

(19)



(11)

EP 3 172 989 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
31.05.2017 Bulletin 2017/22

(51) Int Cl.:
A47B 9/04 (2006.01) **A47B 41/02 (2006.01)**
A47B 13/08 (2006.01)

(21) Application number: **16200111.9**

(22) Date of filing: **22.11.2016**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA MD

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(30) Priority: **26.11.2015 NL 2015857**

(54) **TABLE WITH A HEIGHT-ADJUSTABLE TOP**

(57) Height-adjustable table (10), comprising a top (2) supported by at least one leg (1a, 1b, 1c) and first adjusting means for adjusting the height of the top, wherein the at least one leg is assembled from an upward inclining elongate telescopic body (1a, 1b, 1c) which is provided on its end directed toward the top (2) with a top support (3, 4) coupled to the top (2), further comprising

second adjusting means for moving the top (2) in a horizontal direction which are coupled by coupling means to the first adjusting means such that, during a change in the height of the top (2) by means of the first adjusting means, an associated movement in horizontal direction is compensated by an opposite movement in horizontal direction by means of the second adjusting means.

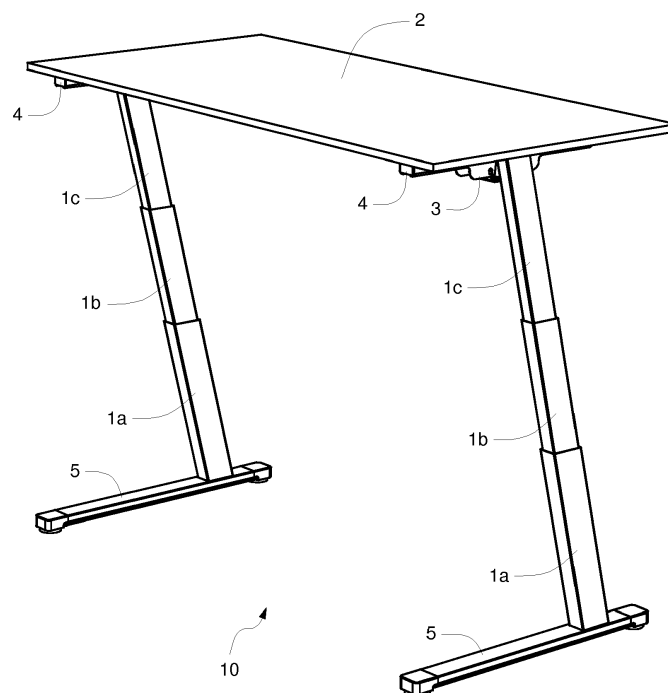


Fig. 1

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Description

[0001] The invention relates to a table with a height-adjustable top, comprising a top supported by at least one leg and first adjusting means for adjusting the height of the top.

[0002] Known from WO 9935936 A is a table with a top, a base, a support for the top and a movable connecting element for adjusting the height of the support relative to the base, wherein the connecting element comprises for instance a parallelogram construction by means of which the top is movable only in vertical direction. The known tabletop further comprises a pneumatic weight counterbalancing element which is connected to a reservoir and arranged between the base and the support in a manner such that a reaction force is generated to counteract a gravitational force G acting on the support.

[0003] The known table has the drawback that it is of complex construction, is provided with a base and a support which both have relatively large dimensions, and that this table is unsuitable for coupling to a corresponding table to form a so-called duo-workplace.

[0004] It is an object of the invention to provide a height-adjustable table which is of simple construction, is provided with legs and adjusting means which take up little volume and which is suitable for coupling to a second table.

[0005] These objectives are achieved, and further advantages gained, with a table of the type stated in the preamble, wherein according to the invention the at least one leg is assembled from an upward inclining elongate telescopic body which is provided on its end directed toward the top with a top support coupled to the top, second adjusting means are provided for moving the top in a horizontal direction, drive means are provided for driving the first and the second adjusting means and coupling means are provided for coupling the first and the second adjusting means, wherein the first and the second adjusting means and the coupling means are configured such that, during a change in the height of the top by means of the first adjusting means, an associated movement in horizontal direction is compensated by an opposite movement in horizontal direction by means of the second adjusting means.

