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(54) **Modular furniture**

(57) A modular furniture assembly comprising a plurality of upright screens having a concave side and a convex side and a plurality of tables each substantially in the shape of a curved wedge and having at least two curved sides. The curvature of the first side of the table substantially has the same curvature as the concave side of the screen and the curvature of a second side of the table substantially has the same curvature as the convex side of the screen. The assembly is re-configurable be-

tween a first configuration wherein the tables are arranged to form a large substantially circular work surface in which a concave side of each table is substantially aligned with a convex side of an adjacent table, and the screens at least partially surround the exterior of the work surface spaced therefrom; and at least a second configuration wherein the screens are aligned end to end with one another and wherein at least some of the plurality of tables are arranged with their concave side aligned with the convex side of a screen. (Figure 2)

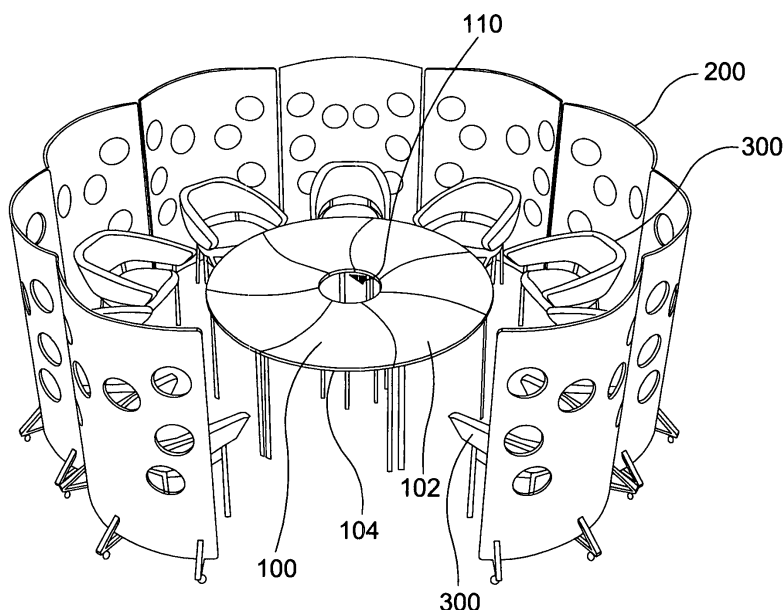


Figure 2

Description

[0001] The present invention relates to furniture, in particular the present invention relates to modular furniture that can readily be reconfigured to create different workspaces.

[0002] There is a current trend in educational establishments and in the workplace to have multi functional space that can be modified or set up in different ways dependant upon the intended use of that space. A number of furniture types exist that can be easily moved to change the appearance of a workspace. These include for example, free standing partitions, free standing desks, chairs and tables that may be arranged in different ways.

[0003] It is the object of the present invention to provide an improved modular furniture.

[0004] According to a first aspect of the invention there is provided a modular furniture assembly comprising: a plurality of upright screens having a concave side and a convex side; and a plurality of tables each substantially wedge shaped and having at least two curved sides, the curvature of a first side of said table substantially having the same curvature as the concave side of the screen and the curvature of a second side of the table substantially having the same curvature as the convex side of the screen; the assembly re-configurable between a first configuration wherein the tables are arranged to form a large substantially circular work surface in which a concave side of each table is substantially aligned with a convex side of an adjacent table, and the screens at least partially surround the exterior of the work surface spaced therefrom and at least a second configuration wherein the screens are aligned end to end with one another and wherein at least some of said plurality of tables are arranged with their concave side aligned with the convex side of a screen.

[0005] In this manner the furniture can be re-configured into a meeting area with a large table and a screen around it or to individual workspaces.

[0006] In another arrangement the furniture assembly can be further re-configurable into a third configuration wherein the tables are arranged to form a large substantially circular work surface in which a concave side of each table is adjacent and spaced from a convex side of an adjacent table, and the screens are located in the space between the adjacent concave and convex sides to create a plurality of separated work areas within said work surface. In this way individual more private work areas can be created located around a central point. This arrangement may be useful where, for example, electrical supply is needed to the work areas. In open plan type spaces power and/or communication points are set into the floor and by locating the work areas around a central point a common point can, for example, be used for all areas without the need for any trailing cables.

[0007] In a further arrangement the modular furniture assembly can be arranged in a configuration wherein the screens are aligned end to end with one another and

wherein at least some of said plurality of tables are arranged with their concave side aligned with the convex side of a screen. Alternatively, or in addition, the modular furniture assembly can be arranged in a configuration wherein the screens are aligned end to end with one another and wherein at least some of said plurality of tables are arranged with their convex side aligned with the concave side of a screen. The screen can be used to separate areas of the room and work spaces can be located on one or both sides thereof. The screen assembly may, for example separate a pedestrian corridor from another part of the room. The screens may be arranged in opposing orientation to form an elongate wave shaped screen assembly.

[0008] In a further arrangement the modular furniture can be arranged in a configuration wherein the screens are aligned end to end with one another to form a substantially circular screen forming an enclosed work environment, the screen assembly having an opening therein to enable passage into and out of the enclosed work environment; and wherein at least some of said plurality of tables are arranged with their concave side aligned with the convex side of a screen. In this way an enclosed group study area with individual separate work spaces arranged around its exterior is achieved. In a preferred arrangement any one panel has a maximum of one table adjacent it. Preferably each panel has a table aligned therewith and adjacent panels have tables arranged on opposite sides of the screen assembly.

[0009] In yet another arrangement the modular furniture assembly can be arranged in a configuration wherein the screens are aligned end to end with one another to form a substantially circular screen forming an enclosed work environment, the screen assembly having an opening therein to enable passage into and out of the enclosed work environment; and wherein at least some of said plurality of tables are arranged with their convex side aligned with the concave side of a screen. In this way an enclosed group study area with individual separate work spaces arranged around its interior is achieved. In a preferred arrangement any one panel has a maximum of one table adjacent it. Preferably each panel has a table aligned therewith and adjacent panels have tables arranged on opposite sides of the screen assembly.

[0010] Preferably the radius of curvature of the convex edge of the table is less than the radius of curvature of the concave edge of the table. More preferably the difference between the radius of curvature of the convex edge of the table and the radius of curvature of the concave edge of the table is substantially equal to the panel thickness so that the convex edge of the table will align with the concave surface of the screen and the concave edge of the table will align with the convex surface of the screen.

