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(54) Combined seating and table unit

(57) A combined seating and table unit 100, pivotable between a first position and a second position, comprising a table top 6, a plurality of seats 7, legs1,2 and rolling means 8,9,10. In its first position the unit rests on legs 1,2 with the table top 6 and seats 7 substantially parallel to the ground and in its second position the unit rests on the rolling means 8,9,10 with the table top 6 and seats 7 substantially perpendicular the ground. In its second position the unit can easily manoeuvred. (Figure 3).

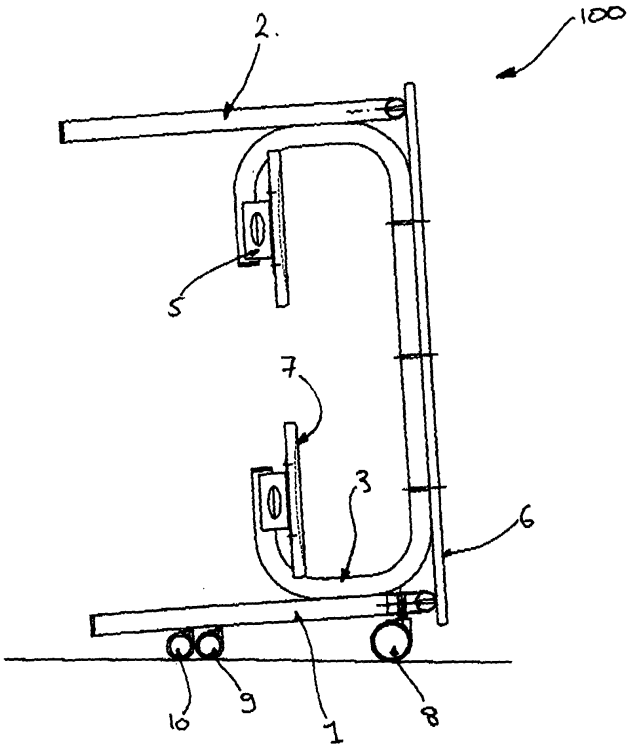

Figure 3

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Description

[0001] This invention relates to a seating unit, in particular to a combined table and seating unit.

[0002] Seating and tables are commonplace objects that have been used for many years and typically fall into one of two categories, either a simple combination of individual chairs and tables arranged to provide the desired seating capacity and configuration, or seating or bench units integrated into a single unit also having a table top.

[0003] In a number of applications, for example in school or community halls, where at times it is necessary to sit a number of people at tables and at other times it is necessary to clear the space, the time, and/or human resource, i.e. number of operatives, taken to set up or take down such furniture potentially restricts the time that the spaces can be used for other activities. These problems are compounded by legislation and recommendations regarding safe lifting limits which limits both the maximum size of such furniture and the number of items of such furniture that may be moved together. This compounds the problems associated with the time taken to set up and take down such furniture.

[0004] A known partial solution to the problem is folding furniture which is easier to manoeuvre. Folding furniture, however, typically needs additional set up time, and is often complex in design and costly to manufacture.

[0005] In view of the foregoing problems, it is an object of the present invention to provide an improved seating unit.

[0006] According to the present invention there is provided a combined seating and table unit, pivotable between a first position and a second position, comprising a table top, a plurality of seats, legs and rolling means, wherein in its first position the unit rests on legs with the table and seats substantially parallel to the ground and wherein in its second position the unit rests on the rolling means with the table and seats substantially perpendicular to the ground, thereby enabling it to be easily manoeuvred in its second position.

[0007] Preferably, in the second position a unit can be nested with other units such that the table top area of one unit locates between the legs of an adjacent unit, thereby enabling the nested units to be easily manoeuvred in their second position.

[0008] Combined units of the invention enable what can be heavy furniture items to be easily rolled into their desired location in their second position, without the need to be carried or lifted, and to then be simply pivoted into their first position.

[0009] The rolling means may comprise wheels or castors. Preferably the rolling means enable the unit to be manoeuvred in any direction, more preferably the rolling means swivel.

[0010] In a preferred arrangement the units are arranged to nest partially inside one another, thereby minimising the necessary storage space. By being nestable in their second position, a large number of units can be manoeuvred together on their rolling means.

[0011] Preferably the rolling means are disposed on at least one leg of the unit, more preferably the rolling means are disposed on at least two legs of the unit. In a preferred arrangement the rolling means on one leg is vertically offset with respect to the rolling means located on the other leg. Conveniently this asymmetric arrangement enables units to be pushed together without the rolling means of adjacent units interfering with one another.

[0012] In a preferred arrangement the unit is inclined in its second position, at a slight angle to the perpendicular, in the direction of the rolling means to improve the stability of the unit when in its second position. As the table top comprises a large mass of the unit, inclining the unit this way moves the centre of gravity of the unit more centrally over the rolling means.

[0013] The rolling means may comprise at least one first rolling means located adjacent the table top and at least one second rolling means disposed adjacent the end of the legs away from the table top. Preferably the rolling means are arranged to impart the incline to the unit when in its second position. In one preferred arrangement this is achieved by making the first rolling means larger than the second rolling means, alternatively the first rolling means could be of spaced further from the leg than the second rolling means, for example by means of an extending bracket.

[0014] Preferably the unit pivots on the end of its legs. More preferably the unit can pivot from its first position until it is substantially in its second position on the end of its legs prior it becoming supported on the rolling means. This enables the unit to be pivoted safely without the pivot point rolling which could cause an operator to drop the unit. Preferably the rolling means disposed adjacent the end of the legs away from the table top are located between the end of the table legs and the mid point of the table legs. It is also preferable that the rolling means include shock-absorbing means, which could comprise more traditional spring based devices or could merely comprise a wheel with a soft tyre.

[0015] Preferred embodiments of the present invention are described in detail, by means of example, with reference to the accompanying drawings, of which:

Figure 1 shows a side view of a combined seating and table unit of the invention in its first position;

Figure 2 shows an end view of a combined seating and table unit of the invention in its first position;

Figure 3 shows a side view of a combined seating and table unit of the invention in its second position;

Figures 4 to 7 show side views of a combined seating and table unit of the invention as it moves between its first and second positions;

Figure 8 shows a bottom view of a stack of nested units of the invention in their second position;

Figure 9 shows a perspective view of a combined seating and table unit of the invention having a non rectangular top;

Figure 10 and 11 shows a plan view of seating arrangements of the unit of Figure 1 and of the unit of Figure 9 respectively; and

Figure 12 shows a side view of an alternative combined seating and table unit of the invention.