[0006] An upward inclining leg provides the advantage that, with a suitable choice of the angle which the leg encloses with the floor surface, it can provide a seated user with more legroom under the top, wherein the height-adjustability can be realized by the telescopic body.

[0007] In an embodiment the top support is assembled from an elongate channel and a slide element received slidably therein.

[0008] Such a top support takes up little volume and, when mounted on the underside of the top, is largely concealed from view.

[0009] The elongate channel is for instance coupled rigidly to the top, wherein the slide element is coupled

rigidly to the telescopic body.

[0010] The elongate channel is preferably coupled rigidly to the telescopic body and the slide element is coupled rigidly to the top.

[0011] The top rests slidably here on the leg, which is formed by the telescopic body.

[0012] The first adjusting means in a table according to the invention comprise in an embodiment a first linear actuator which for instance comprises a first screw spindle which is received in the leg and coupled to the top support.

[0013] The second adjusting means in a table according to the invention comprise in an embodiment a second linear actuator which for instance comprises a second screw spindle which is received in a holder coupled to the underside of the top and which is coupled to the coupling means.

[0014] In a table according to these latter two embodiments the first screw spindle is coupled to the second screw spindle for instance by means of a first right-angled transmission, a rotating shaft and a second right-angled transmission, wherein the pitch of the first and the second screw spindle and the transmission ratio of the first and the second right-angled transmission are selected such that, during a change in the height of the top as a result of a rotation of the first screw spindle, an associated movement in horizontal direction is compensated by an opposite movement in horizontal direction as a result of a rotation of the second screw spindle.

[0015] The drive means for driving the first and the second adjusting means are for instance coupled to the connecting shaft for the purpose of rotating this shaft, and comprise for instance a handle or an electric motor.

[0016] In an embodiment the drive means are coupled directly and rigidly to the connecting shaft.

[0017] In another embodiment the drive means are coupled to the connecting shaft by means of a right-angled transmission, for instance the second or a third right-angled transmission.

[0018] In an embodiment wherein the table according to the invention is free-standing, the at least one leg is coupled rigidly to a base.

[0019] In an embodiment wherein the table according to the invention is coupled to a second table the at least one leg of the first table is coupled rigidly to a leg of the second table.

[0020] The invention will be elucidated hereinbelow on the basis of exemplary embodiments and with reference to the drawings.

[0021] In the drawings

Fig. 1 is a perspective view of a first embodiment of a table according to the invention,
Fig. 2 is a perspective schematic view of the adjusting and drive means of the table shown in Fig. 1,
Fig. 3 is a perspective schematic view of the underside of the table shown in Fig. 1,
Fig. 4 is a perspective view of the table shown in Fig.

1 in its highest position as seen from a side,
 Fig. 5 is a perspective view of the table shown in Fig. 1 in its lowest position as seen from a side,
 Fig. 6 is a perspective view of a second embodiment of a table according to the invention, and
 Fig. 7 is a perspective view of a third embodiment of a table according to the invention.

[0022] Corresponding components are designated in the figures with the same reference numerals.

[0023] Fig. 1 shows a table 10 with a top 2 and two telescopic legs assembled from parts 1a, 1b, 1c. On their upper end 1c directed toward top 2 these legs are coupled rigidly to an elongate channel 3 in which a slide element 4 coupled rigidly to top 2 is slidably received. Table 10 is of the free-standing type, wherein the legs are coupled rigidly with their lower part 1a to a base 5.

