(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 305 130 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
11.04.2018 Bulletin 2018/15

(51) Int Cl.:
A47B 1/05 *(2006.01)*

(21) Application number: **17195344.1**

(22) Date of filing: **06.10.2017**

(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

(30) Priority: **06.10.2016 IT 201600100553**

(71) Applicant: **Calligaris S.P.A.**
33044 Manzano (UD) (IT)

(72) Inventor: **Ciucci, Luigino**
62014 Corridonia (MC) (IT)

(74) Representative: **Petraz, Gilberto Luigi et al**
GLP S.r.l.
Viale Europa Unita, 171
33100 Udine (IT)

(54) **EXTENDABLE TABLE**

(57) Extendable table (10) comprising a frame (11), a main plane (12), a first extension plane (13) and at least a second extension plane (14), said extendable table (10) comprising at least a clamping/unclamping device (35) configured to allow the movement of the extension planes (13, 14) between a hidden position, and at least one extended position, and vice versa, in a sequential and univocally predefined manner. The present invention also concerns a method to open/close the extendable table (10).

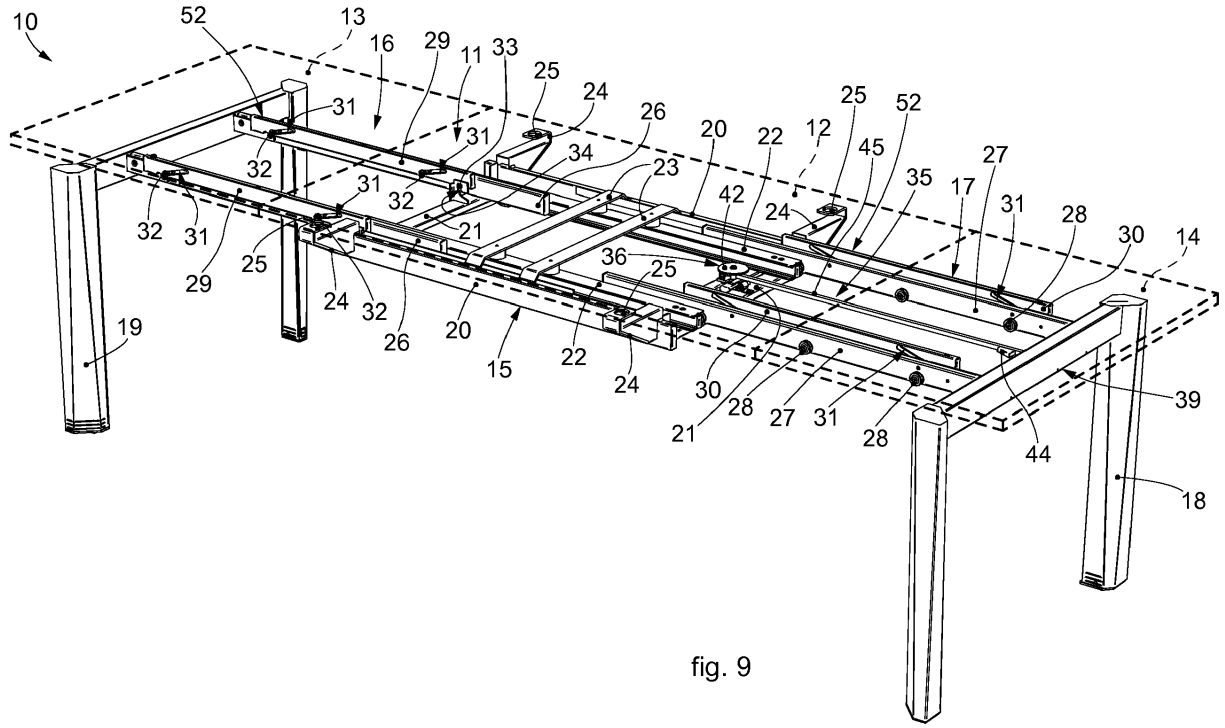

fig. 9

EP 3 305 130 A1

Description

FIELD OF THE INVENTION

[0001] Embodiments of the present invention concern an extendable table provided with two extension planes extractable from opposite sides with respect to a main plane.

[0002] In general, the present invention is applicable to any furnishing element provided with a main plane and two extension planes. Here and hereafter in the description, the term main plane means the table plane in its non-extended configuration.

BACKGROUND OF THE INVENTION

[0003] Various types of extendable tables are known, in which there is a main plane and two extension planes mobile between a first position, in which the extension planes are positioned hidden, usually under the main plane, and at least a second extended position, in which one or both are disposed adjacent and coplanar to a respective side of the main plane.

[0004] In this way, known extendable tables can assume a closed or base configuration in which both extension planes are in the hidden position, a first open configuration in which one of the extension planes is in the hidden position and the other is in the extended position, and a second open configuration, in which both extension planes are in the extended position.

[0005] To move from the closed configuration to the first and/or second open configuration, some known extendable tables provide that the user pulls toward himself a first pair of legs, away from the second pair of fixed legs, causing reciprocal sliding of the main plane and the extension planes, so as to position the latter in the extended position.

[0006] Examples of extendable tables of the type described above are disclosed in documents FR-A-1.486.293, US-A-2.108.816 and US-A-2.263.816.

[0007] One of the most common problems of known extendable tables with two extension planes is that, when passing from the closed configuration to the first open configuration, no precise and univocal sequence of opening/closing the extension planes is defined. This causes non-linear sliding and/or accidental knocking of the extension planes against other elements.

[0008] Furthermore, uncontrolled sliding can also damage the table itself and sometimes makes it difficult to reposition the extension planes.

[0009] There is therefore a need to perfect and make available an extendable table that overcomes at least one of the disadvantages of the state of the art.

[0010] The purpose of the present invention is to supply an extendable table provided with a main plane and two extension planes, which allows it to pass from the base configuration to the extension configurations according to a univocal and precise sequence.

[0011] Another purpose of the present invention is to supply an extendable table which allows to perform the extraction/repositioning of the extension planes in a defined order, acting on one side of the extendable table only.

[0012] The Applicant has devised, tested and embodied the present invention to overcome the shortcomings of the state of the art and to obtain these and other purposes and advantages.

SUMMARY OF THE INVENTION

[0013] The present invention is set forth and characterized in the independent claim, while the dependent claims describe other characteristics of the invention or variants to the main inventive idea.

[0014] In accordance with the above purposes, the present invention concerns an extendable table comprising a frame, a main plane, and at least two extension planes, in which the two extension planes are movable with respect to the main plane between a hidden position, where the extension plane is below the main plane, and at least one extended position, in which the extension plane is adjacent and coplanar to the main plane.

[0015] According to one aspect of the present invention, the frame comprises a main part, a first lateral part and a second lateral part, with which the first main plane, the first extension plane and the second extension plane are respectively associated. The first lateral part and the second lateral part are translatable linearly along a longitudinal axis during the passage of the extension planes from the hidden position to the extended position, and vice versa.