[0016] Referring to Figures 1 and 2, a combined seating and table unit 100 is shown in its first position. The unit 100 comprises a framework including two tubular leg frameworks 1, 2, each comprising a first and second leg, and a seat framework 3 welded or affixed to the leg frameworks 1, 2 to create a stable supportive framework for a tabletop 6. The seat framework 3 supports seat brackets 5, by which seat bases 7 are attached to the seat framework 3. the example shown has four seat bases but other arrangements, in particular an arrangement having six seat bases are anticipated. The framework depicted in the figures are made of bent pieces of tubular metal, for example steel or aluminium. The seat bases 7 may be of any suitable shape, for example circular or rectangular] and may include surface contours (not shown) so as to make them more comfortable. It is also anticipated that separate seat pads on one side of the table may be replaced by a continuous seat pad, forming a bench, affixed at either end to the seat bases 5. The seat brackets 5, seat bases 7 and seat frame 3 may be arranged so as to make the seat base 7 parallel with the ground, or alternatively may be arranged to incline the seat base 7 slightly with respect to the ground. The unit 100 has castors 8, 9, 10 attached to one of the leg frameworks 1 at fixing points or brackets (omitted for clarity). The castors comprise one large castor 8, located substantially at the midpoint of the leg framework 1 adjacent the tabletop 6, and two smaller castors 9, 10, one located one each of the two legs of the leg framework 1. The smaller castors 9, 10 are located towards the end of the legs of the leg framework 1 and are offset from one another so as to enable individual units to be pushed together without the castors 9, 10 interfering with one another. Each castor is provided with a shock absorber (not shown) to enable the unit to be rolled smoothly on them. Figure 3 depicts the same unit 100 in its second position, resting on the castors, in which it is easily manoeuvrable.

[0017] Referring now to Figures 4 to 7, combined seating and table unit 100 is shown being moved from its first position (Figure 4), in which it would normally be used, into its second position (Figure 7), in which it can be more easily manoeuvred and stored, via a first and second intermittent positions (Figures 5 and 6). As the end 20 of the unit, opposite the end with the castors on, is raised, the unit 100 pivots on the ends of its legs 21. As the unit 100 pivots on the end of the legs 21 its pivot point 22 remains static as the unit 100 is moved towards its second position. Maintaining the pivot point 22 stationary facilitates the task of pivoting the unit 100 and ensures that that unit can not roll mid way through the pivot. As the unit approaches its second position the castors 23, 24 positioned towards the ends of the legs 21 come into contact with the ground and the point about which the unit pivots transfers from the pivot point 22 to the castors 23, 24. Finally the larger castor 25 comes into contact with the ground stabilising the unit 100 in its second position. As can be seen, as the castor 25 is larger than the other two castors 23, 24 when in its second position the unit 100 is inclined at an angle towards the first position. As there is substantial mass in the table top 26, inclining the unit 100 in this manner shifts the centre of gravity in the direction of the smaller castors 23 24 rendering the unit 100 more stable in its second position. In this position the unit 100, which may have considerable mass, can be easily manoeuvred by a single operative avoiding the problems associated with lifting heavy objects.

[0018] Referring now to Figure 8 a bottom view of the units 100 is shown in which a number of units are nested inside one another as. By nesting in this manner considerable space can be saved when storing the units 100. As the units 100 nest in their second position, i.e. when resting on their castors 23, 24, 25, they can simply be rolled into one another and do not need to be lifted to be nested. Nesting in this manner gives yet another advantage that it is simple for a single operative to manoeuvre a number of nested units at a single time, to separate the units 100 from their nested position, and to pivot the tables from their second position into their first position in a reverse of the process described above. In particular this nesting arrangement avoids the lifting associated with most nesting arrangements.

[0019] Referring to Figure 9 a perspective view of a table unit 200 is shown. The unit 200 is of the same design as that described in relation to Figures 1 to 8 but differs in that it has a different shaped tabletop 41, having lobes 42, 43 extending the generally rectangular shape of the tabletop 41 between the seat bases 44, 45. In use, as depicted in Figures 10 and 11 the table top 41 of unit 200 encourages a seating arrangement wherein at least two of the users seated diagonally opposite one another at seat bases 45, 46 are angled towards one another (as depicted, by example, by place settings 48, 49). As well as promoting social interaction by angling users towards one another, as opposed to the arrangement shown in Figure 10 where users are seated at seat bases 50, 51 in a parallel facing arrangement, when seated in this manner larger areas of the table 52, 53 are made available for use for example for placing drinks or condiments when eating. As can be seen from Figures 10 and 11 these benefits of seating arrangement are made without changing the overall footprint of the unit or the storage space necessary. Although depicted with the bent tubular frame

as described above, the shaped table top 41 of Figures 9 and 11 could, of course, be used on a frame of alternative construction as described below.

[0020] Referring to Figure 12 an alternative arrangement of the unit 300 is shown in which, in place of the bent tubular construction of the arrangement depicted in Figures 1 to 3, the unit is constructed of leg sections 60, 61 seat supports 62, 63 and table supports 64. The parts 60, 61, 62, 63 may be made of tubular steel or aluminium or of any other suitable material and are assembled together using known assembly techniques, for example welding, rivets, bolts etc, and the strength of the joints may be enhanced by the use of brackets (not shown). In all other respects this arrangement is the same as described above and any features described in relation to unit 100 or 200 may be combined with the description of unit 300.

Claims

1. A combined seating and table unit, pivotable between a first position and a second position, comprising a table top, a plurality of seats, legs and rolling means, wherein in its first position the unit rests on legs with the table and seats substantially parallel to the ground and wherein in its second position the unit rests on the rolling means with the table and seats substantially perpendicular to the ground and wherein in the second position a unit can be nested with other units such that the table top area of one unit locates between the legs of an adjacent unit, thereby enabling the nested units to be easily manoeuvred in their second position.

2. The combined seating and table unit according to claim 1 or claim 2 wherein the rolling means enable the unit to be manoeuvred in any direction.

