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Amended claims in accordance with Rule 137(2) EPC.

(54) **Mobile usage-adjustable PC- and eating table**

(57) A usage-adjustable table e.g. to be used for supporting a laptop, where said table comprising a bottom part, a top part and a spacer connecting the top part and the bottom part, wherein the bottom part comprises moving means connected to the bottom part, and where said moving means enabling horizontal movement of said table. The spacer comprises adjustment means for adjusting the length of said spacer and thereby the distance between the bottom part and the top part. The top part comprises at least one hole for receiving a top part connection means, said top part connection means provide

a connection between the top part and a usage adaptive element where said usage adaptive element is attached to said top part connection means by placing it under the hook part means and clicking the rabbet on the usage adaptive element onto the top part means which is part of said top part connection means, and where a torsion spring embedded in the top part connection means eases the mounting and dismounting of the usage adaptive element. The top part and the bottom part are dimensioned so that they balance each other whereby a significant weight can be forced on the top part without the top part breaking or the table tilting.

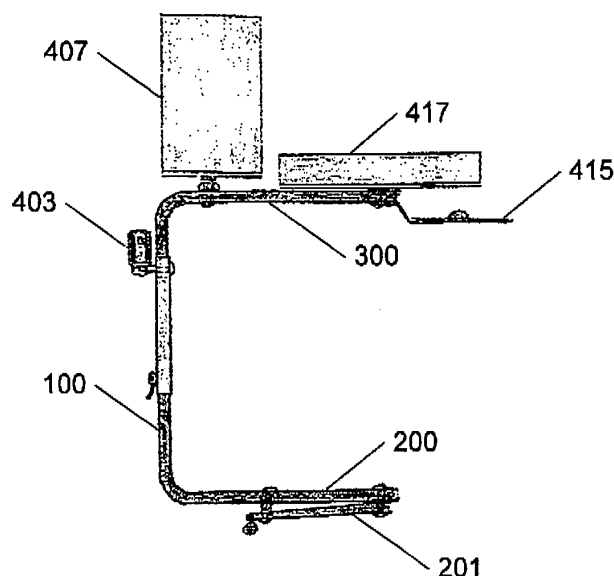


Fig. 1

Description

Background

[0001] For people working with computers it would be advantageous to be able to relax in an easy chair or in bed while still working, but if work on a laptop is carried out lying in bed or reclined in an easy chair, the laptop is often supported by the user's lap. However, this is inconvenient since a user's lap does not provide a stable platform which will cause the laptop to move during work. Also when working with the laptop positioned in the lap, regulation of the viewing or typing angles is not possible. While working with the laptop placed in the lap, the heat generated inside the laptop has trouble getting away because of lack of ventilation. This could eventually cause the laptop to break down. Another problem is the accessories that come along with the laptop, e.g. power supply and portable mouse. With the laptop positioned in the lap there is no place to put the mouse and the cable will be in the way.

[0002] If a person is confined to bed permanently or temporarily it can be of tremendous importance that he or she has the possibility to work from the bed at home or in the hospital. Also, when a patient is bedbound, all meals have to be taken in while staying in bed which bring along problems. In order not to spill, the table or tray has to be brought close to the patient, while at the same time it is important that the patient is able to move a little around without tilting the table or tray. A regular table, with four legs, one in each corner, cannot be brought close enough towards the patient if s/he is lying in bed or in an easy chair and can therefore not be used for serving meals to patients or as a working table for a laptop.

[0003] Individual tables and portable computer desks do exist, but these tables offer limited degrees of freedom which reduce the comfort when working or eating while lying down or reclining in an easy chair. Another problem with many of the tables is to bring them close enough and still maintain a balanced table.

[0004] Some tables have an adjustable table top or an extra arm with a vertical leaf, but if weight, e.g. a tray with food or a laptop, is placed on the table top it might easily tilt. The disadvantages of the existing tables make them inconvenient for many users and therefore the need for an ergonomic, flexible, mobile table which provide stability and flexibility for the user exists.

Object and description of the invention

[0005] The object of the invention is to solve the problems described above.

This is accomplished by:

[0006] A usage-adjustable table e.g. to be used for supporting a laptop, said table comprising a bottom part,

a top part and a spacer connecting the top part and the bottom part, wherein

- said bottom part comprises moving means connected to said bottom part, said moving means enabling horizontal movement of said table;
- said spacer comprises adjustment means for adjusting the length of said spacer and thereby the distance between said bottom part and said top part,
- said top part comprises at least one hole for receiving top part connection means, said top part connection means providing a connection between said top part and a usage adaptive element, where said usage adaptive element is attached to said top part connection means by placing it under the hook part means and clicking the rabbit on the usage adaptive element onto the top part means which is part of said top part connection means, and where a torsion spring embedded in the top part connection means eases the mounting and dismounting of the usage adaptive element.
- the top part and the bottom part are dimensioned so that they balance each other, whereby a significant weight can be forced on the top part without the top part breaking or the table tilting.

