6a, b (with associated bracing members 16, 16') provide a relatively horizontal seating surface. The (preferably) fixed pair of uprights 4a, b and associated bracing members 14, 14', may be used provide a relatively vertical backrest for the seat frame. More preferably the relatively vertical (but angled) backrest is instead provided by the removable shelf member 28.

[0038] The detailed arrangement of such a preferred embodiment is best observed in Figures 8 and 9. Figure 8 is a perspective view of the rear part of the article of furniture in the chair configuration and Figure 9 is a sectional view of the same part of the chair with the cushions omitted.

[0039] As shown in Figures 8 and 9, the shelf member 28 and the longer ribs 30b, 32b are received in the ap-

erture between adjacent slats 10 of the bottom cross member 2. The 'fat' ribs 30a, 32a engage with end base slat 10 and stop the shelf member 28 sliding entirely through the aperture. In addition the 'fat' ribs 30a, 32a contact the uppermost edge of bracing member 14' and therefore, in conjunction with the engagement between shelf member 28 and slats 10, hold the entire arrangement at a convenient angle to the vertical, providing a comfortable back rest. Since a plurality of such apertures are provided on the bottom cross member 2, between different pairs of slats 10 at different distances from the (preferably) fixed pair of uprights, by locating a bottom edge of the shelf member in a selected one of the plurality of apertures, and by resting the 'fat' ribs of the shelf member against the bracing member 14', the rake of the backrest may be adjusted as desired.

[0040] To complete the seat, the cushion pads are arranged on the seat frame. Typically, where the cushion pads are provided as a folding cushion member, part of the cushion member is located against the backrest and the rest (typically the majority) of the cushion member is provided on the relatively horizontal seating surface. Conveniently, the shelf member 28 is positioned with the ribs 30a,b 32a,b facing forwards (i.e. towards the relatively horizontal seating surface). In this way, when a cushion is placed against the backrest, the ribs impart a degree of concave curvature to the cushion, for greater comfort, when a person sits leaning against the backrest.

[0041] The top cross member 8 may be used in its separate table mode.

[0042] The exemplified article of furniture in accordance with the invention may also be deployed in a bed configuration, as illustrated in Figure 10. To go from the chair configuration to the bed configuration, the procedure is as follows: the removable shelf member 28 (acting as the relatively vertical backrest) is removed and, if positioned on the floor, can act as a low-level bedside surface. The downward projecting flanges or ribs 30-32, which act as retaining members in the shelf or backrest modes, are now able to act as short legs to raise the shelf member 28 off the floor.

[0043] The rotatably mounted pair of uprights 6a, b is rotated to a substantially horizontal position, extending outwards from the bottom cross member 2, at approximately 180° to their position in the chair configuration. The top cross member 8 is then releasably engaged with the ends of the rotatably mounted uprights such that the article of furniture now presents a bed frame with a substantially horizontal surface (composed of the bottom cross member; the rotatably mounted uprights rotated into a horizontal position, together with any associated bracing members; and the top cross member) of sufficient dimensions to support a human body when reclining. The (preferably) fixed pair of uprights 4a, b and their associated bracing members 14, 14' form a headboard. To complete the bed, the cushion pads are placed on top of the bed frame.

[0044] The manner of the engagement of the top cross member 8 with the rotatable uprights in the bed configuration is shown in Figure 3B and Figure 11. In essence, the engagement is the same as that between the top cross member 8 and the uprights 4, 6 when in the table configuration. Thus, knobs 24 provided at the ends of the rotatably mounted uprights 6a, b are received in the channel formed between downward projecting ridges 20a, b, and ridge 20a abuts against the inner surface of the rotatably mounted uprights 6a, b. The legs of the top cross member are kept folded up in the bed configuration, as apparent from Figure 11.

[0045] The exemplified embodiment is shaped and dimensioned such that, in a number of configurations, all or part of the article can be releasably engaged with all or part of an identical article of furniture in accordance with the invention. In this way, for example, two or more articles of furniture in the chair configuration may be releasably coupled to form an extended seating area, akin to a sofa. Alternatively two or more articles in the chair configuration may be attached to one or more articles in the table configuration, to form a combined seating and table area.

[0046] In particular, it is envisaged to provide articles of furniture in accordance with the invention with male and female bracket members. In one embodiment, one or more male bracket members are provided on one side of the article and one or more female bracket members are provided on the opposite side of the article, such that identical articles of furniture in accordance with the invention may be releasably engaged side-by-side, the male bracket(s) on the side of one article engaging with the female bracket(s) on the side of an adjacent article. In a preferred embodiment, two male brackets are provided, one on a fixed upright and one on the front, rotatably mounted upright, and female brackets are provided in the corresponding position on the other side of the article.

[0047] The male bracket will typically comprise a projecting member such as a pin, knob or the like, and the female bracket will comprise an aperture, groove, slot or similar, shaped and dimensioned to receive and retain the projecting member of the male bracket. The brackets will typically comprise or consist of metal and/or synthetic plastics material, especially an injection moulded plastics material. A typical male bracket is 40 illustrated in Figure 12. A typical female bracket 42 for attachment to the fixed upright is illustrated in Figure 13. A typical female bracket 44 for attachment to the rotatably mounted upright is illustrated in Figure 14 - the depicted brackets allow for one or both articles of furniture to be configured in any of the table, chair or bed configurations, and still be releasably engaged with an adjacent article of furniture - the front fittings of the articles may be simply disengaged, the rotatably mounted uprights rotated to their desired position, and then re-engaged via the transverse slot in the female bracket. In Figure 12 the dimensions marked 'A' and 'B' essentially

correspond (allowing for operating clearance) to the dimensions 'A' and 'B' denoted in Figure 14.

