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(54) AN EXTENSIBLE TABLE

(57) An extensible table 100 configured to be able to shift configuration between an extended configuration and a collapsed configuration is disclosed.

The table in the orientation intended during use comprises:

a stationary frame 2, a primary tabletop 4, a secondary tabletop 6, and a number of legs 8,

wherein said primary tabletop 4 is having an extension in a first horizontal direction X and an extension in a second horizontal direction Y; said second horizontal direction Y is being perpendicular to said first horizontal direction X;

wherein said extensible table comprises displacement means 10 for attaching said primary tabletop 4 to said stationary frame 2 and for enabling said primary tabletop 4 to be able to be displaced, upon exerting a force thereto, relative to said stationary frame 2, in a direction parallel to said first horizontal direction X;

wherein said secondary tabletop 6 comprises a first plate 12 and a second plate 14; wherein said first plate and said second plate are being hinged to each other by one or more hinges 16 at respective rims thereof, thereby allowing said secondary tabletop to shift configuration between a folded configuration and an unfolded configuration;

wherein said first plate 12 of said secondary tabletop 6 comprises a suspension means 18 which is being fastened thereto at a first side of said first plate 12;

wherein said suspension means 18 is being suspended on a rod 20, said rod is arranged on said stationary frame 2 in an orientation parallel to said first horizontal direction X;

wherein said suspension means 20 of said first plate 12 of said secondary tabletop 6 is being configured to be able, upon exerting a force thereto, to rotate around an axis defined by said rod 20 and also be able to be displaced along the longitudinal direction of said rod 20;

wherein said rod 20 is being mounted to said stationary frame 2 at a position which enables said secondary tabletop, in the collapsed configuration of the table, to be accommodated in its folded configuration at a level below the level of said primary tabletop.

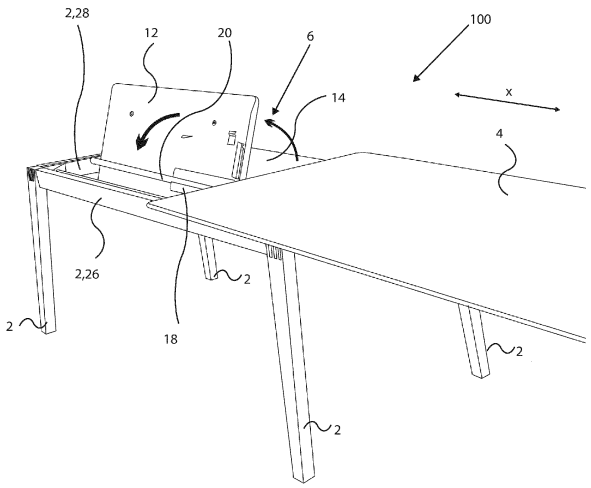

Fig. 5a

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Description

Field of the invention

[0001] The present invention relates in general to the field of furniture. More specifically, the present invention relates in a first aspect to an extensible table. In a second aspect the present invention relates to a use of such table. In a third aspect the present invention relates to a method for converting a table from having relatively small exposed tabletop area to having a relatively large, exposed tabletop area. In a fourth aspect the present invention relates to a method for converting a table from having relatively large exposed tabletop area to having a relative small exposed tabletop area.

Background of the invention

[0002] In private homes and in offices it is advantageous to be able to seat a relatively large number of people at a dining table or a conference table or the like.

[0003] However, for obvious reasons such tables also take up a relatively large area space and hence may not be practical in daily use in situations involving no necessity to seat such a relatively large number of people.

[0004] In order to solve this problem, tables have been provided which include conversion means for allowing a table to shift configuration from an extended configuration in which the table top is having a relatively large area and a collapsed configuration in which the table top is having a relatively small area, and vice versa.

[0005] One of such extendible tables is disclosed in applicant's earlier utility model publication DK 2018 00043 U4.

[0006] DK 2018 00043 U4 discloses an extensible table comprising a primary frame which supports a primary tabletop. The primary tabletop is fixed to the primary frame and is supported by four legs. The table also comprises a secondary frame which is being configured to be able to slide in and out of the primary frame at an end of the primary frame. The secondary frame is being supported by two legs.

[0007] The secondary frame, upon being in a configuration in which it has been slit out of the primary frame exposes a secondary tabletop which is arranged in a folded configuration at a level below the level of the primary tabletop. The secondary tabletop can be unfolded so that the unfolded secondary tabletop appears in level with the primary tabletop.

[0008] The table disclosed in DK 2018 00043 U4 even discloses that two sets of similar secondary table tops can be arranged at opposite ends of primary tabletop.

[0009] In its collapsed configuration each leg of the secondary frame is arranged parallel a corresponding leg of the primary frame.

[0010] DK 2018 00043 U4 does not disclose that the secondary tabletop is attached to the primary frame. Neither does DK 2018 00043 U4 disclose that the secondary tabletop is able to slide relative to the secondary frame, in a direction towards or away from the primary tabletop, once the secondary frame has been slit out of the primary frame.

[0011] Although the table disclosed in DK 2018 00043 U4 solves the problem of providing flexibility in relation to altering the area of the tabletop of a dining table or a conference table, the table disclosed in this publication nevertheless presents some disadvantages.

[0012] First of all, providing the secondary frame with two legs presents some problem in the process of converting the table disclosed in DK 2018 00043 U4 between its collapsed and its expanded configurations. Accordingly, in case the table disclosed in DK 2018 00043 U4 is situated on a wooded floor, such as a wooden floor having a top coating of varnish or lacquer, it is almost inevitable that upon repeatedly conversions between the two different configurations the movement of the two legs of the secondary frame, over the surface of the wooden floor, will damage the top coating and also, in the long run, the wooden floor itself.

[0013] Secondly, the presence of six visible legs in the extended configuration of the table disclosed in DK 2018 00043 U4 presents a not desirably aesthetic appearance.

[0014] Accordingly, there exist a need for an extensible table which does not imply the above-mentioned disadvantages.

[0015] It is an objective of the present invention to provide such a table.

Brief description of the invention

[0016] This objective is fulfilled with the present invention in its various aspects.

[0017] Accordingly, the present invention in its first aspect relates to an extensible table configured to be able to shift configuration between an extended configuration, in which the exposed tabletop of the table is having a relatively large area, and a collapsed configuration, in which the exposed tabletop of the table is having a relatively small area, and vice versa;

wherein said table in the orientation intended during use comprises:

- a stationary frame;
- a primary tabletop;
- a secondary tabletop;
- a number of legs;

wherein said primary tabletop is having an extension in a first horizontal direction and an extension in a second horizontal direction; said second horizontal direction is being perpendicular to said first horizontal direction;

wherein said extensible table comprises displacement means for attaching said primary tabletop to said stationary frame and for enabling said primary tabletop to be able to be displaced, upon exerting a force thereto, relative to said stationary frame, in a direction parallel to said first horizontal direction;

wherein said secondary tabletop comprises a first plate and a second plate; wherein said first plate and said second plate are being hinged to each other by one or more hinges at respective rims thereof, thereby allowing said secondary tabletop to shift configuration between a folded configuration and an unfolded configuration;

wherein said first plate of said secondary tabletop comprises a suspension means which is being fastened thereto at a first side of said first plate;

wherein said suspension means is being suspended on a rod, said rod is arranged on said stationary frame in an orientation parallel to said first horizontal direction;

wherein said suspension means of said first plate of said secondary tabletop is being configured to be able, upon exerting a force thereto, to rotate around an axis defined by said rod and also be able to be displaced along the longitudinal direction of said rod;

wherein said rod is being mounted to said stationary frame at a position which enables said secondary tabletop, in the collapsed configuration of the table, to be accommodated in its folded configuration at a level below the level of said primary tabletop.

[0018] In a second aspect the present invention relates to a use of an extensible table according to the first aspect of the invention for providing flexibility in relation to altering the exposed area of the tabletop of a table.

[0019] In a third aspect the present invention provides a method for converting a table from having relatively small exposed tabletop area to having a relative large exposed tabletop area; said method comprises the steps:

i) providing a table according to the first aspect of the invention in its collapsed configuration;

ii) displacing said primary tabletop in a first direction, thereby exposing the secondary tabletop;

iii) unfolding said secondary tabletop by rotational movement of said first tabletop plate and said second tabletop plate of said secondary tabletop in such a way that said secondary tabletop is being brought in level with said primary tabletop;

iv) displacing said secondary tabletop relative to said stationary frame, in a direction opposite to the direction performed in respect of the first tabletop in step ii);

v) displacing said primary tabletop relative to said stationary frame, in a direction opposite to the direction performed in respect of the first tabletop in step ii), so as to abut the secondary tabletop.

[0020] In a fourth aspect the present invention provides a method for converting a table from having relatively large exposed tabletop area to having a relative small exposed tabletop area; said method comprises the steps:

a) providing a table according to the first aspect of the invention in its in its extended configuration;

b) displacing said primary tabletop relative to said stationary frame, in a direction parallel to the first direction and away from said secondary tabletop;

c) displacing said secondary tabletop relative to said stationary frame, in the same direction as the direction performed in respect of the first tabletop in step b);

d) folding said secondary tabletop by rotational movement of said first tabletop plate and said second tabletop plate of said secondary tabletop in relation to each other in such a way that a surface of said first tabletop plate faces a surface of said second tabletop plate; and in such a way that the folded secondary tabletop obtained this way is brought in a level below the level of the primary tabletop;

e) displacing said primary tabletop in a direction opposite to the direction performed in step b) so as to cover said folded secondary tabletop.

[0021] The present invention in its various aspects provides an alternative extensible table which enables conversion between a collapsed configuration and an extended configuration without the need, during this conversion, to move the legs of the table relative to the floor onto which the table is positioned. By providing the frame as a stationary frame the legs of the table need not be moved along the surface of the floor upon conversion between the extended and the collapsed configuration.

[0022] With such a design of an extensible table is thereby avoided that the floor, such as a wooden floor or its coating, will be worn or damaged during repeatedly conversions between the two configurations. Besides, in its collapsed configuration it will not be immediately apparent or visible that the table indeed is an extensible table. Hence, with the inventive table a more aesthetic visual appearance is achieved.

Brief description of the figures

[0023]

Fig. 1a is a perspective view showing an extensible table according to the present invention in its collapsed state.

Fig. 1b is a perspective view showing an extensible table according to the present invention in its extended state.

Fig. 2 is a perspective view showing parts of the extensible table according to the present invention as seen from below.