[0024] Fig. 2 shows an adjusting and drive mechanism 6 with a first screw spindle 7 which is coupled by means of a first right-angled transmission 8, a rotating hexagonal connecting shaft 9 and a second right-angled transmission 11 to a second screw spindle 12. First screw spindle 7 is received in a leg (not shown) and is coupled to top support 3, 4 (shown in Fig. 3). Second screw spindle 12 is coupled to a second right-angled transmission 11 which is coupled to hexagonal shaft 9 and is received in a holder 13 coupled rigidly to the underside of top 2. The figure also shows a handle 14 coupled by means of a third right-angled transmission 15 to hexagonal shaft 9 for the purpose of driving this shaft.

[0025] The pitch of the first 7 and second screw spindle 12 and the transmission ratio of the first 8 and the second right-angled transmission 11 are selected such that, during a change in the height of top 2 (shown in Fig. 3) as a result of a rotation of first screw spindle 7, an associated movement in horizontal direction is compensated by an opposite movement in horizontal direction as a result of a rotation of second screw spindle 12.

[0026] Fig. 3 shows the underside of table 10 shown in Fig. 1 with, in addition to the components shown in Fig. 2, the upper part 1c of the legs, top supports 3, 4 and a housing 16 for connecting shaft 9 and the second 11 and third right-angled transmission 15.

[0027] Fig. 4 and Fig. 5 show table 10 shown in Fig. 1 in respectively its highest and lowest position, wherein it can clearly be seen that the vertical projection of top 2 onto base 5 has not changed, in other words the top 2 has moved only in vertical direction.

[0028] Fig. 6 shows an assembly 20 of coupled tables with tops 2, 2', wherein the lower parts 1a; 1a' of legs 1a, 1b, 1c; 1a', 1b', 1c' oriented toward each other are rigidly coupled by transverse beams 17 which support an upright partition 18 which separates the two tops 2; 2'. The coupled inclining legs 1a, 1b, 1c; 1a', 1b', 1c' are oriented in upward direction toward each other.

[0029] Fig. 7 shows an assembly 30 of coupled tables with tops 2; 2' and coupled inclining legs 1a, 1b, 1c; 1a', 1b', 1c' which are oriented away from each other in up-

ward direction and are coupled rigidly to a base 5.

Claims

1. Table (10, 20, 30) with a height-adjustable top, comprising a top (2) supported by at least one leg (1a, 1b, 1c) and first adjusting means (7) for adjusting the height of the top, **characterized in that** the at least one leg is assembled from an upward inclining elongate telescopic body (1a, 1b, 1c) which is provided on its end directed toward the top (2) with a top support (3, 4) coupled to the top (2), second adjusting means (12) are provided for moving the top (2) in a horizontal direction, drive means (14) are provided for driving the first (7) and the second adjusting means (12), and coupling means (8, 9, 11) are provided for coupling the first (7) and the second adjusting means (12), wherein the first (7) and the second adjusting means (12) and the coupling means (8, 9, 11) are configured such that, during a change in the height of the top (2) by means of the first adjusting means (7), an associated movement in horizontal direction is compensated by an opposite movement in horizontal direction by means of the second adjusting means (12).
2. Table (10, 20, 30) as claimed in claim 1, **characterized in that** the top support is assembled from an elongate channel (3) and a slide element (4) received slidably therein.
3. Table (10, 20, 30) as claimed in claim 2, **characterized in that** the elongate channel (3) is coupled rigidly to the telescopic body (1c) and the slide element (4) is coupled rigidly to the top (2).
4. Table (10, 20, 30) as claimed in any of the foregoing claims, **characterized in that** the first adjusting means comprise a first linear actuator.
5. Table (10, 20, 30) as claimed in claim 4, **characterized in that** the first linear actuator comprises a first screw spindle (7) which is received in the leg and coupled to the top support (3, 4).
6. Table (10, 20, 30) as claimed in any of the foregoing claims, **characterized in that** the second adjusting means comprise a second linear actuator.
7. Table (10, 20, 30) as claimed in claim 6, **characterized in that** the second linear actuator comprises a second screw spindle (12) which is received in a holder (13) coupled to the underside of the top (2) and which is coupled to the coupling means (11).
8. Table (10, 20, 30) as claimed in claims 5 and 7, **char-**