[0007] The top part and bottom part are dimensioned so that they balance each other. The top part is placed right above the bottom part and the two parts have the same size, both length, depth and width are the same, and the mass of the two parts is also the same. This entails that a significant weight can be forced on the top part without the top part breaking or the table tilting. One embodiment of this feature is illustrated in figure 1, where it can be seen that the top part (300) and the bottom part (200) have equally length so that the end part of the top part is dimensioned so that it is positioned right above the end part of the bottom part.

[0008] The bottom part, top part and spacer are manufactured in vibration dampening strong material which eliminates the vibrations when placing items on the top part. In an alternative embodiment the table can be strengthened in the corners.

[0009] The top part has holes for receiving top part connection means, said holes are predefined in said top part which eases the mounting of the top part connection means into said holes.

[0010] In one embodiment the mobile usage-adjustable table is collapsible so that it can easily be stored under e.g. the bed.

[0011] In one embodiment the mobile usage-adjustable table comprises ways of stopping the movement of the table. This could be accomplished by a brake latch positioned advantageously for stopping the movement of the table or by wheels with friction which provide a resistance against the surface underneath.

[0012] In one embodiment of the usage-adjustable table, said moving means connected to said bottom part

comprise a center part with a number of legs with wheels, wherein said legs are mounted on said center part such that the legs can be detached if space does not allow the bottom of the table to take up so much room on the floor. This is advantageous if you want to use the table while sitting in an easy chair since an easy chair often has legs that take up room on the floor or offer limited space between the chair and a footstool. In one embodiment, two of the legs mounted on the center are detached, numbered 205 in figure 2, while stability is still maintained, but the size of the bottom part of the table is reduced.

[0013] In one embodiment, the usage-adjustable table comprises a holder element e.g. for a cell phone or a remote control, where said holder element is attached to said adjustment means. The holder can be tilted for a more user-friendly position. The holder can in one embodiment be attached to the adjustment means by screwing a bolt through holes in the adjustment means.

[0014] In another embodiment, the usage-adjustable table comprises a mouse pad connected to the top part. The option of attaching a mouse pad to the mobile table makes working on a laptop for several hours possible. This is beneficial if it is necessary to keep on working while being bed bound. In one embodiment the mouse pad is attached to the top part by screwing it into the predefined holes in the top part which is also used for mounting the top part connection means. In this way the mouse pad can be placed to the left or the right side in proportion to the holes in the top part depending on the users' requests.

[0015] In one embodiment, the usage-adjustable table comprises mountings for wires and cables from e.g. a laptop so that they are not in the way while using the table.

[0016] The invention also comprises top part connection means for providing a connection between a top part in a usage-adjustable table and a usage adaptive element, said top part connection means is adapted for being mounted in at least one hole in said top part and comprises hook part means and tap part means and a torsion spring embedded in the top part connection means for attachment of a usage adaptive element.

[0017] The top part connection means is attached to at least one hole in the top part and a usage adaptive element can in one embodiment be attached in said top part connection means by placing it under the hook part means for attachment of a usage adaptive element and clicking the rabbet on the usage adaptive element onto the tap part means for attachment of a usage adaptive element which is part of said top part connection means. A torsion spring embedded in the top part connection means eases the mounting and dismounting of the usage adaptive element.

[0018] In one embodiment, the top part connection means is constructed so that said usage adaptive element attached to the top part connection means is locked in position, which means that the usage adaptive element cannot be tilted.

[0019] In one embodiment, the top part connection

means is constructed so that said top part connection means provide a tiltable connection, whereby said usage adaptive element can be tilted in at least one angle. This means that the usage adaptive element can be tilted for a more user-friendly angle when e.g. a book is placed on the reading board.

[0020] The top part connection means are able to perform twisting movements which means that the usage adaptive element can be rotated into a more user-friendly angle when e.g. a book is placed on the reading board.

[0021] The invention also comprises a system comprising a usage-adjustable table according to claims 1-4 and at least one top part connection means for receiving a usage adaptive element according to claims 5-6.

[0022] In one embodiment, one of the usage adaptive elements can be a table top. The table top can be tilted forwards for a more user-friendly position when e.g. writing on a laptop that is placed at the table top, and an edge at the bottom of the table top makes sure that the placed items do not fall off.