[0016] According to another aspect a first clamping/unclamping member is associated with the first lateral part and with the second lateral part. A second clamping/unclamping member is associated with the main part and with the second lateral part. A third clamping/unclamping member is associated with the main part and with the first lateral part.

[0017] The clamping/unclamping members are configured to clamp or allow the translation along the longitudinal axis of the first lateral part and the second lateral part.

[0018] With this solution, the extendable table allows the movement of the extension planes between the hidden position and the extended position in a sequential and univocally predefined manner.

[0019] Here and hereafter in the description, by the expression sequential and univocally predefined we mean that the passage of the extension planes from the hidden position to the extended position is allowed only if a first of the extension planes has already been positioned in the extended position during the opening of the extendable table.

[0020] Vice versa, during closing, the passage of the first extension plane from the extended position to the hidden position is allowed only if a second one of the

extension planes has already been positioned in the hidden position.

[0021] Embodiments of the present invention also concern a method to open/close an extendable table that provides to take a first extension plane and a second extension plane between a hidden position, in which the extension plane is below the main plane, and at least one extended position, in which the extension plane is adjacent and coplanar to the main plane.

[0022] The passage of the extension planes from the hidden position to the extended position, and vice versa, is determined by the translation, along a longitudinal axis and with respect to a main support part of the main plane, of a first lateral part and of a second lateral part, respectively supporting the first extension plane and the second extension plane.

[0023] According to one aspect of the present invention the opening of the extendable table provides to:

- unclamp the first clamping/unclamping member and pull the second lateral part along the longitudinal axis to determine the sliding of the main part and the second lateral part with respect to the first lateral part and take the first extension plane into the extended position, and subsequently to:
- unclamp the second clamping/unclamping member and pull the second lateral part along the longitudinal axis to determine the sliding of the latter with respect to the main part and take the second extension plane into the extended position.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] These and other characteristics of the present invention will become apparent from the following description of some embodiments, given as a non-restrictive example with reference to the attached drawings wherein:

- fig. 1 is a plan view from above of an extendable table in a closed configuration according to a possible embodiment of the present invention;
- fig. 2 is a lateral view of fig. 1;
- fig. 3 is a plan view from below of fig. 1;
- fig. 4 is a plan view from above of the extendable table of fig. 1 in a first open configuration;
- fig. 5 is a plan view from below of fig. 4;
- fig. 6 is a plan view from above of the extendable table of fig. 1 in a second open configuration;
- fig. 7 is a lateral view of fig. 6;
- fig. 8 is a plan view from below of fig. 6;
- fig. 9 is a perspective view of an extendable table according to a possible embodiment of the present invention, in its second open configuration.

[0025] To facilitate comprehension, the same reference numbers have been used, where possible, to identify identical common elements in the drawings. It is understood that elements and characteristics of one embodiment can conveniently be incorporated into other embodiments without further clarifications.

DETAILED DESCRIPTION OF SOME EMBODIMENTS

[0026] With reference to the attached drawings, which show non-restrictive examples of the invention, we will now describe embodiments of an extendable table 10 comprising a frame 11, a main plane 12, a first extension plane 13, and at least a second extension plane 14.

[0027] According to some embodiments, the extension planes 13 and 14 are mobile between a first hidden position, in which they are located under the main plane 12, and at least one second extended position, in which one or both are located adjacent and coplanar to a respective side of the main plane 12.

[0028] The extendable table 10 can therefore assume a closed configuration, in which the extension planes 13 and 14 are in their first hidden position (figs. 1-3), a first open configuration, in which the first extension plane 13 is in the extended position and the second extension plane 14 is in the hidden position (figs. 4 and 5), and a second open configuration, in which the extension planes 13 and 14 are in their extended position (figs. 6-8).

[0029] In accordance with some embodiments of the invention, the first extension plane 13 and the second extension plane 14 can be positioned in their hidden position or in their extended position by means of a linear translation along a longitudinal axis Z.

[0030] According to possible embodiments, the frame 11 comprises a main or central part 15 with which the main plane 12 is associated, a first lateral part 16 and a second lateral part 17, with which respectively the first extension plane 13 and the second extension plane 14 are associated.

[0031] According to possible embodiments, the frame 11 also comprises first support means 18, in this case two first legs 18 disposed on a first side of the frame 11, constrained or fixed to the second lateral part 17, and second support means 19, in this case two second legs 19 disposed on a second side of the frame 11, opposite the first side and constrained or fixed to the first lateral part 16. The first support means 18 and the second support means 19 support at least the main plane 12, the first extension plane 13, and the second extension plane 14 with respect to a support surface, for example the floor.

[0032] According to variant embodiments, instead of the legs defined above, the first support means 18 and the second support means 19 can comprise one or more support panels.

[0033] According to possible embodiments, the main part 15 of the frame 11 comprises, disposed on a horizontal plane, two longitudinal crosspieces 20 and two orthogonal crosspieces 21. The orthogonal crosspieces 21 are attached perpendicular to the longitudinal crosspieces 20 and keep the latter distanced from each other.

[0034] In accordance with possible embodiments, the

main part 15 of the frame 11 can comprise two guide crosspieces 22 disposed parallel to each other and to the longitudinal axis Z. The guide crosspieces 22 can also be parallel to the two longitudinal crosspieces 20 and possibly located inside the latter.

[0035] In accordance with variant embodiments, the two guide crosspieces 22 can themselves define the longitudinal crosspieces 20.

[0036] The two guide crosspieces 22 are configured to cooperate with the first and second lateral parts 16 and 17 to guide the first extension plane 13 and the second extension plane 14 respectively between the first hidden position and the extended position.

[0037] In particular, it can be provided that the first lateral part 16 and the second lateral part 17 are slidably installed on the guide crosspieces 22.

[0038] According to possible embodiments, the main part 15 can comprise auxiliary orthogonal crosspieces 23 disposed parallel to each other and connected to the guide crosspieces 22 to keep the latter distanced from each other.

[0039] The auxiliary orthogonal crosspieces 23 can be positioned between the two orthogonal crosspieces 21.

[0040] According to possible embodiments, the main part 15 comprises a plurality of supports, in this case four supports 24 provided to support the main plane 12.

[0041] Each support 24 can be disposed at a respective end of the orthogonal crosspieces 21.

[0042] Advantageously, the supports 24 are also configured to support the two extension planes 13 and 14 when one or both are in the hidden position.

[0043] As shown in the drawings, the supports 24 can be C-shaped to allow to attach the main plane 12 above the supports 24 and to position the extension planes 13 and 14 inside the seating defined by the C shape of the supports 24 themselves.

[0044] According to possible embodiments, the main plane 12 and the two extension planes 13 and 14 are disposed on, and possibly attached to, support elements 25 attached to the main part 15 and/or to the first and second lateral parts 16 and 17 of the frame 11, in this case associated only with the main part 15 in correspondence with the supports 24.

[0045] In accordance with possible embodiments, the first lateral part 16 of the frame 11 comprises a pair of first bars 26, and the second lateral part 17 of the frame 11 comprises a pair of second bars 27.

