



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
21.11.2007 Bulletin 2007/47

(51) Int Cl.:
A47B 1/04 (2006.01)

(21) Application number: **07107953.7**

(22) Date of filing: **10.05.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(71) Applicant: **Tonelli S.r.l.**
61025 Montelabbate (IT)

(72) Inventor: **Mancini, Giulio**
61024, Mombaroccio (PU) (IT)

(74) Representative: **Gustorf, Gerhard**
Patentanwalt,
Bachstrasse 6 A
84036 Landshut (DE)

(30) Priority: **15.05.2006 IT PS20060009 U**

(54) **Table with swinging extensions**

(57) Table with swinging extensions, especially made of glass, characterized by the fact that it includes half planes (3) that extend the table which are hinged on the fulcrum (7) of levers (8) whose respective arms (9) are distally connected to the heads (10) of respective telescopic shock absorbers (11) with idle feet (12), said

shock absorbers being concealed inside housings (2) that constitute the legs (2) of the table (1) and which are spacious enough to allow the relative angular travel which enables the half planes (3) to swing with a dampened motion from an idle position parallel to and beneath the plane (1) to an exposed position that is coplanar with that plane (1).

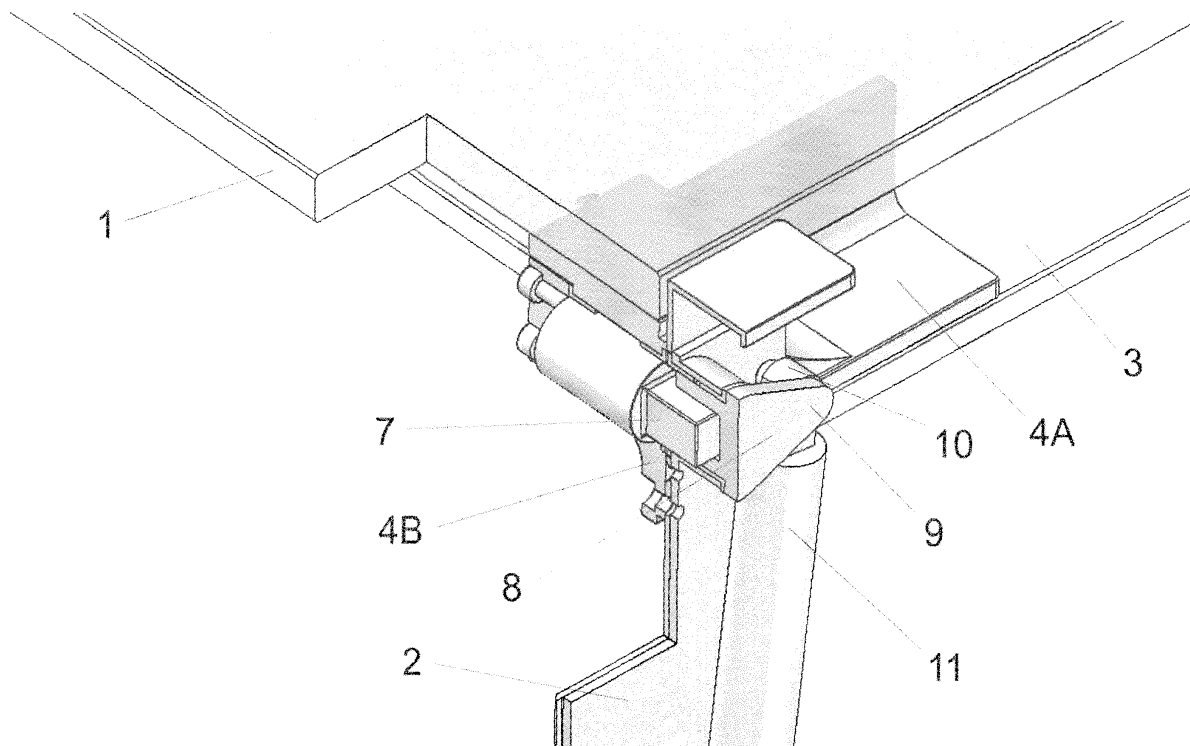


FIG. 1

Description

Background of the invention

[0001] In glass furniture used for furnishing, and especially in tables, the light structure appropriate to the nature of the constructing material is often difficult to reconcile with multipurpose capacity due to the heaviness in form required by the technical solutions which provide such multipurpose capacity, such as a solution for lengthening a table.

Purpose of the invention

[0002] Given this set of circumstances, the primary purpose of this invention is to provide an innovative, functional system for lengthening tables made of glass; another purpose of this invention is to fulfill the preceding purpose by employing an adaptable system with light appearance that is required by the use of glass as the material for constructing the manufactured piece; yet another purpose of this invention is to fulfill the preceding purposes using a simple, effective system that operates reliably and is relatively inexpensive in relation to the results that are obtained by using it.

Summary of the invention

[0003] These and other purposes are fulfilled with the table with swinging extensions, especially made of glass, that is created according to this invention, which includes half planes (3) for extending the table that are hinged on a fulcrum (7) with levers (8) whose respective arms (9) are distally connected to the head (10) of telescopic shock absorbers (11) with idle foot (12) that are concealed in housings (2) which constitute the legs (2) of the table (1), such housings being sufficiently spacious to accommodate the relative angular travels which allow the half planes (3) to swing with a dampened motion from a parallel idle position beneath the plane (1) to an exposed position which is coplanar with that plane (1).

