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(54) SUPPORT STRUCTURE FOR FURNITURE

(57) The structure is formed by one or several elements of any shape, as long as support points (2) are defined off the floor. The structure (1) is preferably designed in order to support a piece of furniture that may be a seat (4), even a table board, a bookcase, etc., and wherein it will preferably have three support points, two on the ceiling (2) and one on the floor (3) or vice versa, even one on the ceiling, another one on the floor and another one on a wall. The elements that comprise the structure can form a single rigid or flexible body, or else they may be formed by two or more sections connected telescopically to each other and/or jointed in order to permit the angulation between the elements to be varied, as well as the extendibility thereof, in order to raise them at different heights between the ceiling and floor. The structure (1) as a whole has its supports (2) and (3) perfectly stable and therefore the furniture or seat (4) that the structure supports is also stable.

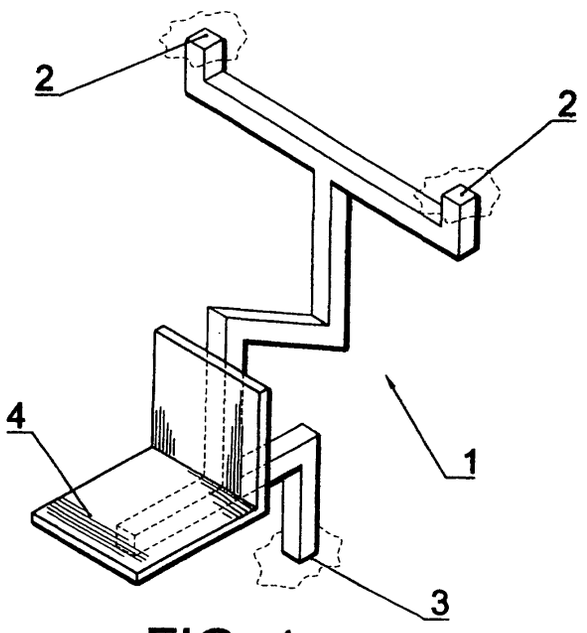

FIG. 1

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Description

OBJECT OF THE INVENTION

[0001] As expressed in the title of this specification, the present invention refers to a support structure for furniture, that has the particularity that means other than the floor (ceilings, beams, walls, etc.) can be used to fasten or support the same in such a way that at least one of its supports is not carried out on the floor, but preferably on the ceiling or on another surface that permits thrust by pressing towards said surface, perpendicular thereto, without ruling out another support system in order to achieve stabilization and/or fastening of the structure.

[0002] The purpose of the invention is none other than to provide a structure that supports furniture, such as a seat, bed, bookcase, etc., in a detachable or fixed manner, where the furniture is raised above the floor and supported by the structure. The stabilization and/or fastening thereof is achieved by two, three or more independent support points, at least one of which, is in correspondence with the ceiling, a wall, a top and fixed surface, etc. without the need of anchorings or additional support elements. In the event of three supports, the center of gravity of the assembly can be placed in such a way that the projection thereof on the horizontal plane of the floor can be outside the triangle defined by the projections on this same plane of the points of application of the reactions on the supports.

[0003] The structure of the invention is applicable as a support means for all types of furniture that do not need to be moved frequently, such as beds, shelves, desks, corner armchairs, etc.

BACKGROUND OF THE INVENTION

[0004] The inventor has no knowledge of structures with two, three or more support points that support furniture and that are stable as a whole when, at least, one of the support points is not the floor.

DESCRIPTION OF THE INVENTION

[0005] The structure of the invention is comprised of simple (tubular, solid, polygonal, circular or other shaped) elements or structural shapes of wood, metal or another material, forming a rigid or flexible frame, as a single body. A frame with detachable parts may be formed either to provide the structure with an extendible and/or foldable nature, or to provide it with a jointable nature and it may even have wheeling means in correspondence with its support points, thus permitting the structure to be easily moved.

[0006] The elements that form the structure may be linear, curved and/or have any other shape. They may also be formed of a single section or by various sections conveniently connected to each other, even jointed in order to be able to increase or decrease the height or length thereof. It is also possible to fold or unfold the elements and to change the angulation between the sections, as well as the shape of the frame, etc.

[0007] In general, the structure should be designed so that its center of gravity can be outside the area that the points of the horizontal plane define on the floor, such that all the straight lines of that plane that pass through them place support points on both sides on the floor itself. This area of the horizontal plane is convex and its contour is closed and in general curvilinear.

[0008] As to the supports of the structure, there will preferably be three, and one or two of them will be supported on points or surfaces other than the floor, either the ceiling, a wall, a column, etc., in such a way that depending on the position of the projection of the center of gravity in a horizontal plane with respect to the triangle defined by the projections in the same plane of the points of application of the reactions, the structure that supports, for example, a seat, in order to balance the corresponding weight, will have:

- Three supports on the floor, when the projection of the center of gravity is inside the triangle of the projections of the support points.
- Two supports on the floor and one on the ceiling, when the center of gravity is in the area defined by one of the inside angles of the triangle, except the inside points of the triangle itself.
- One support on the floor and two on the ceiling, when the center of gravity is inside the area defined by the angle opposite the one of the vertex that corresponds to one of the inside angles of the triangle.

[0009] In the above, it is assumed that the vertical upward reactions are achieved with supports on the floor, but they could likewise be achieved with cables fastened to the ceiling, for example, and the vertical downward reactions could be achieved with legs supported on the ceiling (reactions that could also be achieved with cables anchored to the floor).

[0010] The supports may be pointwise or continuous. In the second case instead of three supports, there could be two, a pointwise one and another continuous one, or the two of them may be continuous or obviously two of them may be pointwise and one may be continuous.

[0011] Likewise, the supports may be symmetric with respect to the structure or may be asymmetric. Likewise, the top supports or top support may be located more or less forward with respect to the bottom support or bottom supports and vice versa and all the supports may even be more forward with respect to the furniture.

[0012] It should also be pointed out that the furniture supported by the structure should be orientable with respect to the structure, by simply providing the fastening section of said furniture with means that allow same to be moved and oriented with respect to the rest of the

structure.

[0013] The adjustment of the orientation as well as that of the extendibility can be carried out in several ways, either by leaps (blocking at different points), or continuously, by means of a spindle, a hydraulic element, a pneumatic element, etc.

[0014] In a preferred embodiment, the structure supports a seat, the structure being formed of linear, curved or broken line type elements, with two support points on the floor and one on the ceiling, or with two support points on the ceiling and one on the floor. Said support points are formed by the ends of respective sections acting as legs, the seat being on top, although near, of the support point or points on the floor. The element or elements that form the sections comprised between the sections that act as legs, may form with the latter sections a single-pieced rigid or flexible body. The element or elements that form the sections comprised between the sections that act as legs, may either be formed by two or more elements connected to each other and this connection may be telescopic, jointed, fixed, etc., all so that the element may be adapted to the height between the ceiling and the floor or in order to achieve a folding and to convert the original structure supported between the ceiling and the floor into a frame that will complement the seat in order to form as a whole a type of armchair.

[0015] In a variant of embodiment, the structure may be supported from a projection, in which case the element to which the seat is fastened extends into two branches of different lengths, branches which clamp like tongs the edge of the projection, the structure being supported stably from said projection.

[0016] In another variant of the embodiment, the structure may be fastened to a column, by means of the combination of a support on the floor and another one supported on the side surface of the column itself, partially embracing thereto, keeping the seat or furniture projected.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] In order to complement the description that is going to be made hereinafter and in order to provide a better understanding of the characteristics of the invention, the present specification is accompanied by a set of drawings in which the innovations and advantages of the support structure for furniture made in accordance with the object of the invention will be more easily understood.

[0018] Figure 1 shows a schematic representation of a structure made in accordance with the object of the invention, a structure which is rigid and includes two support points on the ceiling and one on the floor, the structure being provided with a seat.

[0019] Figure 2 is a side raised view of the structure represented in the preceding figure.

[0020] Figure 3 is a variant of the embodiment of the structure with two support points on the floor and one on the ceiling, likewise supporting a seat.

[0021] Figure 4 shows a side raised view of a structure formed by two telescopic elements in order to provide an extendible/foldable nature to the structure.

[0022] Figure 5 shows a way to carry out the telescopic coupling of the elements or parts of the structure represented in the preceding figure.

[0023] Figure 6 shows a structure with two parts jointed together, with two support points on the ceiling and one on the floor and provided with a seat, the jointing permitting the folding of the structure.

[0024] Figure 7 shows a view of the same structure represented in the preceding figure, but in a folded position, converting the seat into a type of armchair.

[0025] Figure 8 shows another variant of the embodiment of the structure, in this case with one support point on the floor, another one on the ceiling and another one on a wall.

[0026] Figure 9 shows another alternative embodiment of the structure, in this case with two support points on the ceiling and one on the floor but supporting a table, bed or any other piece of furniture.

[0027] Figure 10 shows a practical embodiment of the structure with two linear supports, one on the ceiling and the other one on the floor.

[0028] Figure 11 shows a schematic open view of an embodiment of the structure, in which there are elements that couple together telescopically, jointed elements and a mountable/dismountable type seat.

[0029] Figure 12 shows an exploded view of a means to carry out the jointing of two elements of the structure, permitting the adjustment in the desired position.

[0030] Figures 13 and 14 show respective views of an example of the structure where the seat, with a person, is in front of the supports, in the first case, with a support on the ceiling and two on the floor and in the second case with two supports on the ceiling and one on the floor.

[0031] Figure 15A shows another perspective of a structure in which the piece of furniture is a bookcase, including in this case more than three supports (pointwise and continuous ones, and the latter being in turn linear and one extending on the floor) in order to provide greater stability to the assembly.

[0032] Figure 15B is a plan view of the contours that delimit the areas obtained on the basis of the projections of the support points on the floor and ceiling of the preceding figure, as well as the area where the center of gravity of said structure may be located.

[0033] Figure 16 shows a view of the structure with a continuous support on the floor and another support on the side surface of a column, partially embracing thereto, the piece of furniture, comprised in this case of a table, being projected.

[0034] Figure 17 shows another way to achieve the fastening of the structure upon a projection, with two support points, one underneath and one on top of the plate that forms the projection, keeping a seat in a stable

state.

[0035] Figure 18 shows a structure with wheeling elements as supports for the structure, permitting the structure to be easily moved.

[0036] Figure 19 shows a structure with a shape that is balanced and stable whatever the position of the center of gravity of the assembly is.

[0037] Figure 20 shows another embodiment of the structure including flexible elements that permit the assembly to be swung maintaining at all times the supports pressing against the corresponding surfaces (floor and ceiling).