[0011] The concave edge of the table and the convex edge of the table may each be provided with opposing chamfers so that, when aligned in the first configuration, the chamfers of the adjacent concave and convex edges

of adjacent tables overlap one another. In this arrangement preferably the depth of the chamfer into the plane of the table surface is greater than half the thickness of the screen. The depth of the chamfer into the plane of the table surface may be equal to or greater than the thickness of the screen. This allows the edges of the tables to overlap and visually to appear in the first configuration to form a substantially continuous tabletop.

[0012] The assembly is preferably reconfigurable between two or more of the above configurations. This effects a very flexible workspace environment wherein the space can quickly and simply be reconfigured dependant on the required use of the space. This gives the benefit of fully flexible working and enables an open plan space to quickly and easily be modified to required arrangements. For example it enabled a large open plan study area to be reconfigured between lessons.

[0013] Preferably each table has a third curved edge which may be convex.

[0014] The table may be in the shape of a truncated wedge and the truncated side of the table may be curved.

[0015] A chair is preferably associated with each table.

[0016] Each screen is may be provided with wheels. These will assist in the quick reconfiguration of the modular furniture. The wheels may be provided in pairs, the wheels of each pair extending from opposite sides of the screen. Preferably each screen has three pairs of wheels associated therewith, one pair provided towards each end and one pair provided substantially in the middle.

[0017] Specific embodiments of the invention will now be described in detail, in relation to the accompanying drawings in which:

Figure 1 shows a plan view of a modular furniture assembly of the invention arranged in its first orientation;

Figure 2 shows a perspective view of a modular furniture assembly of the invention arranged in its first orientation;

Figure 3 shows a plan view of a modular furniture assembly of the invention arranged in its second orientation

Figure 4 shows a perspective view of a modular furniture assembly of the invention arranged in its second orientation;

Figure 5 shows a plan view of a modular furniture assembly of the invention arranged in its third and fourth orientations;

Figure 6 shows an alternative plan view of a modular furniture assembly of the invention arranged in its third and fourth orientations;

Figure 7 shows a plan of a view modular furniture

assembly of the invention arranged in its fifth and sixth orientations;

Figure 8 shows a perspective view of a modular furniture assembly of the invention arranged in its fifth and sixth orientations;

Figure 9 shows a perspective view of a table of the invention; and

Figure 10 shows a partial perspective view of the edges of the table tops in the first configuration of the invention.

[0018] Referring to Figures 1 and 2 it can be seen that a plurality of tables 100 are arranged in a furniture arrangement with a plurality of screens 200. The tables 100 are arranged to form one large workspace surface 106 and the screens 200 substantially surround that area. Each table 100 has a table top 102 that is substantially in the shape of a truncated curved wedge. The table top 102 has two curved sides, one concave and one convex, which in use align with corresponding sides of adjacent table tops 102 to form a substantially continuous workspace surface 106.

[0019] The outer edge 104 of each wedge is also curved such that when the tables 100 are aligned in this manner the workspace surface 106 has a substantially circular outer edge 108.

[0020] The truncated edge 110 of each table top 102 is also curved and has a curvature such that when the tables 100 are aligned as described above the workspace surface 106 has a substantially circular central opening 112 therein.

[0021] It will be appreciated that the shape of the outer edge 108 or central opening 112 of the workspace surface may be modified by changing the shape or curvature of the outer edge 104 or truncated edge 110 respectively.

[0022] As can be seen in the figures, in this embodiment two extra screens 200 are provided to further enclose the work area. Additional screens 200 may be added or removed depending on the required proximity of the screen to the workspace surface 102 and the required degree of enclosure.

[0023] As shown a chair 300 is provided adjacent each screen section 200. However it will be appreciated that a chair is not required to be provided for each screen section 200 and that the invention only requires a sufficient number of chairs for the number of people expected to use the workspace area.

[0024] Referring to Figures 3 and 4 a second configuration of the modular furniture is shown. As can be seen, in this configuration the tables 100 are arranged in a circular arrangement with their curved sides arranged in spaced alignment to one another. Screens 200 are placed between the curved sides of the tables 100 to form a plurality of individual workspaces arranged around a central point, each workspace is separated from adja-

cent workspaces by a curved screen 200. The curved screen may optionally have a number of holes 202 therein that serve several purposes. Firstly they give a more open feel to the individual workspaces, secondly they improve air circulation within the workspaces, thirdly they enable more light into the workspaces and lastly they can improve communications between people in adjacent workspaces. In this arrangement more private work spaces can be achieved in a compact space. A chair 300 is associated with each table. The spacing of the desks 100 may of course be varied to bring them closer or further from one another.

[0025] Referring to Figure 5 a plurality of curved screens 200 are arranged with their ends adjacent one another. Adjacent screens are in opposing positions such that a screen assembly in the form of a wave is formed, desks 100 are located on each side of the screens with convex edges of each desk aligned with concave edges of the screens 200. By the use of curved screens in this manner an overlap of each desk about the longitudinal axis of the assembly is achieved which results in an overall reduction of the width of the assembly in comparison to standard square desks placed on either side of a flat screen.

[0026] Referring to Figure 6 a plurality of curved screens 200 are arranged with their ends adjacent and slightly spaced from one another. Adjacent screens are in the same orientation. Desks 100 are located on each side of the screens with convex edges of some desks aligned with concave edges of the screens 200 and the concave edges of some desks aligned with the convex edges of the screens. In this embodiment it will be appreciated that more desks than screens are used. By the use of curved screens in this manner an overlap of each desk about the longitudinal axis of the assembly is achieved which results in an overall reduction of the width of the assembly in comparison to standard square desks placed on either side of a flat screen.

[0027] Referring to Figure 7 and 8 a final arrangement is shown wherein the curved screens 200 are arranged in a substantially circular fashion defining an enclosed working space 400 and an open working space 402 and an opening 404 leads from the open working space 402 to the enclosed working space 400. In the enclosed working space 400 a plurality of desks 100 are aligned with their convex edges aligned with the concave sides of the screens. Desks in the enclosed space 400 are shown arranged adjacent alternative screens, however, in some larger embodiments of the same overall concept desks could be aligned adjacent the concave edge of each screen. On the exterior of the screens in the open working space a plurality of desks 100 are shown arranged with their concave edges adjacent the convex edges of the screen 200. As shown the desks 100 are positioned adjacent alternative screens 200, however they could, of course, be positioned adjacent each screen. Each desk has a chair associated with it. It will be understood that desks 100 may be positioned only in the interior space

400, only in the exterior space 402 or in both.