Fig. 3 is a perspective view showing parts of the extensible table according to the present invention as seen from above.

Fig. 4 is a perspective view showing details of secondary tabletop as seen from above.

Fig. 5a is a perspective view illustrating one step in the process of converting the extensible table according to the present invention from a collapsed configuration to an extended configuration.

Fig. 5b is a perspective view illustrating a subsequent step in the process of converting the extensible table according to the present invention from a collapsed configuration to an extended configuration.

Fig. 5c is a perspective view illustrating yet a subsequent step in the process of converting the extensible table according to the present invention from a collapsed configuration to an extended configuration.

Fig. 6a is a perspective view illustrating a lock of the extensible table according to the present invention in an unlocked state.

Fig. 6b is a perspective view illustrating a lock of the extensible table according to the present invention in its locked state.

Fig. 7 is a cross-sectional view illustrating elements of the supporting means of the table of the invention.

Detailed description of the invention

The first aspect of the present invention

[0024] The first aspect of the present invention relates to an extensible table configured to be able to shift configuration between an extended configuration, in which the exposed tabletop of the table is having a relatively large area, and a collapsed configuration, in which the exposed tabletop of the table is having a relatively small area, and vice versa;

wherein said table in the orientation intended during use comprises:

- a stationary frame;
- a primary tabletop;
- a secondary tabletop;
- a number of legs;

wherein said primary tabletop is having an extension in a first horizontal direction and an extension in a second horizontal direction; said second horizontal direction is being perpendicular to said first horizontal direction;

wherein said extensible table comprises displacement means for attaching said primary tabletop to said stationary frame and for enabling said primary tabletop to be able to be displaced, upon exerting a force thereto, relative to said stationary frame, in a direction parallel to said first horizontal direction;

wherein said secondary tabletop comprises a first plate and a second plate; wherein said first plate and said second plate are being hinged to each other by one or more hinges at respective rims thereof, thereby allowing said secondary tabletop to shift configuration between a folded configuration and an unfolded configuration;

wherein said first plate of said secondary tabletop comprises a suspension means which is being fastened thereto at a first side of said first plate;

wherein said suspension means is being suspended on a rod, said rod is arranged on said stationary frame in an orientation parallel to said first horizontal direction;

wherein said suspension means of said first plate of said secondary tabletop is being configured to be able, upon exerting a force thereto, to rotate around an axis defined by said rod and also be able to be displaced along the longitudinal direction of said rod;

wherein said rod is being mounted to said stationary frame at a position which enables said secondary tabletop, in the collapsed configuration of the table, to be accommodated in its folded configuration at a level below the level of said primary tabletop.

[0025] In the present description and in the appended claims the table is disclosed with reference to a table in

its normal orientation during use, viz. with the legs supported on a floor and the primary tabletop arranged above the stationary frame and the legs of the table and in a horizontal plane.

[0026] In the present description and in the appended claims the terms "relatively large" and "relatively small" shall be construed to be seen in relation to each other. In this way the term "relatively large" means larger than "relatively small".

[0027] In an embodiment of the extensible table according to the first aspect of the present invention, said secondary tabletop is being mounted to said stationary frame in such a way that the folding and unfolding of said secondary tabletop may be brought about by rotation of the first plate and the second plate of said secondary tabletop around an axis parallel to said first direction.

[0028] Such a mode of folding/unfolding makes easier to allow the secondary tabletop to be slit in a direction parallel to the first horizontal direction.

[0029] In an embodiment of the extensible table according to the first aspect of the present invention said displacement means comprises one or more rails and one or more sliding means; wherein each said sliding means is being configured to be able to slide in a corresponding rail; wherein said one or more rails is/are being fastened to said stationary frame, and wherein said one or more sliding means is/are being fastened to said primary tabletop; or wherein said one or more rails is/are being fastened to said primary tabletop, and wherein said one or more sliding means is being fastened to said stationary frame.

[0030] These designs of the displacement means and the elements thereof secures a proper movement of the primary frame relative to the stationary frame.

[0031] In an embodiment of the extensible table according to the first aspect of the present invention said table comprises supporting means for supporting said primary tabletop; wherein said supporting means comprises a support bar and a support rail; wherein said support bar is mounted on said stationary frame below said primary tabletop and in a direction parallel to said secondary horizontal direction ; wherein said support bar comprises a cavity at a surface thereof facing said primary tabletop; wherein said support rail is fastened to said primary tabletop at an underside thereof; wherein said cavity in said support bar is configured to accommodate said support rail in such a way that said support rail is able to be slit along said first horizontal direction in said opening.

[0032] In an embodiment of this embodiment a part of said cavity is having an extension, in said second horizontal direction , which is larger than the extension of said cavity, in said second horizontal direction, at an upper surface of said support bar; and wherein a part of said support rail is having an extension, in said second horizontal direction, which is larger than the extension of said support rail, in said second horizontal direction, at the surface of said support rail facing said primary tabletop.

[0033] Preferably, the cavity and said support rail are each having a trapezoid cross-section.

[0034] The support means ensures that the primary tabletop cannot be lifted nor displaced in a direction parallel to the second horizontal direction.

[0035] In an embodiment of the extensible table according to the first aspect of the present invention the extension, in said second horizontal direction, of said secondary tabletop in its unfolded state corresponds to the extension of said primary tabletop, in said second horizontal direction.

[0036] Hereby a constant width of the table is secured, irrespective whether the table is being present in its extended or in its collapsed configuration.

[0037] In an embodiment of the extensible table according to the first aspect of the present invention said secondary tabletop, in its folded configuration, is arranged in such a way that a surface of the first plate of said secondary tabletop faces a surface of the second plate of said secondary tabletop.

[0038] Hereby a compact state of the secondary tabletop is secured upon being in its folded configuration.

[0039] In an embodiment of the extensible table according to the first aspect of the present invention an upper surface of the first plate of said secondary tabletop and an upper surface of the second plate of said secondary tabletop defines a common plane, when said secondary tabletop is being in its unfolded configuration.

[0040] Hereby the secondary tabletop forms a planer surface, upon being in its unfolded configuration.

[0041] In an embodiment of the extensible table according to the first aspect of the present invention said table, in its collapsed configuration, is being configured to accommodate said secondary tabletop at one end of said stationary frame.

[0042] Hereby, easy access to the secondary tabletop is assured.

[0043] In an embodiment of the extensible table according to the first aspect of the present invention said stationary frame comprises two oppositely arranged side elements and two oppositely arranged end elements; wherein each end element is being arranged between two oppositely arranged side elements; and wherein each side element is being arranged between two oppositely arranged end elements.

[0044] Such a design of the stationary frame has proven beneficial.

[0045] In an embodiment of the extensible table according to the first aspect of the present invention said rod is being fastened to said stationary frame at an end element thereof and said rod is being fastened to said stationary frame via a crossbar, extending between two oppositely arranged side elements of said stationary frame; said crossbar is being arranged between said two oppositely arranged end elements of said stationary frame.

[0046] Such design ensures a sturdy fastening of the

rod.

[0047] In an embodiment of the extensible table according to the first aspect of the present invention said rod is being fixed to said stationary frame of said table and wherein said suspension means of said secondary tabletop is being connected to said rod in a swiveling fashion; or wherein said rod is being attached to said stationary frame of said table in a swiveling fashion, and wherein said suspension means of said secondary tabletop is being connected to said rod in a swiveling fashion.

[0048] Hereby is ensured that the suspension means is able to slide along and rotate around a direction being parallel to the first horizontal direction.

[0049] In an embodiment of the extensible table according to the first aspect of the present invention the extension of said primary tabletop in said first horizontal direction is 75 - 300 cm, such as 100 - 275 cm, for example. 125 - 250 cm, e.g. 150 - 225 cm, such as 175 - 200 cm.

[0050] In an embodiment of the extensible table according to the first aspect of the present invention the extension of said primary tabletop in said second horizontal direction is 50 - 225 cm, such as 75 - 200 cm, e. g. 100 - 175 cm, for example 125 - 150 cm.

[0051] In an embodiment of the extensible table according to the first aspect of the present invention the extension of said secondary tabletop in said first horizontal direction is 50 - 225 cm, such as 75 - 200 cm, for example 100 - 175 cm, such as 125 - 150 cm.

[0052] In an embodiment of the extensible table according to the first aspect of the present invention the extension, in said second horizontal direction, of said first plate of said secondary tabletop is having the same magnitude as the extension, in said second horizontal direction, of said second plate of said secondary tabletop.

[0053] In an embodiment of the extensible table according to the first aspect of the present invention the dimensions of the first plate of said secondary tabletop is the same as the dimensions of the second plate of said secondary tabletop.

[0054] In an embodiment of the extensible table according to the first aspect of the present invention said table is in the form of a dining table having a height of 60 - 80 cm; or is in the form of a coffee table having a height of 40 - 60 cm.

[0055] The above stated dimensions have proven suitable for an extensible table.

[0056] In an embodiment of the extensible table according to the first aspect of the present invention the number of legs of said table is being 3, 4, 6 or 8.

[0057] In an embodiment of the extensible table according to the first aspect of the present invention each leg is being fastened to said stationary frame.

[0058] Hereby is ensured that the legs are stationary and do not need to be moved upon conversion of the table between its extended and its collapsed configuration.

[0059] In an embodiment of the extensible table according to the first aspect of the present invention said table comprises one or more locks for locking said primary table top to said stationary frame and/or for locking said secondary tabletop, once being in its unfolded configuration, to said stationary frame; thereby preventing any unintentional displacement of said primary tabletop and/or of said secondary tabletop in relation to said stationary frame.

[0060] In an embodiment of the extensible table according to the first aspect of the present invention each said lock comprises a bracket which is being fastened to said stationary frame of said table; said bracket comprising a pivoting engagement element comprising a protrusion; and wherein said primary tabletop and/or said secondary table top comprises one or more recesses; wherein said bracket is mounted on said stationary frame relative to one of said one or more recesses in such a way that said protrusion of said pivoting engagement element, upon pivoting thereof, is configured to extend into a recess of said primary tabletop and/or said secondary table top.

[0061] In an embodiment of the extensible table according to the first aspect of the present invention said primary tabletop is being in the form of a coherent, single tabletop which is not made up of two or more separate tabletops.

[0062] Hereby an aesthetic appearance is assured.

The second aspect of the present invention

[0063] In a second aspect the present invention relates to a use of an extensible table according to the first aspect of the invention for providing flexibility in relation to altering the exposed area of the tabletop of a table.