[0023] In one embodiment, one of the usage adaptive elements can be a reading board. An advantage by the reading board is that it is movable in position in proportion to both tilting movements and twisting movements so that the user can place the reading board in a position favorable for the user.

[0024] In one embodiment of the invention, one of the usage adaptive elements can be a tray. The tray is in one embodiment mounted into two separate top part connection means at the same time, which yield stability to the tray. The meal to be served to e.g. a patient can be arranged on the tray in a kitchen and then placed in the top part connection means on the table. This will ease the working procedure in many institutions, e.g. hospitals or nursing homes, but this invention can also be beneficial and provide a higher comfort in a private home where the residents are not necessarily bedbound.

[0025] The table with top part connection means for receiving usage adaptive elements can be used on both the left and the right side of a bed or chair. The top part connection means just have to be rotated 180 degrees. Also, all the usage adaptive elements can be placed so they fit both left and right handed people.

Brief description of the drawings

[0026] In the following, embodiments of the invention will be described referring to the figures, where

Figure 1 illustrates the table with cell phone holder, mouse pad, reading board and table top mounted.
Figure 2 illustrates the bottom part of the table.
Figure 3 illustrates the adjustment means.
Figure 4 illustrates the table with both top and bottom part positioned in the adjustment means.
Figures 5A and 5B illustrate the top part connection means.
Figure 6 illustrates the controller/cell phone holder.

Figure 7 illustrates the tray, reading board and table top.

Figure 8 illustrates the table with cell phone holder and mouse pad mounted.

Figure 9 illustrates the table for mounting on a bed frame or the like.

Description of preferred embodiments

[0027] Figure 1 illustrates the mobile usage-adjustable table in one embodiment with spacer 100, bottom part 200 and top part 300. A cell phone holder 403, reading board 407, mouse pad 415 and table top 417 are attached to the table in this embodiment. The adjustable spacer 100 is in this embodiment connected to the bottom part 200 which is fastened to moving means 201 comprising legs with wheels constructed in the same way as the bottom of an office chair with wheels. In figure 1, only one of the legs with wheel is displaced.

[0028] Figure 2 illustrates one embodiment of the moving means 201 connected to the bottom part 200 of the mobile usage-adjustable table where the moving means part is shaped in the same way as the bottom of an office chair with wheels. In this figure, the moving means comprise a center part 211 with five legs where two of them are grooved 205 so that they can be removed, which enables the mobile usage-adjustable table to roll in between a chair and a footstool or under a chair where there is no room for all the legs.

[0029] Figure 3 illustrates the adjustable part 101 of the spacer as implemented in one embodiment. To adjust the height of the mobile usage-adjustable table one must rotate the turnable brake latch 105 positioned on the adjustment means 101 so it fits into one of the holes on the rail 105 positioned on the lower part of the spacer 100.

[0030] Figure 4 illustrates the table without attached top part connection means and usage adaptive elements. 317 illustrates holes for receiving top part connection means and both the lower and upper part of the spacer 100 is positioned in the adjustment means 101.

[0031] Figures 5A and 5B illustrate the top part connection means for receiving usage adaptive element 400 for attachment in holes for receiving a top part connection means and thereby yielding a functional mobile usage-adjustable PC- and eating table. Figure 5A illustrates a top part connection means in one embodiment from the front 301 and from the side 303. Figure 5B illustrates a top part connection means in another embodiment from the front 305 and from the side 307 which is movable in position, whereby the usage adaptive element can be tilted in at least one angle. The top part connection means can be tilted by screwing a wing nut 309. The top part connection means are also able to perform twisting/rotating movements. The usage adaptive elements 400, e.g. the reading board or table top, are mounted in the top part connection means by placing the usage adaptive element under the hook part means for attachment of a usage adaptive element 319 and by the top part means

for attachment of a usage adaptive element 311 locking into the rabbet of the usage adaptive elements 313. A torsion spring 315 embedded in the top part connection means eases the mounting and dismounting of the attaching usage adaptive elements 400.

[0032] Figure 6 illustrates the controller/cell phone holder element from the front 403 and from the side 405.

[0033] Figure 7 illustrates the tray, reading board and table top elements. The tray is pictured from the front 425 and from the side 427, where 429 illustrates the part of the element with the rabbet which is locked into the top part connection means. The tray also features four small legs, one in each corner, for higher stability when handling the tray in e.g. the kitchen. The reading board is also pictured from the front 407 and the side 409 from which it appears that the reading board is tilted back for a more comfortable viewing angle and 411 illustrates the part of the element with the rabbet. The reading board is here illustrated with an edge at the bottom 413 so that e.g. papers do not drop down. 417 illustrates the table top element as seen from the front and 419 from the side. The drawings show the table top tilted forwards for a more user-friendly position when e.g. a laptop is placed at the table top, and an edge at the bottom of the table top 423 makes sure that the items placed do not drop down. 421 illustrates the part of the element with the rabbet which is locked into the top part connection means.