acterized in that the first screw spindle (7) is coupled to the second screw spindle (12) by means of a first right-angled transmission (8), a rotating connecting shaft (9) and a second right-angled transmission (11), wherein the pitch of the first (7) and the second screw spindle (12) and the transmission ratio of the first (8) and the second right-angled transmission (11) are selected such that, during a change in the height of the top (2) as a result of a rotation of the first screw spindle (7), an associated movement in horizontal direction is compensated by an opposite movement in horizontal direction as a result of a rotation of the second screw spindle (12).

9. Table (10, 20, 30) as claimed in claim 8, **characterized in that** the drive means (14) are coupled to the connecting shaft (9) for the purpose of rotating this shaft (9). 5
10. Table (10, 20, 30) as claimed in claim 9, **characterized in that** the drive means comprise a handle (14). 10
11. Table (10, 20, 30) as claimed in claim 9, **characterized in that** the drive means comprise an electric motor. 15
12. Table as claimed in any of the claims 9-11, **characterized in that** the drive means are coupled directly and rigidly to the connecting shaft. 20
13. Table as claimed in any of the claims 9-11, **characterized in that** the drive means (14) are coupled to the connecting shaft (9) by means of the second right-angled transmission (11). 25
14. Table as claimed in any of the claims 9-11, **characterized in that** the drive means (14) are coupled to the connecting shaft (9) by means of a third right-angled transmission (15). 30
15. Table (10, 30) as claimed in any of the foregoing claims, **characterized in that** the at least one leg (1a) is coupled rigidly to a base (5). 35
16. Table (20, 30) as claimed in any of the foregoing claims, **characterized in that** the at least one leg (1a) is coupled rigidly to a leg (1a') of a second table. 40

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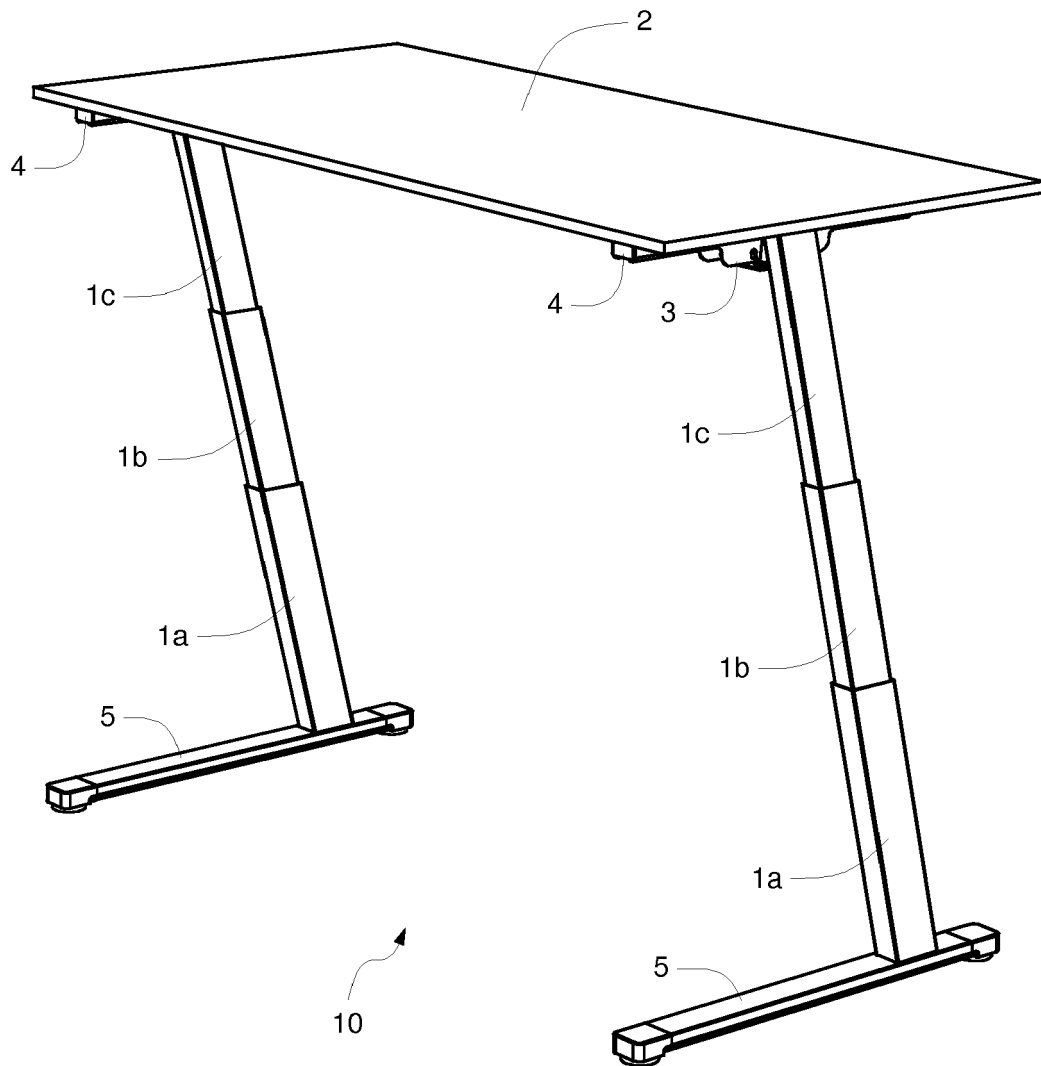