3. The combined seating and table unit according to claim 3 wherein the rolling means swivel.

4. The combined seating and table unit according to any preceding claim wherein the units are arranged to nest partially inside one another.

5. The combined seating and table unit according to any preceding claim wherein the rolling means are disposed on at least one leg of the unit.

6. The combined seating and table unit according to claim 7 wherein, in the first position, the rolling means on one leg is vertically offset with respect to the rolling means located on the other leg.

7. The combined seating and table unit according to any preceding claim wherein when in its second position the unit is inclined, at a slight angle to the perpendicular, in the direction of the rolling means to improve the stability of the unit when in its second position.

8. The combined seating and table unit according to any preceding claim wherein the rolling means comprises a plurality or rolling means, at least one of which includes shock-absorbing means.

9. The combined seating and table unit according to any preceding claim wherein the rolling means comprises at least one first rolling means located adjacent the table top and at least one second rolling means disposed adjacent the end of the legs away from the table top.

10. The combined seating and table unit according to claim 9 and 11 wherein the first rolling means is larger than the second rolling means imparting the incline to the unit when in its second position.

11. The combined seating and table unit according to claim 9 and 11 wherein the first rolling means spaced further from the leg that the second rolling means thereby imparting the incline to the unit when in its second position.

12. The combined seating and table unit according to any preceding claim wherein the unit pivots on the end of its legs.

13. The combined seating and table unit according to claim 14 wherein the unit can pivot from its first position until it is substantially in its second position prior it becoming supported on the rolling means.

14. The combined seating and table unit according to claim 15 wherein the rolling means disposed adjacent the end of the legs away from the table top are located between the end of the table legs and the mid point of the table legs.

15. The combined seating and table unit according to any preceding claim wherein the table top comprises a generally rectangular shape having extensions extending the surface in a direction perpendicular the longitudinal axis of the table top, the extensions located between the positions at which, in use, users would be seated.