Brief description of the drawings

[0004] Additional characteristics and advantages of the model described by this invention will be more evident from the detailed description given below of a preferred but not exclusive form of construction which is illustrated as an example, but not limited to said example, by twelve tables of attached drawings, in which:

Figures 1 and 2 show two different enlargements of the same view in perspective of partial cross-sections of several kinematic mechanisms which equip the table with swinging extensions and are created according to this invention;
Figures 3 and 4 show two different enlargements of a same additional view in perspective of partial

cross-sections of several kinematic mechanisms which equip the table with swinging extensions and are created according to this invention;

Figures 5, 6 and 7 show three views in perspective of certain details which are included in the table that extends by swinging and is created according to this invention;

Figures 8, 9, 10, 11 and 12 show five steps in the extending process of the table that extends by swinging and is created according to this invention.

Static description of the preferred embodiment

[0005] With reference to the figures described above, and in particular to figure 1, 1 indicates a rectangular glass plane that constitutes a dining table with four legs, each leg being indicated in its entirety by 2 and having a structure that resembles a housing shaped like a parallelepiped and is preferably constructed in metal.

[0006] At the top of the legs 2 and on the shorter sides of the plane 1, two half planes 3 that extend the table are hinged in opposing directions by means of hinges 4 which include sections 4A united by gluing with half planes 3 at two corners on the same side and sections 4B that are joined to the tops of the legs 2.

[0007] The sections 4A of the hinges 4, which are joined to the half planes 3, are equipped with through dowels 5 that are positioned off-center. These dowels, which are preferably able to project elastically in response to pressure exerted by springs that are not shown, and will engage holes 6 provided in an appropriate position in sections 4B of hinges 4, which are joined to the legs 2, to provide functions which will be described below.

[0008] The axes of pivoting 7 of the hinges 4 extend into the side-mounted housings 2, which comprise the legs 2, and said axes constitute at that point the fulcrums 4 of the respective levers 8 with arms 9 that are distally connected to the heads 10 of telescopic shock absorbers 11 with idle foot 12 that are concealed in the housings 2 which constitute the legs 2 of the table 1, said housings being spacious enough to allow the relative angular travels for the functions which will now be described.

Dynamic description of the preferred embodiment

[0009] Now that the static description of a constructed example of a preferred model created according to this invention is complete, the description will now change to that of a dynamic type; that is, a description of the operation of said model:

[0010] In the compact configuration illustrated in figure 8, the half planes 3 that extend the table are resting beneath the principal plane 1 and are held in position by the extension thrust of telescopic shock absorbers 11 on the kinematic mechanism consisting of levers 8 and hinges 4.

[0011] When the user exerts simple rotational traction

on half planes 3, which counters the extension thrust of shock absorbers 11, the half planes 3 that extend the table rotate angularly below the plane 1 (see figure 9) until they travel beyond bottom dead center of the arms 9 on levers 8 (see figure 10). At this point, the extension thrust of shock absorbers 11 applied to the kinematic mechanism consisting of the levers 8 and hinges 4 automatically continues the rotation of half planes 3 (see figure 11), thus raising them to a coplanar position with respect to the plane 1 (see figure 12), in which position the half planes can be secured by latching the dowels 5 in sections 4A of the hinges 4 into the holes 6 provided in the sections 4B of those hinges 4.

[0012] After the dowels 5 have been disengaged from the holes 6, the user can apply traction, rotation and inverse travel to the half planes 3 in order to return them to the rest position under the main plane 1 when the table no longer requires extension. Repositioning beyond 90° in the relative angular travel is automatic.

Alternative configurations

[0013] It is evident alternative configurations that express the concept of innovation which underlies the constructed example described above and which is the subject of the

[0014] claims specified below can be built with equivalent techniques and structures and can be applied to the model created according to this invention; that is, the shapes of the relative components can be varied in a way that is suited to the purpose of the invention. In particular:

the table and the half planes can have any shape; the half plane that extends the table can be installed on one side; or the half plane can equip furniture and complements that are different from the tables for which the invention was originally conceived;

[0015] The shock absorbers and hinges can be contrived in any way that is suitable for this purpose.

Advantages of the invention

[0016] As is evident from the detailed description that precedes the preferred examples of construction, the model created according to this invention offers the advantages provided by fulfilling its primary purposes:

it in fact furnishes a functional system for extending glass tables, whose light appearance is compatible with the appearance of the material used.

LEGEND OF NUMBERS

[0017]

- 1) plane of table
- 2) legs

- 3) half planes that swing to extend the table
- 4A) sections of hinges that are joined to the half planes
- 4B) sections of hinges that are joined to the legs
- 5) safety dowels
- 6) holes that engage the safety dowels
- 7) axes of pivoting of the hinges and levers
- 8) levers
- 9) arms on levers
- 10) head of telescopic shock absorbers
- 11) telescopic shock absorbers
- 12) foot of telescopic shock absorbers

15 Claims

1. Table with swinging extensions, especially made of glass, **characterized by** the fact that it includes at least one half plane (3) that extends the table and is hinged on the fulcrum (7) of at least one lever (8) whose arm (9) is distally connected to the head (10) of a telescopic shock absorber (11) with idle foot (12), said shock absorber being concealed inside a housing (2) that constitutes at least one leg (2) of the table (1), said housing is spacious enough to allow the relative angular travel which enables the half plane (3) to swing with a dampened motion from an idle position parallel to and beneath the plane (1) to an exposed position that is coplanar with that plane (1).