The third aspect of the present invention

[0064] In a third aspect the present invention provides a method for converting a table from having relatively small exposed tabletop area to having a relative large exposed tabletop area; said method comprises the steps:

i) providing a table according to the first aspect of the invention in its collapsed configuration;

ii) displacing said primary tabletop in a first direction, thereby exposing the secondary tabletop;

iii) unfolding said secondary tabletop by rotational movement of said first tabletop plate and said second tabletop plate of said secondary tabletop in such a way that said secondary tabletop is being brought in level with said primary tabletop;

iv) displacing said secondary tabletop relative to said stationary frame, in a direction opposite to the direction performed in respect of the first tabletop in step ii);

v) displacing said primary tabletop relative to said stationary frame, in a direction opposite to the direction performed in respect of the first tabletop in step ii), so as to abut the secondary tabletop.

The fourth aspect of the present invention

[0065] In a fourth aspect the present invention provides a method for converting a table from having relatively large exposed tabletop area to having a relative small exposed tabletop area; said method comprises the steps:

a) providing a table according to the first aspect of the invention in its in its extended configuration;

b) displacing said primary tabletop relative to said stationary frame, in a direction parallel to the first direction and away from said secondary tabletop;

c) displacing said secondary tabletop relative to said stationary frame, in the same direction as the direction performed in respect of the first tabletop in step b);

d) folding said secondary tabletop by rotational movement of said first tabletop plate and said second tabletop plate of said secondary tabletop in relation to each other in such a way that a surface of said first tabletop plate faces a surface of said second tabletop plate; and in such a way that the folded secondary tabletop obtained this way is brought in a level below the level of the primary tabletop;

e) displacing said primary tabletop in a direction opposite to the direction performed in step b) so as to cover said folded secondary tabletop.

[0066] Referring now to the drawings for better illustrating the present invention, Fig. 1a is a perspective view showing an extensible table according to the present invention in its collapsed state.

[0067] Fig. 1a shows the table 100 comprising a stationary frame 2 supported by four legs 8. On top of the stationary frame 2 is arranged a primary tabletop 4. The primary tabletop is having an extension in a first, longitudinal horizontal direction X and an extension in a second transversal horizontal direction Y. The second transversal horizontal direction Y is perpendicular to the first, longitudinal horizontal direction X. It is seen that the legs 8 are fixed to the stationary frame 2.

[0068] Fig. 1b is a perspective view showing an extensible of fig. 1a in its extended state. Fig. 1b shows the table 100 comprising a stationary frame 2 supported by four legs 8. On top of the stationary frame 2 is arranged a primary tabletop 4 and a secondary tabletop 6. The secondary tabletop 6 comprises a first plate 12 and a second plate 14 which are being hinged to each other. As it is seen the secondary tabletop 6 is arranged to abut the primary tabletop in such a way that the secondary tabletop is arranged at an end of the primary tabletop and thereby extending from the primary tabletop 4 in a direction parallel to the first horizontal direction.

[0069] Comparing fig. 1a with fig. 1b reveals that the exposed tabletop area 1 of the table in its collapsed configuration (fig. 1a) is relatively small, whereas the exposed tabletop area 1 of the table in its extended configuration (fig. 1b) is relatively large.

[0070] As will be explained in the following sections, the extensible table comprises displacement means 10 for attaching said primary tabletop 4 to the stationary frame 2 and for enabling said primary tabletop 4 to be able to be displaced, upon exerting a force thereto, relative to the stationary frame 2, in a direction parallel to the first horizontal direction X.

[0071] Moreover, the first plate 12 of the secondary tabletop 6 comprises suspension means 18 which is being fastened thereto at a first side of said first plate 12. The suspension means 18 is being suspended on a rod 20 and rod 20 is arranged on the stationary frame 2 in an orientation parallel to the first horizontal direction X.

[0072] The rod 20 is being mounted to the stationary frame 2 at a position which enables the secondary tabletop, in the collapsed configuration of the table, to be accommodated in its folded configuration at a level below the level of said primary tabletop.

[0073] Finally, the suspension means 20 of the first plate 12 of the secondary tabletop 6 is being configured to be able, upon exerting a force thereto, to rotate around an axis defined by the rod 20 and also be able to be displaced along the longitudinal direction of the rod 20.

[0074] It is the technical features mentioned in the above four sections which allows the inventive extensible table to shift its configuration between the collapsed configuration and the extended configuration.

[0075] Fig. 2 is a perspective view showing parts of the extensible table according to the present invention as seen from below. Fig. 2 is shown with the secondary tabletop and mounting fittings thereof removed.

[0076] Fig. 2 shows that the stationary frame 2 comprises two oppositely arranged side elements 26,26' and two oppositely arranged end elements 28,28'; wherein each end element 28,28' is being arranged between two oppositely arranged side elements 26,26'; and wherein each side element 26,26' is being arranged between two oppositely arranged end elements 28,28'.

[0077] Fig. 2 shows that the primary tabletop 4 at an underside thereof comprises a rail 22 which is being fastened to said primary tabletop 4 in a direction parallel to the first horizontal direction X. On the stationary frame 2,26 is mounted sliding means 24 which are configured to be attached to said rail 22 and to be able to be displaced in the first horizontal direction along that rail 22. Thereby, also the primary tabletop 4 will be able to be displaced along the first horizontal direction, relative to the stationary frame 2.

[0078] The rail 22 and the sliding means 24 collectively

make up the displacement means 10 of the table.

[0079] Fig. 2 also shows the supporting means 42 comprising a support bar 44 having a cavity 48 and the support rail 46.

[0080] These supporting means are disclosed in further detail in Fig. 7.

[0081] Fig. 3 is a perspective view showing parts of the extensible table according to the present invention as seen from above.

[0082] In fig. 3 the primary tabletop 4 has been slit a distance away from the end element 28 of the stationary frame 2. The space confined between the side elements 26,26' and the end element 28 of the stationary frame is configured to accommodate the secondary tabletop in its folded state.

[0083] Fig. 3 shows that in this space is arranged a rod 20 which extends between the end element 28 of the stationary frame 2 and a crossbar 30 which is being suspended between the side elements 26,26' of the stationary frame 2.

[0084] On the rod 20 is arranged suspension means 18. The suspension means 18 is configured to be able to rotate around an axis defined by the rod 20 and the suspension means 18 is also configured to be able to be displaced along the rod 20 in the first horizontal direction X thereof.

[0085] When one side of the first plate 12 of the secondary tabletop 6 is being fastened to the suspension means 18 it will be possible to allow the secondary tabletop 6 to rotate around an axis having a direction parallel to the first horizontal direction X and being defined by the longitudinal extension of the rod 20.

[0086] Moreover, it will be possible to allow the secondary tabletop 6 to slide in a direction parallel to the first horizontal direction X along the longitudinal extension of the rod 20.

[0087] Finally, the hinge(s) connecting the first plate 12 and the second plate 14 of the secondary tabletop 6 to each other allow(s) the secondary tabletop to shift configuration between a folded configuration and an unfolded configuration, and vice versa.

[0088] These three functionalities participate in the process of converting the table 100 of the first aspect of the present invention to be able to shift between an extended configuration, in which the exposed tabletop 1 of the table is having a relatively large area, and a collapsed configuration, in which the exposed tabletop 1 of the table is having a relatively small area.

[0089] Fig. 4 is a perspective view showing details of secondary tabletop as seen from above. Fig. 4 shows the table 100 comprising the primary tabletop 4 and the secondary tabletop 6 comprising the first plate 12 and the second plate 14.

[0090] The secondary tabletop 6 is in Fig. 4 shown in its folded configuration in which the secondary tabletop 6 is being accommodated within the stationary frame 2, delimited by the side elements 26,26' and the end element 28. It can be seen that the first plate 12 and the second plate 14 are being hinged to each other, at respective rims of these plates, by three hinges 16.

[0091] By means of the hinges 16, the rod 20 and the suspension means 18 it is accordingly possible to convert the secondary tabletop between its folded configuration and its unfolded configuration, and vice versa.

[0092] Fig. 5a, 5b and 5c are perspective views illustrating various steps of the process of converting the extensible table according to the present invention from a collapsed configuration to an extended configuration.

[0093] Fig. 5a shows that the primary tabletop 4 via the displacement means 10 has been slit in the first horizontal direction X away from the end element 28 of the stationary frame 2.

[0094] Thereby, it is possible to bring the secondary tabletop 6 comprising the first plate 12 and the second plate 14, from its folded configuration to an unfolded configuration. This conversion is brought about by rotating the plates 12 and 14 of the secondary tabletop 6 in a direction as indicated by the arrows.

[0095] By doing so the upper surface of the first plate 12 of the secondary tabletop 6 and the upper surface of the second plate 14 of the secondary tabletop 6 defines a common plane which coincide with a plane defined by the upper surface of the primary tabletop 4. This situation is illustrated in fig. 5b.

[0096] Fig 5b shows that the secondary tabletop 6 has be brought fully into its unfolded configuration.

[0097] In this situation the secondary tabletop 6 can be displaced in the first horizontal direction X away from the primary tabletop 4 as indicated by the arrows. Such displacement leads to the situation illustrated in Fig. 5c.

[0098] Fig. 5c shows that the secondary tabletop 6 via the suspension means 18 and the rod 20 has been slit in a direction away from the primary tabletop.

[0099] From here, the primary tabletop 4 may be displaced in the first horizontal direction X towards the secondary tabletop 6, as indicated by the arrows, so as to abut that secondary tabletop 6 after which the table 100 will be brought into the configuration illustrated in fig. 1b.

[0100] Fig. 6a is a perspective view illustrating a lock of the extensible table according to the present invention in an unlocked state.

[0101] Fig. 6a illustrates the lock 32 for locking the primary table top 4 to the stationary frame 2 and/or for locking the secondary tabletop 6, once being in its unfolded configuration, to the stationary frame 2; thereby preventing any unintentional displacement of the primary tabletop 4 and/or of the secondary tabletop 6 in relation to the stationary frame 2.

[0102] The lock 32 comprises a bracket 34 which is being fastened to the stationary frame 2 of the table. The bracket 34 comprising a pivoting engagement element 36 comprising a protrusion 38. The primary tabletop 4 and/or said secondary tabletop 6 comprises one or more recesses 40. The bracket 34 is mounted on the stationary frame 2 relative to one of said one or more recesses 40 in such a way that the protrusion 38 of the pivoting en-

gagement element 36, upon pivoting thereof, will extend into the recess 40 of the primary tabletop 4 and/or the secondary table top 6 of the table 100. Hereby, any unintentional displacement of the primary tabletop 4 and/or of the secondary tabletop 6 in relation to the stationary frame 2 is avoided.