Fig. 1

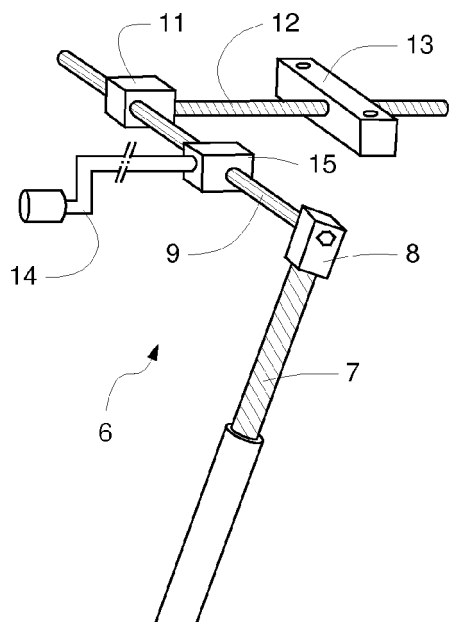


Fig. 2

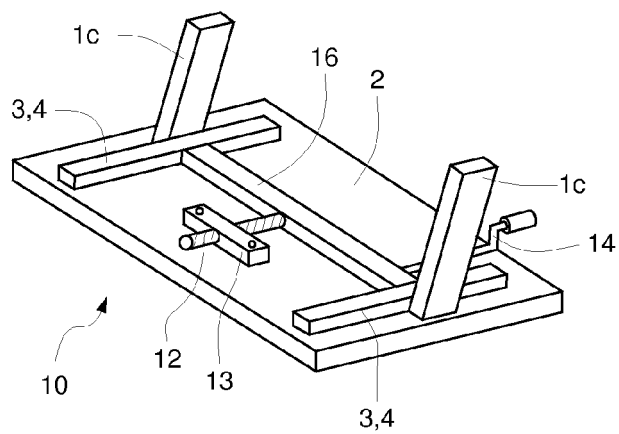


Fig. 3

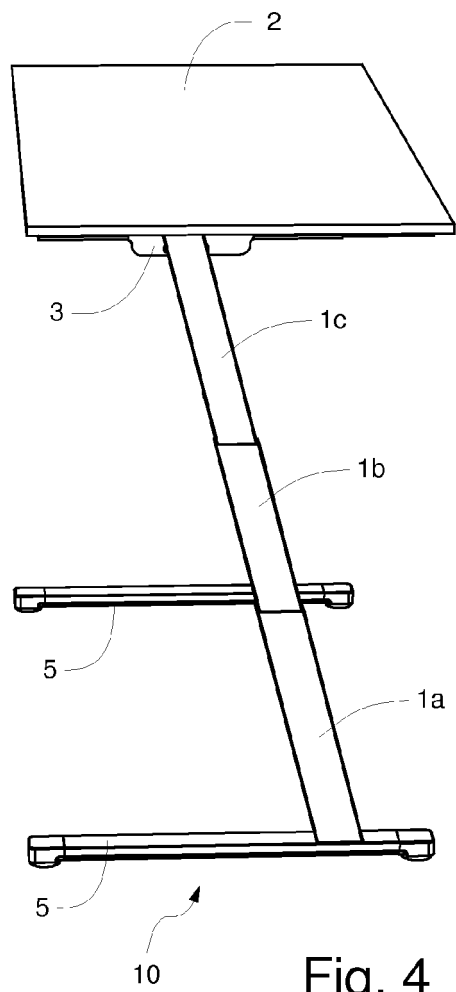


Fig. 4

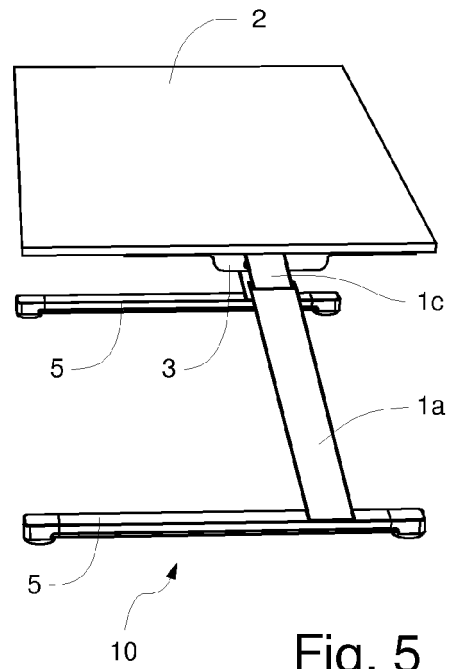


Fig. 5

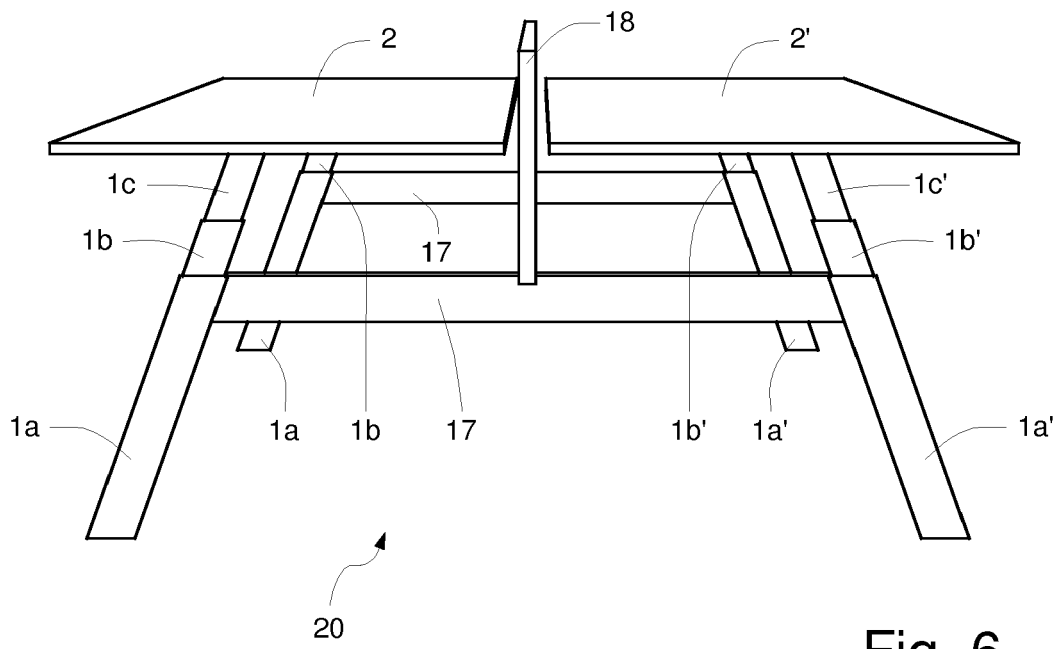


Fig. 6