[0048] The dimensions of the exemplified embodiment of the invention are amenable to limited enlargement or reduction, within reasonable bounds. In particular, the inventor explicitly envisages a smaller-sized version of the article, reduced in dimension by about 20 % suitable, and specifically intended, for use by children.

Claims

1. An article of multi-functional furniture comprising a frame, the frame comprising: a bottom cross member (2); at least one upright member (4) attached to the bottom cross member at one end thereof; at least one upright member (6) rotatably mounted or hinged at an opposite end of the bottom cross member; and a top cross member (8) releasably engageable with at least a portion of the rest of the frame.
2. An article of furniture according to claim 1, the frame comprising: a first pair of upright members (4a,b) attached to the bottom cross member (2) at one end thereof; a second pair of upright members (6a,b), rotatably mounted or hinged at an opposite end of the bottom cross member (2); one or more substantially horizontal bracing members (14) provided between the members of the first pair of uprights; and corresponding one or more substantially horizontal bracing members (16) provided between members of the second pair of uprights.
3. An article of furniture according to claims 1 or 2, wherein the top cross member is provided with rotatable, retractable or foldable legs (34, 38), which legs may be deployed in a downwardly projecting direction when the top cross member is removed from the frame to facilitate use of the top cross member as a separate, subsidiary table.
4. An article of furniture according to any one of claims 1 - 3, wherein a storage space (26) is defined within the frame between the top and bottom cross members and between the fixed and rotatably mounted uprights.
5. An article of furniture according to any one of claims 1 - 4, further comprising a removable shelf member (28) locatable at one of two or more different heights between the top and bottom cross members.
6. An article of furniture according to claim 5 as dependent on claim 2, wherein the removable shelf member is supported by and/or engages with the bracing members when the article of furniture is in a main table configuration.

7. An article of furniture according to claim 5 or 6, wherein the removable shelf member (28) comprises downward projecting flanges or ribs (30, 32).
8. An article of furniture according to any one of claims 1 - 7, wherein the bottom cross member comprises a plurality of depressions, recesses, apertures or grooves.
9. An article of furniture according to claim 8 as dependent on claim 7 wherein, when the article is deployed in a seat frame configuration, the removable (28) shelf provides a relatively vertical backrest, the bottom cross member (2) provides a relatively horizontal seating surface, and a flange or rib (30, 32) provided on the removable shelf member is received and retained in one of the depressions, recesses, apertures or grooves provided on the bottom cross member.
10. An article of furniture according to claim 7 wherein, when the article is deployed in a bed configuration, the removable shelf member may be used as a horizontal bedside surface, and is held in a raised position above the floor by the downward projecting flanges or ribs.
11. An article of furniture according to any one of claims 1-10 wherein, in a bed configuration, the rotatably mounted uprights are rotated to a substantially horizontal position extending outwards from, and in generally the same plane as, the bottom cross member; and wherein the top cross member is releasably attachable to the rotatably mounted uprights and/or a bracing member provided therebetween, so as to provide an extended substantially horizontal surface.
12. An article of furniture according to any one of the preceding claims, which may be used to provide both a main table and a separate, subsidiary table.
13. An article according to any one of the preceding claims provided with releasable engagement means (40, 42/44), so as to allow the releasable engagement of two or more articles of furniture in accordance with any one of the preceding claims.
14. An article of furniture according to any one of the preceding claims, further comprising a plurality of cushion pads.
15. An article of furniture according to claim 14, wherein the plurality of cushion pads is provided as a foldable cushion member, said folding cushion member comprising a chain of cushion pads flexibly linked.
16. An article of furniture according to claim 14 or 15, wherein the plurality of cushion pads are so shaped and dimensioned as to be receivable within the storage space (26) defined within the frame.
17. An article of furniture according to any one of the preceding claims, wherein one or more upright members (4, 6) are provided with a projecting knob (24), which knob is receivable in a channel formed between a pair of projecting ridges (20a, b) provided on the top cross member (8).