[0046] According to possible embodiments, the first bars 26 and the second bars 27 are substantially parallel and horizontal, and disposed on a plane substantially parallel to the main plane 12 and extension planes 13 and 14 of the extendable table 10. The first bars 26 are attached to the second support means, for example to the two second legs 19, and the second bars 27 are attached to the first support means, for example to the two first legs 18 of the frame 11.

[0047] The first bars 26 and the second bars 27 are slidably installed on the guide crosspieces 22.

[0048] According to possible embodiments, the bars 26, 27 can comprise one or more guide members 28 able to slide on the guide crosspieces 22. The guide members 28 can comprise rolling elements, or sliding elements such as sliding wheels, and sliding blocks.

On each guide crosspiece 22 a first bar 26 and a second bar 27 can be slidably installed, one on one side and the other on the opposite side.

[0049] According to possible embodiments, each guide crosspiece 22 can comprise a beam with a double T profile, configured to allow the sliding of two of the bars 26, 27 simultaneously on its two opposite sides.

[0050] In accordance with possible embodiments, the first and second lateral parts 16 and 17 of the frame 11 each comprise a pair of support beams 29 and respectively 30, each of which is associated with one of the pairs of bars 26, 27. One of the extension planes 12 and 13 is attached to each pair of support beams 29, 30.

[0051] Lifting devices 52 are associated with the support beams 29, 30 and bars 26, 27 and are configured to lift the support beams 29, 30 and therefore the extension planes 12, 13 during the passage of the latter from the hidden position to the extended position.

[0052] The lifting devices 52 also determine the subsequent lowering of the support beams 29, 30 with respect to the bars 26, 27 in the reverse passage from the extended to the hidden position.

[0053] The lifting device 52 comprises shaped eyelets 31 associated with the support beams 29, 30 and reference pins 32 associated with the bars 26, 27, possibly provided with sliding wheels, and inserted into the shaped eyelets 31 of the support beams 29, 30 to allow the latter to move with respect to the corresponding bar 26, 27.

[0054] According to possible embodiments, the lifting device 52 also comprises a lifting pin 33 associated with one end of the respective support beams 29, 30, and lifting eyelets 34 associated with the orthogonal crosspieces 21 and in which the lifting pin 33 slides, to lift and hold in position the respective support beam 29, 30 with respect to the bars 26, 27.

[0055] In accordance with possible embodiments, the extendable table 10 comprises at least one clamping/unclamping device 35 configured to allow the movement of the extension planes 13 and 14 between the first hidden position and at least an extended position, and vice versa, in a sequential and univocally predefined manner.

[0056] According to possible embodiments, the clamping/unclamping device 35 can comprise a first clamping/unclamping member 36, a second clamping/unclamping member 37 and a third clamping/unclamping member 38, each conditioning the actuation of at least one other of the clamping/unclamping members 36, 37, and 38 sequentially.

[0057] In accordance with possible embodiments, the first clamping/unclamping member 36 is associated with the first lateral part 16 and the second lateral part 17 and is configured to block or allow the reciprocal translation,

along the longitudinal axis Z, of the first lateral part 16 and the second lateral part 17.

[0058] According to possible embodiments, which can be combined with other embodiments, the second clamping/unclamping member 37 is associated with the main part 15 and the second lateral part 17 and is configured to block or allow the reciprocal translation along the longitudinal axis Z of the main part 15 with respect to the second lateral part 17.

[0059] According to possible embodiments, which can be combined with other embodiments, the third clamping/unclamping member 38 is associated with at least the main part 15 and the first lateral part 16, and is configured to block or allow the reciprocal translation along the longitudinal axis Z of the main part 15 and the first lateral part 16.

[0060] According to a possible solution, the third clamping/unclamping member 38 is associated not only to the main part 15 and the first lateral part 16, but also to the second lateral part 17.

[0061] According to possible embodiments, the extendable table 10 comprises a drive member 39 configured to drive at least some of the clamping/unclamping members 36, 37, and 38.

[0062] According to possible embodiments, the drive member 39 comprises a button 51 and at least one drive bar 45 connected to the button 51, to the first clamping/unclamping member 36 and to the second clamping/unclamping member 37, to determine at least the clamping/unclamping of the latter two.

[0063] The button 51 is disposed on one side of the extendable table 10 and is able to drive at least the first clamping/unclamping member 36.

[0064] According to possible solutions, the button 51 and the drive bar 45 are installed and are mobile together with the second lateral part 17 of the frame 11.

[0065] For example, the drive member 39 can be disposed in a region of the first legs 18 of the frame 11, easily accessible by the user. Therefore, in order to extract/insert one or both of the extension planes 13 and 14, the user positions himself in correspondence with the side where the drive member 39 is positioned.

[0066] In accordance with possible embodiments, the first clamping/unclamping member 36 comprises at least one abutment portion 40 associated with the second lateral part 17.

[0067] According to some solutions, the first clamping/unclamping member 36 comprises a plurality of holding elements 41 associated with the first lateral part 16 and the main part 15 cooperating with the abutment portion 40.

[0068] The abutment portion 40 can be associated with the drive bar 45. By driving the drive member 39, it is possible to release the abutment portion 40 from one of the holding elements 41 and to allow the reciprocal sliding of the main part 15 with respect to the first lateral part 16. In particular, it can be provided that the button 51 is configured to rotate the drive bar 45 around its axis of oblong development.

[0069] In particular, with reference to the drawings, possible embodiments provide that at least two holding elements 41 are attached on at least one of the first bars 26 and define the maximum travel positions of the first lateral part 16 with respect to the main part 15.

[0070] In accordance with possible solutions, the holding elements 41 can each be installed in correspondence with one of the ends of the first bar 26, to allow to block/release the extraction/insertion of the first lateral part 16 with respect to the main part 15.

[0071] Furthermore, another holding element 41 can be attached to the main part 15, for example, to one of the orthogonal crosspieces 21, to block/release the extraction/insertion of the second lateral part 17 with respect to the main part 15.

[0072] According to possible embodiments, the drive member 39 comprises a contrast element 42 configured to keep the second clamping/unclamping member 37 in its clamping condition until the first extension plane 13 assumes the extended position.

[0073] For example, the contrast element 42 can comprise a wheel, or a disk element, or other. During sliding of the main part 15 and the second lateral part 17 with respect to the first lateral part 16, the contrast element 42 is configured to prevent the drive member 39 from determining the unclamping of the second clamping/unclamping member 37 until the first extension plane 13 is in the extended position. During this sliding, the contrast element 42 is put in contact with a surface of one of the support beams 29. When the first extension plane 13 is in the extended position, the contrast element 42 can be released from the support beams 29, allowing the drive member 39 to determine the release of the second clamping/unclamping member 37 as well.

[0074] According to possible embodiments, the second clamping/unclamping member 37 comprises a locking pin 43 associated with the main part 15 and an abutment element 44 associated with the second lateral part 17 and cooperating with the locking pin 43 to block/release the extraction/insertion of the second lateral part 17 and hence of the second extension plane 14 with respect to the main part 15.