[0103] This situation is illustrated in fig. 6b.

[0104] Fig. 7 is a cross-sectional view, illustrating elements of the supporting means of the table of the invention.

[0105] Fig. 7 shows the primary tabletop 4 having an underside 50. At the underside 50 is mounted a support rail 46 having a trapezoid cross-section.

[0106] The support rail 46 is accommodated in a cavity 48 in a support bar 44, which is being mounted on the stationary frame 2 of the table (not seen in Fig. 7).

[0107] It is seen that a part of the cavity 48 is having an extension, in the second horizontal direction Y, which is larger than the extension of said cavity, in said second horizontal direction Y, at an upper surface of said support bar 44. It is also seen that a part of the support rail 46 is having an extension, in said second horizontal direction Y, which is larger than the extension of said support rail 46, in said second horizontal direction Y, at the surface of said support rail facing said primary tabletop 4.

[0108] In Fig. 7 the cavity 48 as well as the support rail 46 are having a trapezoid cross-section.

[0109] This arrangement allows for supporting the primary tabletop 4 in the sense that the tabletop 4 cannot be lifted nor be displaced in a direction parallel to the second horizontal direction Y.

[0110] It should be understood that all features and achievements discussed above and in the appended claims in relation to one aspect of the present invention and embodiments thereof apply equally well to the other aspects of the present invention and embodiments thereof.

List of reference numerals

[0111]

1	Exposed tabletop
2	Stationary frame of table
4	Primary tabletop of frame
6	Secondary tabletop of frame
8	Leg of frame
10	Displacement means
12	First plate of secondary tabletop
14	Second plate of secondary tabletop
16	Hinge
18	Suspension means
20	Rod
22	Rail of displacement means
24	Sliding means of displacement means
26,26'	Oppositely arranged side elements of stationary frame
28,28'	Oppositely arranged end elements of stationary frame
30	Crossbar of frame
32	Lock
34	Bracket of lock
36	Pivoting engagement element of lock
38	Protrusion of pivoting engagement element of lock
40	Recess in tabletop
42	Supporting means
44	Support bar
46	Support rail
48	Cavity in support bar
50	Underside of primary tabletop
100	Extensible table
X	First horizontal direction
Y	Second horizontal direction

Claims

1. An extensible table (100) configured to be able to shift configuration between an extended configuration, in which the exposed tabletop (1) of the table is having a relatively large area, and a collapsed configuration, in which the exposed tabletop (1) of the table is having a relatively small area, and vice versa;

wherein said table in the orientation intended during use comprises:

- a stationary frame (2);
- a primary tabletop (4);
- a secondary tabletop (6);
- a number of legs (8);

wherein said primary tabletop (4) is having an extension in a first horizontal direction (X) and an extension in a second horizontal direction (Y); said second horizontal direction (Y) is being perpendicular to said first horizontal direction (X);
wherein said extensible table comprises displacement means (10) for attaching said primary tabletop (4) to said stationary frame (2) and for enabling said primary tabletop (4) to be able to be displaced, upon exerting a force thereto, relative to said stationary frame (2), in a direction parallel to said first horizontal direction (X);
wherein said secondary tabletop (6) comprises a first plate (12) and a second plate (14); wherein said first plate and said second plate are being hinged to each other by one or more hinges (16) at respective rims thereof, thereby allowing said secondary tabletop to shift configuration between a folded configuration and an unfolded configuration;
wherein said first plate (12) of said secondary tabletop (6) comprises a suspension means (18) which is being fastened thereto at a first side of

said first plate (12);
wherein said suspension means (18) is being suspended on a rod (20), said rod is arranged on said stationary frame (2) in an orientation parallel to said first horizontal direction (X);
wherein said suspension means (18) of said first plate (12) of said secondary tabletop (6) is being configured to be able, upon exerting a force thereto, to rotate around an axis defined by said rod (20) and also be able to be displaced along the longitudinal direction of said rod (20);
wherein said rod (20) is being mounted to said stationary frame (2) at a position which enables said secondary tabletop, in the collapsed configuration of the table, to be accommodated in its folded configuration at a level below the level of said primary tabletop (4).

2. An extensible table (100) according to claim 1, wherein said secondary tabletop (6) is being mounted to said stationary frame (2) in such a way that the folding and unfolding of said secondary tabletop (6) may be brought about by rotation of the first plate (12) and the second plate (14) of said secondary tabletop (6) around an axis parallel to said first direction (X).

3. An extensible table (100) according to claim 1 or 2, wherein said displacement means (10) comprises one or more rails (22) and one or more sliding means (24); wherein each said sliding means (24) is being configured to be able to slide in a corresponding rail (22); wherein said one or more rails (22) is/are being fastened to said stationary frame (2), and wherein said one or more sliding means (24) is/are being fastened to said primary tabletop (4); or wherein said one or more rails (22) is/are being fastened to said primary tabletop (4), and wherein said one or more sliding means (24) is being fastened to said stationary frame (2).

4. An extensible table (100) according to any of the preceding claims, wherein the extension, in said second horizontal direction (Y), of said secondary tabletop (6) in its unfolded state corresponds to the extension of said primary tabletop (4), in said second horizontal direction (Y).

5. An extensible table (100) according to any of the preceding claims, wherein said secondary tabletop (6), in its folded configuration, is arranged in such a way that a surface of the first plate (12) of said secondary tabletop faces a surface of the second plate (14) of said secondary tabletop; and/or

wherein an upper surface of the first plate (12) of said secondary tabletop (6) and an upper surface of the second plate (14) of said secondary tabletop (6) defines a common plane, when said secondary tabletop (6) is being in its unfolded configuration; and/or
wherein said table, in its collapsed configuration is being configured to accommodate said secondary tabletop (6) at one end of said stationary frame (2).

6. An extensible table (100) according to any of the preceding claims, wherein said stationary frame (2) comprises two oppositely arranged side elements (26,26') and two oppositely arranged end elements (28,28'); wherein each end element (28,28') is being arranged between two oppositely arranged side elements (26,26'); and wherein each side element (26,26') is being arranged between two oppositely arranged end elements (28,28');
optionally wherein said rod (20) is being fastened to said stationary frame (2) at an end element (28,28') thereof and wherein said rod is being fastened to said stationary frame via a crossbar (30) extending between two oppositely arranged side elements (26,26') of said stationary frame (2); said crossbar (30) is being arranged between said two oppositely arranged end elements (28,28') of said stationary frame (2).

7. An extensible table (100) according to any of the preceding claims, wherein said rod (20) is being fixed to said stationary frame (2) of said table and wherein said suspension means (18) of said secondary tabletop (6) is being connected to said rod (20) in a swiveling fashion; or wherein said rod (20) is being attached to said stationary frame (2) of said table in a swiveling fashion, and wherein said suspension means (18) of said secondary tabletop (6) is being connected to said rod (20) in a swiveling fashion.

8. An extensible table (100) according to any of the preceding claims, wherein the extension, in said second horizontal direction (Y), of said first plate (12) of said secondary tabletop (6) is having the same magnitude as the extension, in said second horizontal direction (Y), of said second plate (14) of said secondary tabletop (6); and/or
wherein the dimensions of the first plate (12) of said secondary tabletop (6) is the same as the dimensions of the second plate (14) of said secondary tabletop (6).

9. An extensible table (100) according to any of the preceding claims wherein each leg (8) is being fastened to said stationary frame (2).

10. An extensible table (100) according to any of the preceding claims, wherein said table comprises one or more locks (32) for locking said primary table top (4) to said stationary frame (2) and/or for locking said

secondary tabletop (6), once being in its unfolded configuration, to said stationary frame (2); thereby preventing any unintentional displacement of said primary tabletop (4) and/or of said secondary tabletop (6) in relation to said stationary frame (2);
optionally wherein each said lock (32) comprises a bracket (34) which is being fastened to said stationary frame (2) of said table; said bracket comprising a pivoting engagement element (36) comprising a protrusion (38); and wherein said primary tabletop (4) and/or said secondary table top (6) comprises one or more recesses (40); wherein said bracket (34) is mounted on said stationary frame (2) relative to one of said one or more recesses (40) in such a way that said protrusion (38) of said pivoting engagement element (36), upon pivoting thereof, is configured to be able to extend into a recess (40) of said primary tabletop (4) and/or said secondary table top (6).

11. An extensible table (100) according to any of the preceding claims, wherein said primary tabletop (4) is being in the form of a coherent, single tabletop which is not made up of two or more separate tabletops.

12. An extensible table (100) according to any of the preceding claims, wherein said table comprises supporting means (42) for supporting said primary tabletop (4); wherein said supporting means comprises a support bar (44) and a support rail (46); wherein said support bar (44) is mounted on said stationary frame (2) below said primary tabletop (4) and in a direction parallel to said secondary horizontal direction (Y); wherein said support bar (44) comprises a cavity (48) at a surface thereof facing said primary tabletop (4); wherein said support rail (46) is fastened to said primary tabletop (4) at an underside (50) thereof; wherein said cavity (48) in said support bar (44) is configured to accommodate said support rail (46) in such a way that said support rail (46) is able to be slit along said first horizontal direction (X) in said opening (48);

optionally wherein a part of said cavity (48) is having an extension, in said second horizontal direction (Y), which is larger than the extension of said cavity, in said second horizontal direction (Y), at an upper surface of said support bar (44); and wherein a part of said support rail (44) is having an extension, in said second horizontal direction (Y), which is larger than the extension of said support rail (46), in said second horizontal direction (Y), at the surface of said support rail facing said primary tabletop (4);
and/or optionally wherein said cavity (48) and said support rail (46) are having a trapezoid cross-section.

13. Use of an extensible table (100) according to any of the preceding claims for providing flexibility in relation to altering the exposed area (1) of the tabletop of a table.