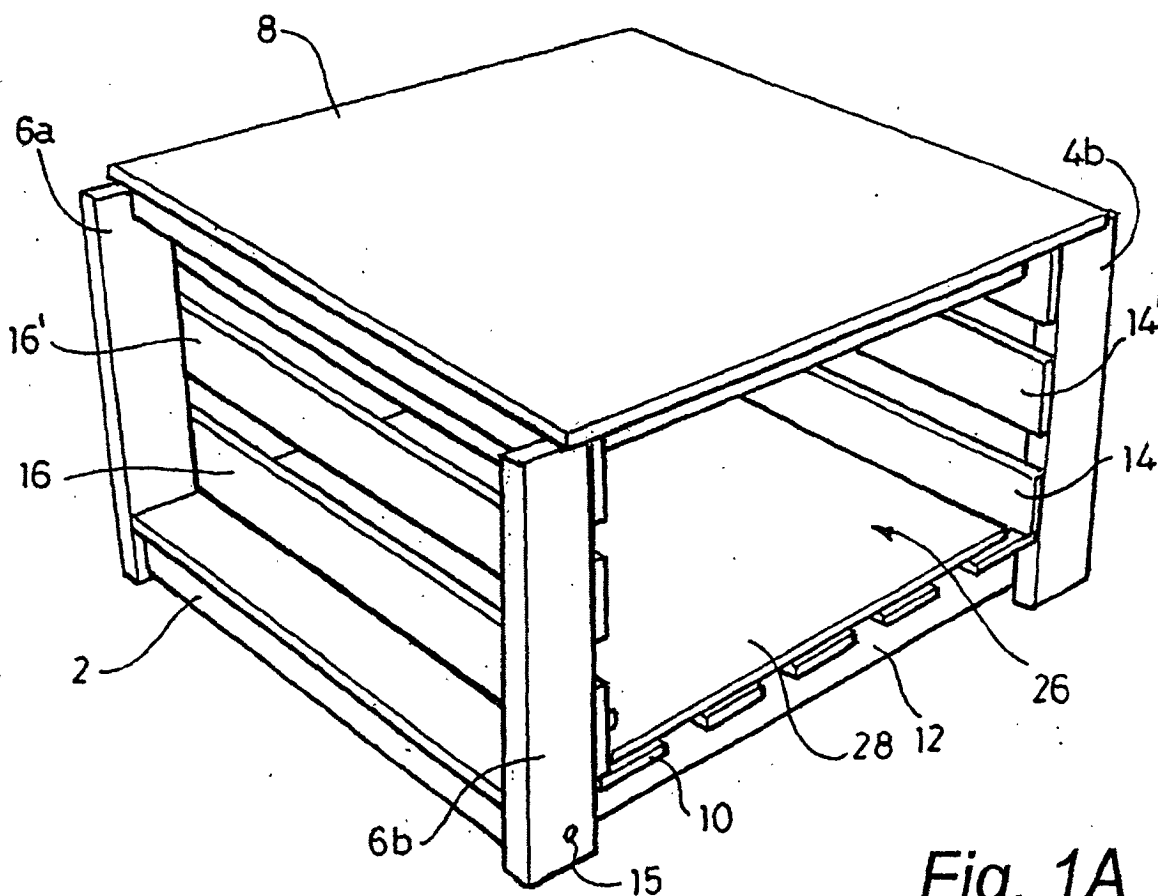


Fig. 1A

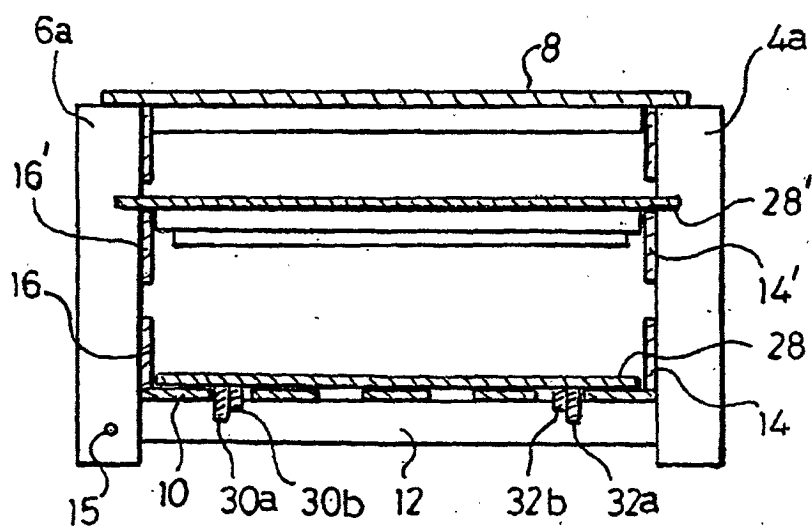


Fig. 1B

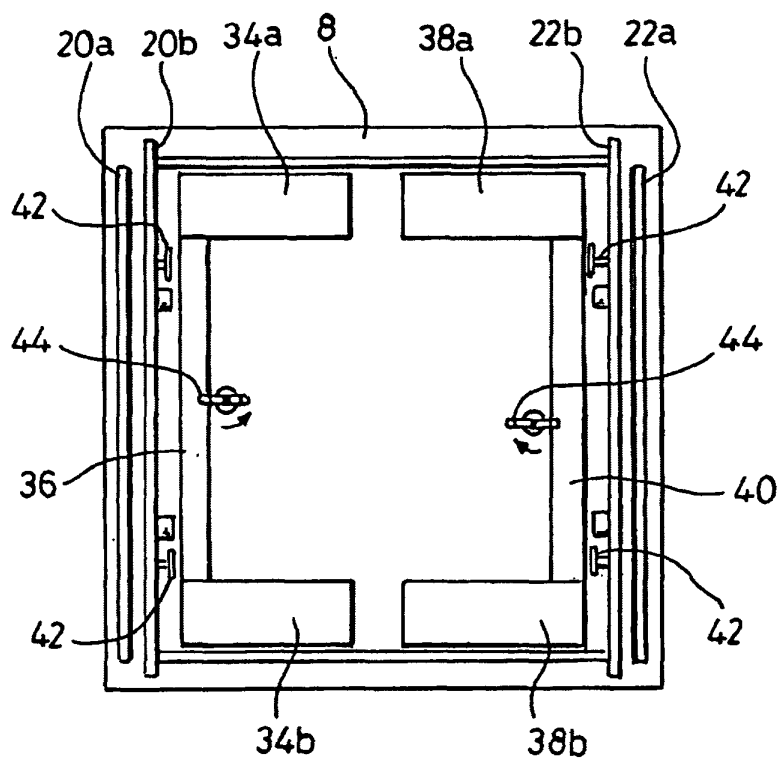


Fig. 2A

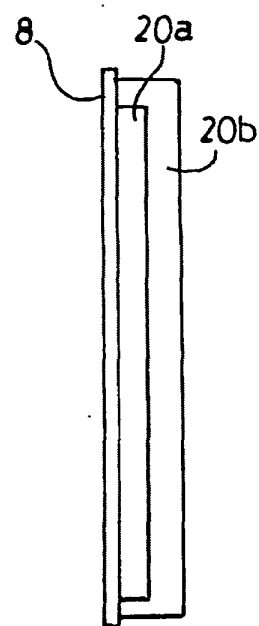


Fig. 2B

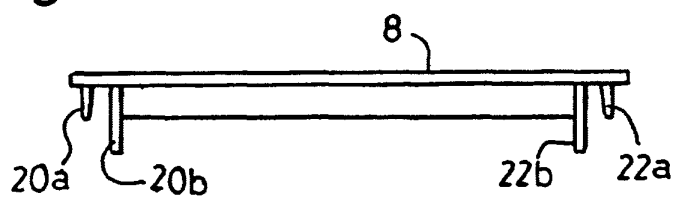


Fig. 2C

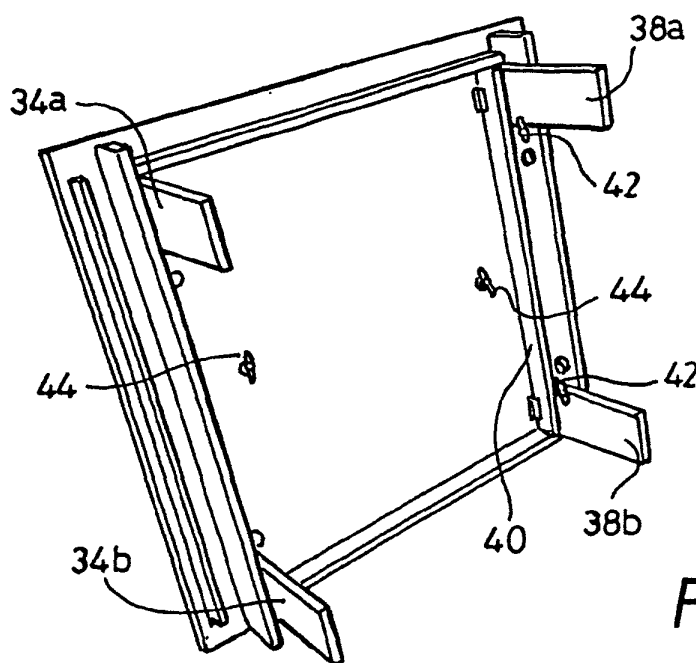


Fig. 2D

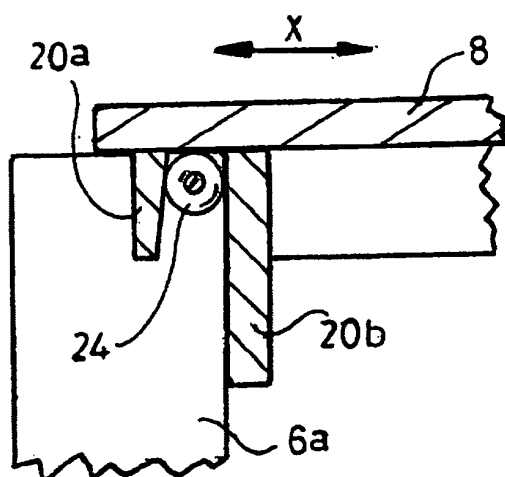