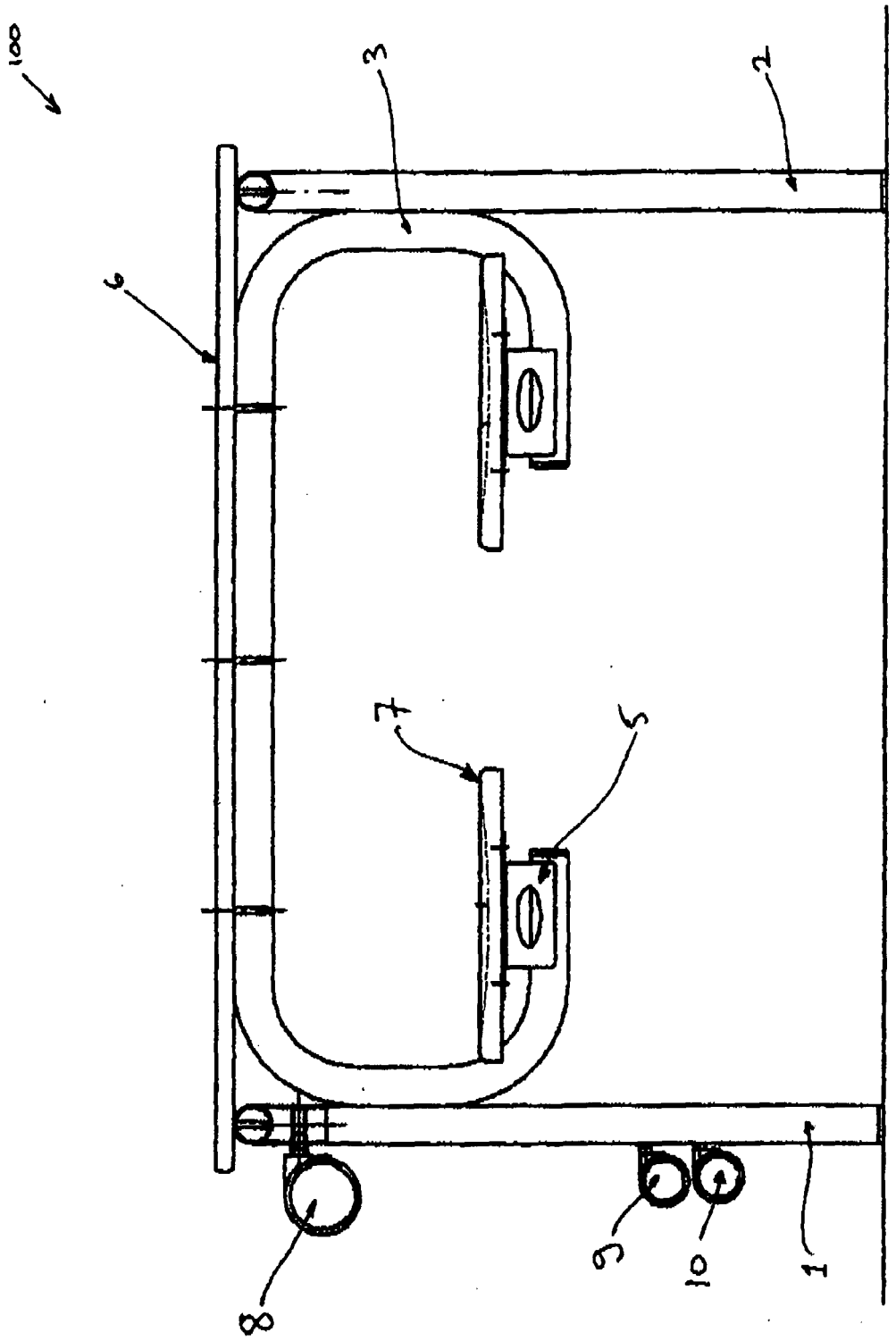


Figure 1

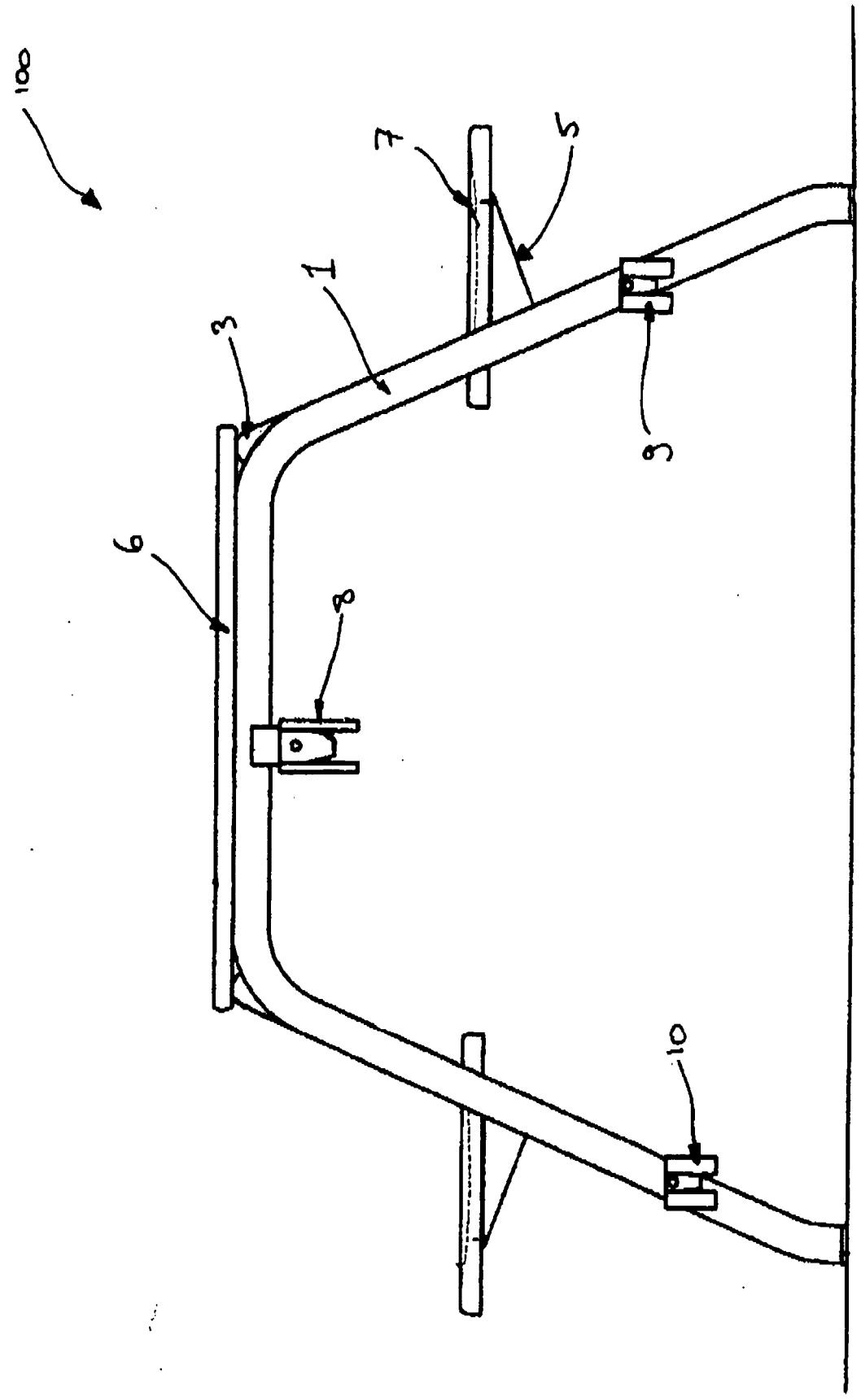


Figure 2.