14. A method for converting a table from having relative small exposed tabletop (1) area to having a relative large exposed tabletop (1) area; said method comprises the steps:

i) providing a table (100) according to any of the claims 1 - 12 in its collapsed configuration;
ii) displacing said primary tabletop (4) in a first horizontal direction (X), thereby exposing the secondary tabletop (6);
iii) unfolding said secondary tabletop (6) by rotational movement of said first tabletop plate (12) and said second tabletop plate (14) of said secondary tabletop (6) in such a way that said secondary tabletop (6) is being brought in level with said primary tabletop (4);
iv) displacing said secondary tabletop (6) relative to said stationary frame (2), in a direction opposite to the direction (X) performed in respect of the first tabletop in step ii);
v) displacing said primary tabletop (4) relative to said stationary frame (2), in a direction opposite to the direction (X) performed in respect of the first tabletop (4) in step ii), so as to abut the secondary tabletop (6).

15. A method for converting a table from having relative large exposed tabletop (1) area to having a relative small exposed tabletop (1) area; said method comprises the steps:

a) providing a table (100) according to any of the claims 1 - 12 in its extended configuration;
b) displacing said primary tabletop (4) relative to said stationary frame (2), in a direction parallel to the first horizontal direction (X) and away from said secondary tabletop (6);
c) displacing said secondary tabletop 6 relative to said stationary frame (2), in the same direction as the direction performed in respect of the first tabletop (4) in step b);
d) folding said secondary tabletop (6) by rotational movement of said first tabletop plate (12) and said second tabletop plate (14) of said secondary tabletop (6) in relation to each other in such a way that a surface of said first tabletop plate (12) faces a surface of said second tabletop plate (14); and in such a way that the folded secondary tabletop (6) obtained this way is brought in a level below the level of the primary tabletop (4);
e) displacing said primary tabletop (4) in a direction opposite to the direction performed in step

b) so as to cover said folded secondary tabletop (6).