2. Table with swinging extensions according to claim 1, **characterized by** the fact that it includes half planes (3) that extend the table and are hinged on the fulcrum (7) of levers (8) whose arms (9) are distally connected to the heads (10) of telescopic shock absorbers (11) with idle feet (12), said shock absorbers being concealed inside housings (2) that constitute the legs (2) of the table (1) and which are spacious enough to allow the angular travel which enables the half planes (3) to swing with a dampened motion from an idle position parallel to and beneath the plane (1) to an exposed position that is coplanar with that plane (1).

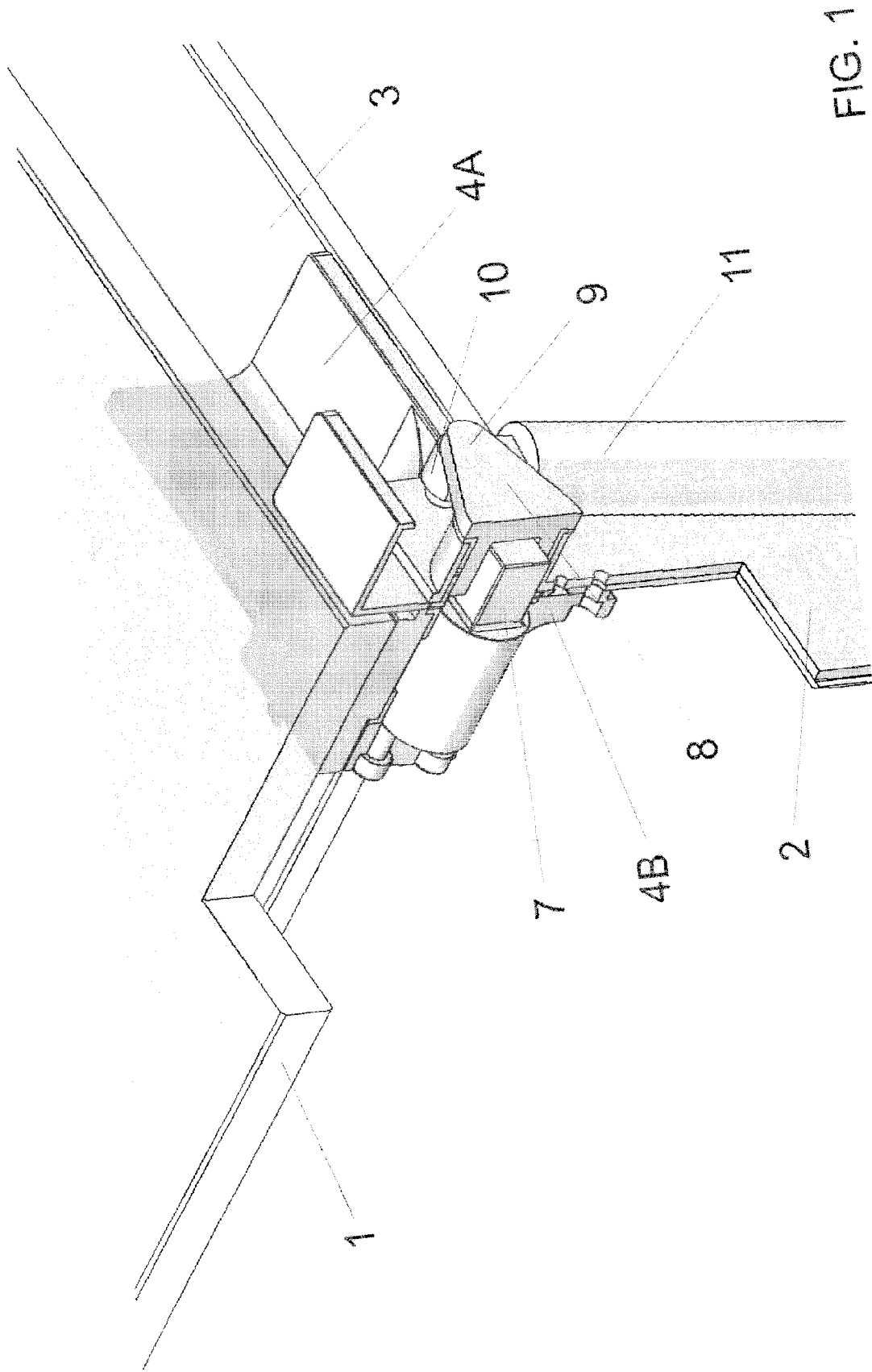
3. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that it includes:

- a rectangular glass plane (1) constituting a dining table (1), combined with four legs (2) in the form of a housing shaped like a parallelepiped;
- two half planes (3) that extend the table, located at the top of said legs (2) at the short sides of said plane (1), which pivot into opposing positions;
- hinges (4) for pivoting said two half planes (3) that extend the table, whose axes of pivoting (7) extend inside the side-mounted housings (2)

constituting the legs (2), thus constituting at that point the fulcrums (7) of levers (8) with an arm (9) which is distally connected to the head (10) of telescopic shock absorbers (11) with idle feet (12).