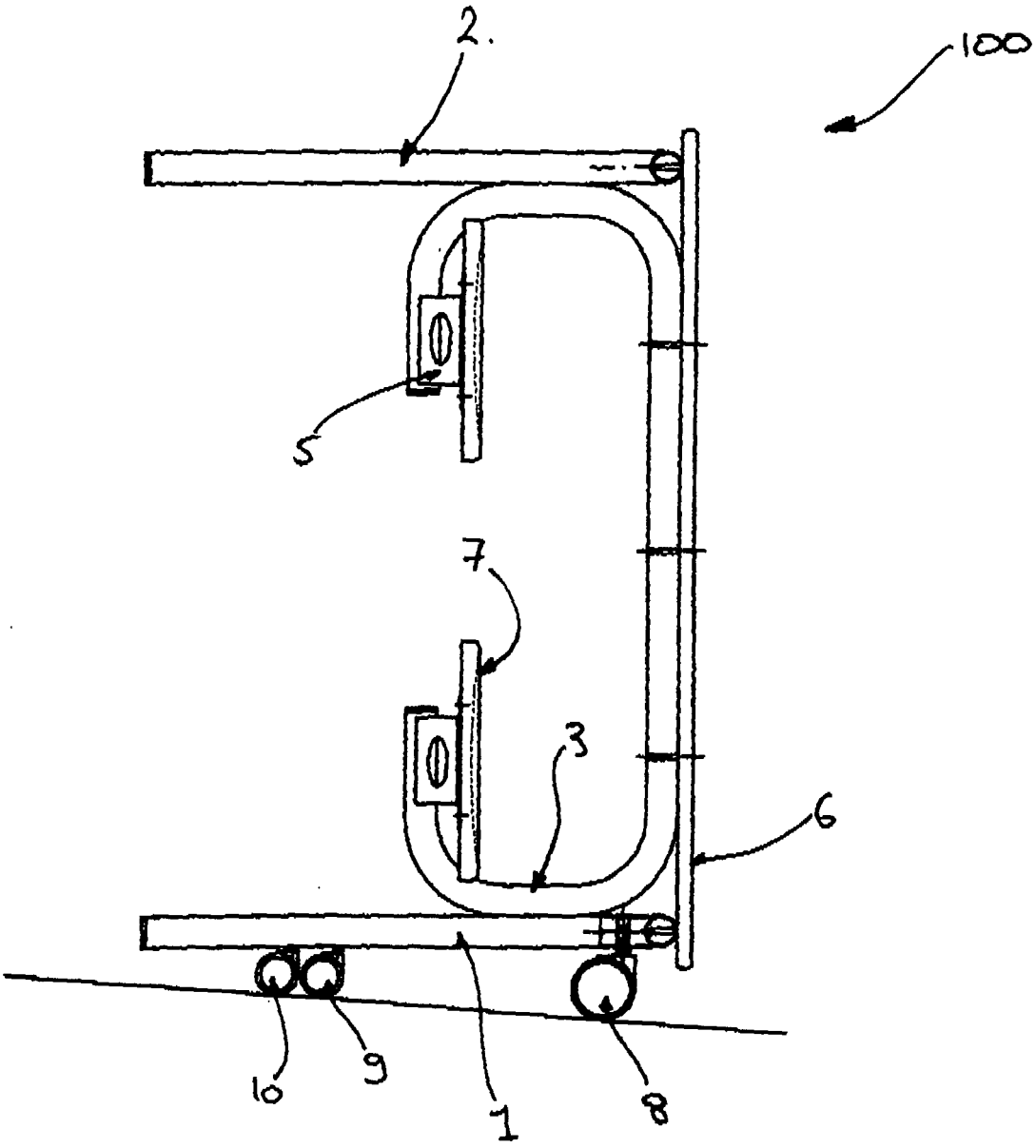
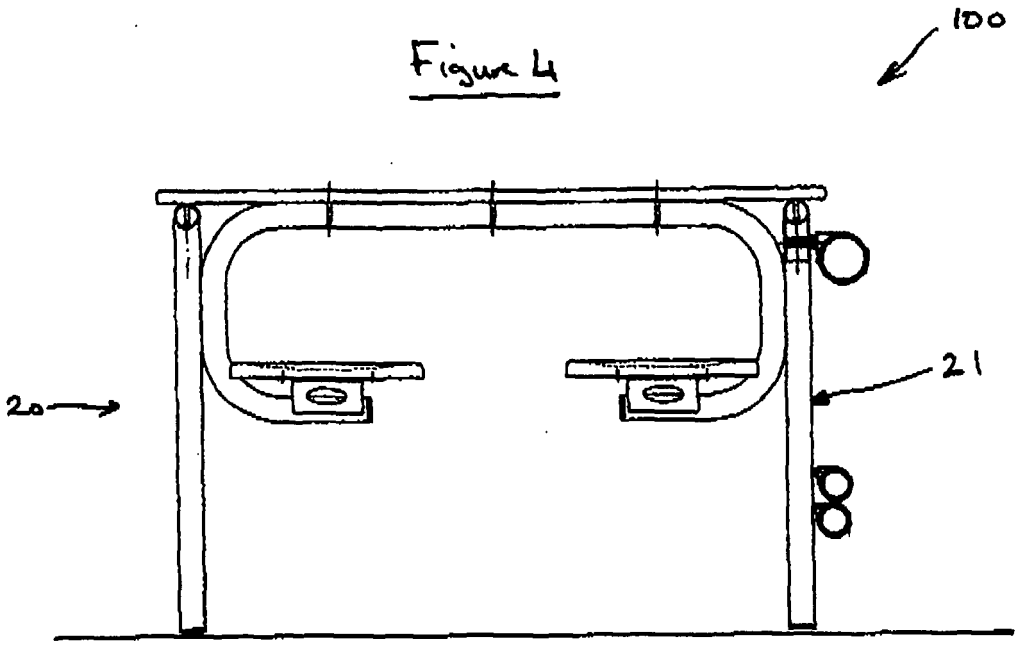