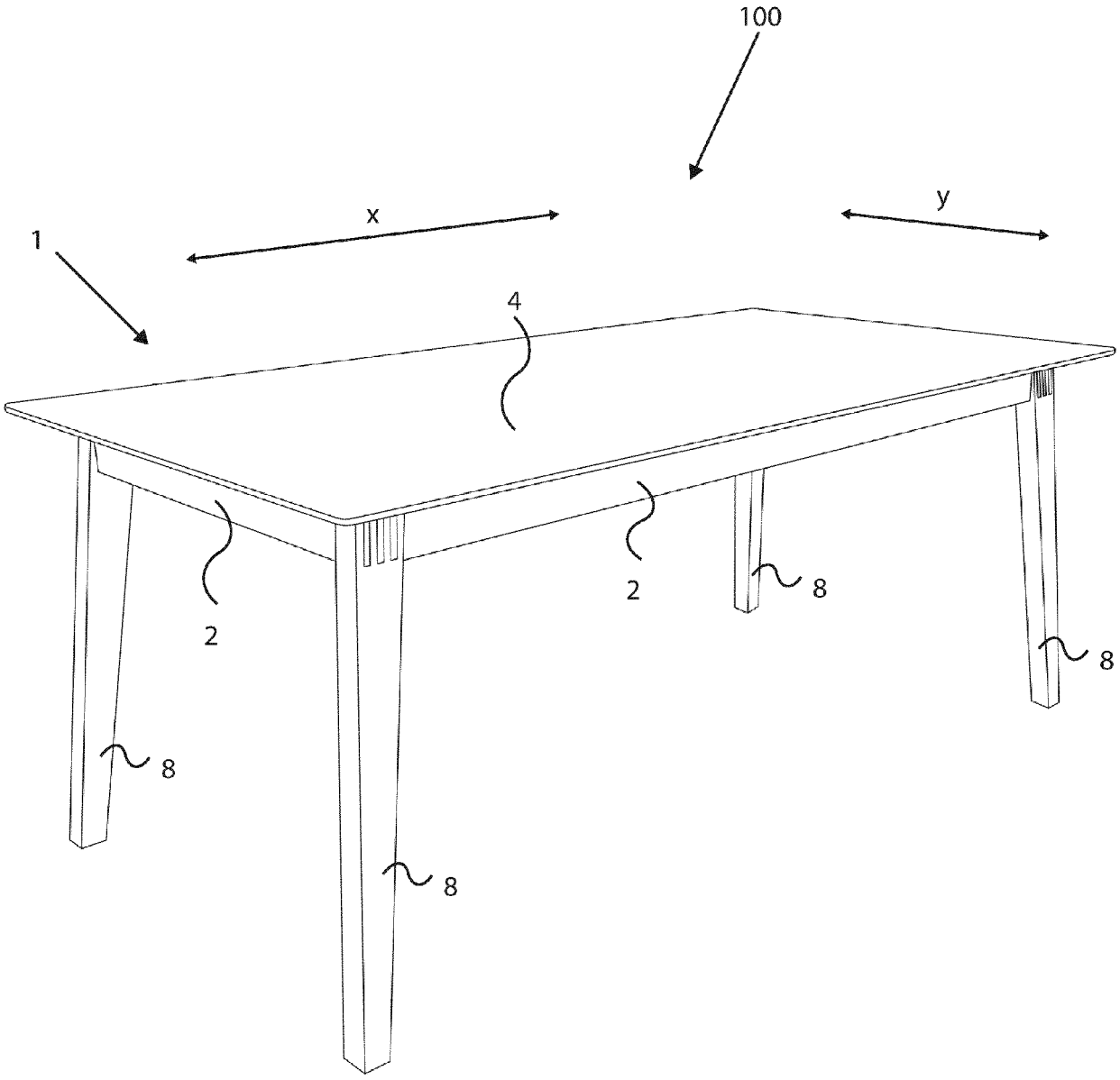


Fig. 1a

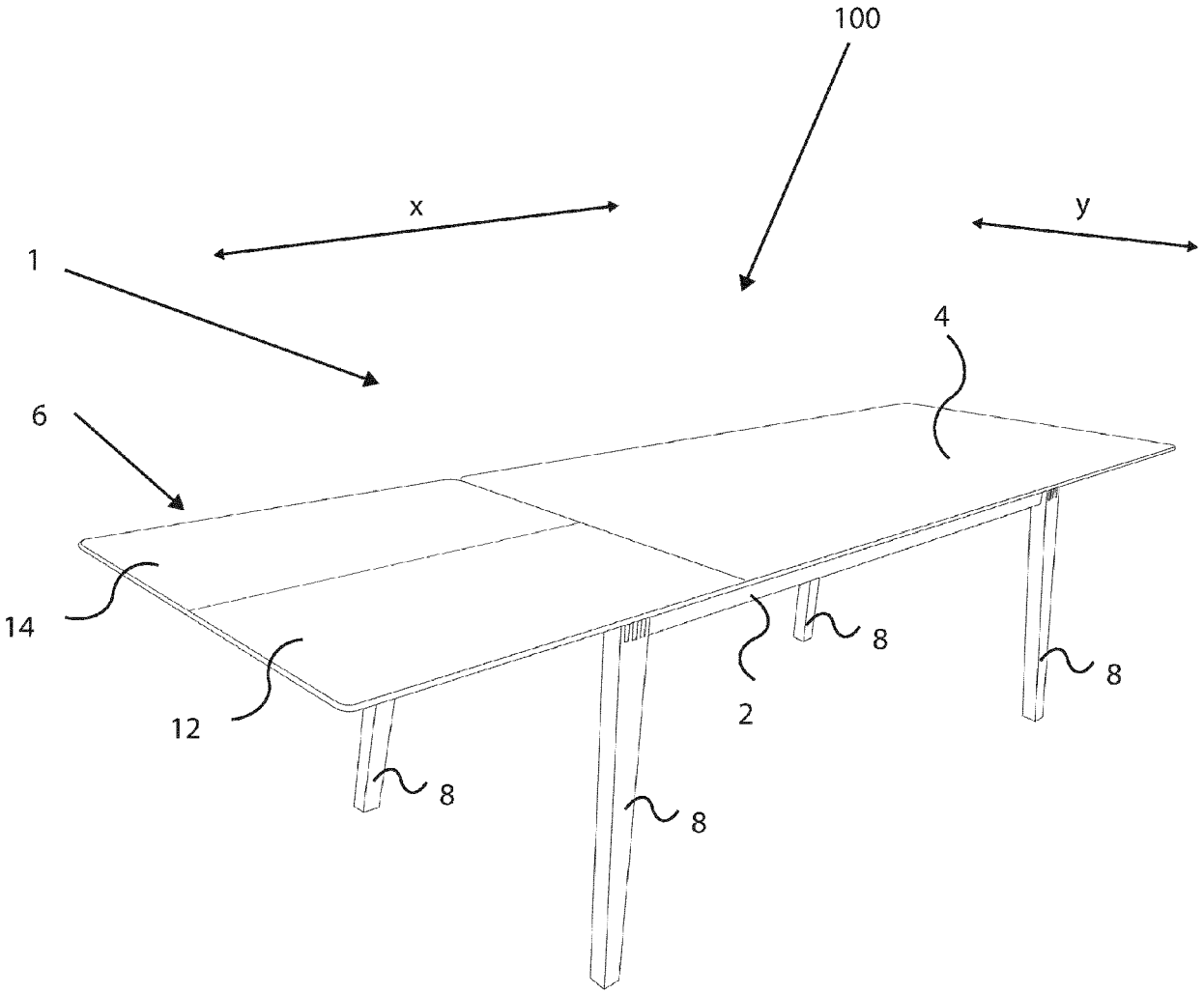


Fig. 1b

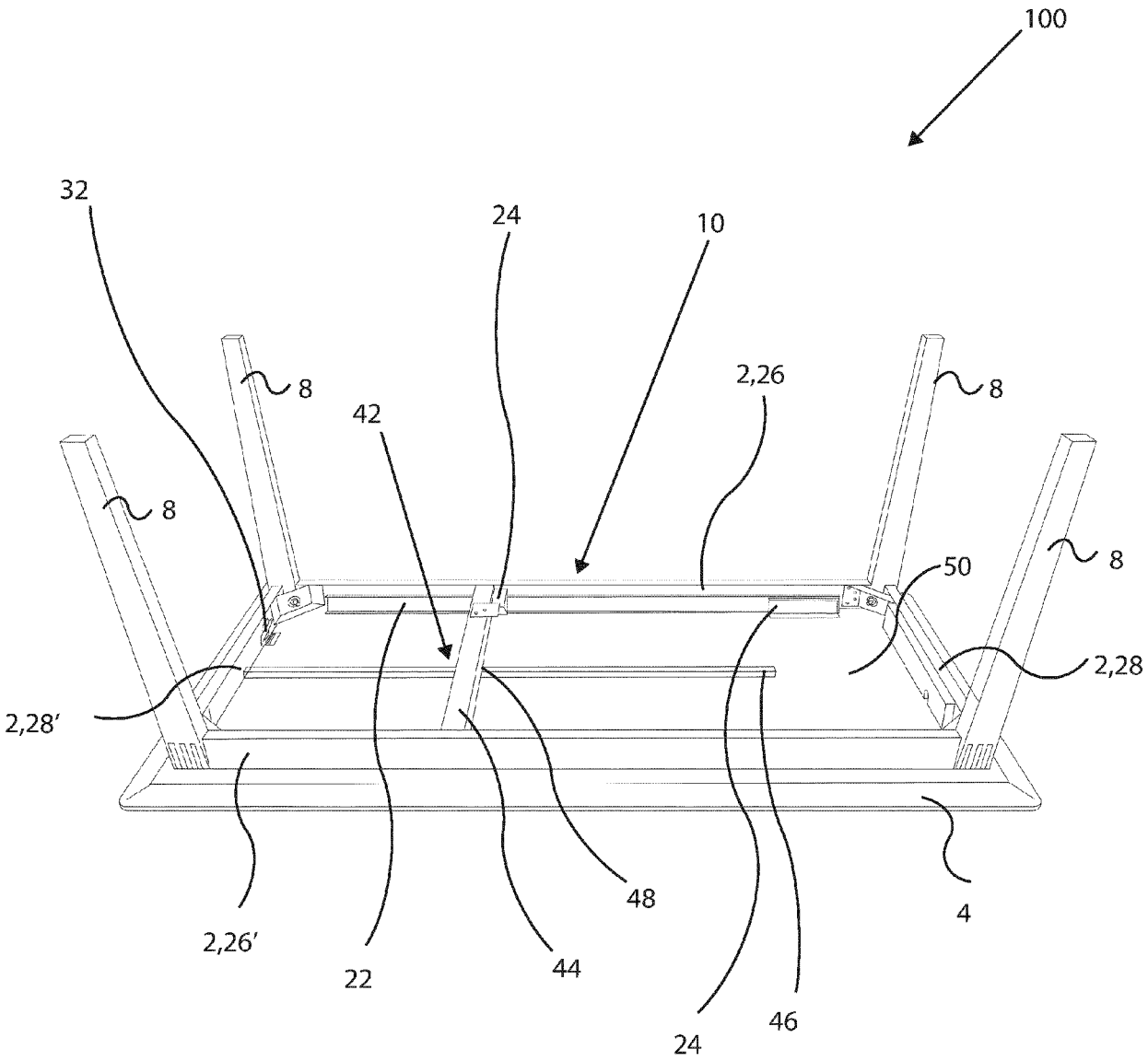
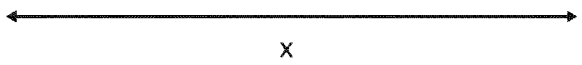