[0075] In accordance with possible embodiments, the first and second clamping/unclamping members 36 and 37 are associated with the drive bar 45 or other connection elements, for example a group of tie rods or other, which can be driven by the drive member 39.

[0076] In accordance with a possible solution, the drive bar 45 is provided with the abutment portion 40 cooperating with the first clamping/unclamping member 36 to define the positioning of at least the first lateral part 16 with respect to the main part 15, and of said abutment element 44 cooperating with the second clamping/unclamping member 37.

[0077] In a possible solution, the abutment element 44 can be associated with the drive bar 45. In particular, it can be provided that the abutment portion 40 is attached

to a first end of the drive bar 45 while the abutment element 44 is attached to a second end of the drive bar 45, that is, it is attached distanced from the abutment portion 40.

[0078] With reference to the drawings, starting from the closed configuration, the rotation allowed by the drive bar 45 driven by the drive member 39 is limited by the contrast element 42 that rests on the surface of one of the support beams 29.

[0079] In fact, thanks to the reference of the support beam 29, the angle of rotation of the drive bar 45 is not sufficient to release the second clamping/unclamping member 37 as well.

[0080] According to possible embodiments, the second lateral part 17 can comprise a support beam 46 attached to the bars 27 to support the drive bar 45 and at the same time allow the rotation of the latter around its longitudinal axis.

[0081] In accordance with possible embodiments, the third clamping/unclamping member 38 comprises an elastic locking pin 48 associated with the main part 15, an anchoring seating 49 associated with the first lateral part 16 and in which the elastic locking pin 48 can be inserted, to constrain the reciprocal positioning of the main part 15 with respect to the first lateral part 16.

[0082] In accordance with possible solutions, the third clamping/unclamping member 38 can also comprise a holding body 47 associated with the second lateral part 17 and configured to constrain/release the elastic locking pin 48 in the anchoring seating 49.

[0083] Starting from the closed configuration of the extendable table 10, it is possible to drive the drive member 39 and therefore release only the first clamping/unclamping member 36.

[0084] According to possible embodiments, sliding members 50, for example wheels or other, are associated with the first support means, for example the first legs 18, and are configured to allow the translation of the first legs 18 on a support plane of the frame 11.

[0085] In particular, by driving the drive member 39, the abutment portion 40 is released by one of the holding elements 41 associated with one of the bars 26 and the user can pull the main part 15 and the second lateral part 17 of the frame 11 toward him.

[0086] The first legs 18 can slide on the support plane of the frame 11 while the second legs 19, due to the weight of the frame 11, remain attached with respect to the support plane, and the first extension plane 13 is extracted by lifting it until it is adjacent and coplanar to the main plane 12.

[0087] When the abutment portion 40 abuts with the other holding element 41 associated with the bar 26, the first extension plane 13 is completely extracted and is clamped in position, unless the drive member 39 is not driven again and the first legs 18 pushed into the previous position, not extended.

[0088] In the position where the first extension plane 13 is extracted, even if the user continues to pull the first legs 18 toward him, the second extension plane 14 does not move to the extended position due to the clamping action of the second clamping/unclamping member 37.

[0089] In the position where the first extension plane 13 is extracted, by driving the drive member 39 again, it is possible to release the second clamping/unclamping member 37, and the user can pull the second lateral part 17 toward him and then extract the second extension plane 14 with respect to the main plane 12.

[0090] When the opening of the second extension plane 14 is started, the holding body 47 is released from the elastic locking pin 48, allowing the latter to be inserted in the anchoring seating 49 when the extraction of the first extension plane 13 is complete, so as to block the movement of the first lateral part 16 with respect to the main part 15 of the frame 11.

[0091] In this latter open configuration of the extendable table 10, due to the clamping action of the first clamping/unclamping member 36, the movement of the second lateral part 17 is also clamped with respect to the main part 15 of the frame 11.

[0092] In particular, since the abutment portion 40 is inserted into the holding element 41 located on the orthogonal crosspiece 21 of the main part 15, it is not possible to close the extendable table 10.

[0093] Starting from the completely open configuration of the extendable table 10, it is possible to close the extendable table 10 in sequence, by driving the drive member 39 again.

[0094] By driving the drive member 39, the first clamping/unclamping member 36 is released with respect to the orthogonal crosspiece 21 associated with the main part 15, so that the second extension plane 14 can lower and position itself below the main plane 12 until it drives the second clamping/unclamping member 37 which clamps the second lateral part 17 to the main part 15 of the frame 11.

[0095] From this position, it is possible to completely close the extendable table 10 by pushing the first legs 18 toward the second legs 19, so as to drive the third clamping/unclamping member 38 and allow the first extension plane 13 to position itself below the main plane 12.

[0096] In particular, by pushing the first legs 18 toward the second legs 19, the holding body 47 is associated with the elastic locking pin 48 which is released from the anchoring seating 49.

[0097] In this way, the first lateral part 16 can slide again with respect to the main part 15 of the frame 11.

[0098] According to one aspect of the present invention, the co-operation of the clamping/unclamping members 36, 37 and 38 allows to extend the extendable table 10 by guaranteeing the sequential extraction/insertion of the extension planes 13 and 14.

[0099] According to a possible solution, starting from the closed configuration, it is possible to pass to the first open configuration and then to the second open configuration, by driving in sequence:

a) the first clamping/unclamping member 36, so as to extract the first extension plane 13 from the main part 15;
b) the first and second clamping/unclamping members 36 and 37 simultaneously, so as to extract the second extension plane 14 and also drive the third clamping/unclamping member 38.

[0100] According to another solution, starting from the second open configuration, it is possible to pass to the first open configuration and then to the closed configuration, by driving in sequence:

a) the first clamping/unclamping member 36, so as to insert the second extension plane 14 under the main plane 12 and also drive the second clamping/unclamping member 37;
b) the first and third clamping/unclamping members 36 and 38 simultaneously, so as to insert the first extension plane 13 under the main plane 12 and also drive the third clamping/unclamping member 38.

[0101] In accordance with possible embodiments, the position of one of the sides of the main plane 12 in the base configuration, that is, not extended, defines the reference position of one of the sides of one of either the first or second extension planes 13 and 14, said reference position being the limit beyond which the first or second extension planes 13 or 14 cannot protrude, at least when in at least one extension position.
[0102] This characteristic allows to dispose the extendable table 10 with a side of the main plane 12 defining the reference position also in direct contact with a wall or fixed element, since the wall or fixed element is not knocked by the first extension plane 13 when it is in the first and second extended positions.
[0103] It is clear that modifications and/or additions of parts can be made to the extendable table 10 as described heretofore, without departing from the field and scope of the present invention.
[0104] It is also clear that, although the present invention has been described with reference to some specific examples, a person of skill in the art shall certainly be able to achieve many other equivalent forms of extendable table, having the characteristics as set forth in the claims and hence all coming within the field of protection defined thereby.