[0038] Figure 21 shows another embodiment of the structure formed by a single element that could likewise be flexible and permit the supported seat to swing somewhat.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0039] As it can be seen in the cited figures and specifically in connection with figures 1 and 2, one can see a structure (1), considered as basic, which is a rigid and single-pieced body formed by an element with an undetermined trajectory but based on a structural shape, in this case with a quadrangular section, although it may have any other appropriate geometric shape. As a fundamental characteristic, the structure includes three support points, two of them referred to as number (2), in order to be supported on the ceiling and a third one, referred to as number (3) in order to be supported on the floor. The structure is perfectly stabilized by means of these three supports and the structure supports a seat (4) which any person may sit on and as it has been said above the structure is kept stable.

[0040] Figure 3 shows a structure (1) with characteristics similar to the preceding one, but with a single support point (2) on the ceiling and a pair of supports (3) on the floor. This structure supports a seat (4).

[0041] In both cases, the support points (2) and (3) may or may not be symmetric with respect to the structure and they may even be indistinctly in front of or behind the seat itself.

[0042] The supports (2) of figure 1 may be comprised of a single linear support, just like the supports of figure 3. The single support may even be a linear support instead of a pointwise support as shown in these figures 1 and 3. A linear support is understood as a continuous section that provides enough stability between the pointwise support, either of the ceiling, or of the floor, and the linear and continuous support itself which has just now been referred to.

[0043] Obviously, although it is provided for that the number of supports of the structure is preferably three, the possibility that there are two supports is not ruled out, in the event that one of them is linear, or both of them are linear. There may even be four or more supports, as long as the characteristic that at least one of them is located in a point or surface off the floor is maintained.

[0044] Figure 4 shows a structure (1), in this case formed by two elements (5) and (5'), telescopically coupled to each other, including one or two support points on the ceiling (2) and one or two support points (3) on the floor, said structure (1) supporting a seat (4). This structure makes it possible to increase or reduce the height or length thereof and to thus adapt same to different heights of ceilings, or else, it is possible, by varying the length of a linear element, to change the slope of the seat in the case of a chair, being applicable to any type of furniture.

[0045] Logically, the telescopic nature of the elements or sections (5) and (5') of the structure (1) can be carried out in many different ways, such as a hydraulic or pneumatic system, upon being a spindle, or else there may be two tubular elements (5) and (5') with holes (6) in both of them, face to face, so that by means of a pin (7) it is possible to fasten both sections or elements (5) and (5') in the desired point and thus adjust the height or extendibility of the structure (1) to a larger or smaller degree.

[0046] Figures 6 and 7 show a foldable structure (1) formed by two parts or elements (8) and (9) connected by means of a joint point (10), in such a way that the cited structure (1) may have two support points (2) on the ceiling and one support point (3) on the floor, or vice versa, in such a way that in any case the part or element (9) may fold from the position represented in figure 6 over part (8) and convert the structure with its seat (4) into a type of armchair, as shown in figure 7, in such a way that in this case the support points (2) which were previously supported on the ceiling are now on the floor, just like the support point (3).

[0047] Obviously, this solution would be valid for any number of support points on the ceiling and/or on the floor, or any general shape of the structure.

[0048] Figure 8 shows another embodiment of the structure, in this case referred to as (1), that includes a support point (2) on the ceiling, a support point (3) on the floor and a support point (2') on a wall, this structure (1) being rigid with the corresponding seat (4), although it could be extendible/foldable like the structure in figure 4.

[0049] Obviously, there could be two support points on the wall (2') and a support point on the floor (3), thus eliminating the support point of the ceiling (2), in such a way that in this case the contact with the floor or support point (3) should endure reaction forces parallel to the horizontal plane (friction forces with the surface, for example).

[0050] The concept on which the structures mentioned up until now are based, is applicable to any other type of furniture, instead of a seat, since as it is seen in figure 9, a structure (1) with two supports (2) on the ceiling and one support (3) on the floor, supports a board (11) instead of a seat as in the preceding cases, a board that may be a table or else it may be part of a bed, etc.

[0051] Figure 10 shows a structure (1) with a seat (4), where there is a linear and continuous support (2) on the ceiling and another also linear and continuous support (3) on the floor. The structure may be in this case provided with a complementary reinforcement (12) between the support piece (13) of the seat (4) and the top section corresponding to the structure itself (1), with the particularity that the rear end of the piece (13) acts as an abutment against the floor when the assembly without any weight pivots backwards, around the support on the floor (3), as the effect of a slight thrust, preventing the assembly from falling. Certain parts of the structure, such as the mast (13') could be provided with a certain amount of elasticity and could be flexible, in such a way that the seat and the structure as a whole, at the same time that contact is maintained with the ceiling, could slightly swing around the floor support (3), in the same way that a rocking chair would.

[0052] On the other hand, it should be pointed out that the structure in question may be carried out in very different manners, not only with regard to the support points on the floor or on the ceiling, even on the wall as stated above, but also with respect to the number of elements that are involved and the connection between them. In this sense, it can be seen in figure 11 where the structure referred to as (1) includes a top part (14) with two support points (2) on the ceiling, connected to a bottom part (14') with a support point (3) on the floor. The connection is carried out by means of a series of elements or pieces, such as an elbow (15), a section (16) that connects to the front elbow telescopically, an element (17), also elbowed, with a joint (10) and a section (18) inserted between the jointed elbow (17) and the bottom part (14'), this section (18) having an element (19) that permits relative movement forward and backward between the bottom part (14') and said section (18), this section being provided for detachable type fastening of the corresponding seat (4) with the insertion of a support (20) that would fasten to the section or element (18).

[0053] The seat may be assembled with an adjustable slope, height and even orientation and for this purpose it has appropriate means.

[0054] The joint (10), just like the joint shown in figure 6, permits the variation of the angulation between the parts that comprise this structure (1). The adjustment may be carried out in very different manners. It may be comprised of hydraulic elements, pneumatic elements, spindles or others up to that which is represented in figure 12 where it consists of two disks (21) with complementary teeth (22) on the opposite surfaces. The disks (21) are assembled between the two jointed parts of the above-cited elbow (17), in such a way that an element that connects said disks (21) to each other and that permits them to be separated and locked with their teeth (22), would permit the adjustment of the slope of the joint defined by the disks and therefore the adjustment of a part of the structure with respect to the other part. Likewise, this jointing system and corresponding adjustment of position can be comprised of disks that can lock, instead of with teeth as mentioned above, with bolts passing through opposite holes on the disks.

[0055] It should be taken into account that whatever the structure is, the stabilization thereof should be achieved whether the seat of any of them has weight on it or whether it is empty. Therefore, it is necessary to design the structure taking into account the displacement of the center of gravity.

[0056] Hence, figure 13 shows a structure (1) with a support (2) on the ceiling and two supports (3) on the floor, whose seat (4) is supporting the weight of a person (23).

[0057] Figure 14 shows another structure (1) with two support points (2) on the ceiling and one support point (3) on the floor, the seat (4) supporting in this case the weight of a person (23). In both cases, in other words, in figure 13 as well as in figure 14, the center of gravity of the seats (4) should be in the same area with respect to the triangle (24), whether the seat is empty or has weight on it, so that the structures are balanced, in other words, so that the corresponding structures are kept stable whether they are empty or have weight on them.

[0058] In general it can be stated that depending on the position of the projection of the center of gravity in a horizontal plane with respect to the triangle (24) defined by the projections in the same plane of the points of application of the reactions, the structure with a seat with three support points, that balances the weight should comply with the following:

- With two supports on the floor and one on the ceiling, the center of gravity of the general structure will be located in the area defined by one of the inside angles of the triangle (24), except the inside points of the triangle itself.
- If there is a support on the floor and two on the ceiling, the center of gravity should be located in the area defined by the angle opposite the one of the vertex corresponding to one of the inside angles of the triangle (24).

[0059] Therefore, from what has just been said it is inferred that the upward vertical reactions are achieved with supports on the floor and the downward vertical reactions are achieved with supports on the ceiling.

[0060] Figure 15A shows a structure (1) with various support points, specifically with three support points (3) on the floor and two support points (2) on the ceiling. The number of supports may be larger on the floor as well as on the ceiling. In this specific example represented in this figure, supporting a bookcase (25), there is a pointwise support, a curved and continuous support, as well as an extensive support on the floor; whereas one of the supports on the ceiling is pointwise and the other one is continuous and curved.

[0061] The projections of these support points define

on the floor the areas (24') and (24''), as shown in figure 15B, in the first case defined by some points of the horizontal plane so that all the straight lines in that plane that pass through them, place support points (3) on both sides. In the second case, the area (24'') is defined in a similar manner for the projections on the horizontal plane of the support points (2) on the floor.

[0062] In said figures 15A and 15B and in a general manner, the structure (1) with the furniture (seat (4), bookcase (25) or any other one) can have the center of gravity outside the area (24') that the projections of the support points (3) define on the floor. This area is referred to as (31) and is delimited by the extensions (32') of the tangents (32) inside said two areas (24') and (24'') and the section (32'') of the contour corresponding to area (24'), section (32'') which is the one comprised between the tangent points (33) with the contour of this area (24'). In other words, the tangent points (33) limit a section (32'') of the contour of the area (24'), whose section (32'') with the extensions (32') of the inside tangents (32) define the area (31) where the center of gravity of the structure is located, whether or not there is weight thereon.

[0063] Figure 16 shows a structure (1) supporting, as a piece of furniture, a board (11) constituting a table, in such a way that the support is carried out by means of a linear and continuous section (27) on the floor and in turn against a column (26), and by means of a section (27') that is supported against the side surface of the cited column (26) partially embracing the column, thus achieving a total and perfect stabilization of the board (11) constituting the table.

[0064] Figure 17 shows a structure (1) supporting a seat (4) and whose structure includes two sections (28) and (28') parallel to each other in this case, the first one of them with its support point (2) on the top surface of a projection (29) and the second section (28') with its support point (2) on the bottom surface of this projection (29), the structure being perfectly stabilized and therefore, the seat (4), whether it is empty or has weight on it. In the latter case, the stability is greater due to the reaction force defined by the supports (2) of the sections (28) and (28').

[0065] Obviously, the number of solutions that may be provided or that the structure may have is innumerable, and in all cases the corresponding supports may be provided with an additional contact piece, such as for example cloth, rubber or the like, that should not damage the area which it rests on and on which pressure is exerted in order to achieve the stabilization and balance of the structure. Likewise, in certain shapes, stabilization can be achieved by nonslip surfaces, in other words, surfaces that increase the friction coefficient between the structure and the contact surface.