[0028] As can be seen from the drawings the screens are supported on legs 204 that depend outwardly on either side of the base of the screen. Three sets of legs are provided per screen, one set at either end and one set in the middle, although it would be appreciated that any number of sets of legs from 2 upwards may be used. At the end of each leg is a wheel 206 that enables the screens to be quickly and easily moved from one position to another. The wheels may be provided with locking means which can be applied when the screen is in position to prevent the screen moving thereafter until the wheel locks are removed.

[0029] Where practical it will be understood by the skilled person that the arrangements herein may, where practical be combined. For example the arrangement of Figures 1 and 2 may, in addition have tables arranged around the exterior of the screen as shown in Figure 7.

[0030] Referring to Figures 9 and 10 a table 100 of the invention is shown. As can be seen the table top 102 has two convex edges 114, 116 and two concave edges 118, 120 and forms a truncated curved wedge. As described in relation to Figure 1 the tables can be arranged to form a larger circular table with adjacent concave and convex sides aligned. The aligning concave side edge 118 and aligning concave convex side edge 114 of the wedge have a different radius of curvature. The convex edge 114 has a smaller radius of curvature than the concave edge 118. When arranged as shown in any of figures 5 to 8 the edges 114, 118 will align with the screen. As the screen has a thickness to it, by varying the curvature of the aligning concave 118 and convex 114 sides of the table, the sides of the table can be sized to conform to the curvature of the concave or convex side of the screen. For example, if the screen has a thickness of 18mm, the radius of curvature of the convex side 114 may be 750mm and the radius of the radius of curvature of the concave side 118 of the table 101 may be 768mm. In this manner when arranged, for example in Figure 6, the table edges 114, 118 align with the screens.

[0031] As can be seen more clearly from Figure 10 the aligning convex 114 and concave 118 sides of the table have a cut away portion or chamfered edge 122. As the radii of curvature are different for the two edges 114, 118 then, when configured into a circular table as shown in Figure 1, there would usually be a separation between the two adjacent edges 114, 118 due to their different radii of curvature. As can be seen the edges 114, 118 are cut away in opposite directions so that when adjacent one another the cut away portions overlap one another so that visually there is no gap between adjacent tables or that, at least, any visual discontinuity caused by such a gap is minimised. The cut away portions 122 should be at least as wide as half the difference in the radius of curvature so that when aligned the two edges 114, 118 overlap along their entire length. The cut away portions 122 have a suitable depth so that a good overlap is achieved for maximum visual effect.

Claims

1. A modular furniture assembly comprising
a plurality of upright screens having a concave side
and a convex side:

a plurality of tables each substantially in the
shape of a curved wedge and having at least
two curved sides, the curvature of a first side of
said table substantially having the same curva-
ture as the concave side of the screen and the
curvature of a second side of the table substan-
tially having the same curvature as the convex
side of the screen; the assembly re-configurable
between a first configuration wherein the tables
are arranged to form a large substantially circular
work surface in which a concave side of each
table is substantially aligned with a convex side
of an adjacent table, and the screens at least
partially surround the exterior of the work sur-
face spaced therefrom and at least a second
configuration wherein the screens are aligned
end to end with one another and wherein at least
some of said plurality of tables are arranged with
their concave side aligned with the convex side
of a screen.
2. A modular furniture assembly according to claim 1
further re-configurable into a third configuration
wherein the tables are arranged to form a large sub-
stantially circular work surface in which a concave
side of each table is adjacent and spaced from a
convex side of an adjacent table, and the screens
are located in the space between the adjacent con-
cave and convex sides to create a plurality of sepa-
rated work areas within said work surface.
3. A modular furniture assembly according to claim 1
or claim 2 re-configurable into a forth configuration
wherein the screens are aligned end to end with one
another and wherein at least some of said plurality
of tables are arranged with their convex side aligned
with the concave side of a screen.
4. A modular furniture assembly according to any pre-
vious claim wherein in the second or forth configu-
ration the screens are arranged in opposing orien-
tation to form an elongate wave shaped screen as-
sembly.
5. A modular furniture assembly according to any pre-
ceding claim re-configurable into a fifth configura-
tion wherein the screens are aligned end to end with one
another to form a substantially circular screen form-
ing an enclosed work environment, the screen as-
sembly having an opening there in to enable pas-
sage into and out of the enclosed work environment;
and wherein at least some of said plurality of tables
are arranged with their concave side aligned with the
convex side of a screen.
6. A modular furniture assembly according to any pre-
ceding claim re-configurable into a sixth configura-
tion wherein the screens are aligned end to end with
one another to form a substantially circular screen
forming an enclosed work environment, the screen
assembly having an opening there in to enable pas-
sage into and out of the enclosed work environment;
and wherein at least some of said plurality of tables
are arranged with their convex side aligned with the
concave side of a screen.
7. A modular furniture assembly according to any pre-
ceding claim wherein, in the second, forth, fifth or
sixth configuration any one panel has a maximum of
one table adjacent it.
8. A modular furniture assembly according to any pre-
ceding claim wherein, in the second, forth, fifth or
sixth configuration each panel has a table aligned
therewith and adjacent panels have tables arranged
on opposite sides of the screen assembly
9. A modular furniture assembly according to any pre-
ceding claim wherein the radius of curvature of the
convex edge of the table is less than the radius of
curvature of the concave edge of the table.
10. A modular furniture assembly according to claim 9
wherein the difference between the radius of curva-
ture of the convex edge of the table and the radius
of curvature of the concave edge of the table is sub-
stantially equal to the panel thickness so that the
convex edge of the table will align with the concave
surface of the screen and the concave edge of the
table will align with the convex surface of the screen.
11. A modular furniture assembly according to any pre-
ceding claim wherein the concave edge of the table
and the convex edge of the table are each provided
with opposing chamfers so that, when aligned in the
first configuration, the chamfers of the adjacent con-
cave and convex edges of adjacent tables overlap
one another.
12. A modular furniture assembly according to claim 9
wherein the concave edge of the table and the con-
vex edge of the table are each provided with oppos-
ing chamfers so that, when aligned in the first con-
figuration, the chamfers of the adjacent concave and
convex edges of adjacent tables overlap one another
and wherein the depth of the chamfer into the plane
of the table surface is greater than half the thickness
of the screen.
13. A modular furniture assembly according to claim 12

wherein the depth of the chamfer into the plane of the table surface is equal to or greater than the thickness of the screen.