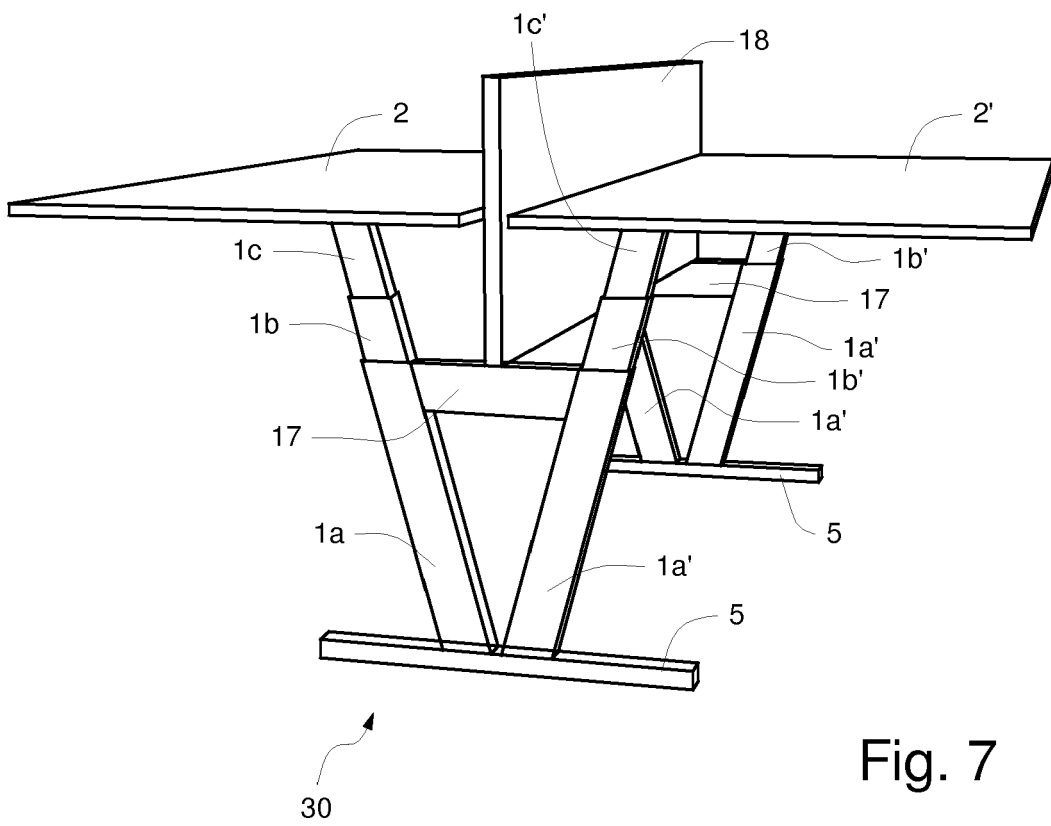


Fig. 7



EUROPEAN SEARCH REPORT

Application Number
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Y	US 4 751 884 A (BALL DOUGLAS C [CA]) 21 June 1988 (1988-06-21)	1-4	INV. A47B9/04 A47B41/02 A47B13/08
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			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		18 April 2017	van Hoogstraten, S
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EP 16 20 0111

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