Figure 3

Figure 4



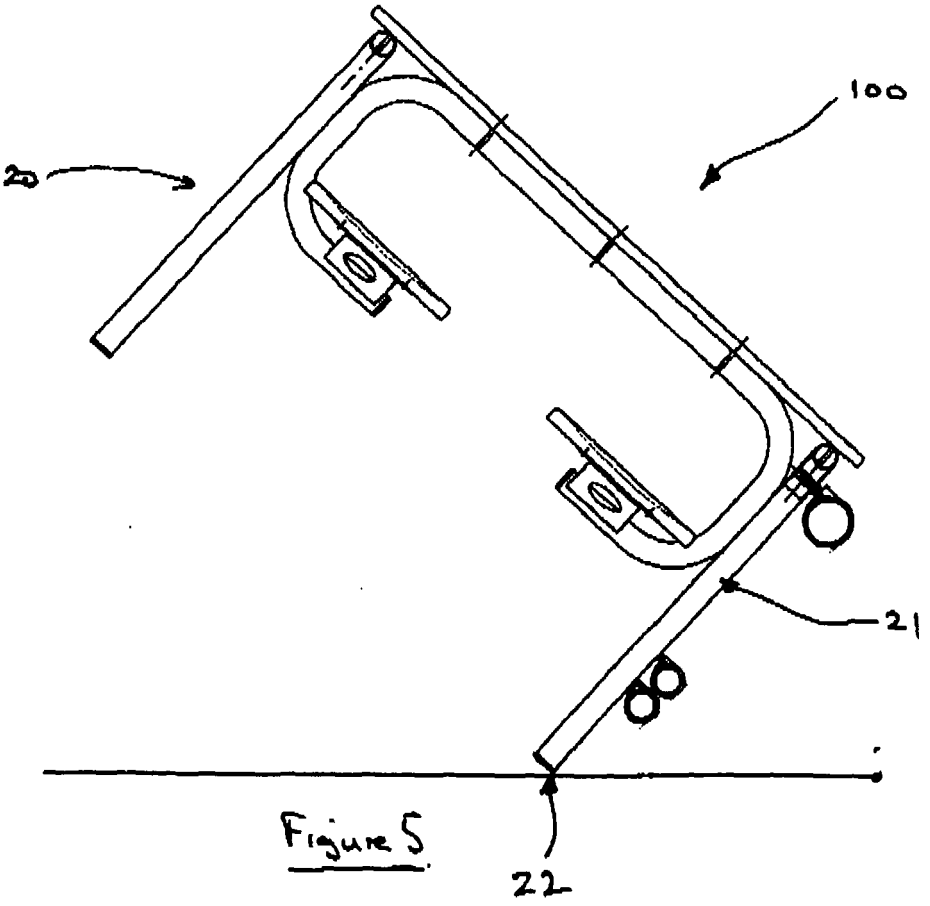


Figure 5

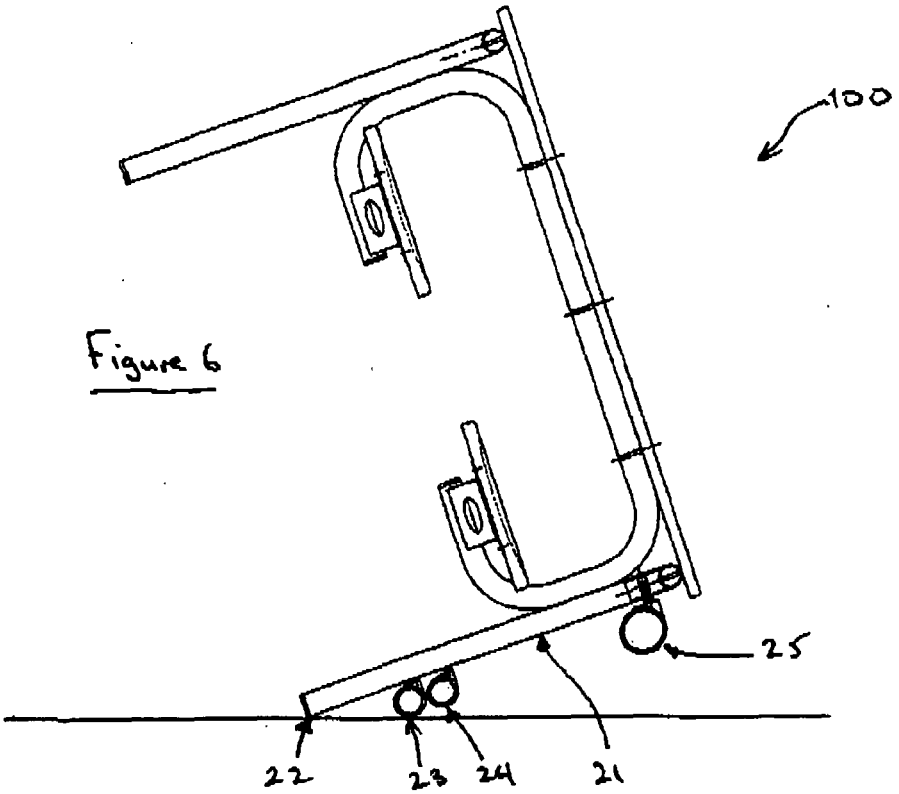