[0034] Figure 8 illustrates the mobile usage-adjustable PC table with a mouse pad element 415 and a controller/cell phone holder element 403 attached. A mouse is illustrated placed on the mouse pad in the drawing. The mouse pad is in this drawing positioned sticking out to one side from the table, but it can also be rotated 180° and thereby sticking to the other side, under the table, which enables the user to operate the mouse by the other hand.

[0035] Figure 9 illustrates that the PC- and eating table can also be mounted on e.g. a bed frame instead of being mobile. The holder 207 can be tightened around a bed frame and the lower part of the spacer 100 is fastened in the appertaining connection means 209 of the holder.

Figure references

[0036]

Spacer 100
Bottom part 200
Top part 300
Usage adaptive elements 400

Moving means 201
Grooved legs on moving means 205
Holder for a bed frame 207
Appertaining connection means of the holder 209
Center part 211

Turnable brake latch 105

Connecting link, adjustment means 101
Holes on the rail 103

Top part connection means, front 301
Top part connection means, side 303 5
Top part connection means, front, movable in position 305
Top part connection means, side, movable in position 307
Wing nut 309 10
Means for attachment of a usage adaptive element, tap part 311
Rabbet 313
Torsion spring 315
Holes for receiving a top part connection means 317 15
Means for attachment of a usage adaptive element, hook part 319

Cell phone 401
Cell phone holder, front 403 20
Cell phone holder, side 405
Reading board, front 407
Reading board, side 409
Part of reading board with the rabbet 411
Edge of the reading board 413 25
Mouse pad 415
Table top, front 417
Table top, side 419
Part of table top with the rabbet 421
Edge of the table top 423 30
Tray, front 425
Tray, side 427
Part of the tray with the rabbet 429 35

Claims

1. A usage-adjustable table e.g. to be used for supporting a laptop, said table comprising a bottom part (200), a top part (300) and a spacer (100) connecting the top part (300) and the bottom part (200), wherein
 - said bottom part (200) comprises moving means (201) connected to said bottom part (200), said moving means (201) enabling horizontal movement of said table;
 - said spacer (100) comprises adjustment means (101) for adjusting the length of said spacer (100) and thereby the distance between said bottom part (200) and said top part (300);
 - said top part (300) comprises at least one hole (317) for receiving a top part connection means (301, 303, 305, 307), said top part connection means providing a connection between said top part (300) and a usage adaptive element (400); where said usage adaptive element is attached to said top part connection means by placing it under the hook part means (319) and clicking
2. A usage-adjustable table according to claim 1, wherein said moving means (201) connected to said bottom part (200) comprise a center part (211) with a number of legs with wheels (205), wherein said legs are mounted on said center part such that the legs can be detached.
3. A usage-adjustable table according to claims 1-2 comprising a holder element e.g. for a cell phone or a remote control (403, 405), said holder element is attached to said adjustment means (101).
4. A usage-adjustable table according to claims 1-3, wherein a mouse pad (415) is connected to said top part (300).
5. A top part connection means (301, 303, 305, 307) for providing a connection between a top part in a usage-adjustable table (300) and a usage adaptive element (400), said top part connection means are adapted for being mounted in at least one hole (317) in said top part and comprises hook part means (319) and tap part means (311) and a torsion spring (315) embedded in the top part connection means for attachment of a usage adaptive element.
6. A top part connection means according to claim 5, wherein said top part connection means provide a tiltable connection (307), whereby said usage adaptive element can be tilted in at least one angle.
7. A system comprising a usage-adjustable table according to claims 1-4 and at least one top part connection means for receiving a usage adaptive element according to claims 5-6.
8. A system according to claim 7, wherein said usage adaptive element can be a table top (417, 419).
9. A system according to claim 7, wherein said usage adaptive element can be a reading board (407, 409).
10. A system according to claim 7, wherein said usage adaptive element can be a tray (425, 427).

Amended claims in accordance with Rule 137(2) EPC.