[0066] In any case, the structure (1) as shown in figure 18, may be provided in its respective support points with respective wheels (30) that permit sliding and therefore easy movement of the general structure (1) in order to be able to change its position without any trouble, wheels (30) that could be provided with blocking means once the final position of the structure between the ceiling and the floor has been achieved. In certain cases there could be surfaces with friction force that prevent involuntary or accidental sliding of the structure. In any case the wheels may be of free rotation, in other words, in any direction, or they may only turn around their shaft.

[0067] The shape shown in figure 19 is such that it is balanced and stable when the furniture (in this case a board (11)) with its weight is located in any position with respect to the supports on the floor and on the ceiling, the structure being provided with a connection piece (34) that facilitates movement along the mast and rotation around same. The telescopic element (16) permits the adjustment of the distance between the board and the main structure. It is obvious that the elements comprising the structure may be linear structural shapes or extensive parts such as the triangle (35) in figure 18.

[0068] The structure shown in figure 20 has a linear spring (37) in one of its legs that is supported on the ceiling and a torsion spring (36), that tends to press the corresponding support (2) against that surface. The arrangement of the structure permits the assembly to swing like an rocking chair around the line defined by the two pointwise supports on the floor at the same time that the top supports (2) are kept at all times pressed against and in contact with the ceiling.

[0069] Figure 21 shows a structure, which is flexible to a certain degree, with the particularity that the support on one of the surfaces, in this case the floor, is such that the points of application of the reactions thereof may move the points of application thereof in a continuous manner on the structure. For example, this may result from an elastic deformation of the structure upon subjecting it to weight, in such a way that at the same time there is a slight swinging of the seat (4). In principle said seat could form part of the structure (1), by simply extending the structure in the end (37) covering the distance that separates it from the top part of the back and the extension adapting to an arrangement similar to the one of the seat (4) shown. If on the contrary, this seat were a separate element, there could be means to adjust the height and slope with which the seat is connected to the rest of the structure. The center of gravity of the assembly without any weight could be such that when the seat is empty contact with the ceiling is lost, swinging like a rocking chair around a balanced position without there being any danger that the structure falls backward.

Claims

1. Support structure for furniture, that has been designed as a support means of certain types of furniture, such as for example a seat, a bookcase, a bed, a table, or the like, furniture that does not need

to be moved frequently, keeping the piece of furniture in question balanced or in a stable position, **characterized in that** the structure itself (1) is comprised of one or more elements or parts duly connected to each other in order to define a frame with, at least, one support point (2) off the floor, preferably on the ceiling or any other top surface that accepts a thrust perpendicular thereto, and at least one support point (3) on the floor; it being provided for that the element or elements be comprised of respective hollow or solid structural shapes, of appropriate material and of any type of shape; with the particularity that the center of gravity of the structure (1) can be located outside the area (24') that is determined on the floor by the points of the horizontal plane, such that the straight lines **in that** plane that pass through them, place support points (3) on both sides on the floor itself.

2. Support structure for furniture according to claim 1, **characterized in that** it comprises three support points (2, 3), two of them on the floor and one of them on the ceiling and vice versa, in such a way that it is possible to locate the center of gravity of the assembly in a point whose projection on the horizontal plane of the floor can be located outside the triangle (24) defined by the projections on the same plane of the points of application of the reactions in the supports (2 and 3).

3. Support structure for furniture according to the preceding claims, **characterized in that** it is comprised of a single rigid or flexible element (1), as a single-pieced body on which the respective furniture or seat (4) is fastened.

4. Support structure for furniture according to claims 1 and 2, **characterized in that** it is comprised of two or more rigid or flexible elements (5 and 5') connected to each other in a detachable manner.

5. Support structure for furniture according to claims 1, 2 and 4, **characterized in that** the elements (5 and 5') that comprise the structure are connected to each other in such a way that the length thereof can be adjusted.

6. Support structure for furniture according to claim 5, **characterized in that** the elements (5 and 5') that comprise the structure are connected to each other by means of a telescopic coupling.

7. Support structure for furniture according to claims 5 and 6, **characterized in that** the telescopic coupling is comprised of two connectable sections belonging to the elements (5 and 5'), said sections having holes (6) capable of being face to face in order to fasten both sections therebetween, in the desired position, by means of a pin (7) or the like.

8. Support structure for furniture according to claims 5 and 6, **characterized in that** the telescopic coupling can be comprised of hydraulic means, pneumatic means or the like.

9. Support structure for furniture according to claims 1 to 4, **characterized in that** some of the elements (8 and 9) that comprise the structure are connected to each other by means of a joint (10) that permits the angulation between these corresponding elements (8 and 9) to be adjusted and therefore to vary the angular position or orientation of the furniture.

10. Support structure for furniture according to claims 1 to 4 and 9, **characterized in that** it includes jointing means (10) blockable in different positions of angulation between the jointed elements.

11. Support structure for furniture according to claims 1 to 4, **characterized in that** the supports (2 and 3) are defined by the ends of extensions corresponding to the element and/or elements comprising the structure itself (1), said support ends (2 and 3) having means of soft and/or dampening material in order to prevent friction and damage to the surface on which the support ends rest.

12. Support structure for furniture according to claims 1 to 4 and 11, **characterized in that** the support ends have wheeling means (30) in order to allow moveability and easy movement of the assembly.

13. Support structure for furniture according to claims 3 and 4, **characterized in that** the furniture or seat (4) is detachable and dismountable.

14. Support structure for furniture according to claim 13, **characterized in that** the furniture or seat is formed by two parts (4 and 20), the first one of them as a seat itself and the other one as a fastening support of the seat.

15. Support structure for furniture according to claims 13 and 14, **characterized in that** the furniture or seat (4) and if applicable the part that comprises the support of the seat, are moveable in their assembly on the elements (18) constituent of the structure (1).

16. Support structure for furniture according to the preceding claims, **characterized in that** it has two supports on the floor (3) and one on the ceiling (2).

17. Support structure for furniture according to any of claims 1 to 15, **characterized in that** it has one support on the floor (3) and two supports on the ceiling (2).

18. Support structure for furniture according to any of claims 1 to 15, **characterized in that** it has one support on the floor (3), one support on the ceiling (2) and one support on a wall (2').

19. Support structure for furniture according to any of claims 16 to 18, **characterized in that** the furniture or seat (4) is located in front of the support points (2 and 3).

20. Support structure for furniture according to any of claims 16 to 18, **characterized in that** the furniture or seat (4) is located behind the support points (2 and 3).

21. Support structure for furniture according to claim 1, **characterized in that** the furniture or seat (4) is located between the vertical or verticals of the support or supports on the floor (3) and the vertical or verticals of the support or supports located on the ceiling (2) and/or on the wall (2') or on any other surface.

22. Support structure for furniture according to claim 1, **characterized in that** it is capable of supporting a piece of furniture or seat (4) located in any position with respect to the support or supports on the floor (3) and to the support or supports located on the ceiling (2) and/or on the wall (2'), or on any other surface.

23. Support structure for furniture according to claim 1, **characterized in that** the number of supports (2 and 3) is higher than three and said supports may be pointwise and/or continuous.

24. Support structure for furniture according to claim 1, **characterized in that** it includes two or more support points (2) on opposite surfaces of a projection (29).

25. Support structure for furniture according to claim 1, **characterized in that** it includes two or more pointwise and/or continuous support points on the floor (27) and in turn (27') on the side surface of a column (26), partially embracing the column.