Figure 6

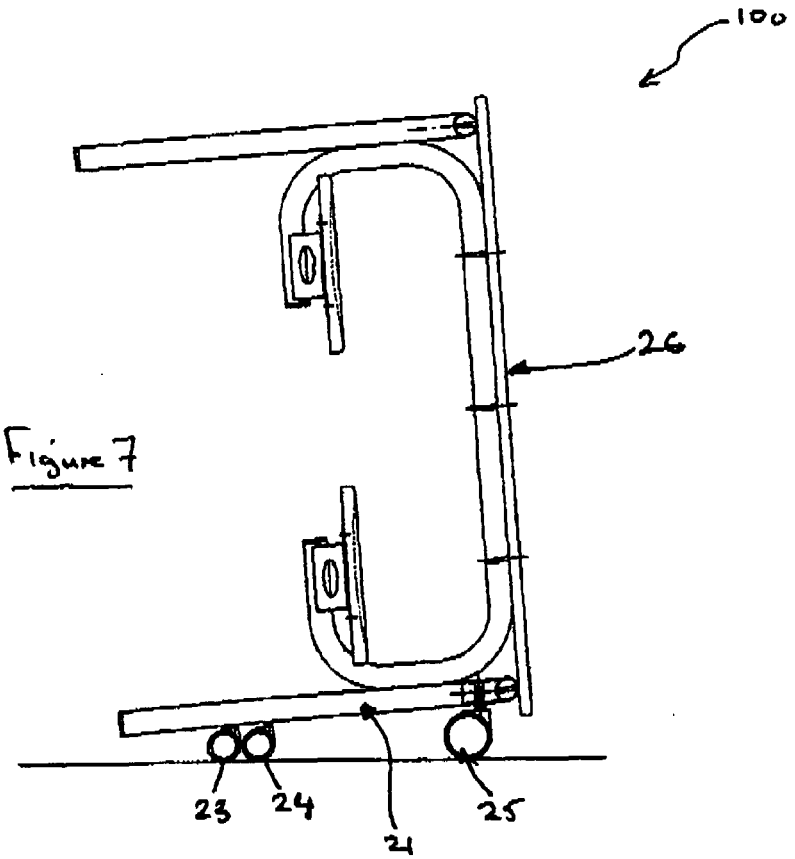


Figure 7

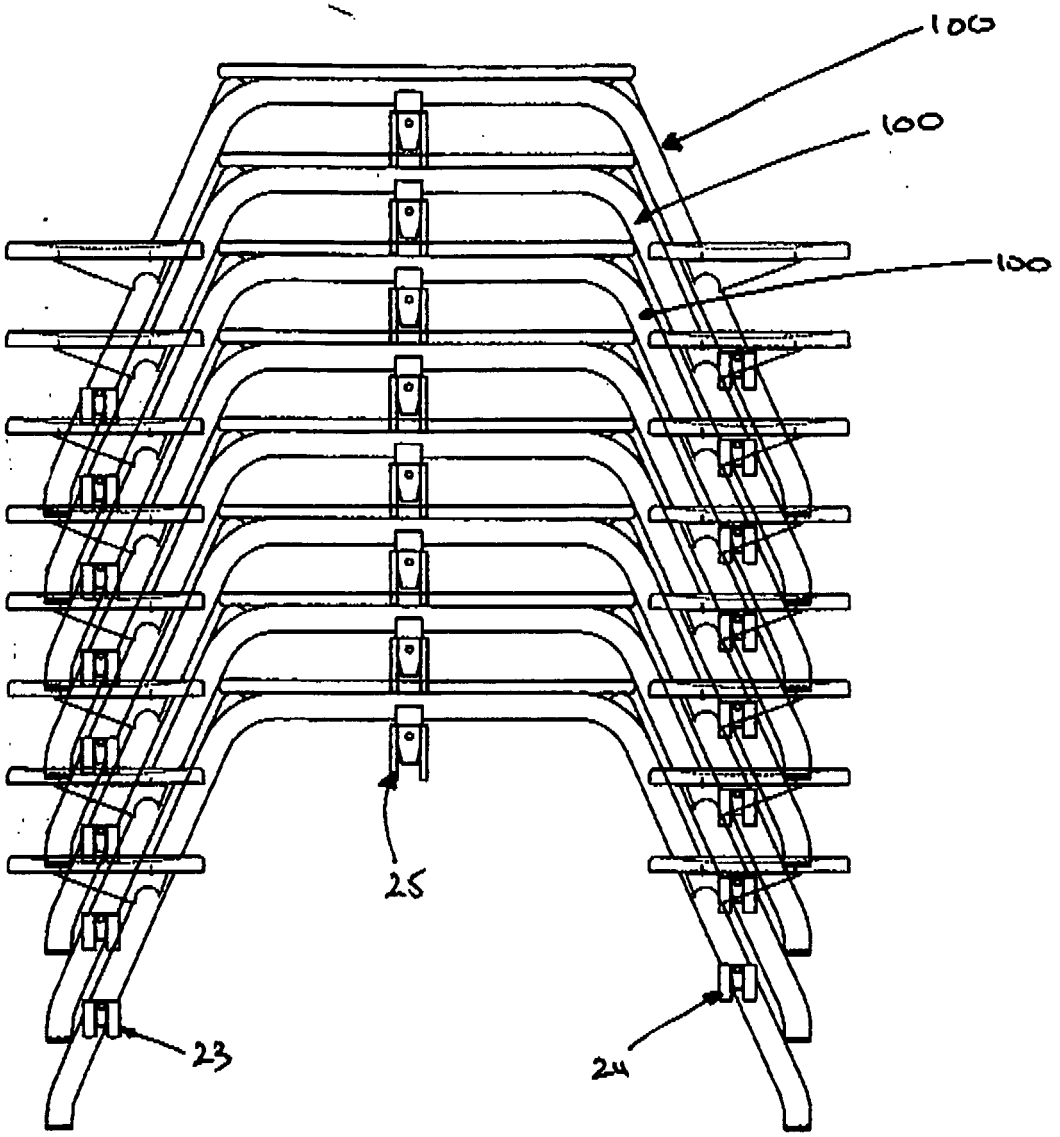


Figure 8.