Claims

1. Extendable table comprising a frame (11), a main plane (12), a first extension plane (13) and at least a second extension plane (14), each of said extension planes (13, 14) being movable between a hidden position, in which said extension plane (13, 14) is below said main plane (12), and at least one extended position, in which said extension plane (13, 14) is adjacent and coplanar to said main plane (12), wherein said frame (11) comprises a main part (15), a first lateral part (16) and a second lateral part (17), with which said main plane (12), said first extension plane (13) and said second extension plane (14) are respectively associated, said first lateral part (16) and said second lateral part (17) being translatable linearly along a longitudinal axis (Z) during the passage of said extension planes (13, 14) from said hidden position to said extended position, and vice versa, **characterized in that** a first clamping/unclamping member (36) is associated with said first lateral part (16) and with said second lateral part (17), **in that** a second clamping/unclamping member (37) is associated with said main part (15) and with said second lateral part (17), **and in that** a third clamping/unclamping member (38) is associated with at least said main part (15) and with said first lateral part (16) said clamping/unclamping members (36, 37, 38) being configured to clamp or allow the translation along said longitudinal axis (Z) of said first lateral part (16) and said second lateral part (17).

2. Extendable table as in claim 1, **characterized in that** said frame (11) comprises first support means (18) attached to said second lateral part (17) and second support means (19) attached to said first lateral part (16), said first support means (18) and said second support means (19) being configured to support said main plane (12), said first extension plane (13) and said second extension plane (14) with respect to a support plane.

3. Extendable table as in claims 1 or 2, **characterized in that** it comprises a drive member (39) configured to drive at least some of said clamping/unclamping members (36, 37).

4. Extendable table as in any claim hereinbefore, **characterized in that** said third clamping/unclamping member (38) is also associated with said second lateral part (17).

5. Extendable table as in any claim hereinbefore, **characterized in that** said drive member (39) comprises a drive bar (45) and a button (51) configured to drive said drive bar (45), said drive bar (45) being provided with at least an abutment portion (40) cooperating with said first clamping/unclamping member (36) to define the positioning at least of said first lateral part (16) with respect to said main part (15), and with an abutment element (44) cooperating with said second clamping/unclamping member (37).

6. Extendable table as in claim 5, **characterized in that** said button (51) and said drive bar (45) are installed and mobile together with said second lateral part (17).

7. Extendable table as in claim 5, **characterized in that** said first clamping/unclamping member (36) comprises holding elements (41) associated with at least said first lateral part (16) and cooperating with said abutment portion (40).

8. Extendable table as in claim 5, **characterized in that** said second clamping/unclamping member (37) comprises a clamping pin (43) associated with said main part (15) and cooperating with said abutment element (44).

9. Extendable table as in claim hereinbefore, **characterized in that** said third clamping/unclamping member (38) comprises an elastic clamping pin (48) associated with said main part (15), an anchoring seating (49) associated with said first lateral part (16) and in which said elastic clamping pin (48) can be inserted, and a holding body (47) associated with said second lateral part (17) and configured to constrain/release said elastic clamping pin (48) in said anchoring seating (49).

10. Extendable table as in claim 2, **characterized in that** sliding members (50) are associated with said first support means (18) and are configured to allow the translation of said first support means (18) on a support plane of said frame (11).

11. Method to open/close an extendable table (10) that provides to take a first extension plane (13) and a second extension plane (14) between a hidden position, in which said extension plane (13, 14) is below said main plane (12), and at least one extended position, in which said extension plane (13, 14) is adjacent and coplanar to said main plane (12), and in which the passage of said extension planes (13, 14) from said hidden position to said extended position and vice versa is determined by the translation, along a longitudinal axis (Z) and with respect to a main support part (15) of said main plane (12), of a first lateral part (16) and of a second lateral part (17), respectively supporting said first extension plane (13) and said second extension plane (14), **characterized in that** a first clamping/unclamping member (36) is associated with said first lateral part (16) and a second clamping/unclamping member (37) is associated with said main part (15) and with said second lateral part (17), and a third clamping/unclamping member (38) is associated with at least said main part (15) and with said first lateral part (16), **and in that** the opening of said extendable table (10) provides to:

- unclamp said first clamping/unclamping member (36) and pull said second lateral part (17) along said longitudinal axis (Z) to determine the sliding of said main part (15) and said second lateral part (17) with respect to said first lateral part (16) and take said first extension plane (13) into said extended position, and subsequently to
- unclamp said second clamping/unclamping member (37) and pull said second lateral part (17) along said longitudinal axis (Z) to determine the sliding of the latter with respect to said main part (15) and take said second extension plane (14) into said extended position.