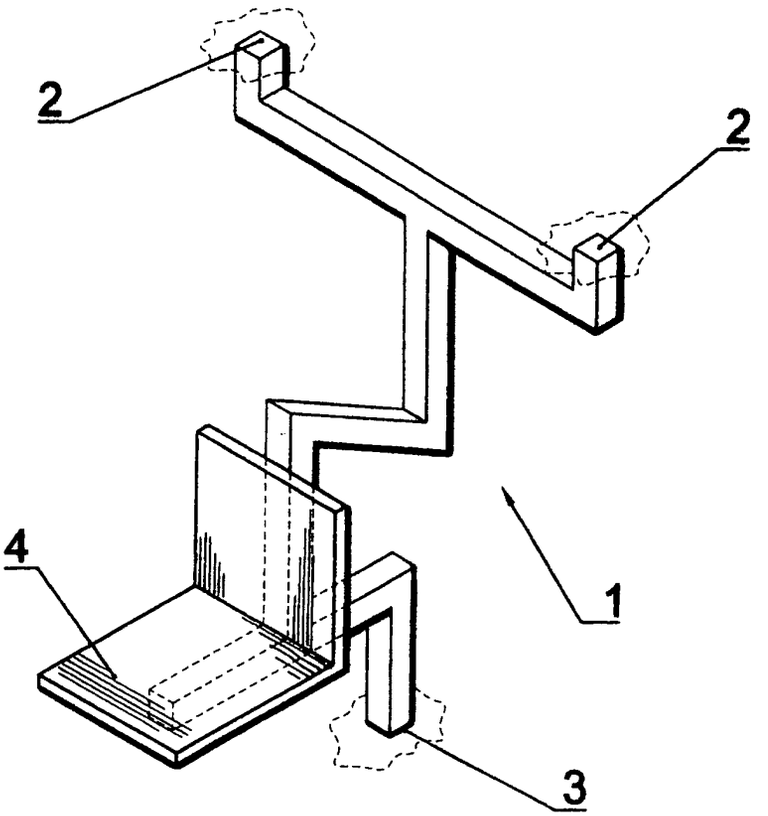


FIG. 1

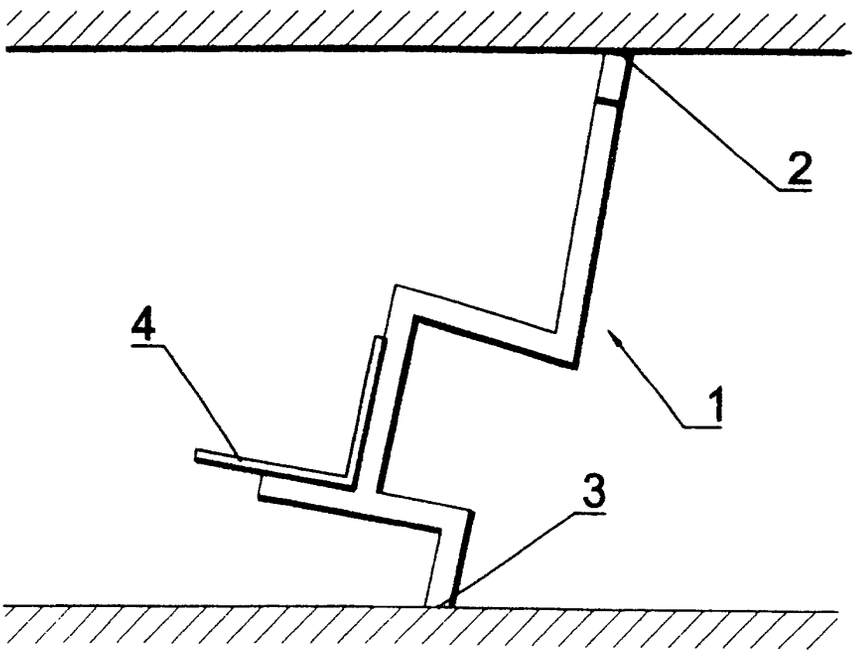


FIG. 2

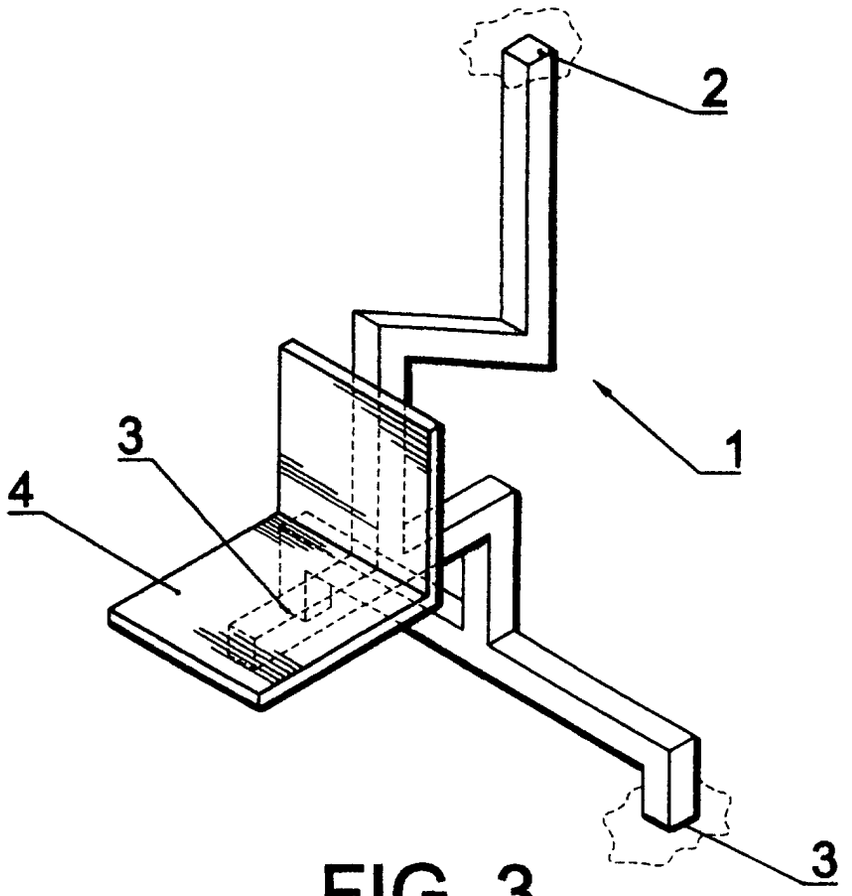
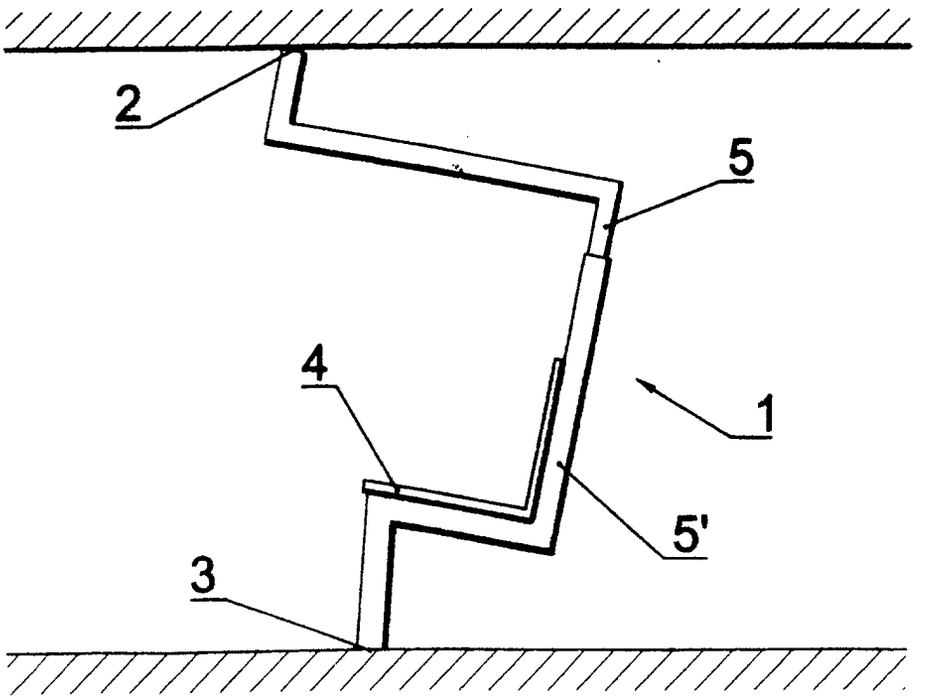