1. A usage-adjustable table e.g. to be used for supporting a laptop, said table comprising a bottom part (200), a top part (300) and a spacer (100) connecting the top part (300) and the bottom part (200), wherein
 - said bottom part (200) comprises moving means (201) connected to said bottom part (200), said moving means (201) enabling horizontal movement of said table;
 - said spacer (100) comprises adjustment means (101) for adjusting the length of said spacer (100) and thereby the distance between said bottom part (200) and said top part (300);
 - said top part (300) comprises at least one hole (317) for receiving a top part connection means (301, 303, 305, 307), said top part connection means providing a connection between said top part (300) and a usage adaptive element (400); where said usage adaptive element is attached to said top part connection means by placing it under the hook part means (319) and clicking the rabbet (313) on the usage adaptive element onto the tap part means (311) which is part of said top part connection means, and where a torsion spring (315) embedded in the top part connection means eases the mounting and dismounting of the usage adaptive element
 - the top part (300) and the bottom part (200) are dimensioned so that they balance each other, whereby a significant weight can be forced on the top part (300) without the top part breaking or the table tilting.
2. A usage-adjustable table according to claim 1, wherein said moving means (201) connected to said bottom part (200) comprise a center part (211) with a number of legs with wheels (205), wherein said legs are mounted on said center part such that the legs can be detached.
3. A usage-adjustable table according to claims 1-2 comprising a holder element e.g. for a cell phone or a remote control (403, 405), said holder element is attached to said adjustment means (101).
4. A usage-adjustable table according to claims 1-3, wherein a mouse pad (415) is connected to said top part (300).
5. A top part connection means (301, 303, 305, 307) for providing a connection between a top part in a usage-adjustable table (300) and a usage adaptive element (400), said top part connection means are adapted for being mounted in at least one hole (317) in said top part and comprises hook part means (319)

and tap part means (311) and a torsion spring (315) embedded in the top part connection means for attachment of a usage adaptive element.

6. A top part connection means according to claim 5, wherein said top part connection means provide a tiltable connection (307), whereby said usage adaptive element can be tilted in at least one angle.
7. A system comprising a usage-adjustable table according to claims 1-4 and at least one top part connection means for receiving a usage adaptive element according to claims 5-6.
8. A system according to claim 7, wherein said usage adaptive element can be a table top (417, 419).
9. A system according to claim 7, wherein said usage adaptive element can be a reading board (407, 409).
10. A system according to claim 7, wherein said usage adaptive element can be a tray (425, 427).