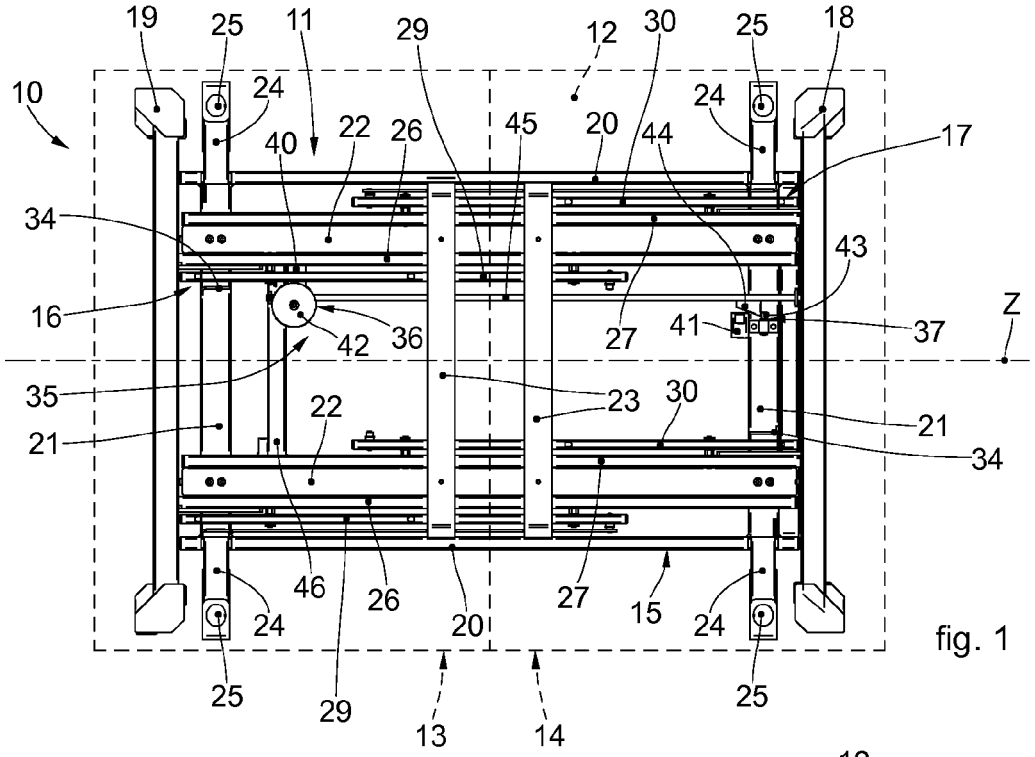

fig. 1

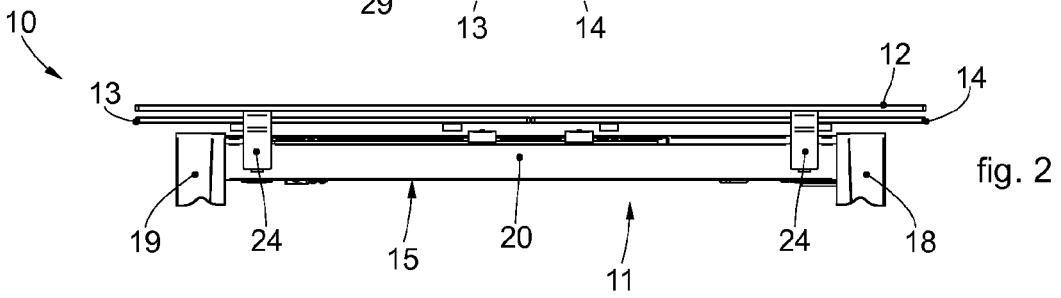

fig. 2

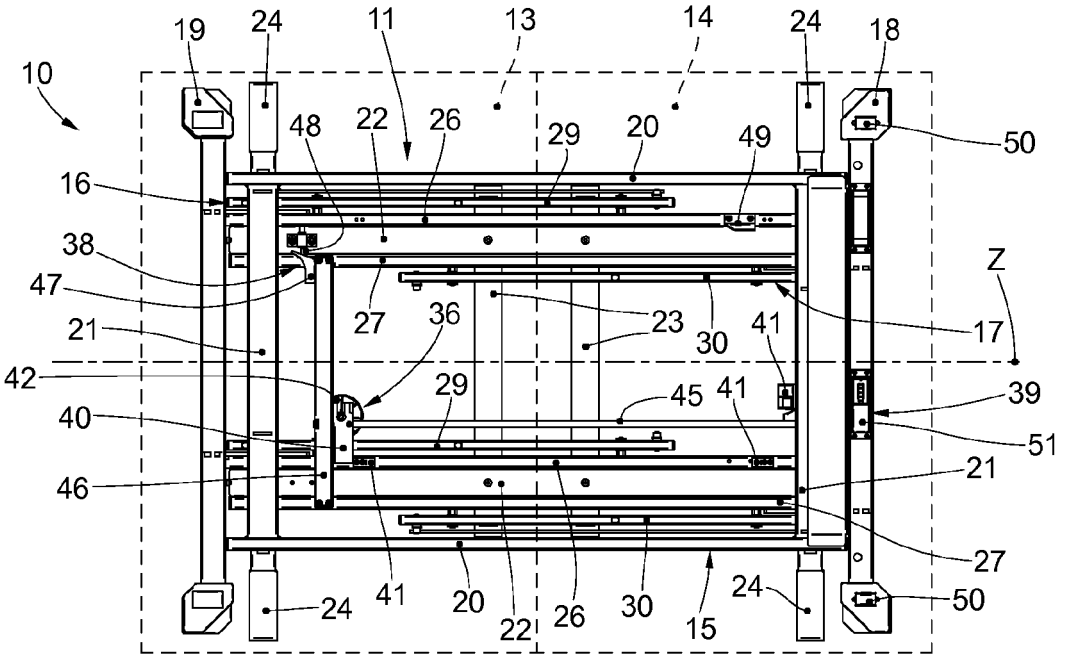

fig. 3

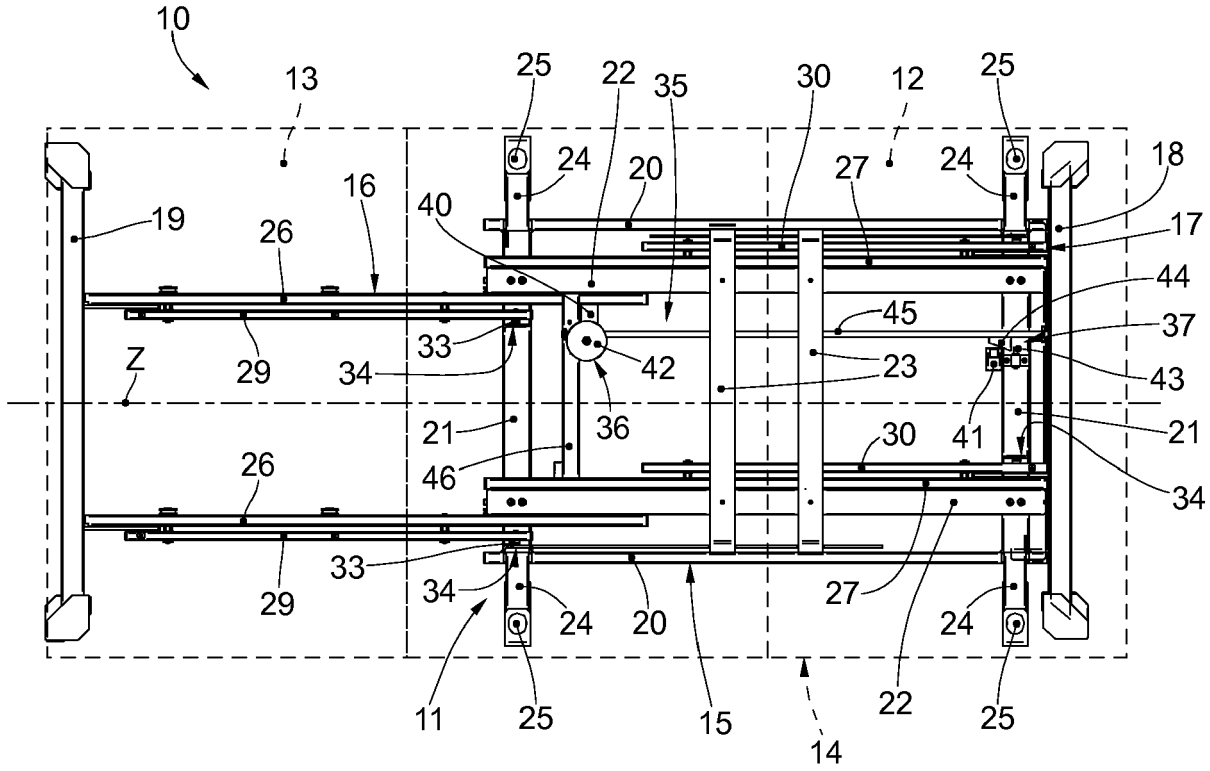
10
13
25
22
35
30
12
25
24
20
27
24
18
16
40
19
26
17
44
45
37
Z
29
34
33
42
23
43
36
21
41
21
46
30
26
34
33
29
34
24
20
27
24
11
25
15
14
22
25