Fig. 3A

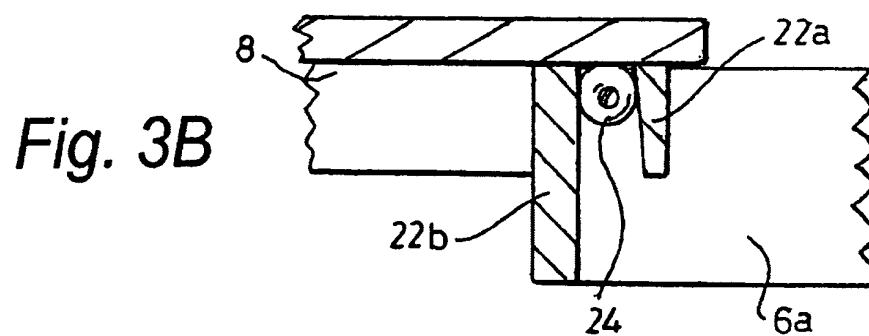


Fig. 3B

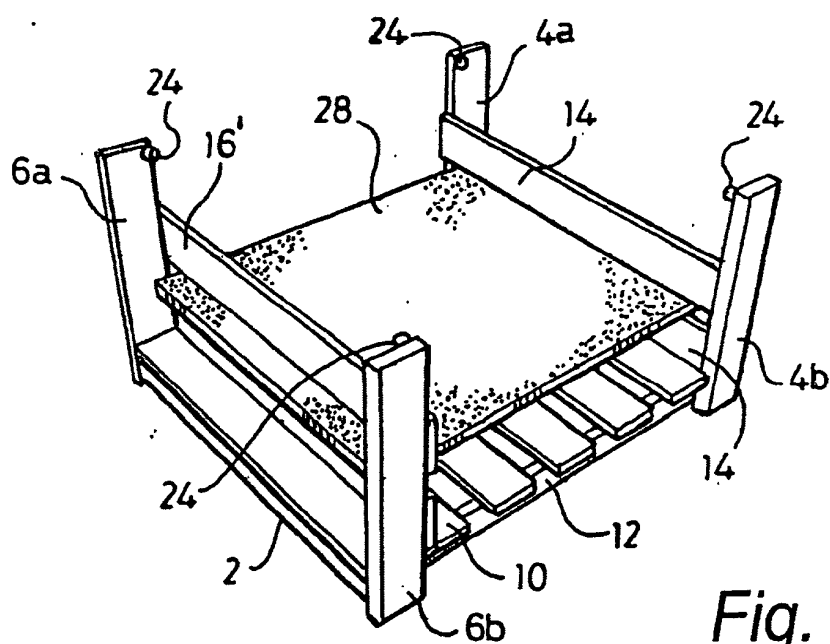


Fig. 4

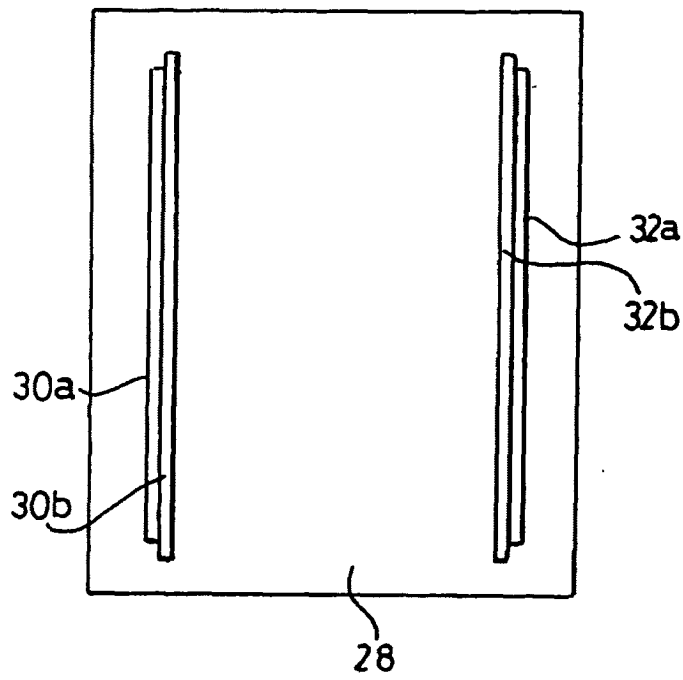


Fig. 5A

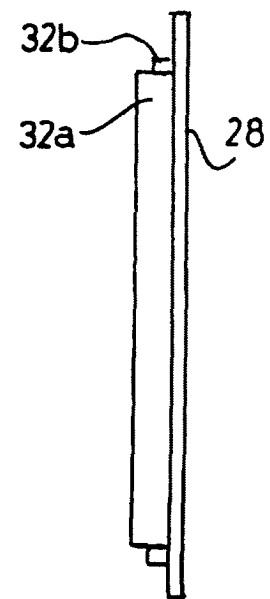


Fig. 5B

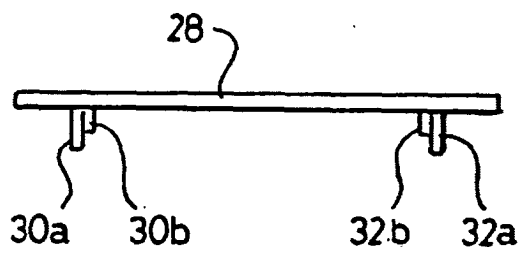


Fig. 5C

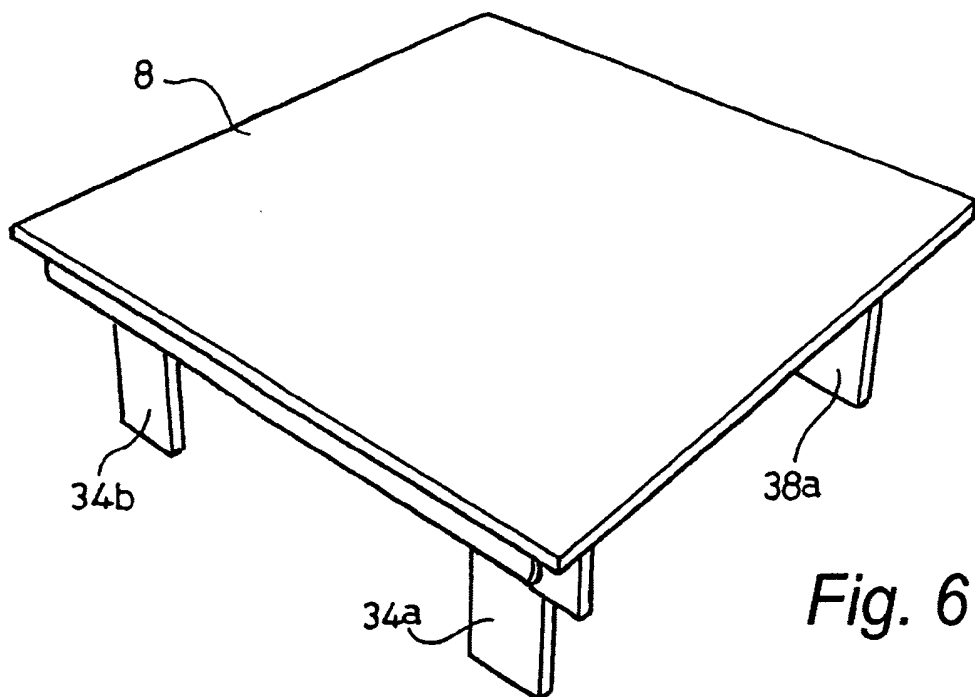


Fig. 6