14. A modular furniture assembly according to any preceding claim wherein each table has a third curved edge, and the third curved edge is convex and/or wherein the table is in the shape of a truncated wedge and/or wherein the truncated side of the table is curved. 5 10
15. A modular furniture assembly according to any preceding claim wherein each screen is provided with wheels which may be provided in pairs, the wheels of each pair extending from opposite sides of the screen. 15

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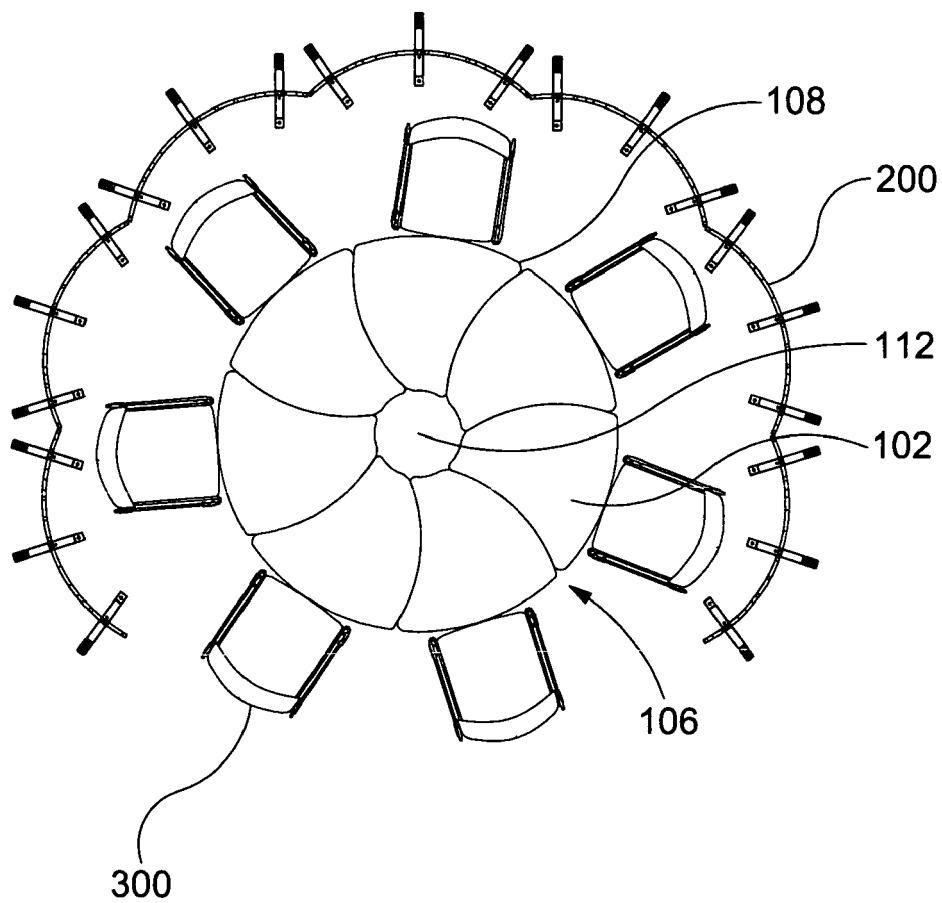