fig. 4

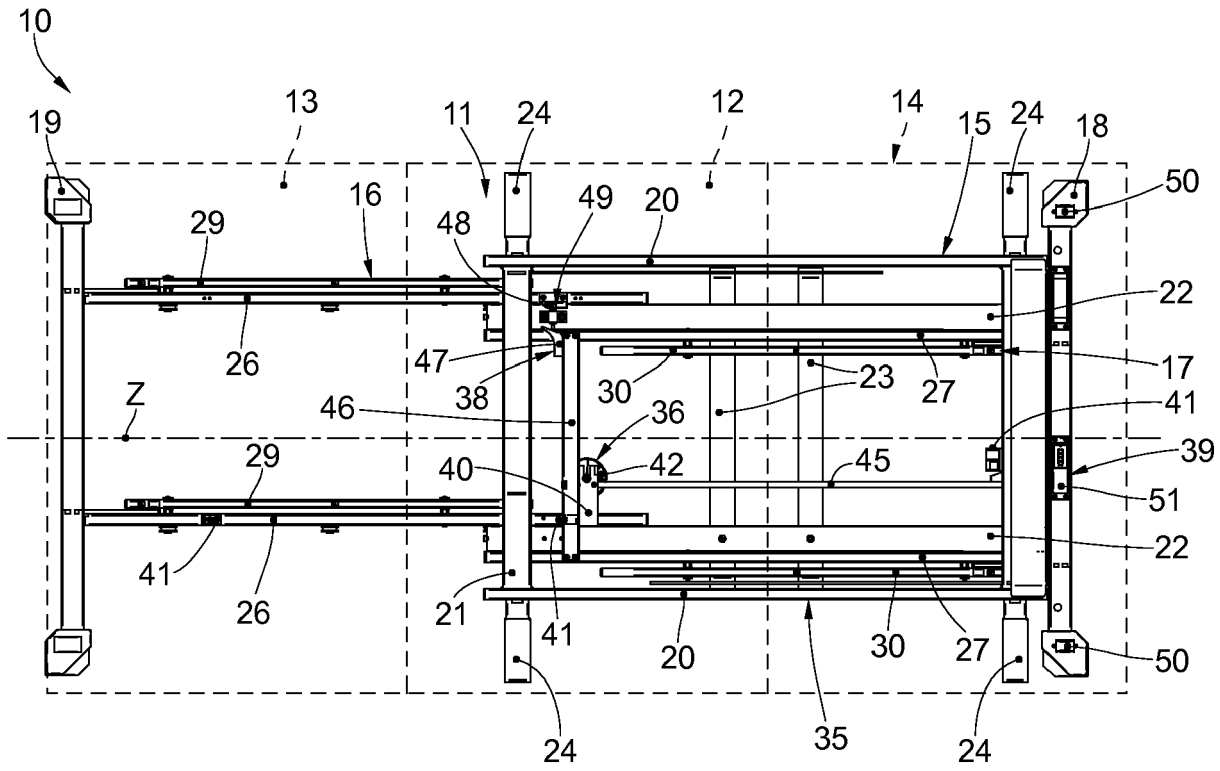
10
19
13
11
24
12
14
15
24
18
50
16
29
48
49
20
22
26
47
30
23
27
17
Z
38
46
36
41
29
40
42
45
39
51
41
26
21
41
20
30
27
22
50
24
35
24