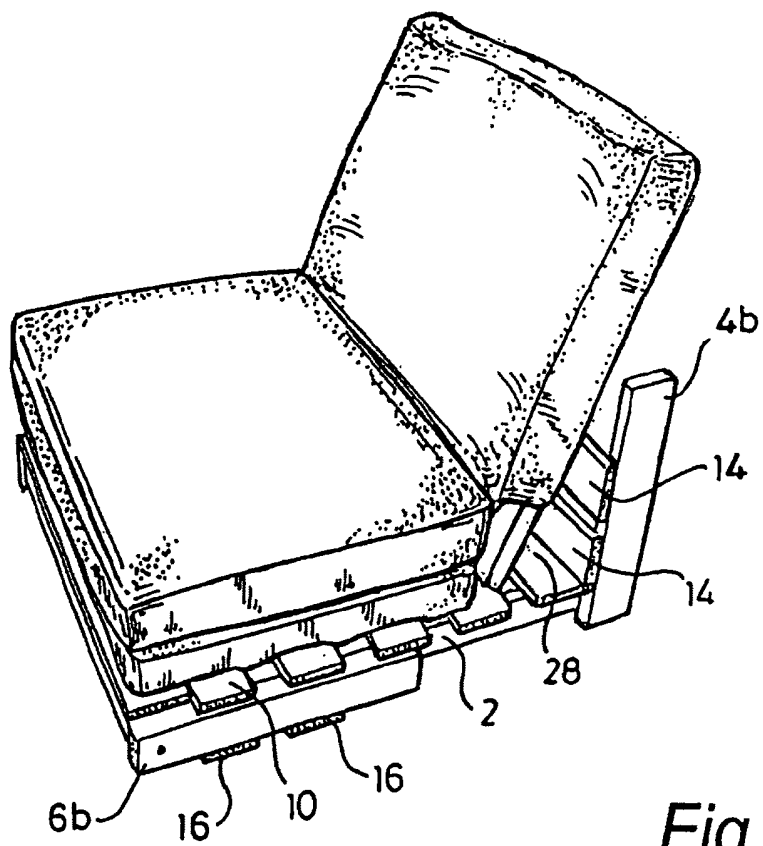


Fig. 7

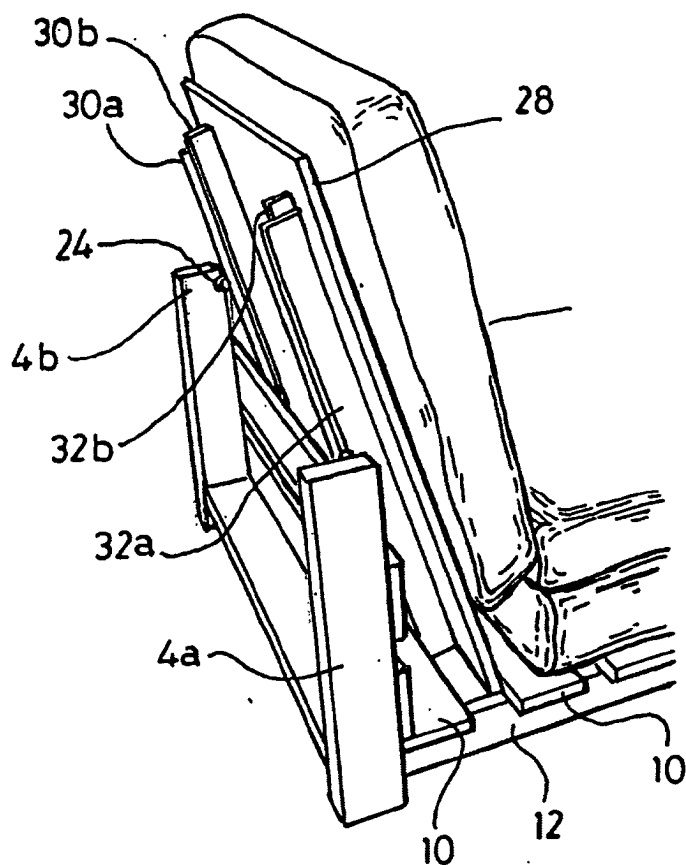


Fig. 8

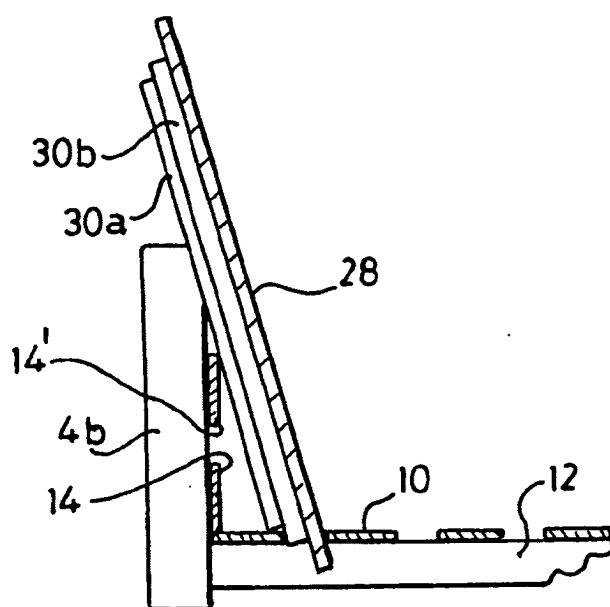


Fig. 9

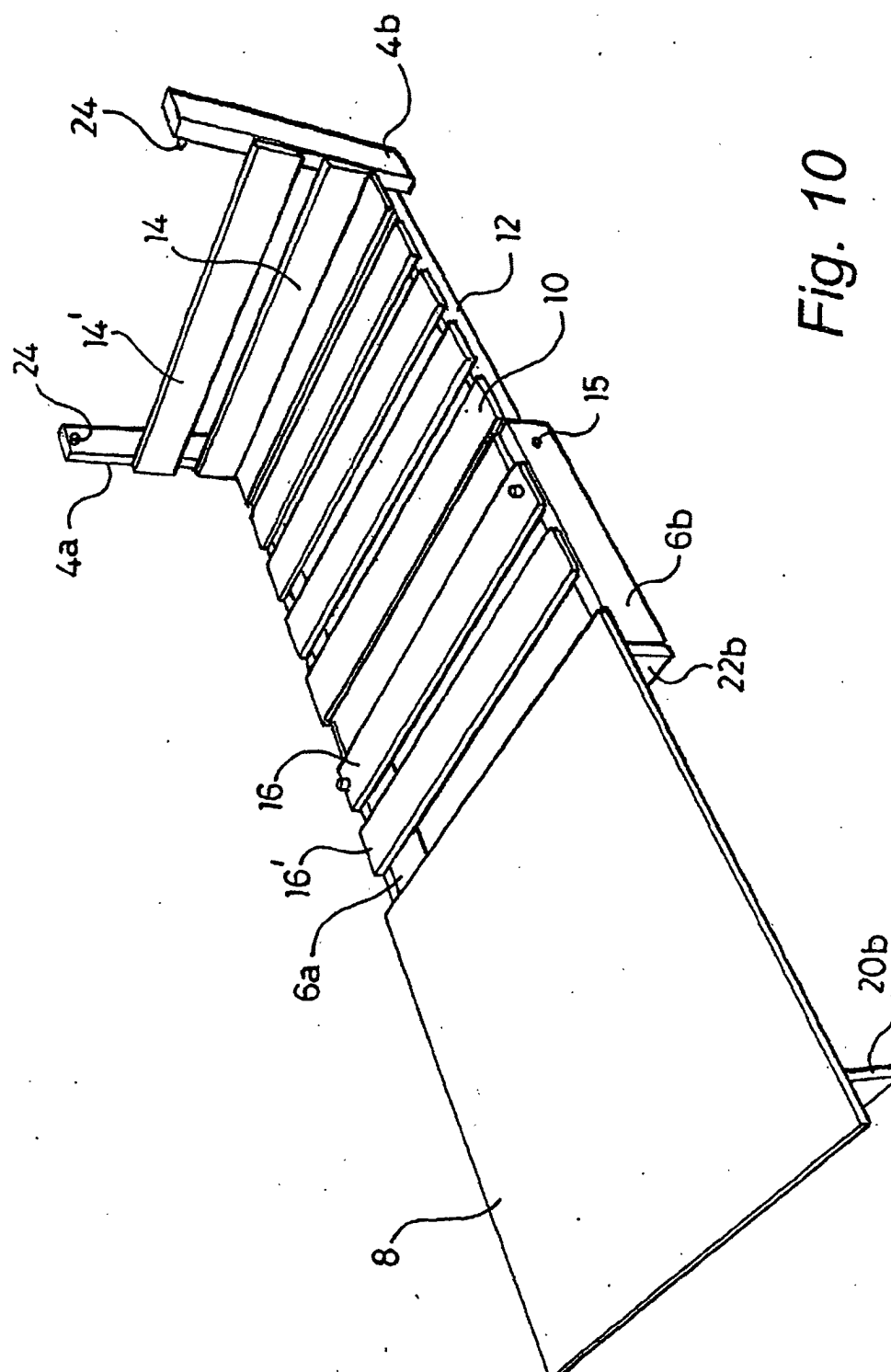


Fig. 10

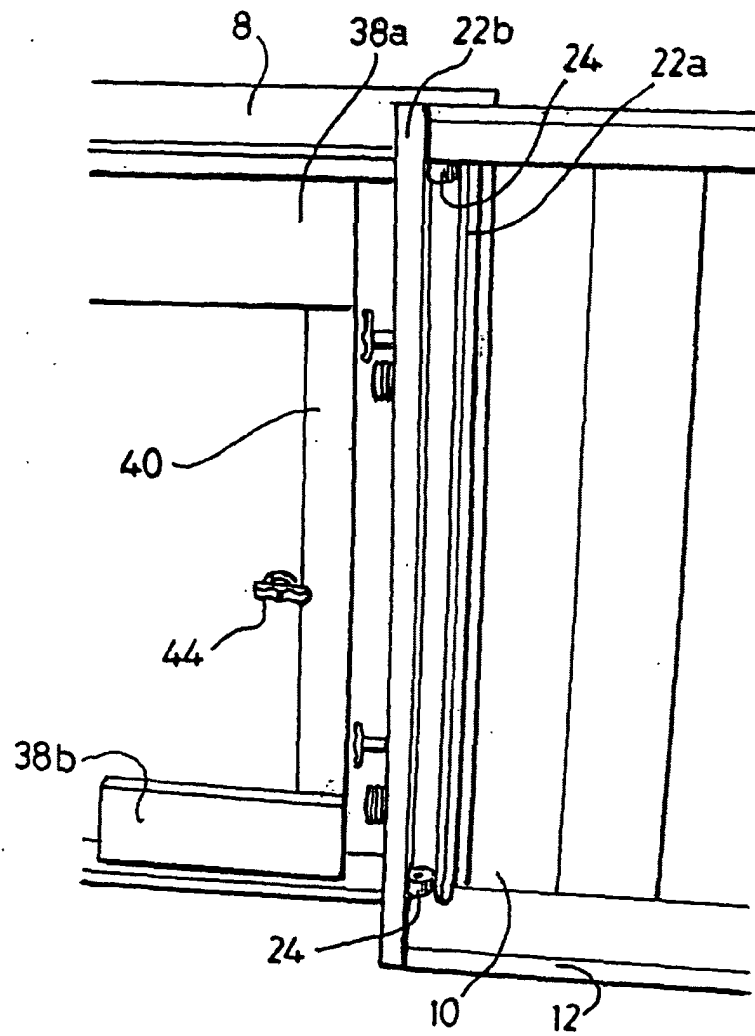


Fig. 11

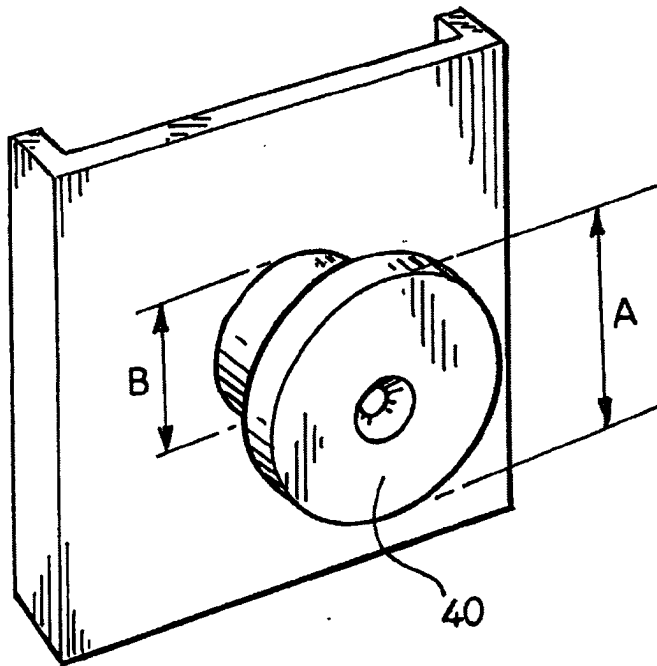
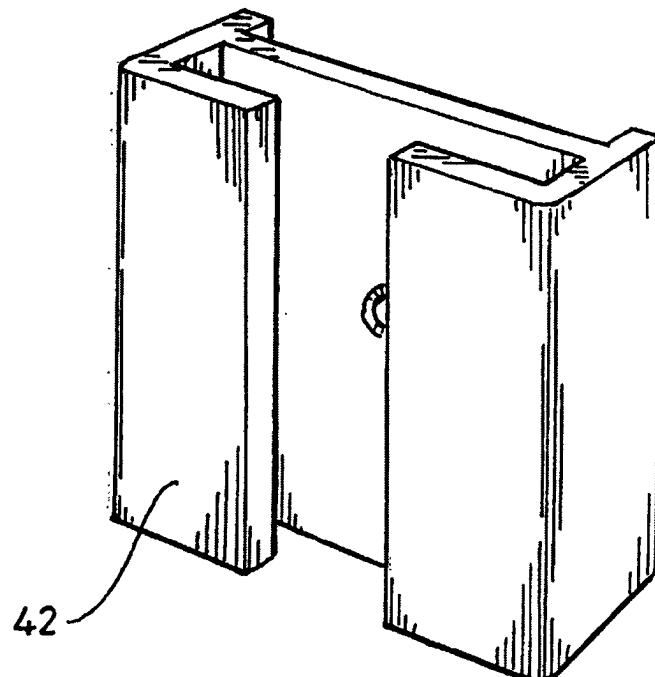