Figure 1

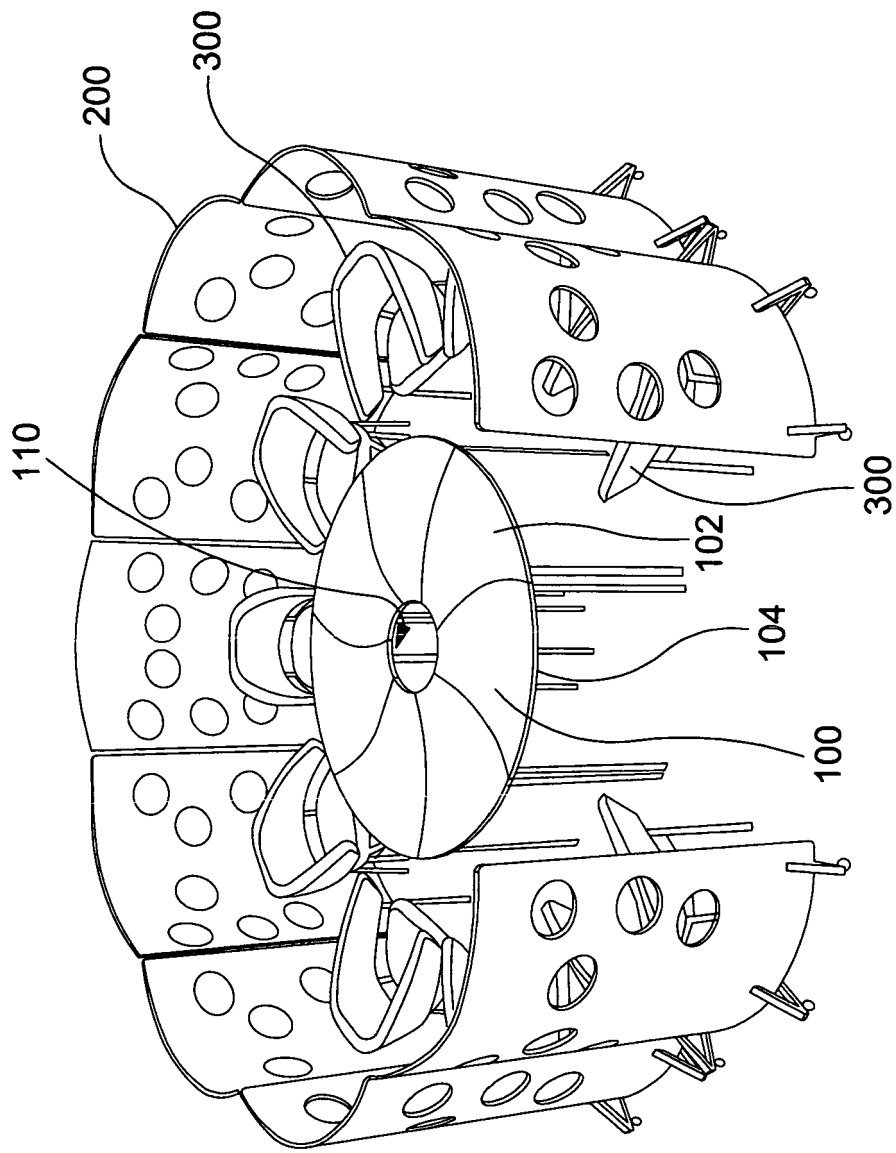


Figure 2

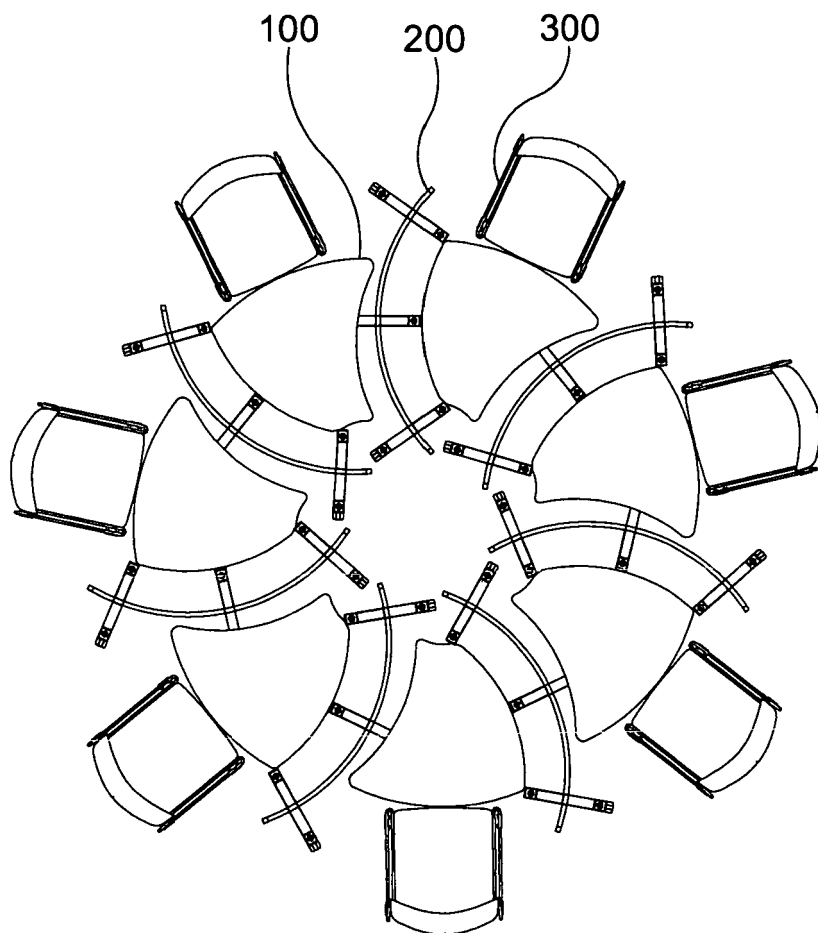


Figure 3

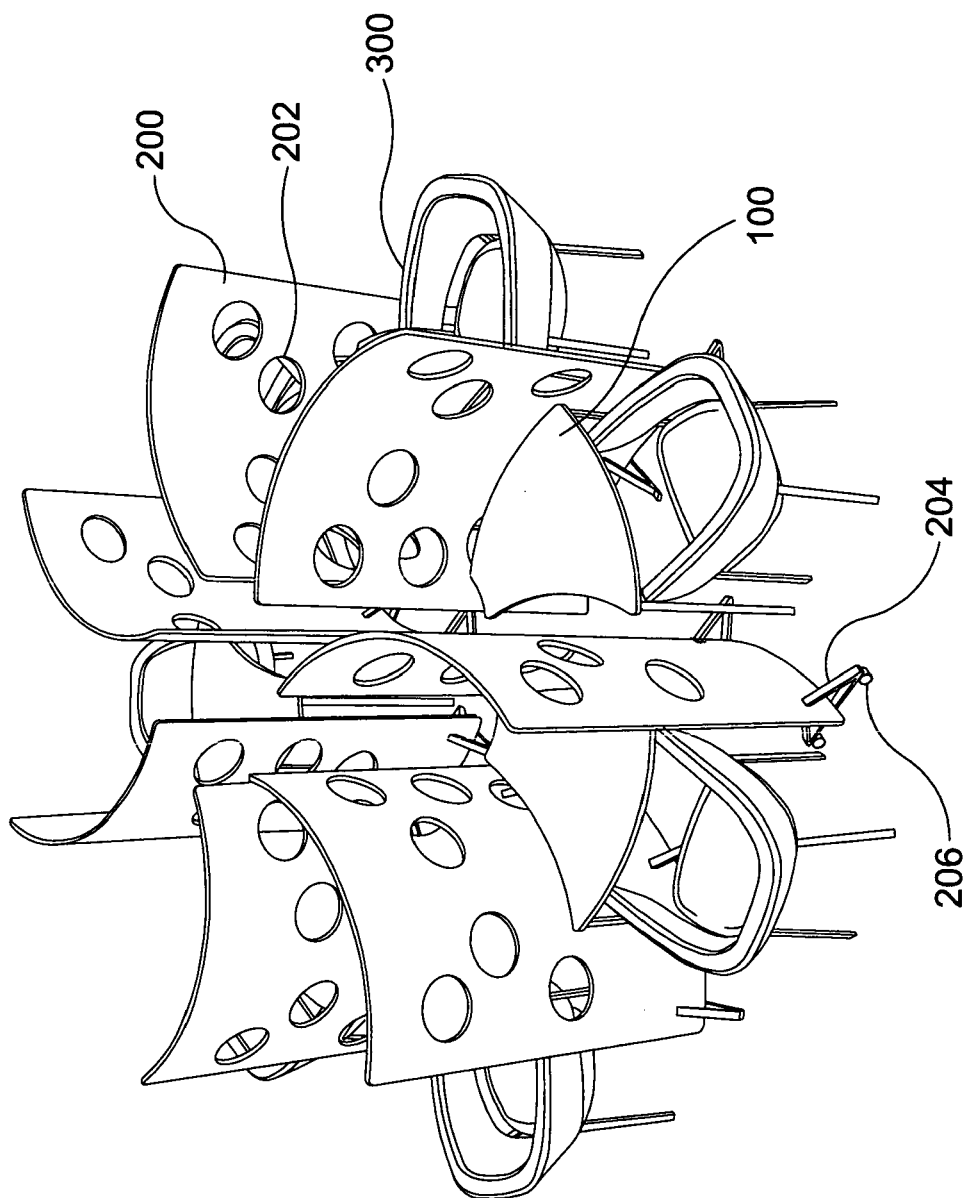


Figure 4

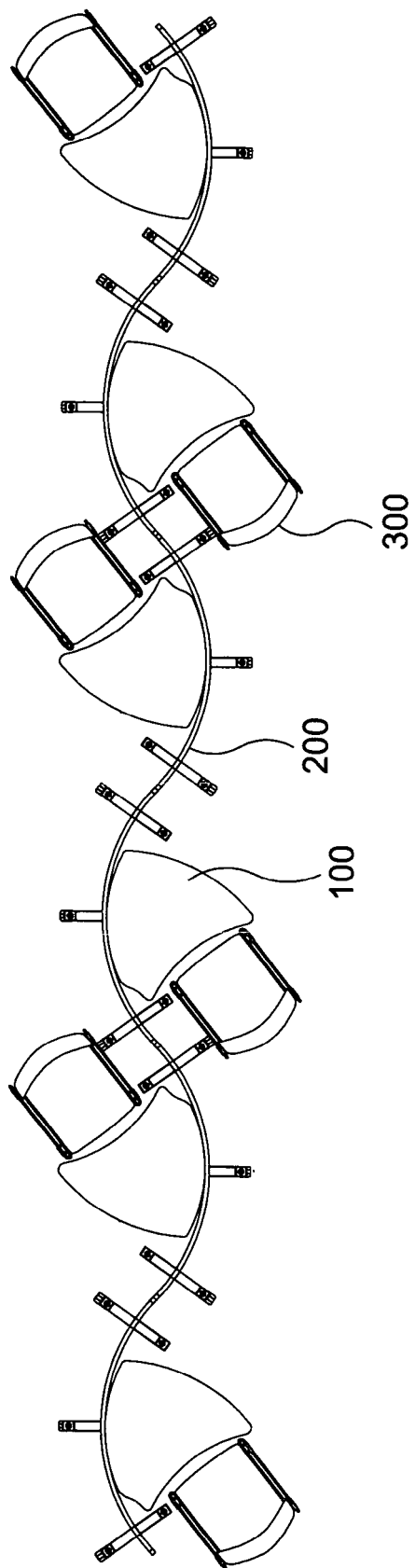


Figure 5

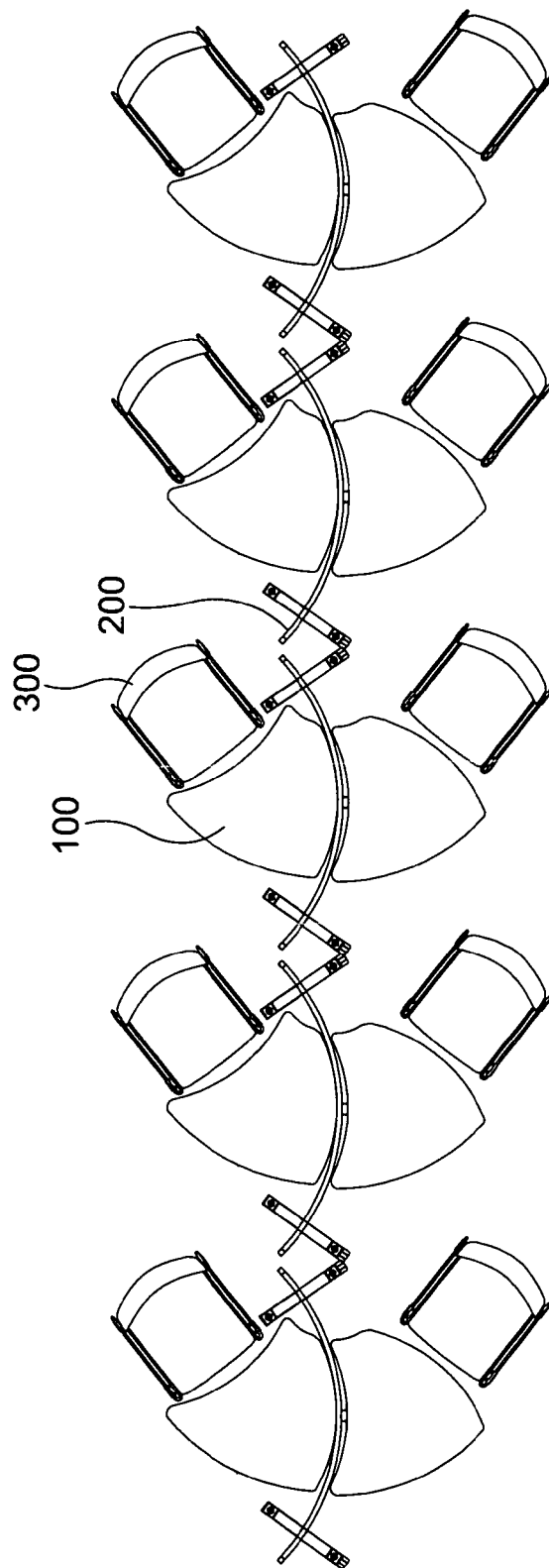


Figure 6

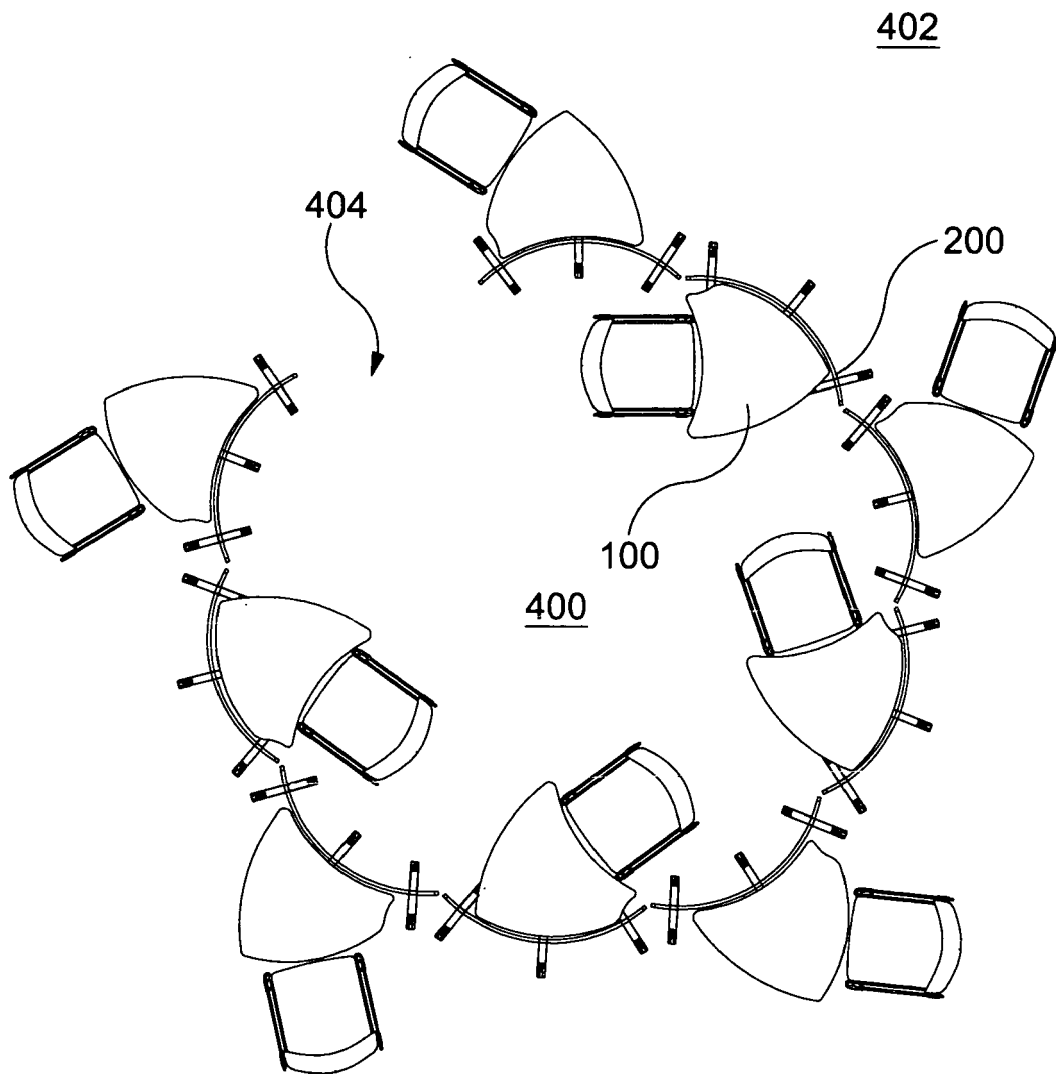


Figure 7