FIG. 3



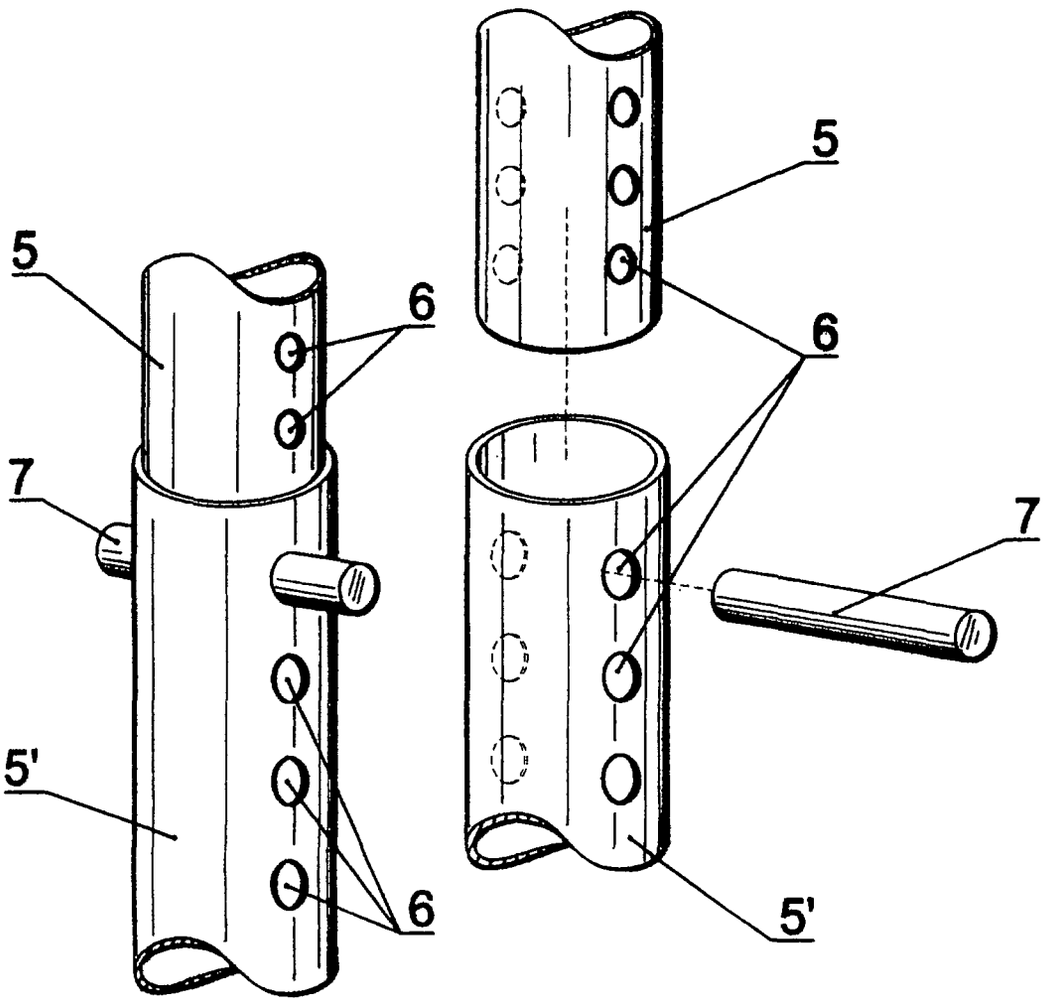


FIG. 5

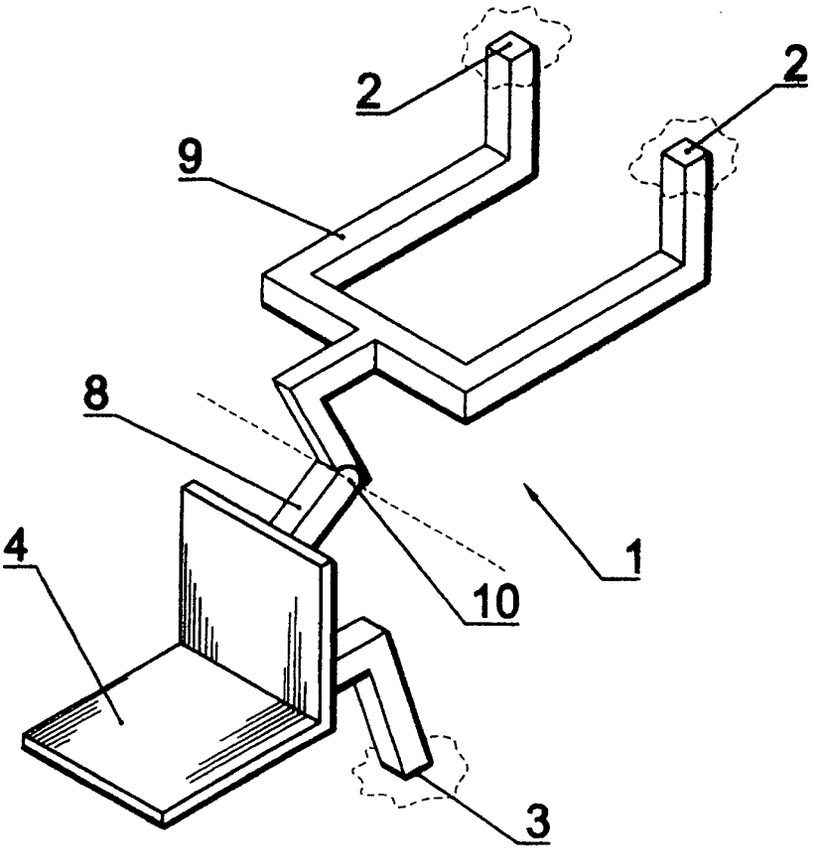


FIG. 6

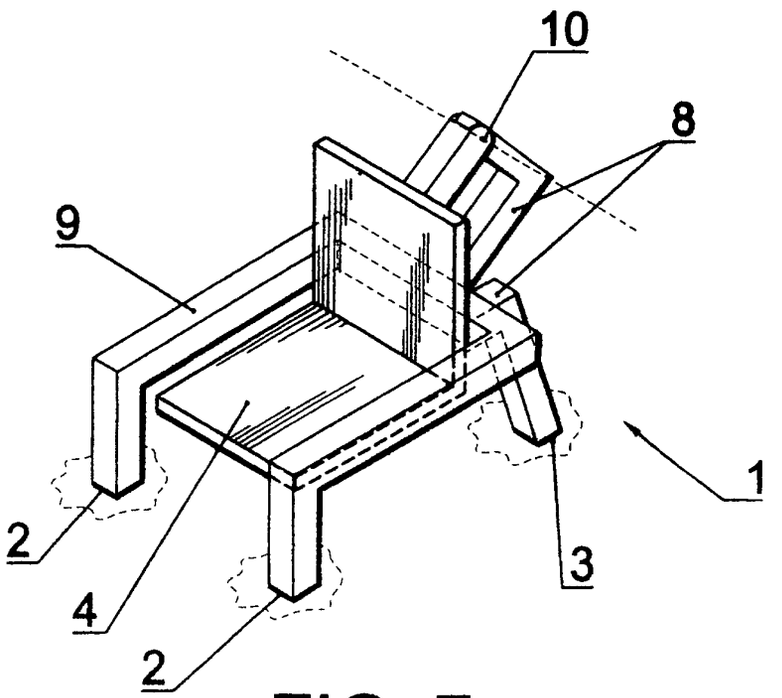


FIG. 7

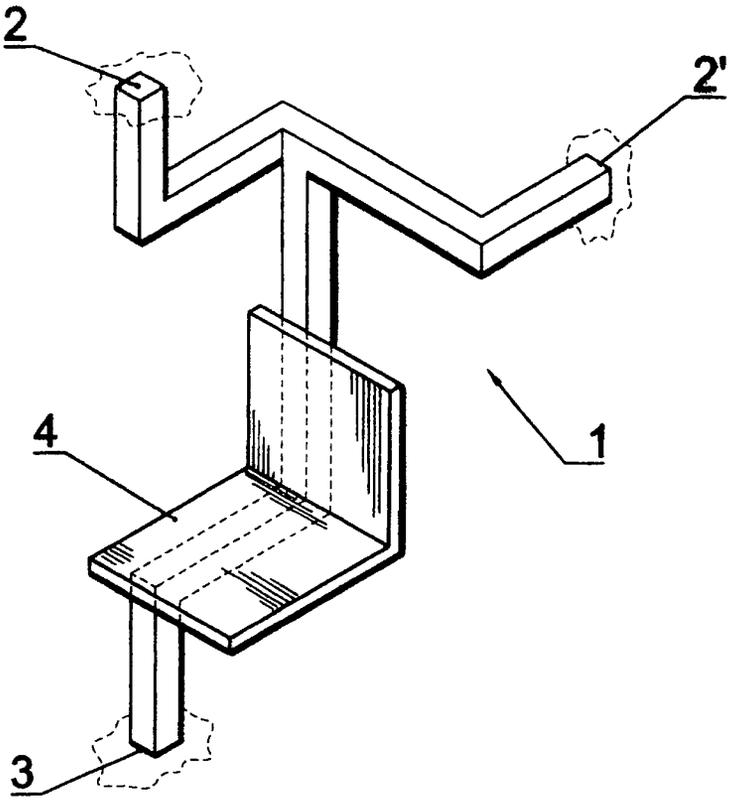


FIG. 8

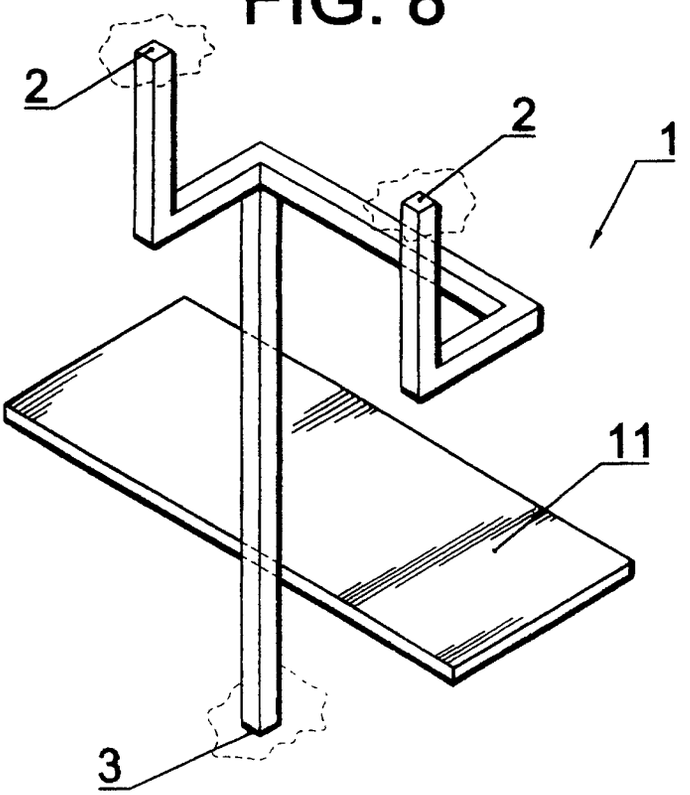


FIG. 9

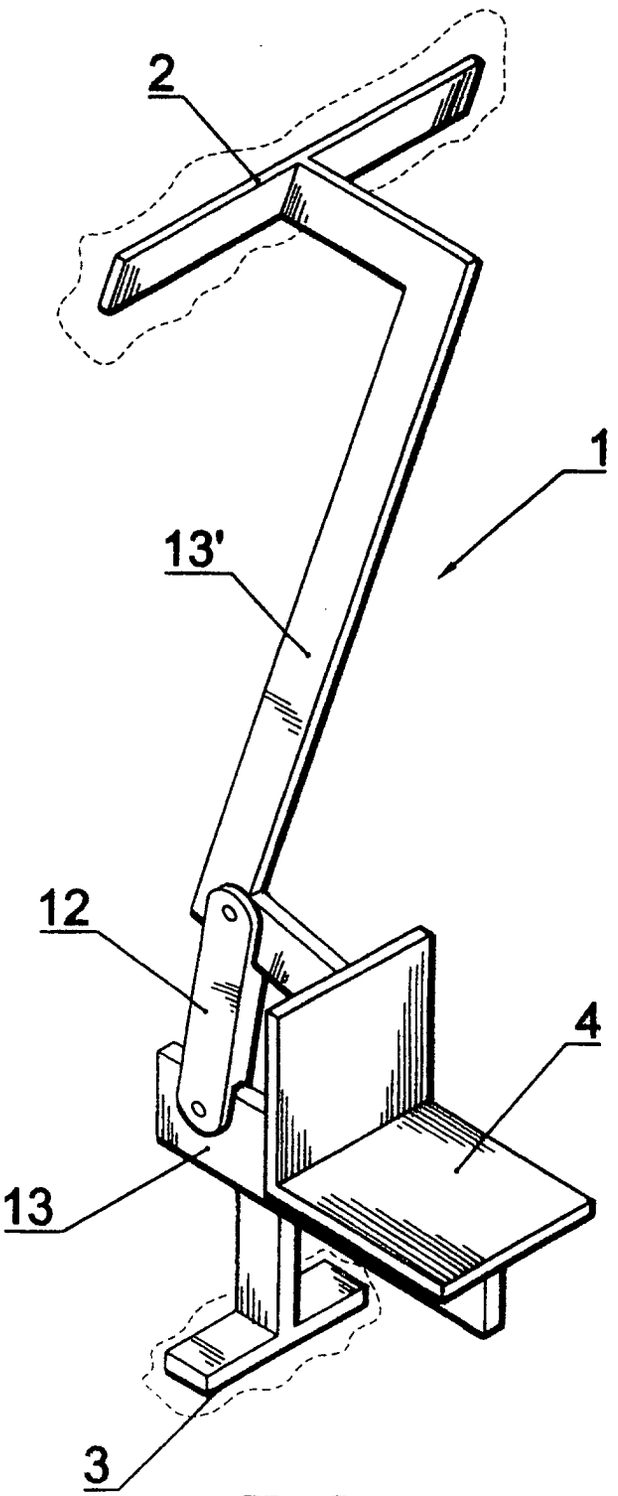


FIG. 10

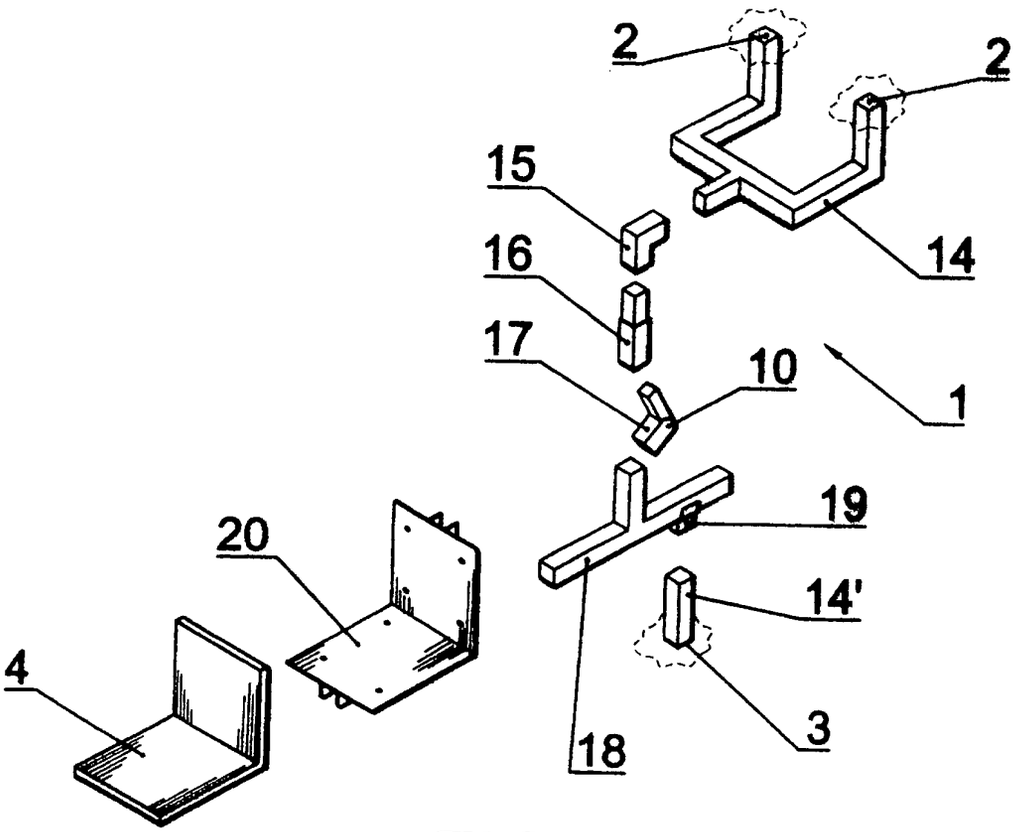


FIG. 11

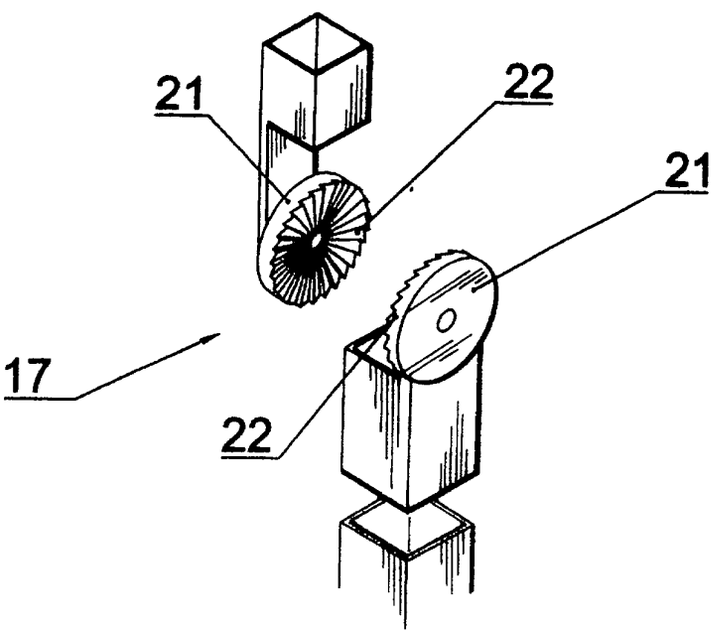


FIG. 12

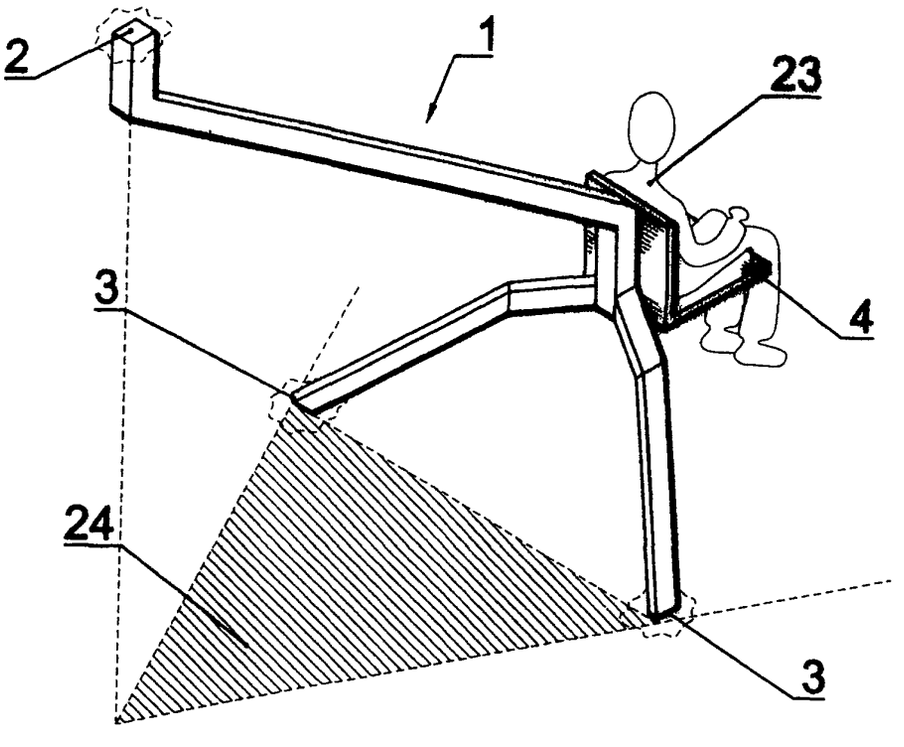


FIG. 13

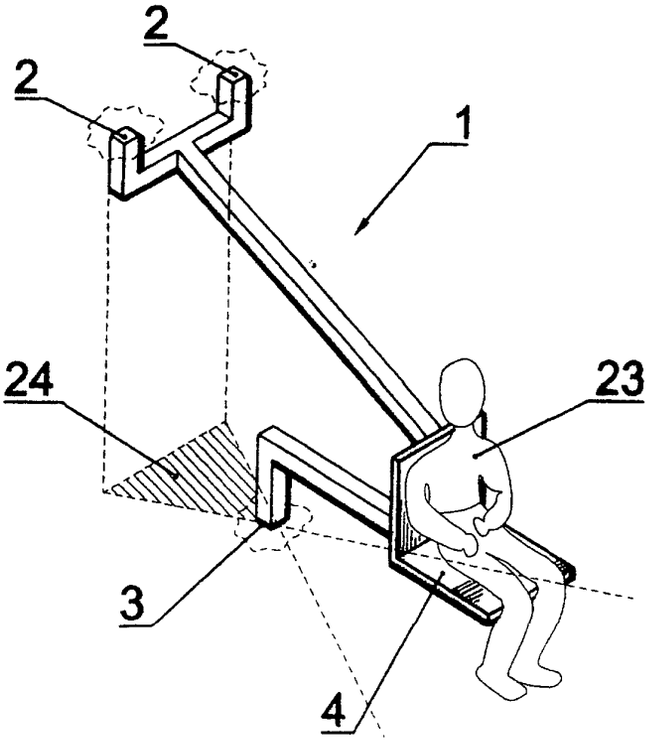


FIG. 14

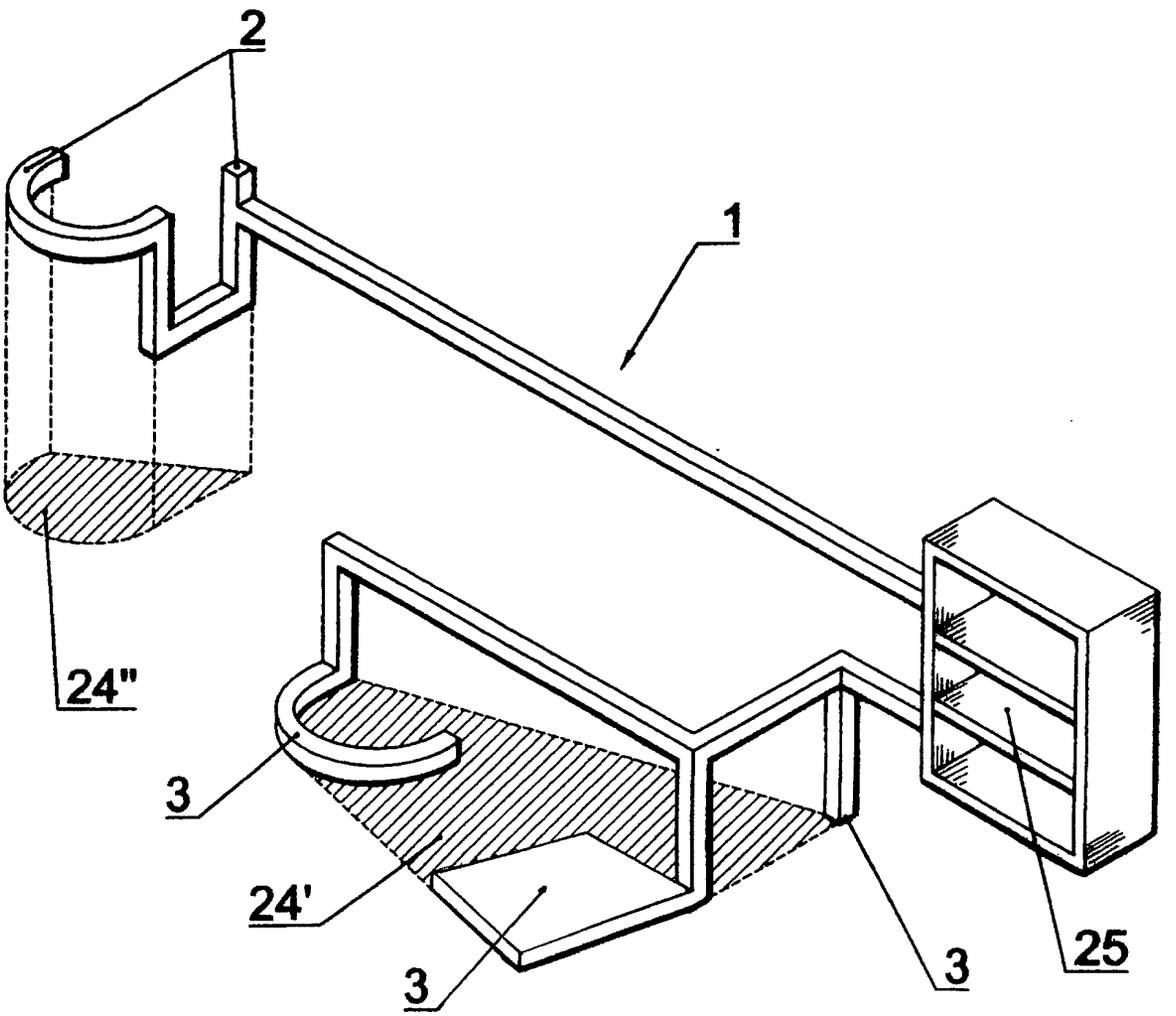


FIG. 15 A

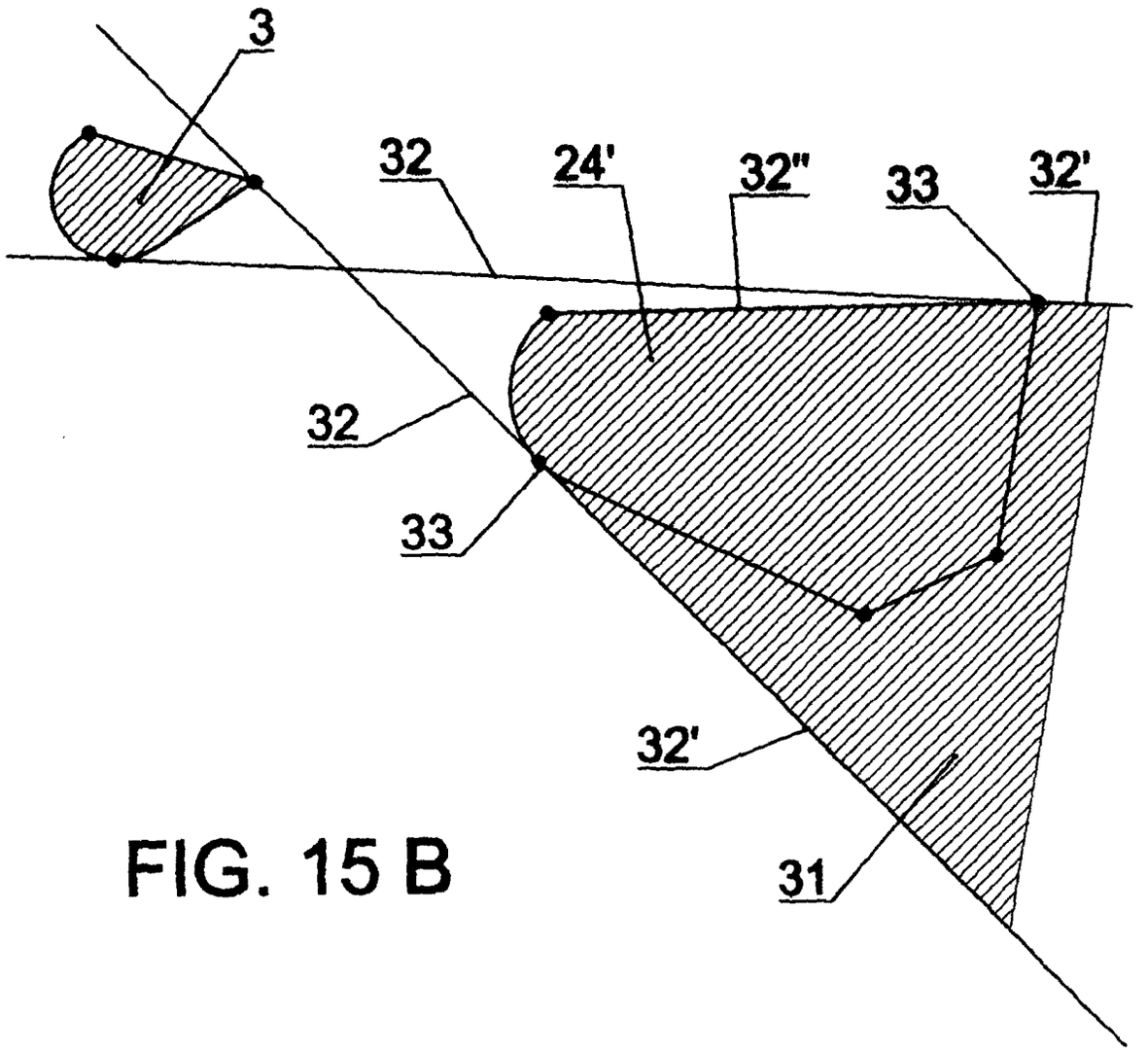


FIG. 15 B