Fig. 12

Fig. 13



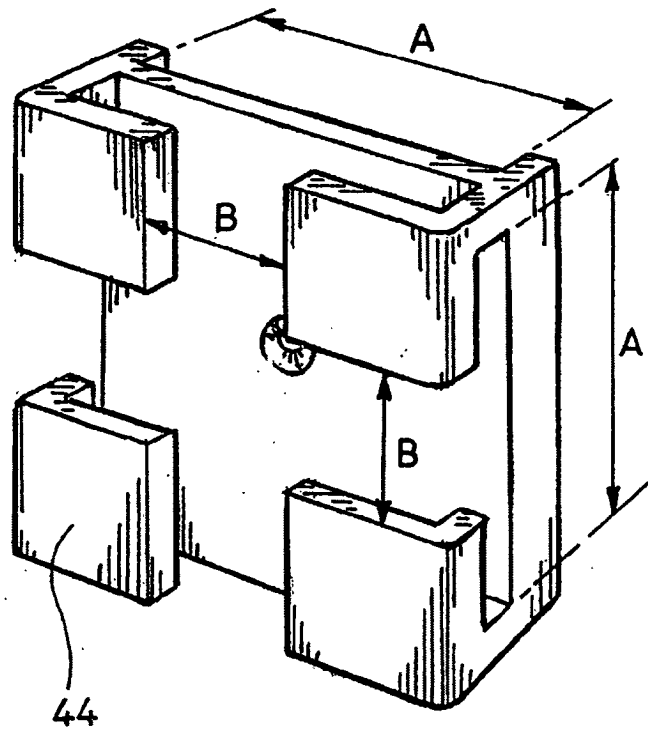


Fig. 14



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 03 25 7369

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	GB 209 297 A (THOMAS DAVIDSON) 10 January 1924 (1924-01-10) * page 1, line 50 - page 1, line 69 * * page 2, line 5 - page 2, line 50 * * figures 1-4 *	1,2,4,11	A47B85/00
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A	US 4 925 245 A (PENDLETON JOHN H ET AL) 15 May 1990 (1990-05-15) * abstract; figures *	1-17	
A	BE 354 780 A (VRANCKEN J) * figures *	1-17	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A47B A47C
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 4 March 2004	Examiner MacCormick, D
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
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The members are as contained in the European Patent Office EDP file on
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04-03-2004

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