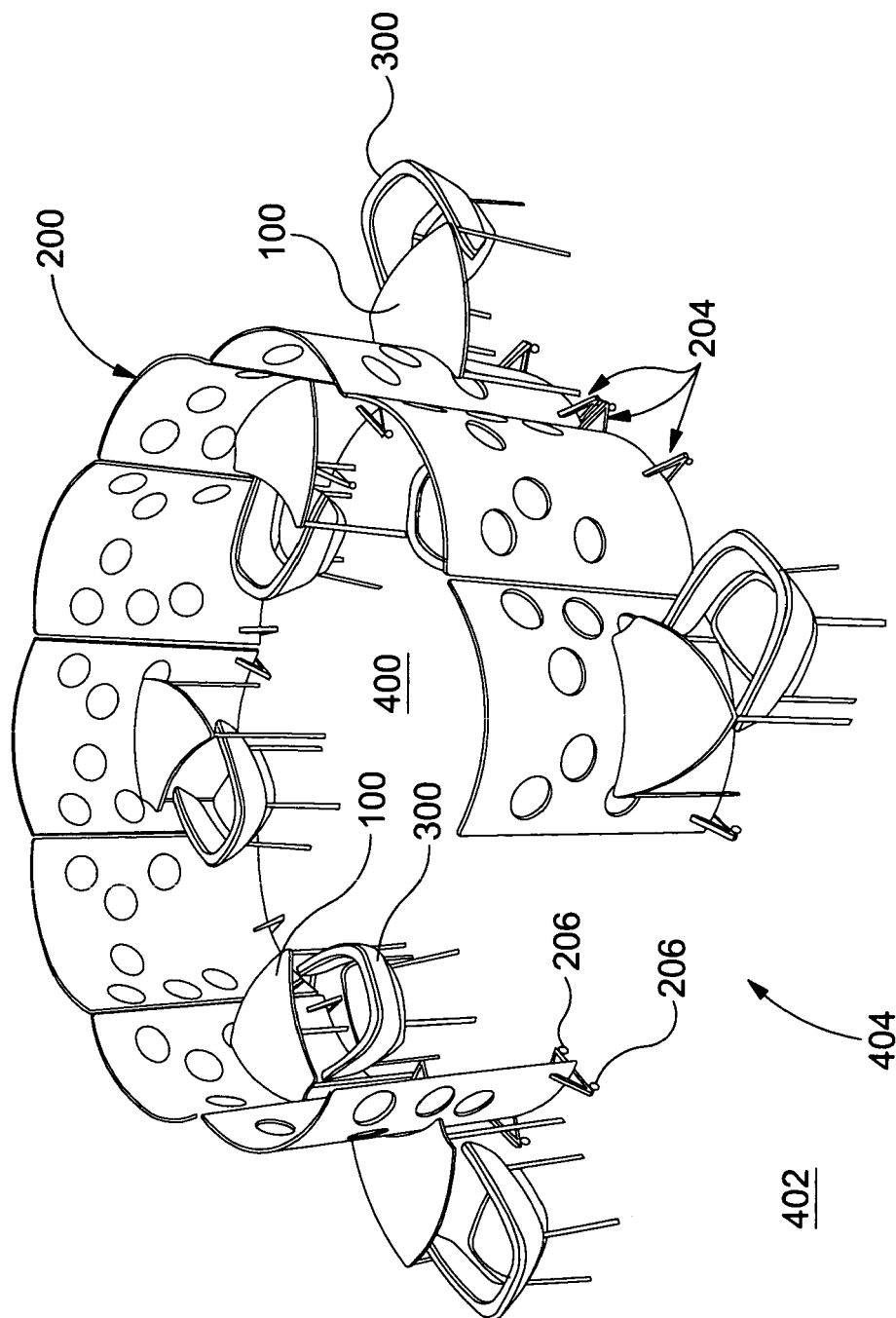


Figure 8

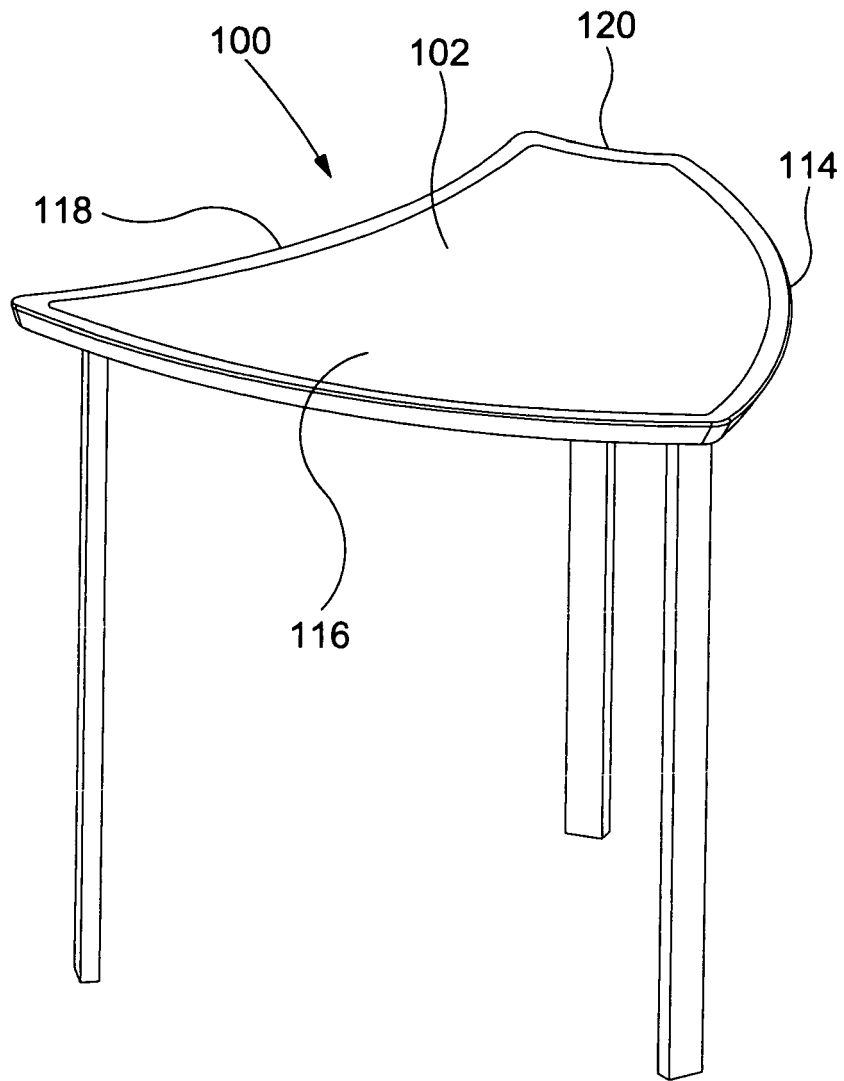


Figure 9

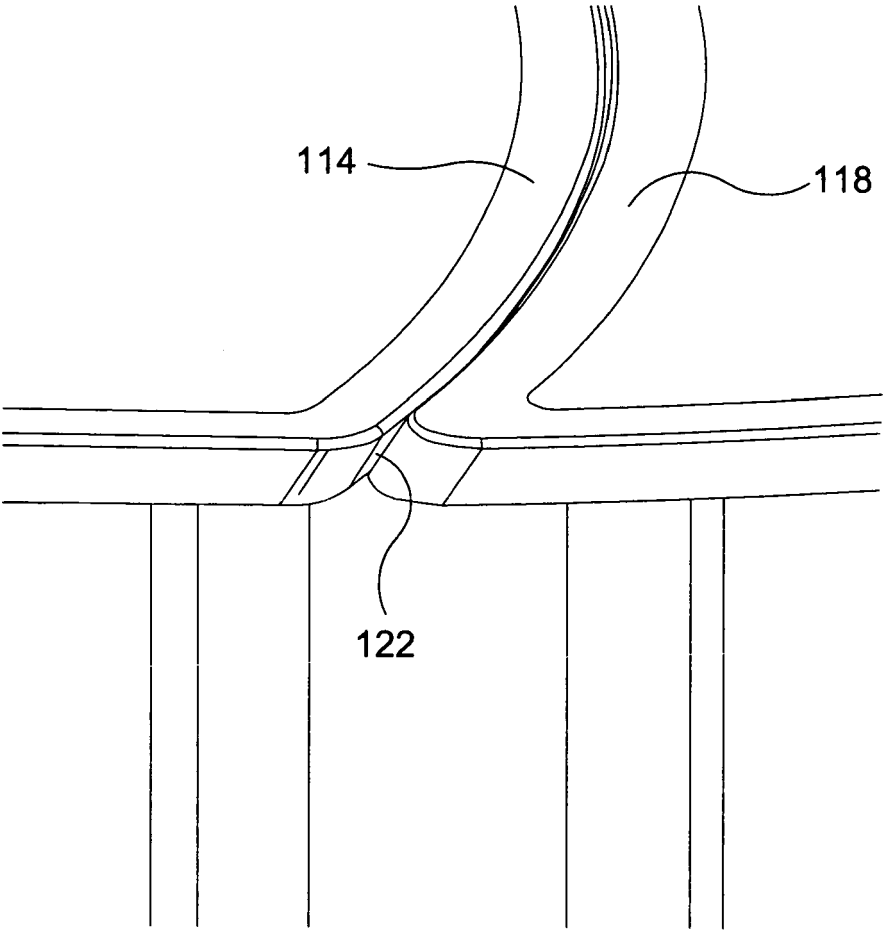


Figure 10



EUROPEAN SEARCH REPORT

Application Number
EP 11 25 0583

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	WO 2004/008911 A2 (BRETTFORD MFG INC [US]) 29 January 2004 (2004-01-29) * paragraph [0076] - paragraph [0147]; figures 1-35 *	1-15	INV. A47B83/00
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A,P	DE 20 2009 003159 U1 (VER SPEZIALMOEBEL VERWALT [DE]) 15 July 2010 (2010-07-15) * paragraph [0027] - paragraph [0048]; figures 1-4 *	1-15	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			A47B
Place of search		Date of completion of the search	Examiner
Munich		18 October 2011	Klintebäck, Daniel
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 25 0583

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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18-10-2011

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