Fig. 2



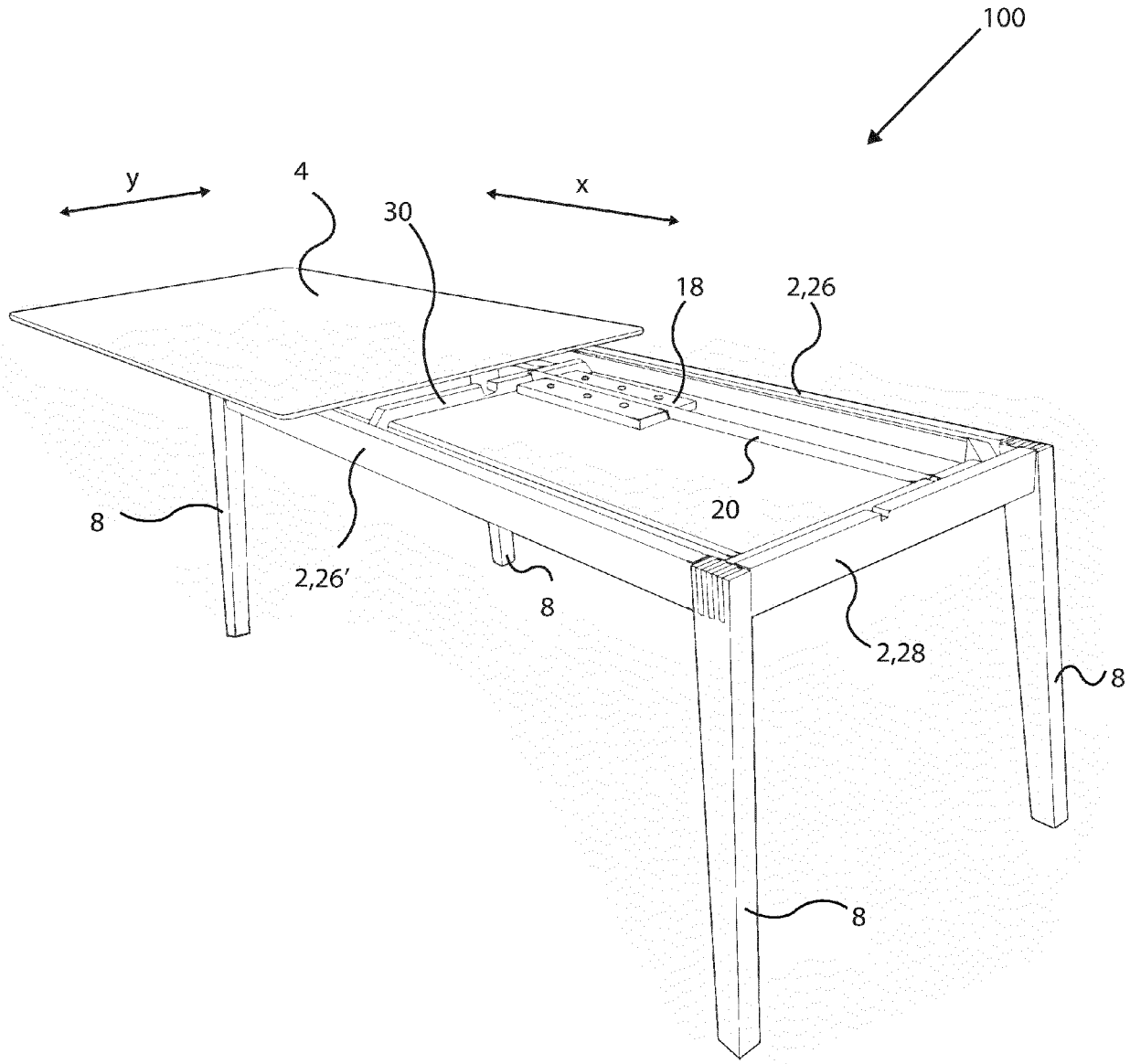


Fig. 3

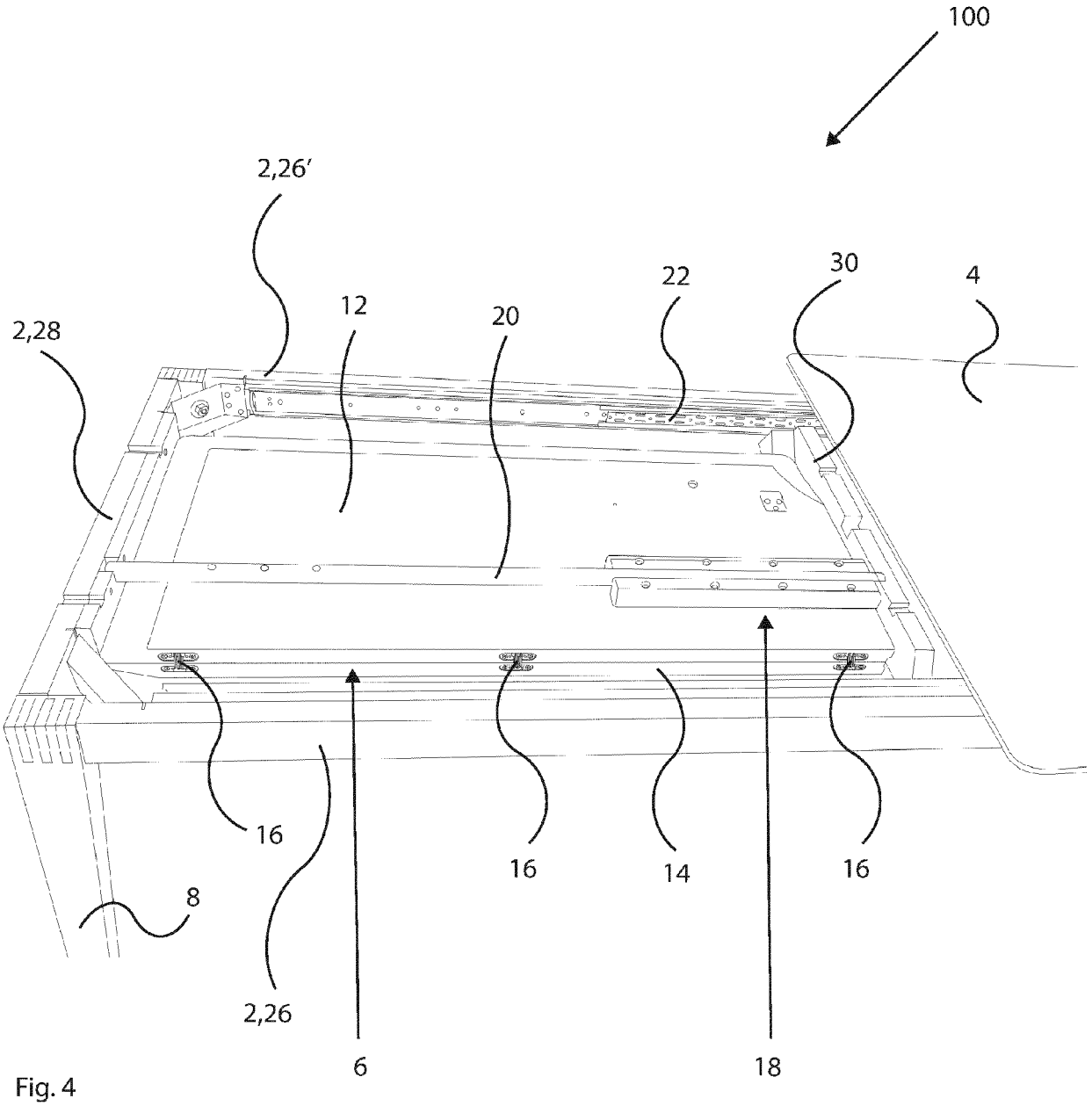


Fig. 4

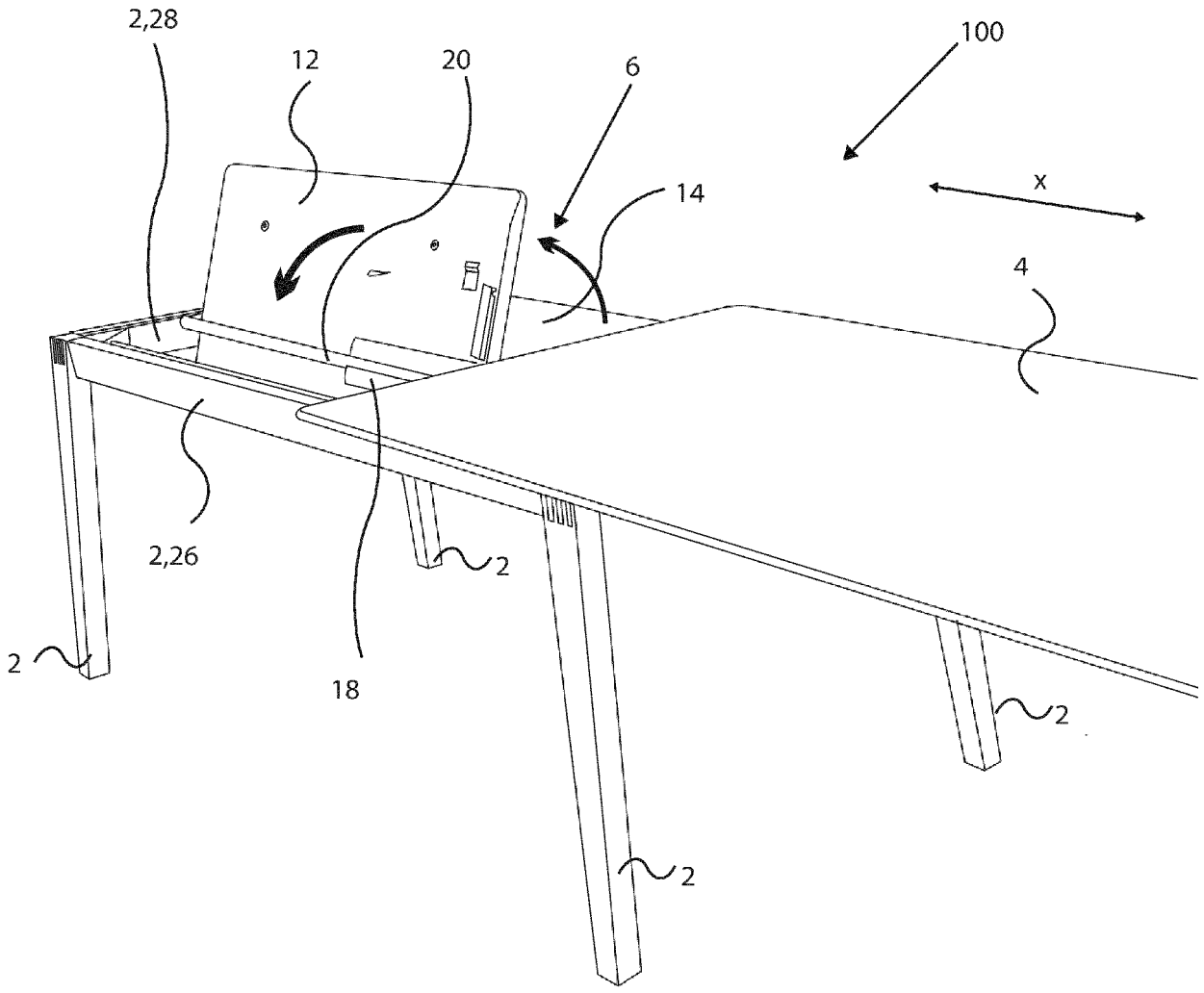


Fig. 5a

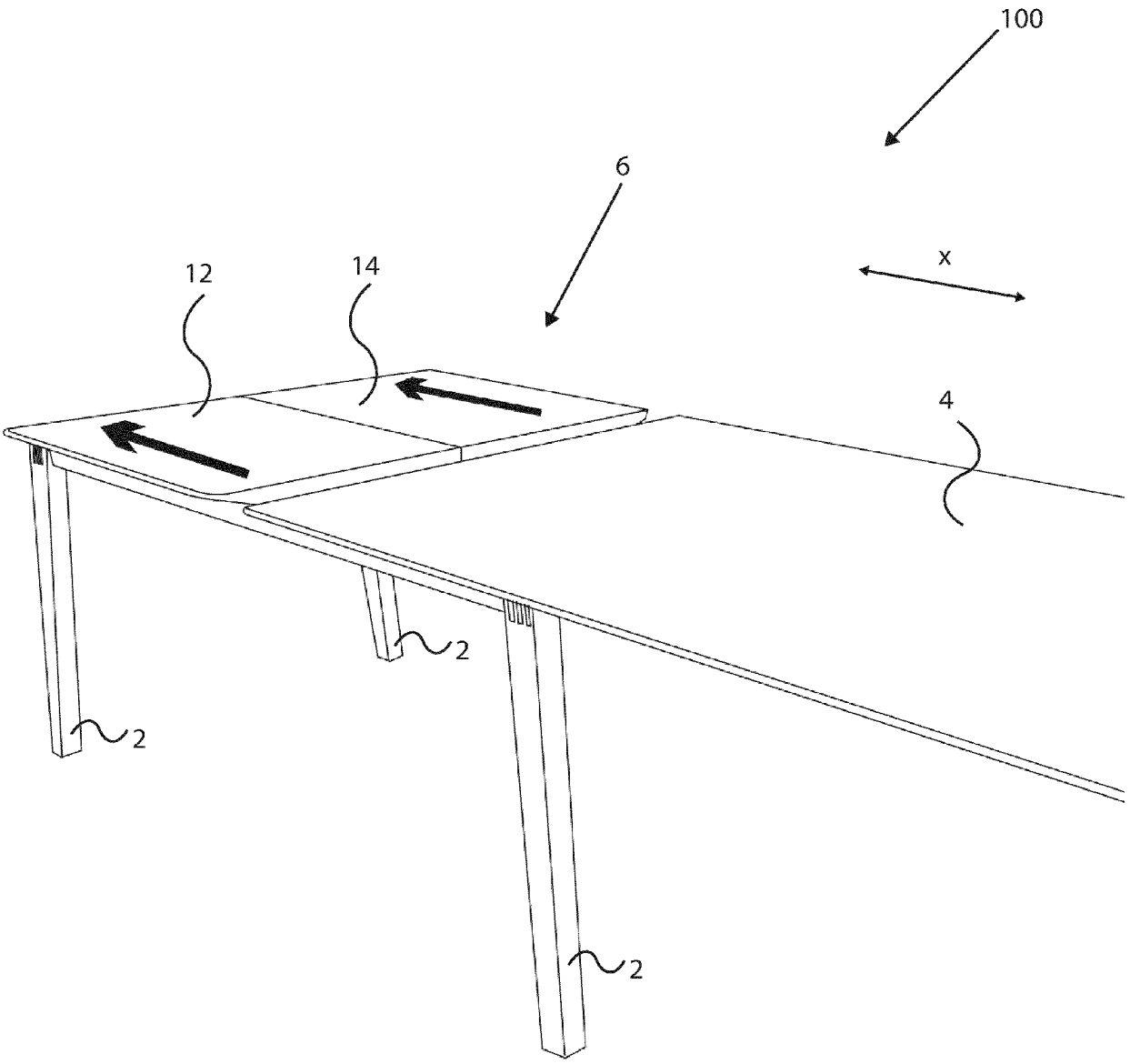


Fig. 5b

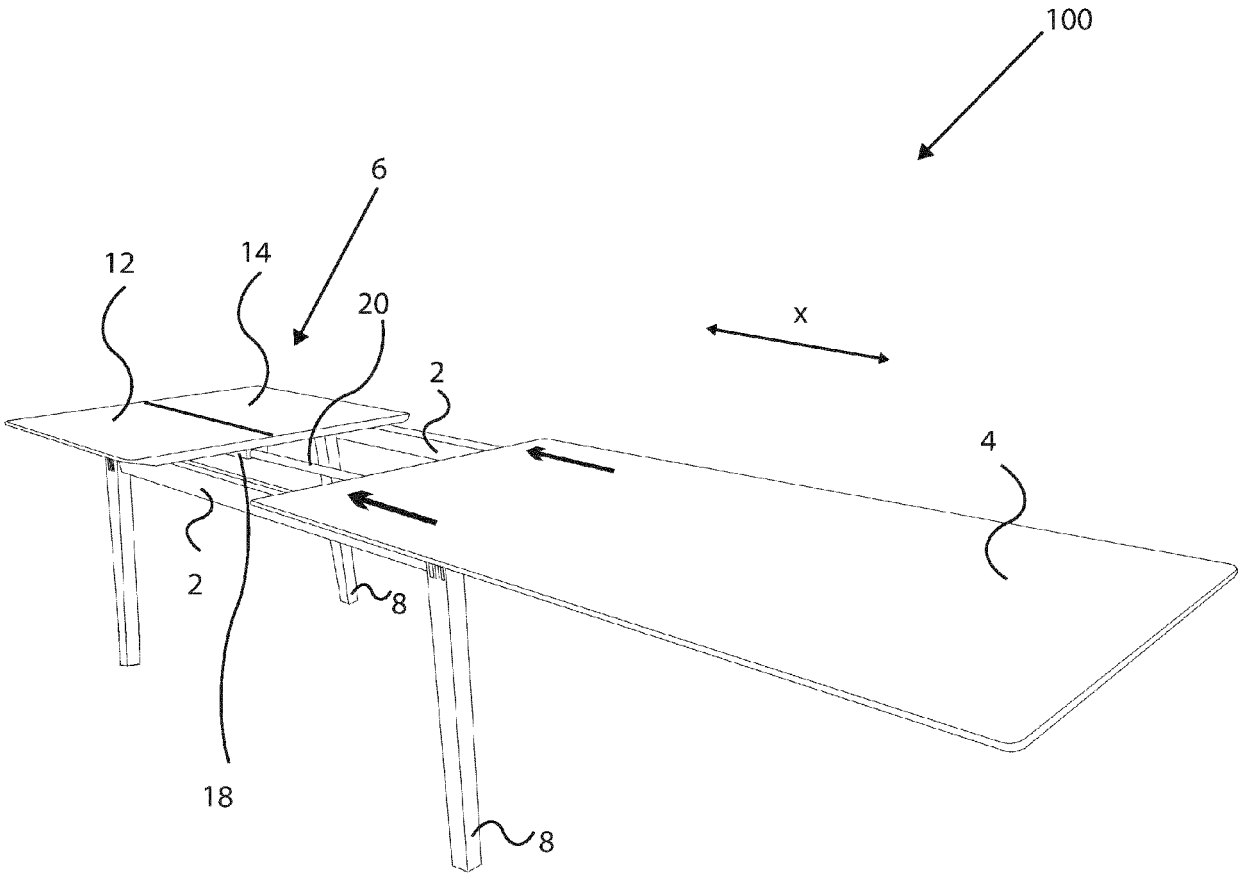


Fig. 5c

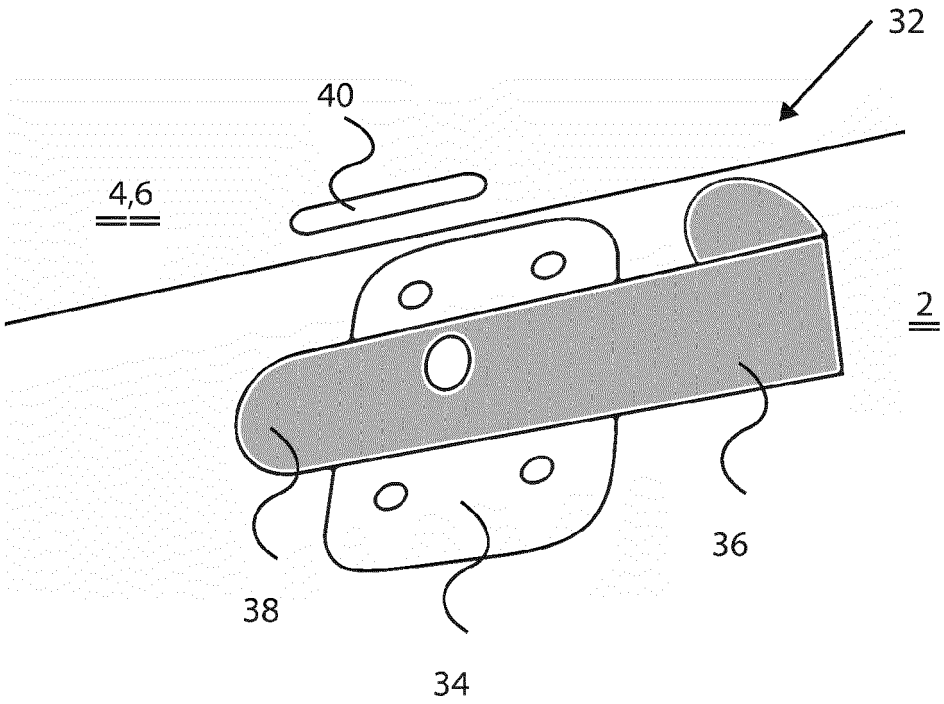


Fig. 6a

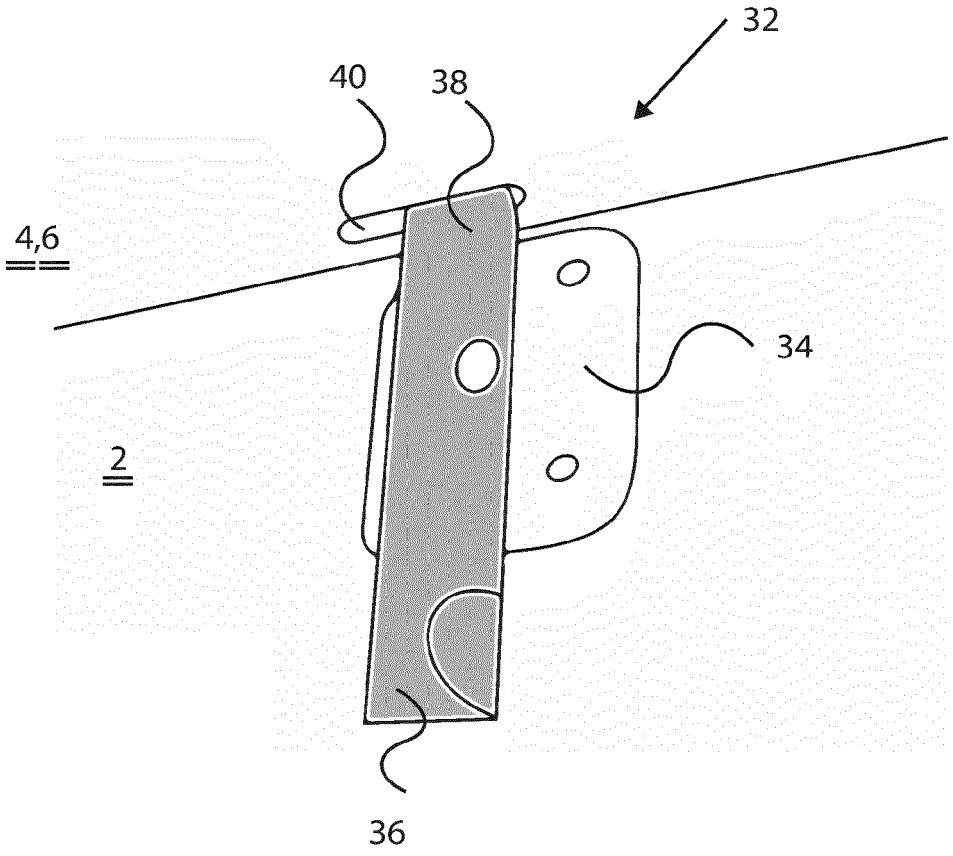


Fig. 6b

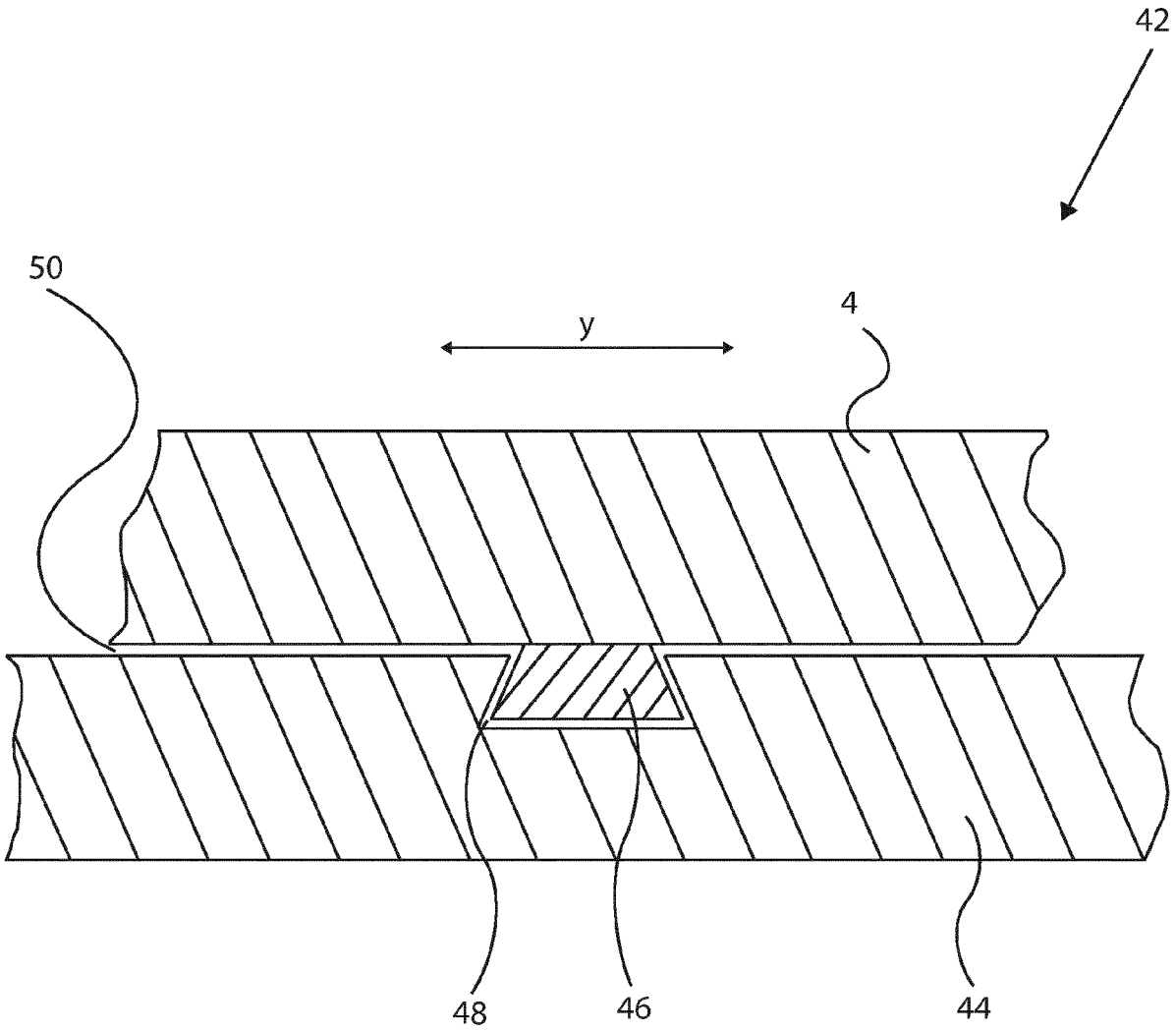


Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 21 20 0705

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 20 2010 004804 U1 (VILLAGE WOHNKULTUR GMBH [DE]) 29 July 2010 (2010-07-29) * paragraph [0004] - paragraph [0037]; figures 1-5 * -----	1-15	INV. A47B1/03 A47B1/05
			TECHNICAL FIELDS SEARCHED (IPC)
			A47B

1 The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	9 March 2022	Kohler, Pierre

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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09-03-2022

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 202010004804 U1	29-07-2010	NONE	

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

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- DK 201800043 U4 **[0005] [0006] [0008] [0010] [0011] [0012] [0013]**