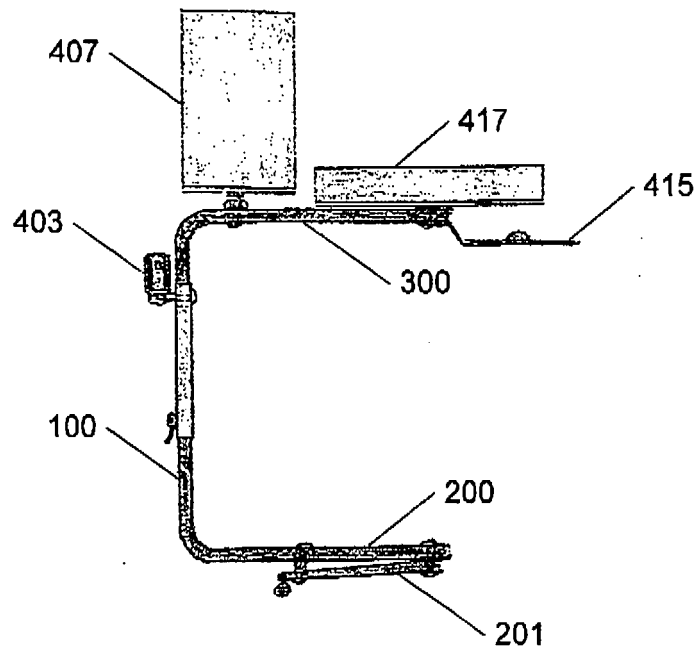


Fig. 1

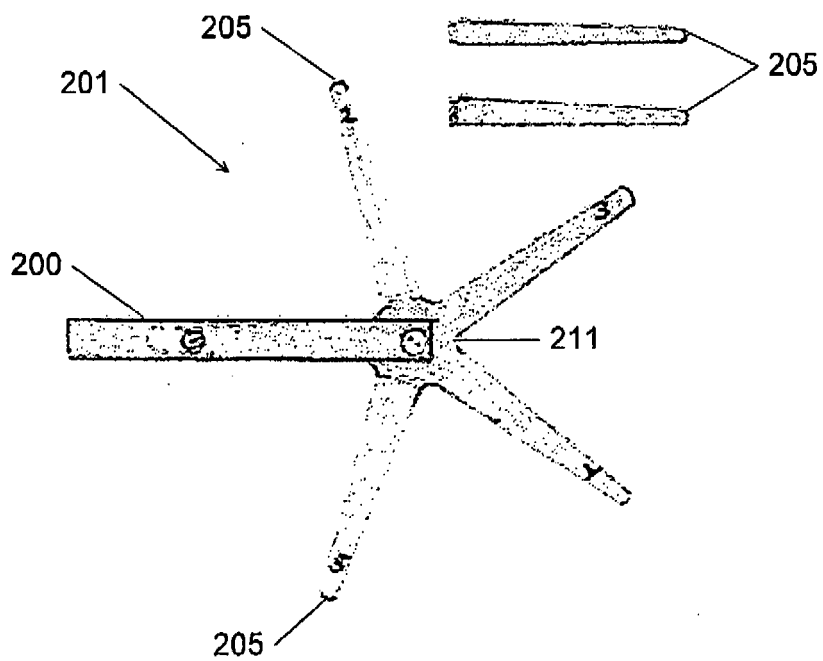


Fig. 2

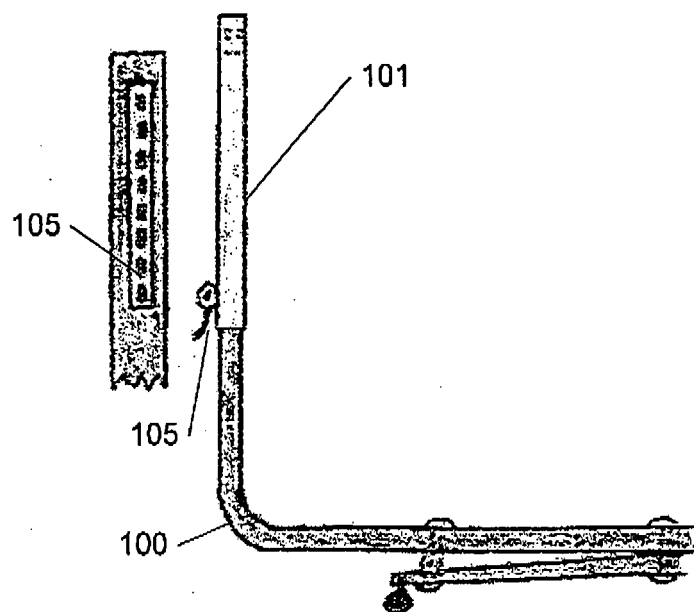


Fig. 3

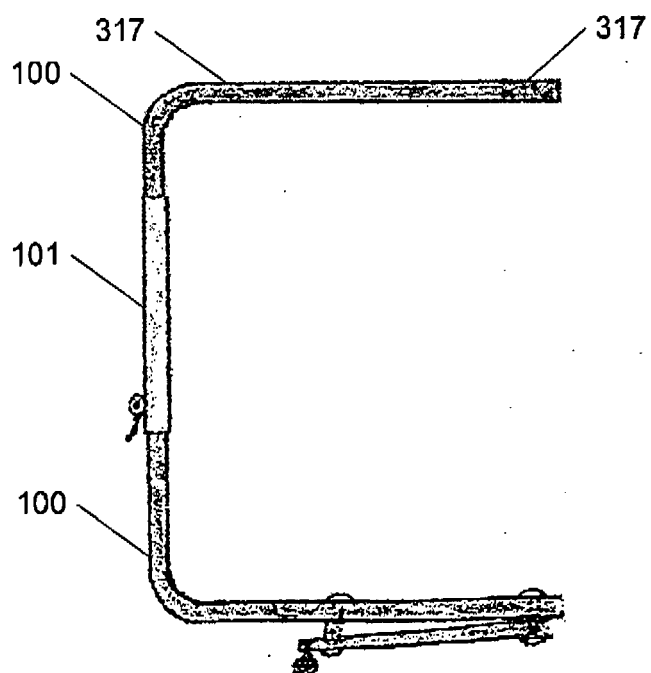


Fig. 4

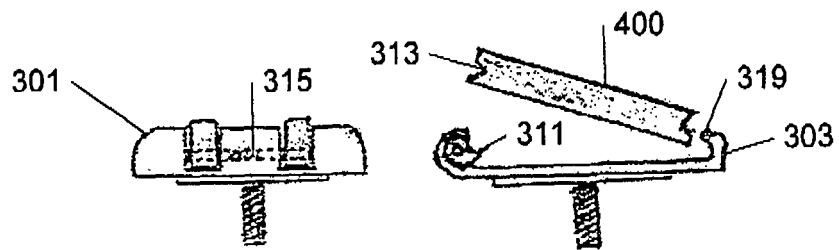


Fig. 5A

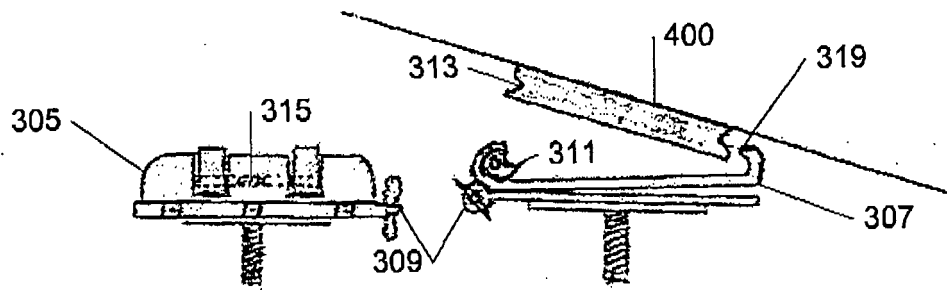


Fig. 5B

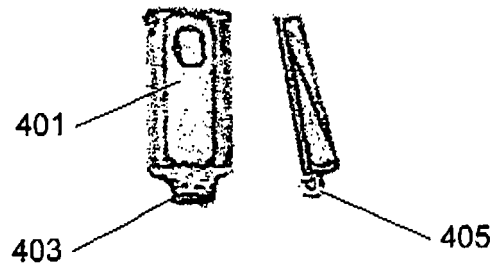


Fig. 6

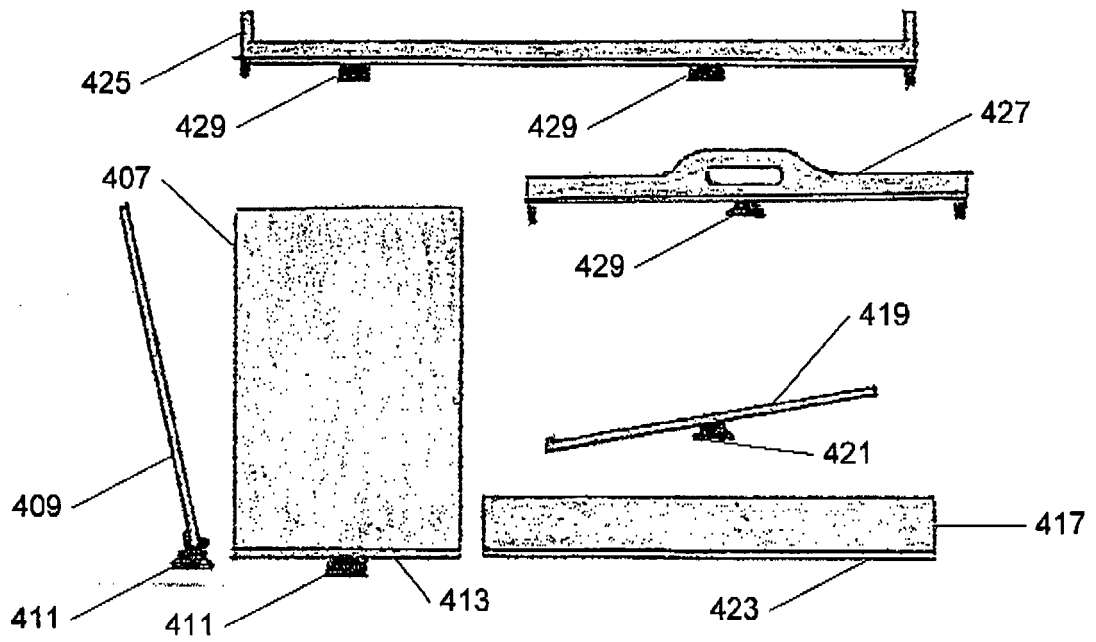


Fig. 7

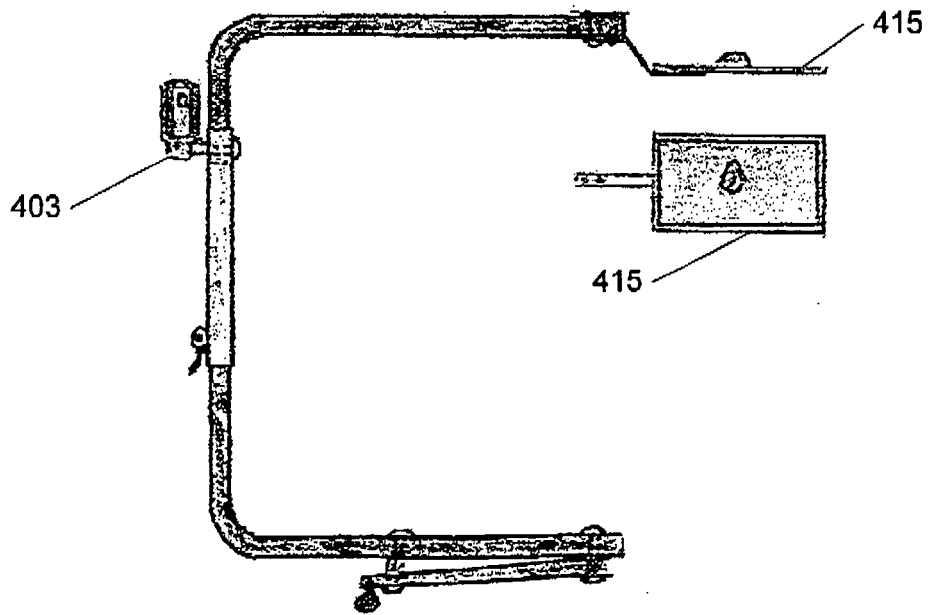


Fig. 8