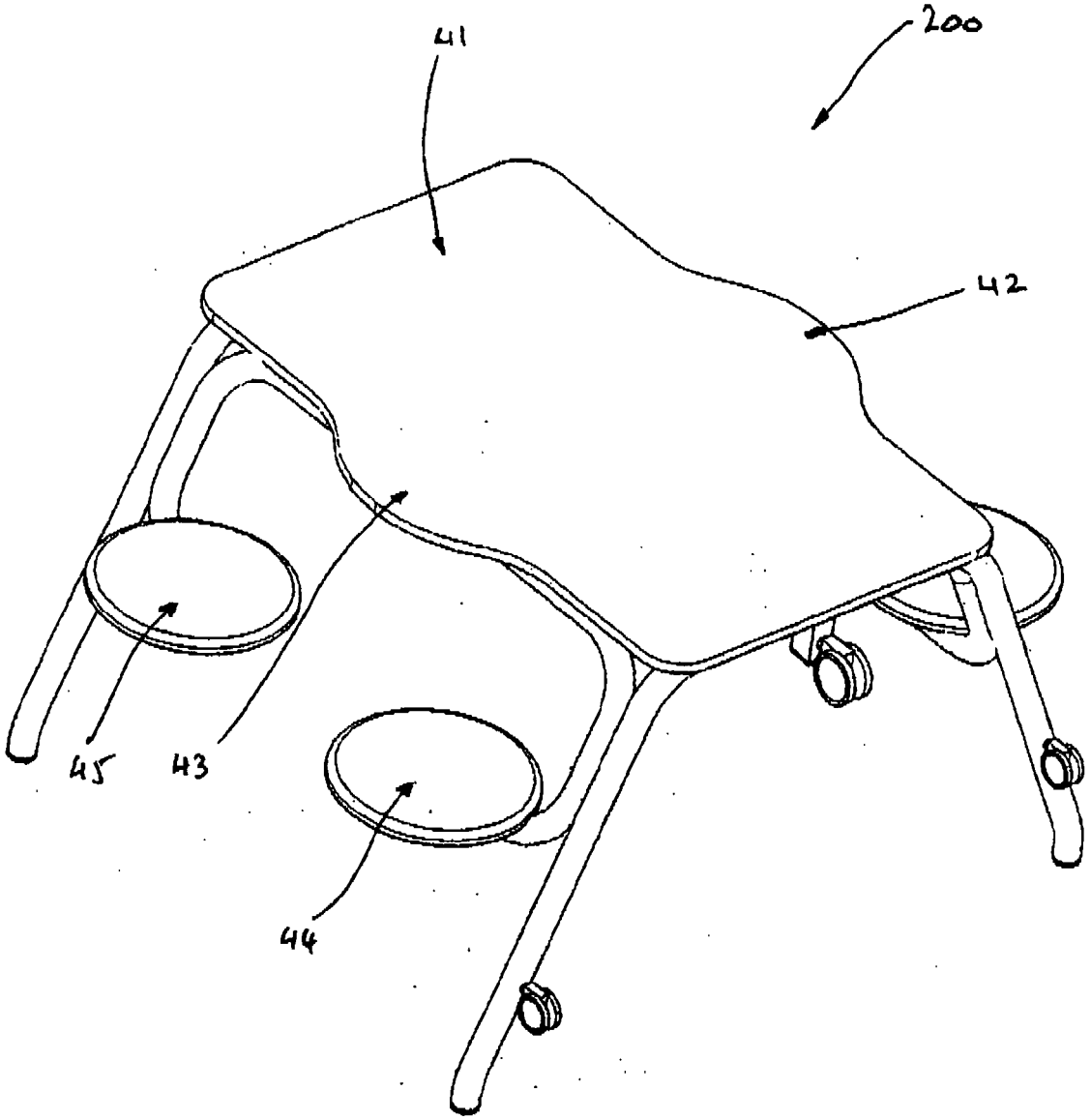


Figure 9

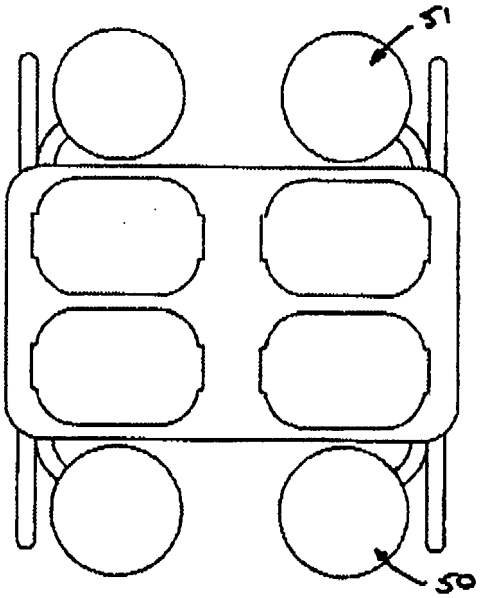


Figure 10

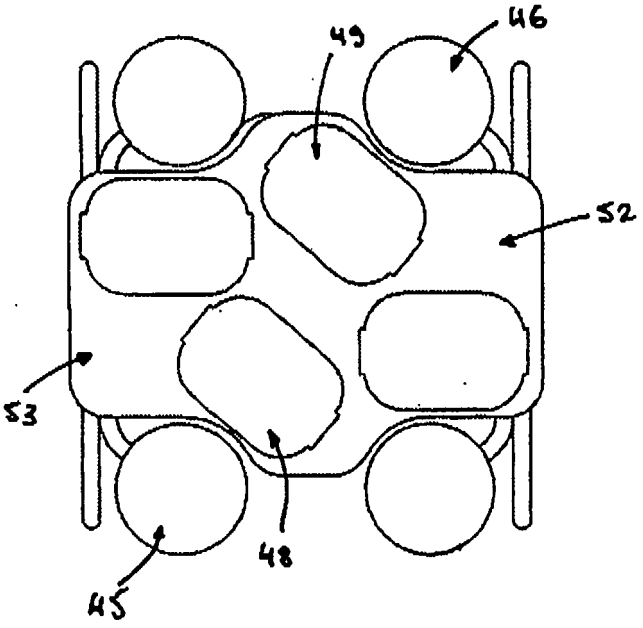


Figure 11

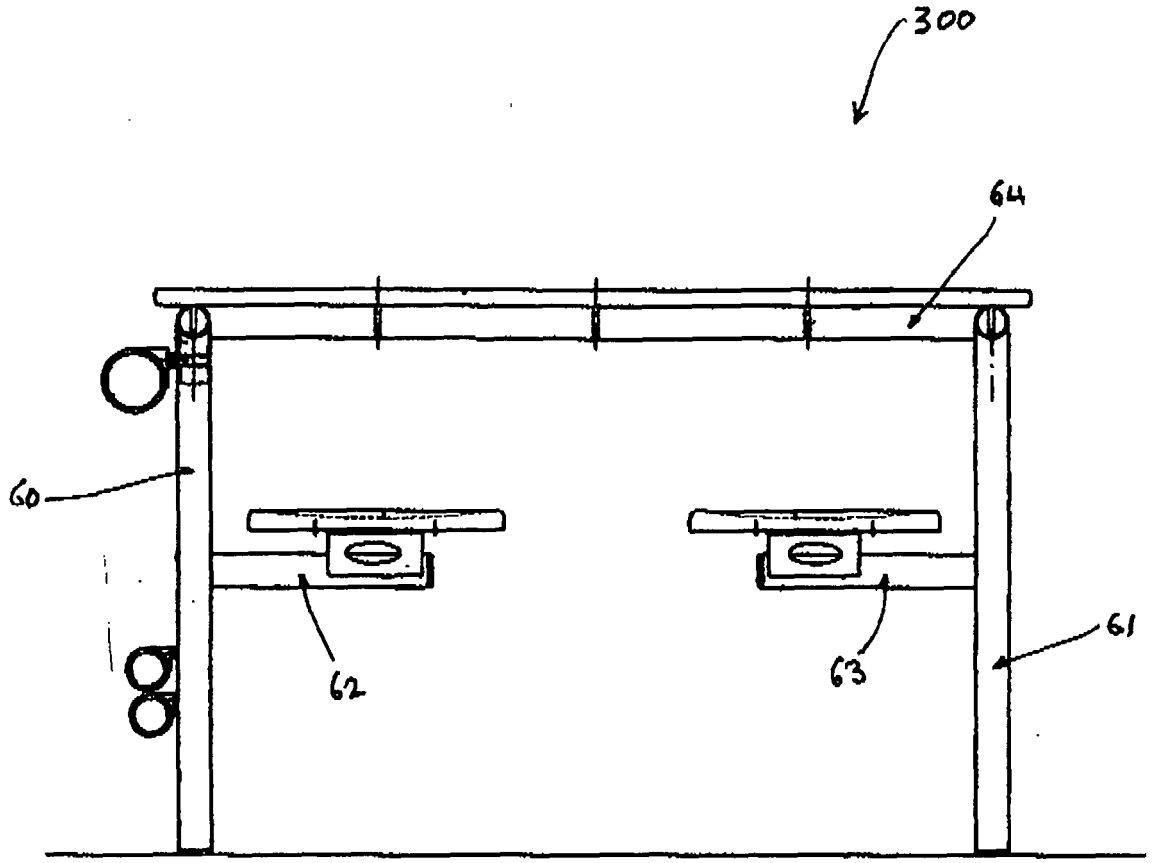


Figure 12

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EUROPEAN SEARCH REPORT

Application Number
EP 09 25 2540

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 067 606 A (DESMOULINS ET AL) 10 January 1978 (1978-01-10) * column 1, line 19 - line 21 * * column 2, line 50 - column 3, line 30 * * column 4, line 60 - column 5, line 6; figure 9 * -----	1-5,7,9, 12-14	INV. A47B7/02 A47B83/02 A47B13/10
A	WO 91/00034 A1 (AMBLI) 10 January 1991 (1991-01-10) * figure 3 * -----	1	

TECHNICAL FIELDS SEARCHED (IPC)
A47B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	4 February 2010	Jacquemin, Martin

CATEGORY OF CITED DOCUMENTS

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