fig. 5

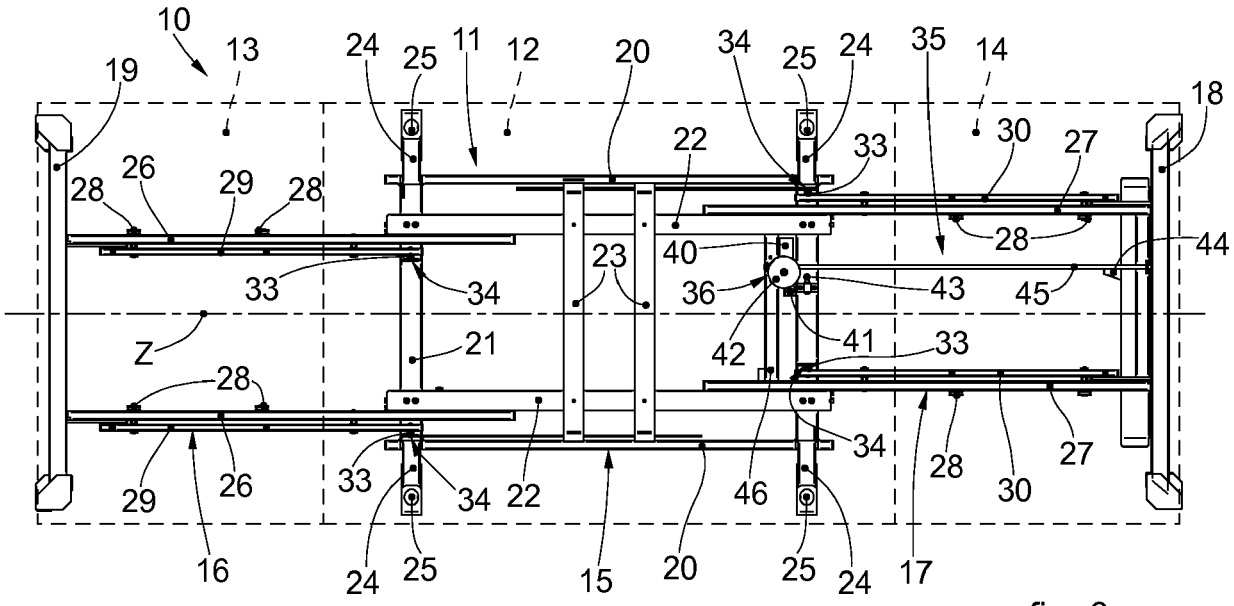

fig. 6

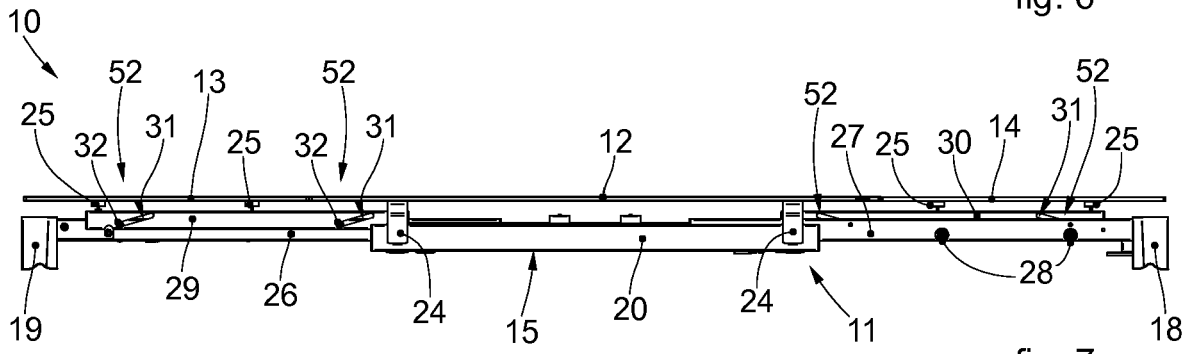

fig. 7

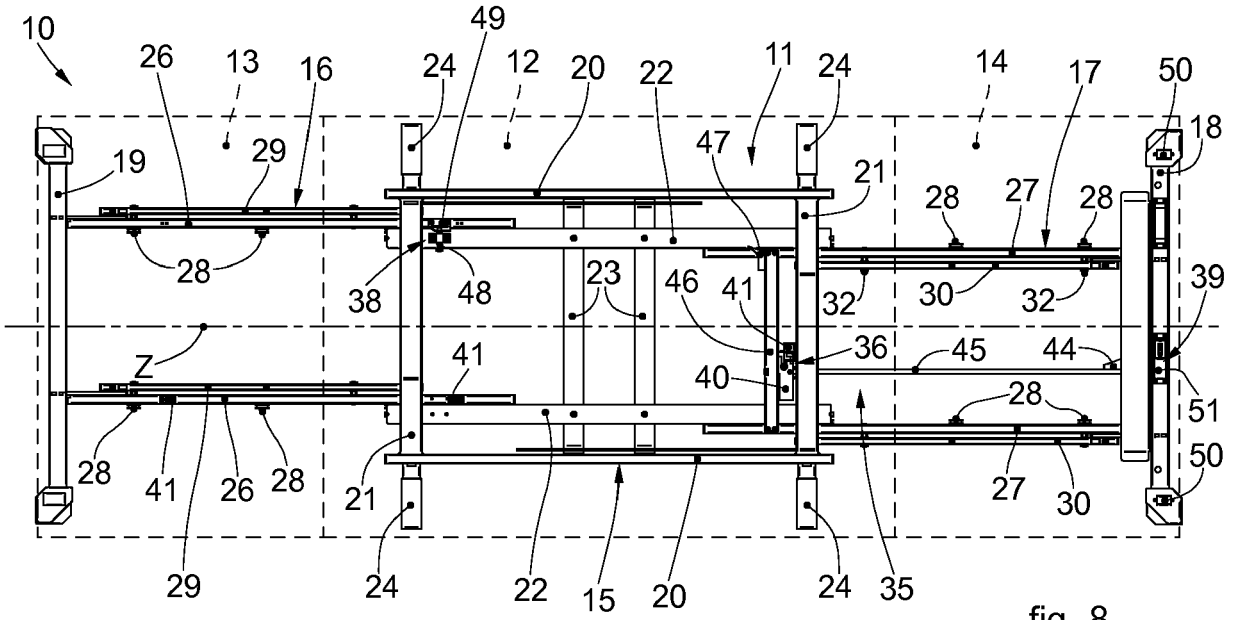

fig. 8

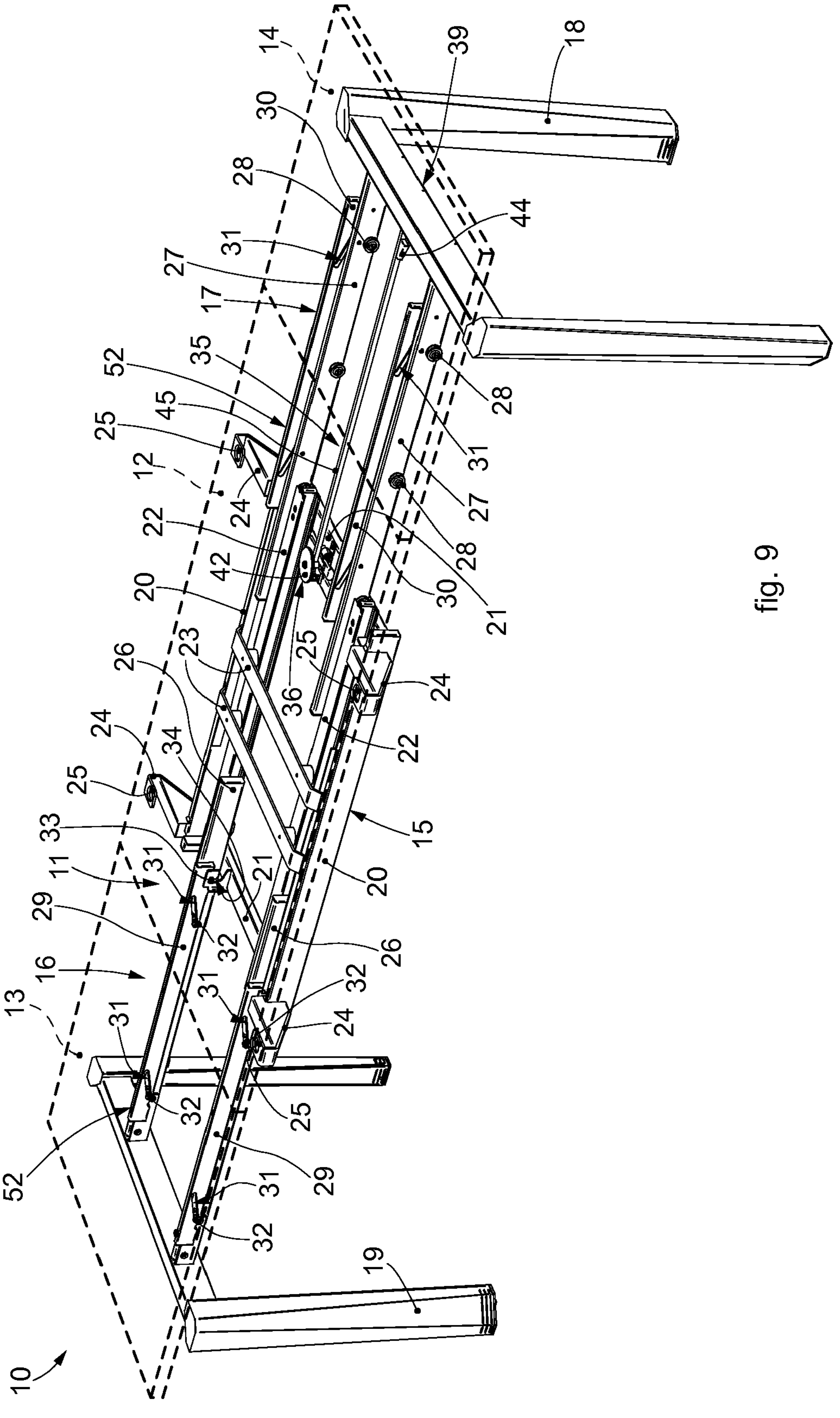
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
39
42
44
45
52

fig. 9

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 17 19 5344

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	FR 1 486 293 A (F BELLERI ET CIE SOC) 23 June 1967 (1967-06-23) * the whole document *	1	INV. A47B1/05
A	US 2 108 816 A (HOLLAND ALFRED H ET AL) 22 February 1938 (1938-02-22) * the whole document *	1	
A	US 2 263 816 A (HERMANN NONNAST) 25 November 1941 (1941-11-25) * the whole document *	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	6 February 2018	Jacquemin, Martin

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 17 19 5344

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-02-2018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 1486293 A	23-06-1967	NONE	
US 2108816 A	22-02-1938	NONE	
US 2263816 A	25-11-1941	NONE	

EPO FORM P0459

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

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- FR 1486293 A **[0006]**
- US 2108816 A **[0006]**
- US 2263816 A **[0006]**