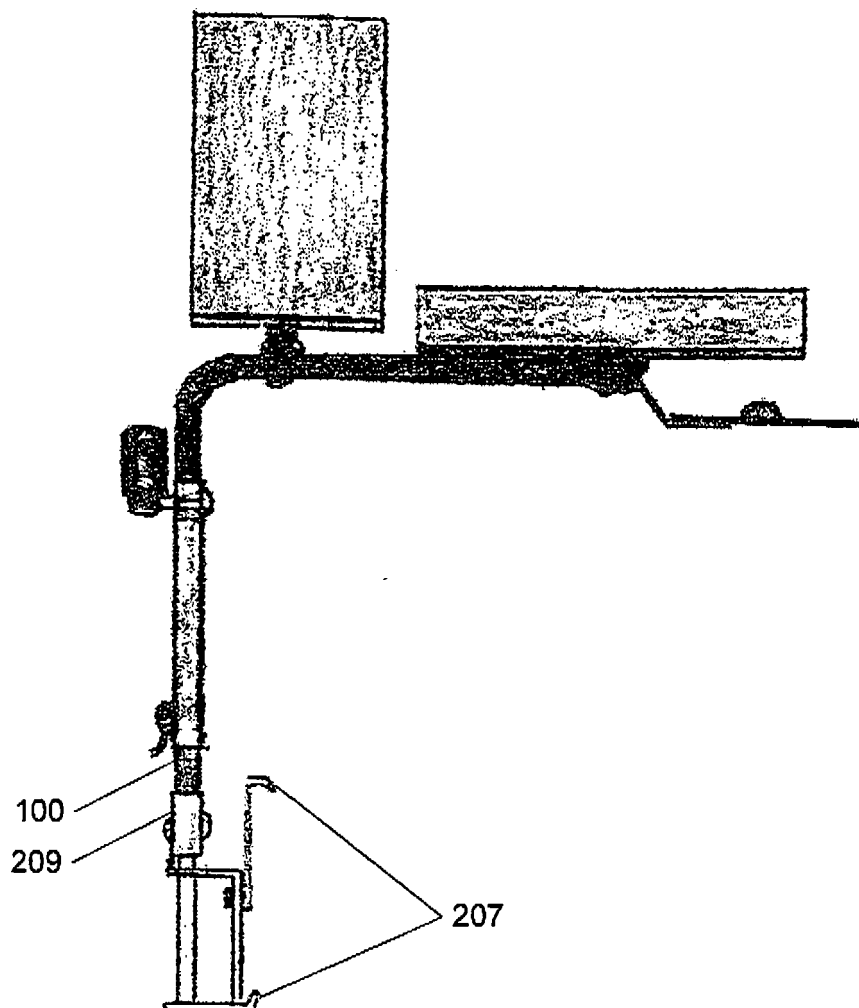


Fig. 9



EUROPEAN SEARCH REPORT

Application Number
EP 09 00 3078

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	US 6 796 536 B1 (SEVIER IV LANDERS) 28 September 2004 (2004-09-28) * figure 5 *	1,3,5-7, 10	INV. A47B23/04
E	WO 2009/040848 A (INTERACTIVE NET BUSINESS S.R.L ET AL) 2 April 2009 (2009-04-02) * the whole document *	1,2,5,6, 8-10	
X	US 2008/087202 A1 (GEORGE CHRISTOPHER M ET AL) 17 April 2008 (2008-04-17) * figure 13 *	1,3-7	
A	DE 20 2005 014169 U1 (LU CHUN-HSIUNG ET AL) 8 December 2005 (2005-12-08) * figure 9 *	1,4-7,10	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 10 August 2009	Examiner Reichhardt, Otto
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 00 3078

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10-08-2009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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