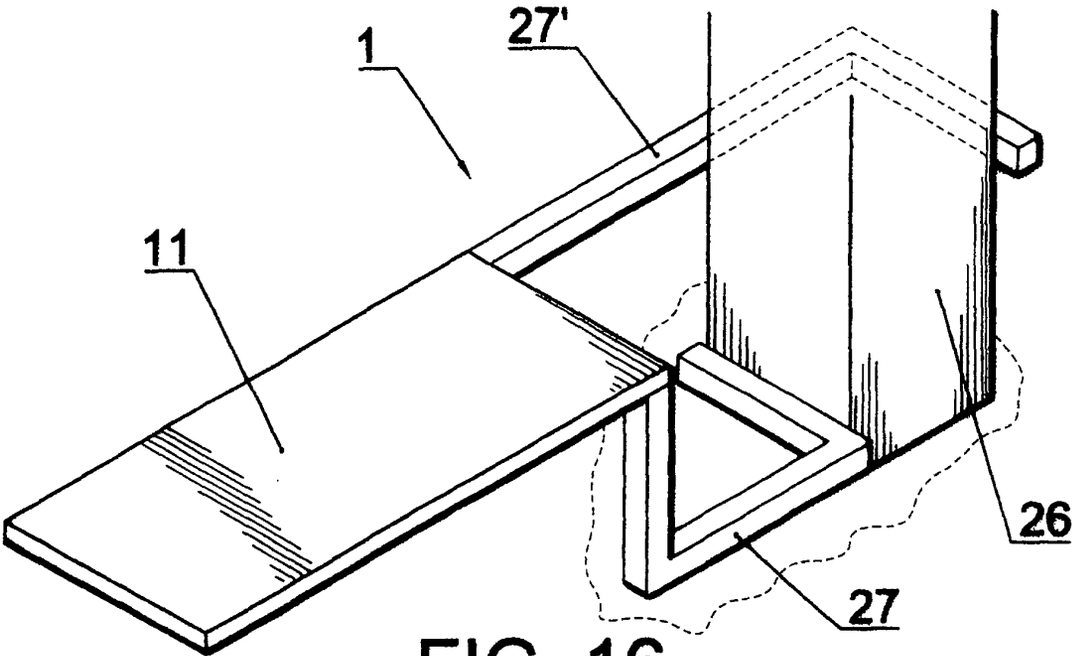


FIG. 16

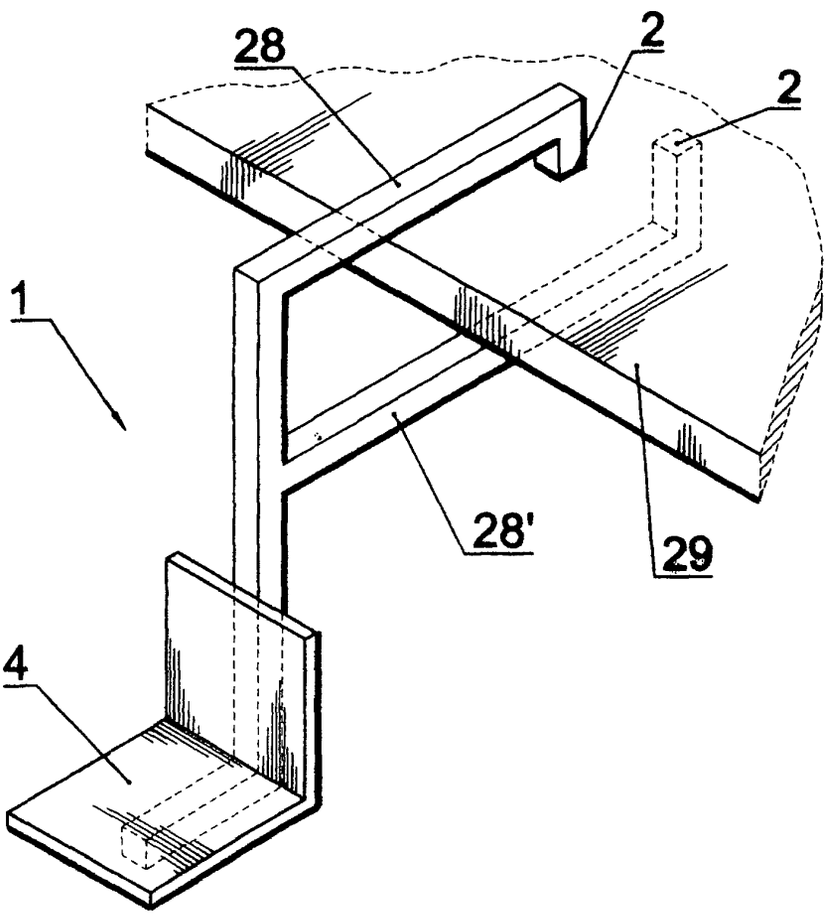


FIG. 17

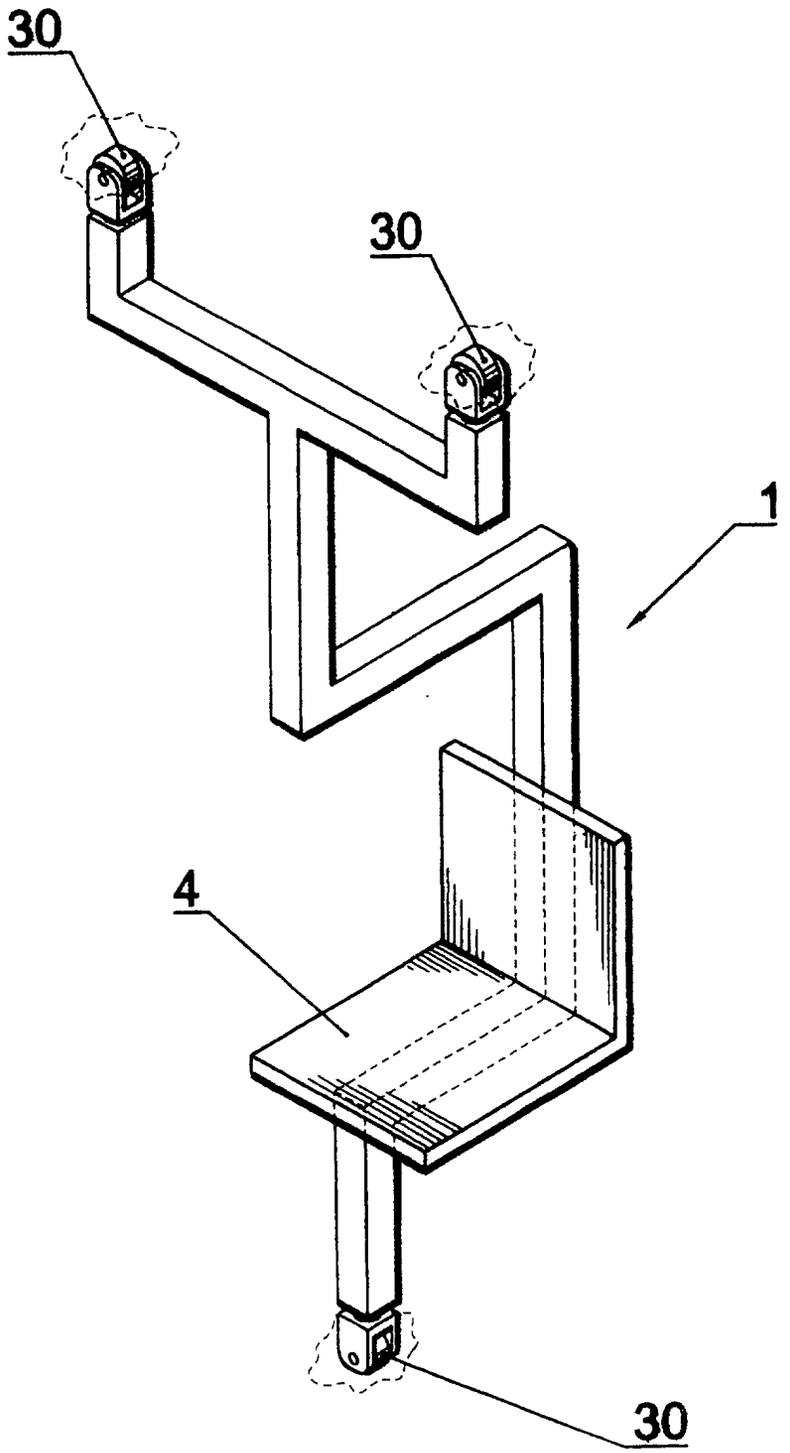


FIG. 18

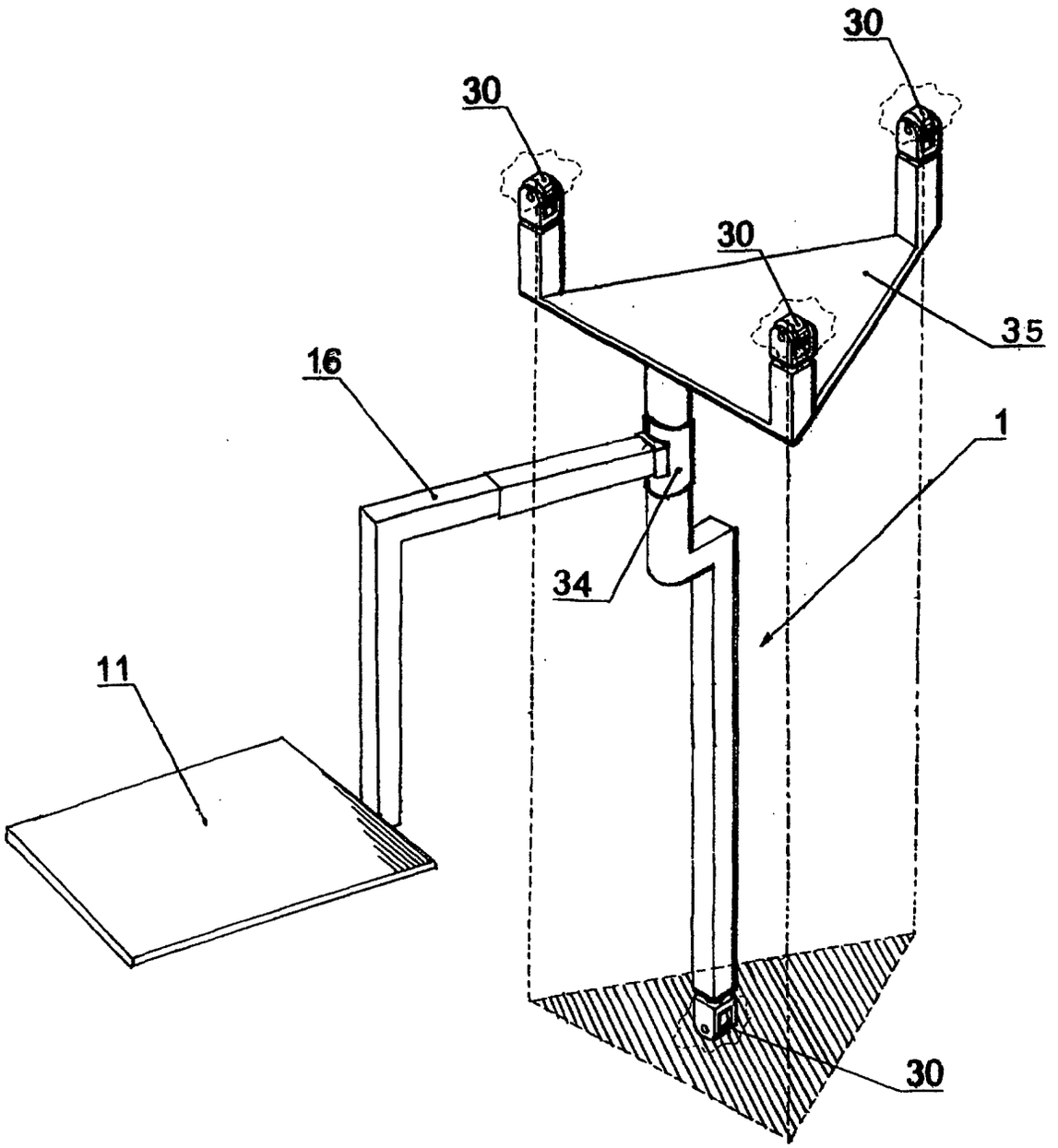


FIG. 19

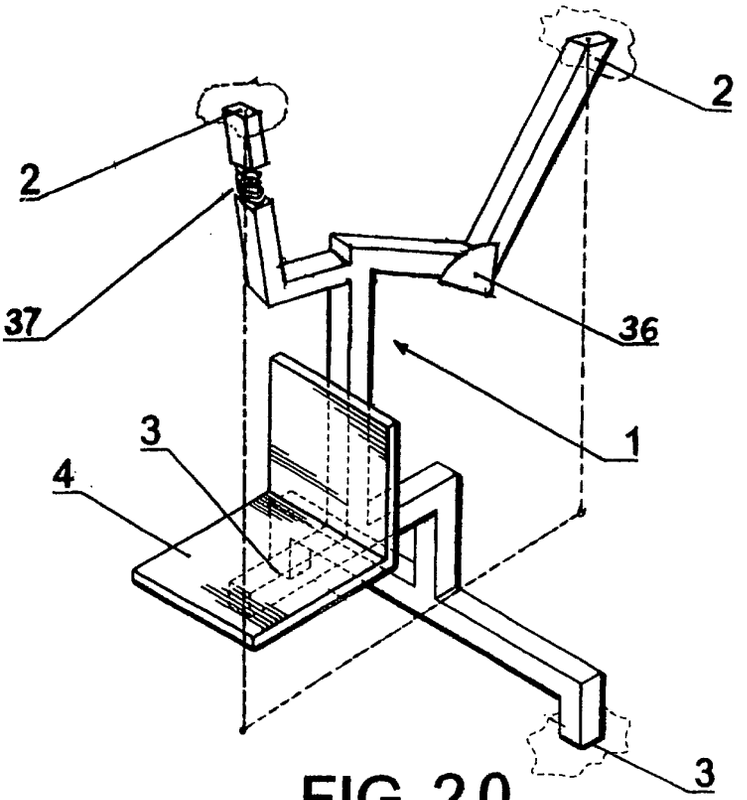


FIG. 20

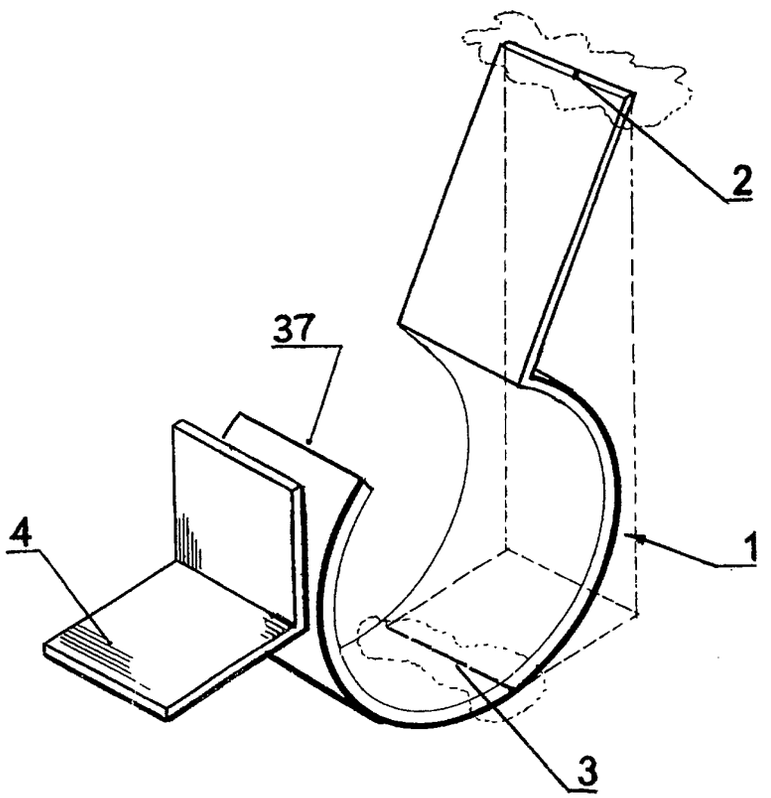


FIG. 21

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 00/02014

A. CLASSIFICATION OF SUBJECT MATTER
IPC7: A47C 3/00; A47B 91/00
According to International Patent Classification (IPC) or to both national classification and IPC B

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC7 : A47B, A47C, A47D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
ES

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
DWPI, EPODOC, CIBEPAT.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	ES 2134101 A (KEMEN COMERCIAL S.A.) 16 September 1999 (16.09.99); column 2, line 10- column 6, line 32; figure 17.	1 4,5,9,10,14,22,23.
Y A	ES 1022970 U (PRENATAL, S.A.) 01 June 1993 (01.06.93), The whole document.	1 5,7,11,14,20,24
A	ES 456896 A (MANUFACTURAS VEGA, S.A.) 01 March 1978 (01.03.1978), page 3, line 11- page 4, line 3; figure 1.	1,4,9,22.

☐ Further documents are listed in the continuation of box C. ☐ Patent family members are listed in annex.

* Special categories of cited documents:

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"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
04 May 2001 (04.05.01)	21 May 2001 (21.05.01)
Name and mailing address of the **S.P.T.O.**	Authorised officer Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IB 00/02014

Patent document Cited in search report	Publication date	Patent family member(s)	Publication date
ES 2134101 A	16.09.1999	NONE	
ES 1022970 U	01.06.1993	NONE	
ES 456896 A	01.03.1978	BE 863058	16.05.1978
		LU 78900	09.06.1978
		NL 7801325	05.09.1978
		DE 2807941	07.09.1978
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