5

4. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that the pivoting hinges (4) of said half planes (3) that extend the table include sections (4A) which are united by glue with two corners on the same side of said half planes (3), and sections (4B) which are joined to the apexes of said legs (2). 10
5. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that said sections (4A) of the hinges (4), which are joined to the half planes (3), are equipped with through dowels (5) that are positioned off-center and which can project in an elastic manner and engage the respective holes (6) provided in a suitable location in sections (4B) of said hinges (4), which are joined to the legs (2). 15 20
6. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that said telescopic shock absorbers (11) are concealed inside housings (2) which constitute the legs (2) and which are spacious enough to allow the relative angular travels. 25 30
7. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that said hinges (4) may be of any type or kind that is suited for the purpose. 35
8. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that said telescopic shock absorbers (11) may be of any type or kind that is suited for the purpose. 40
9. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that said half planes (3) may be in any shape that is suited for the purpose. 45
10. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that said half planes (3) may be positioned in any location that is suited for the purpose. 50
11. Table with swinging extensions according to the preceding claims above, **characterized by** the fact that said half planes (3) may be provided in any number that is suited for the purpose. 55



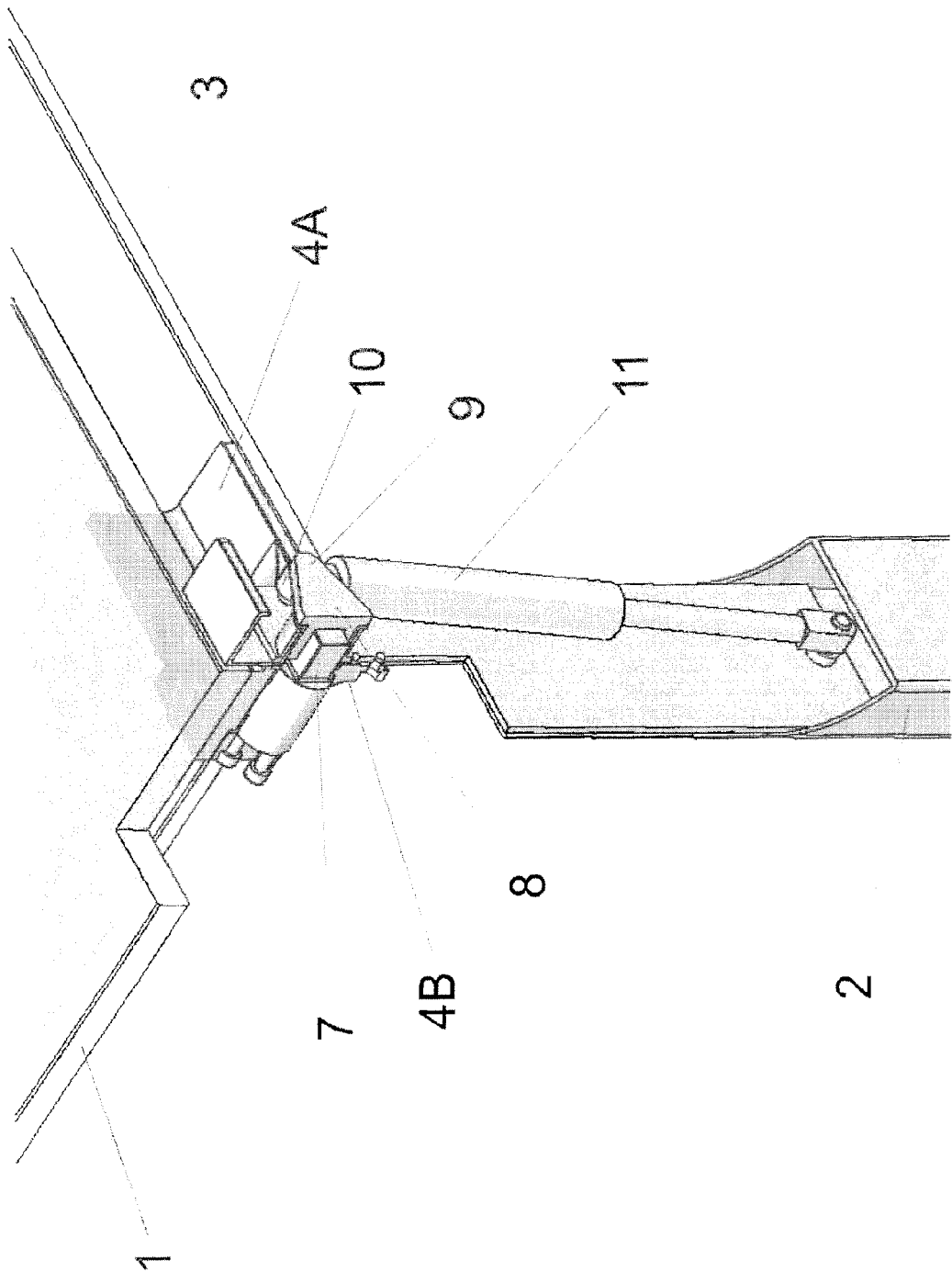


FIG. 2

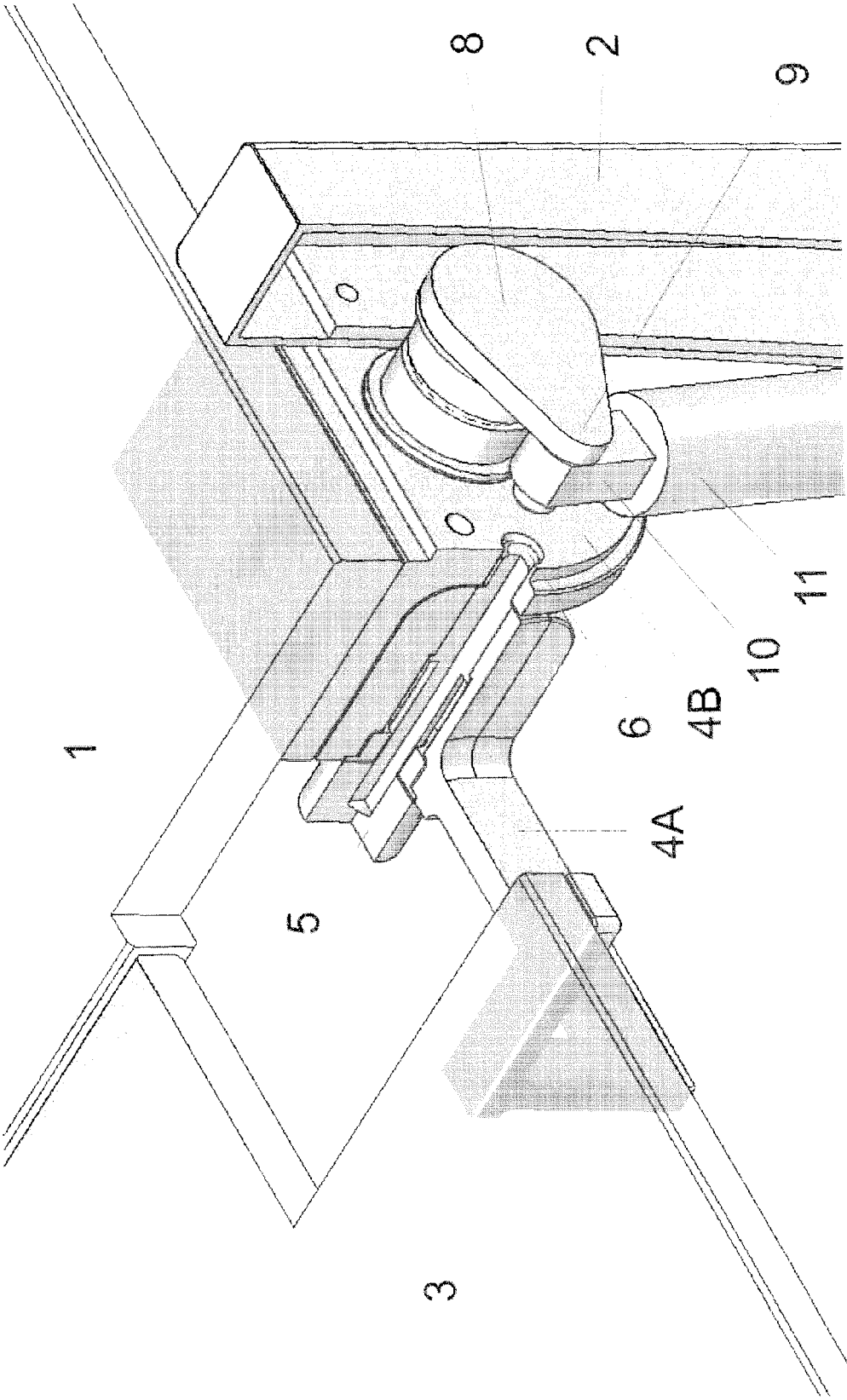


FIG. 3

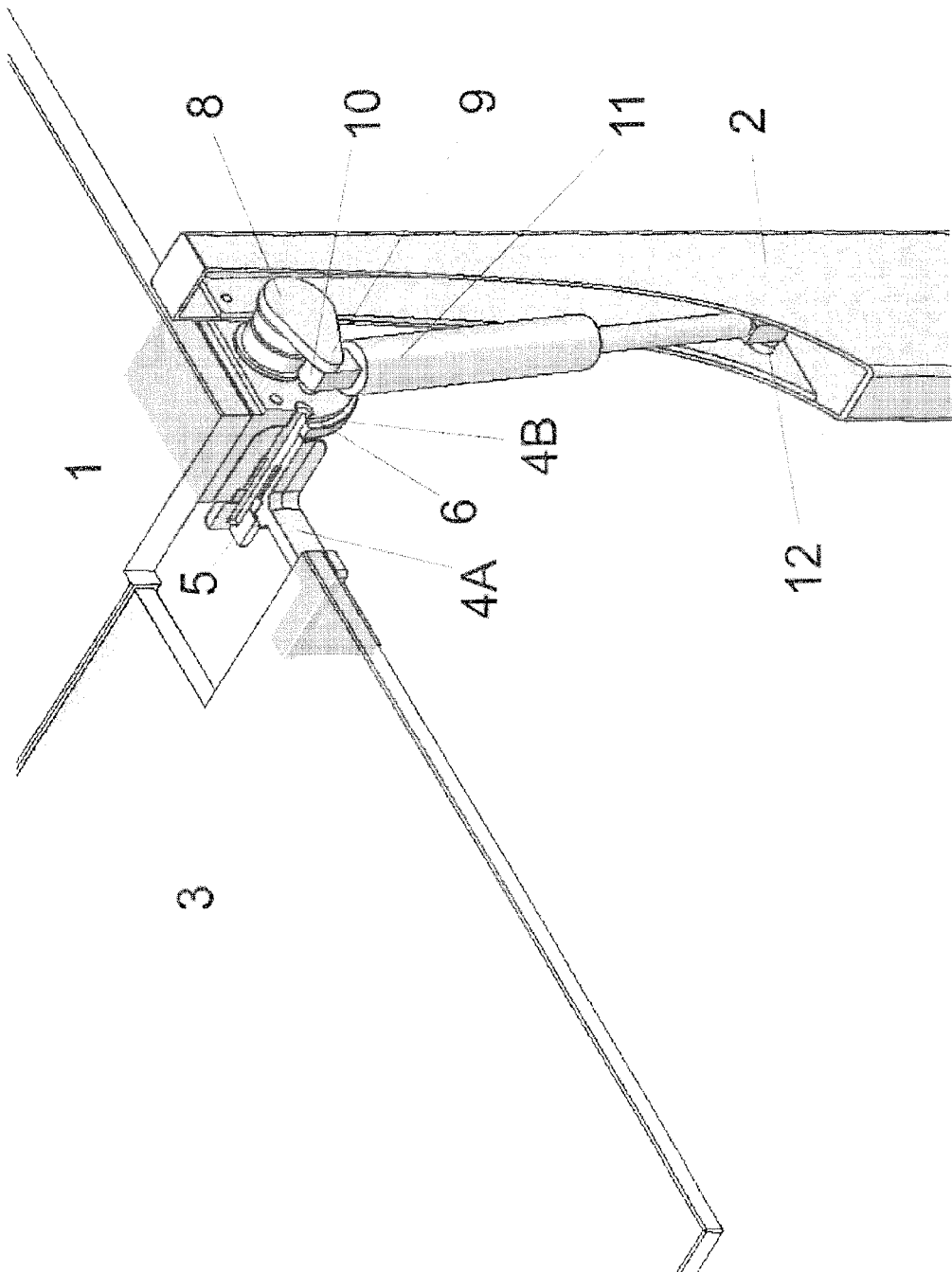


FIG. 4

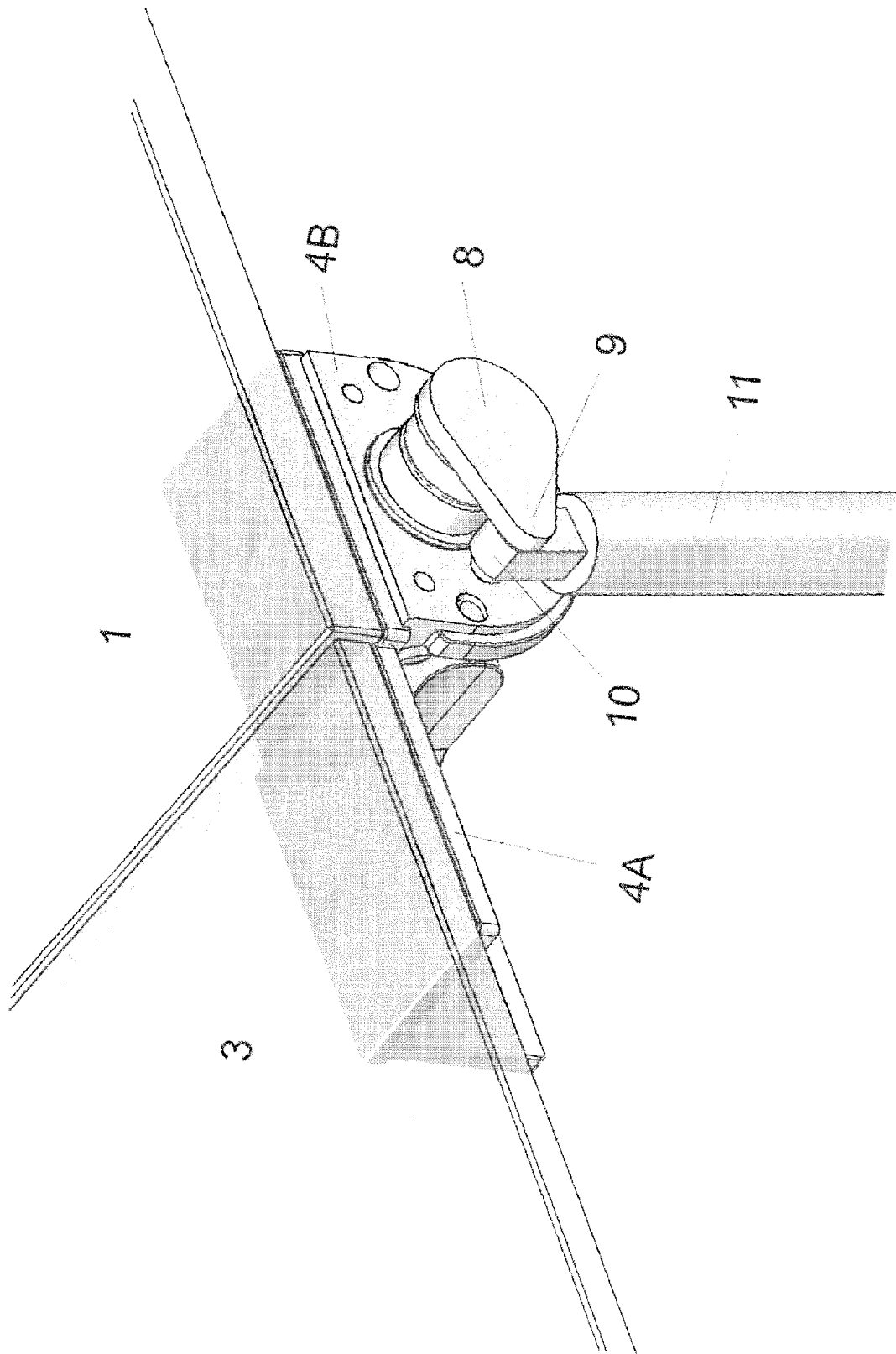


FIG. 5

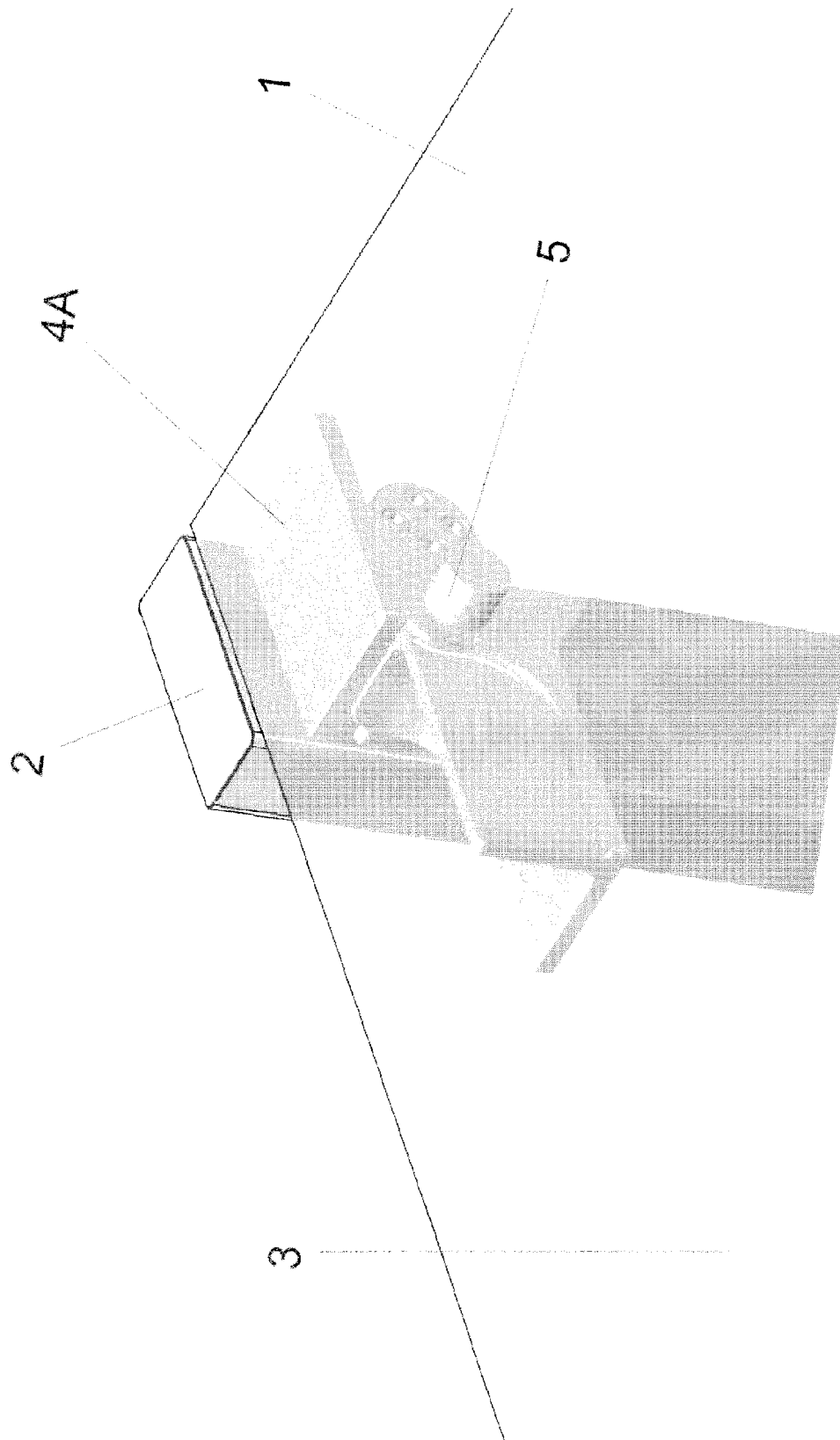


FIG. 6

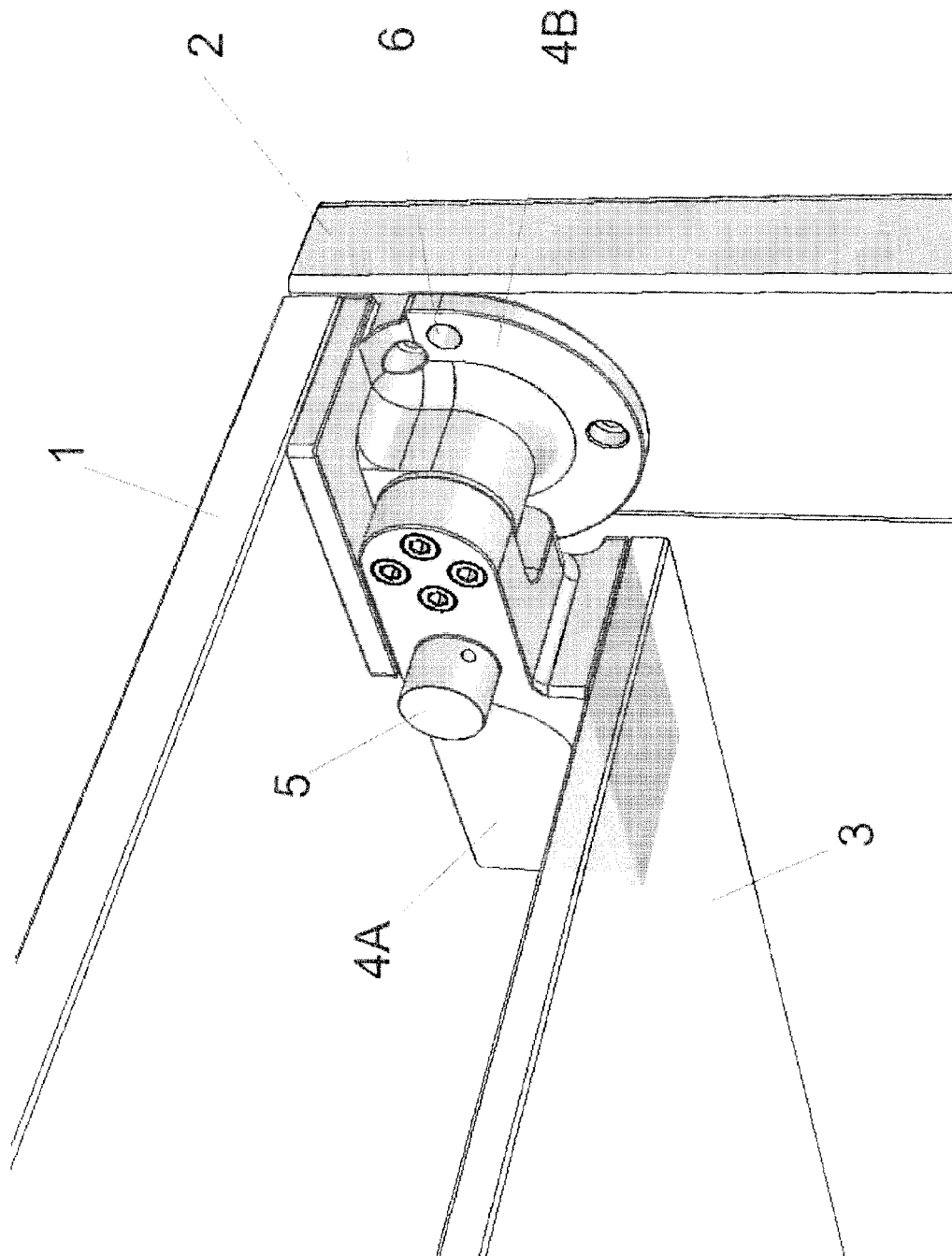


FIG. 7

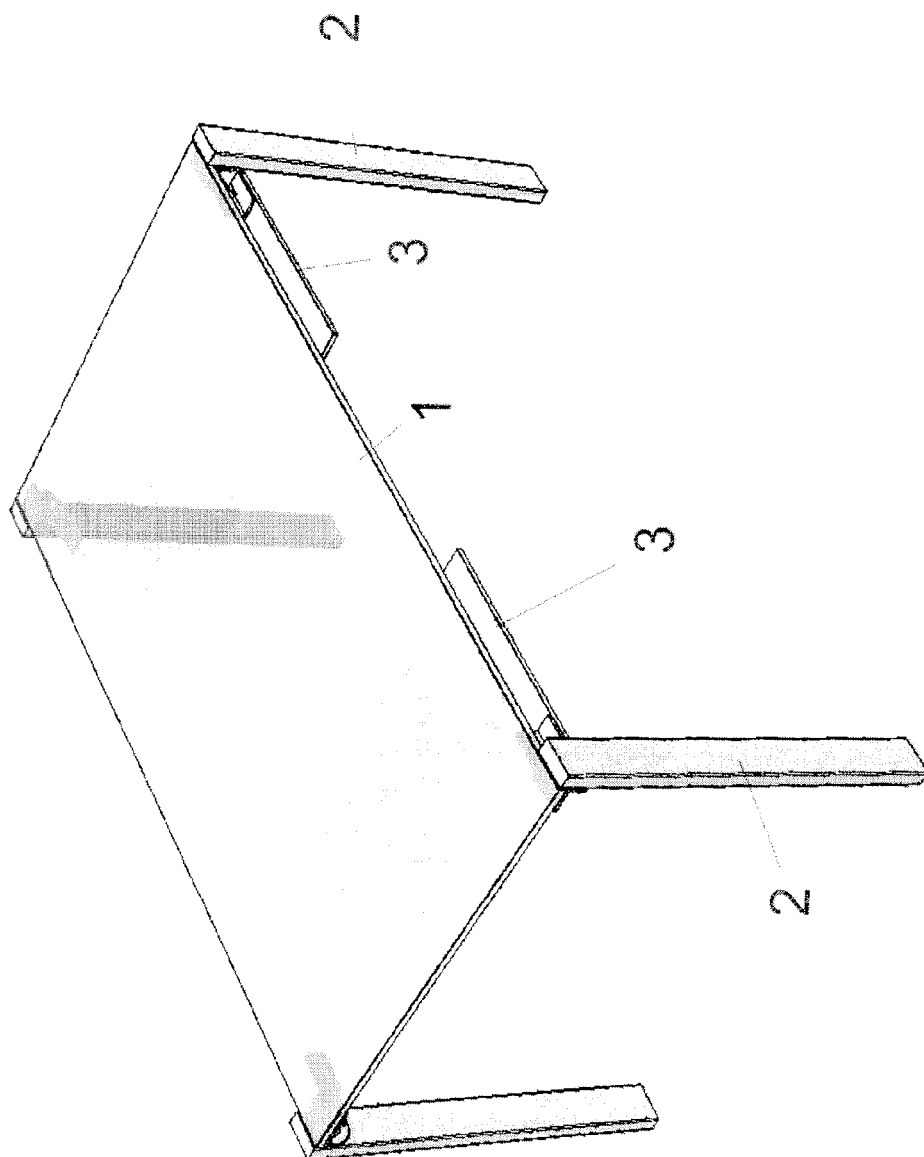


FIG. 8

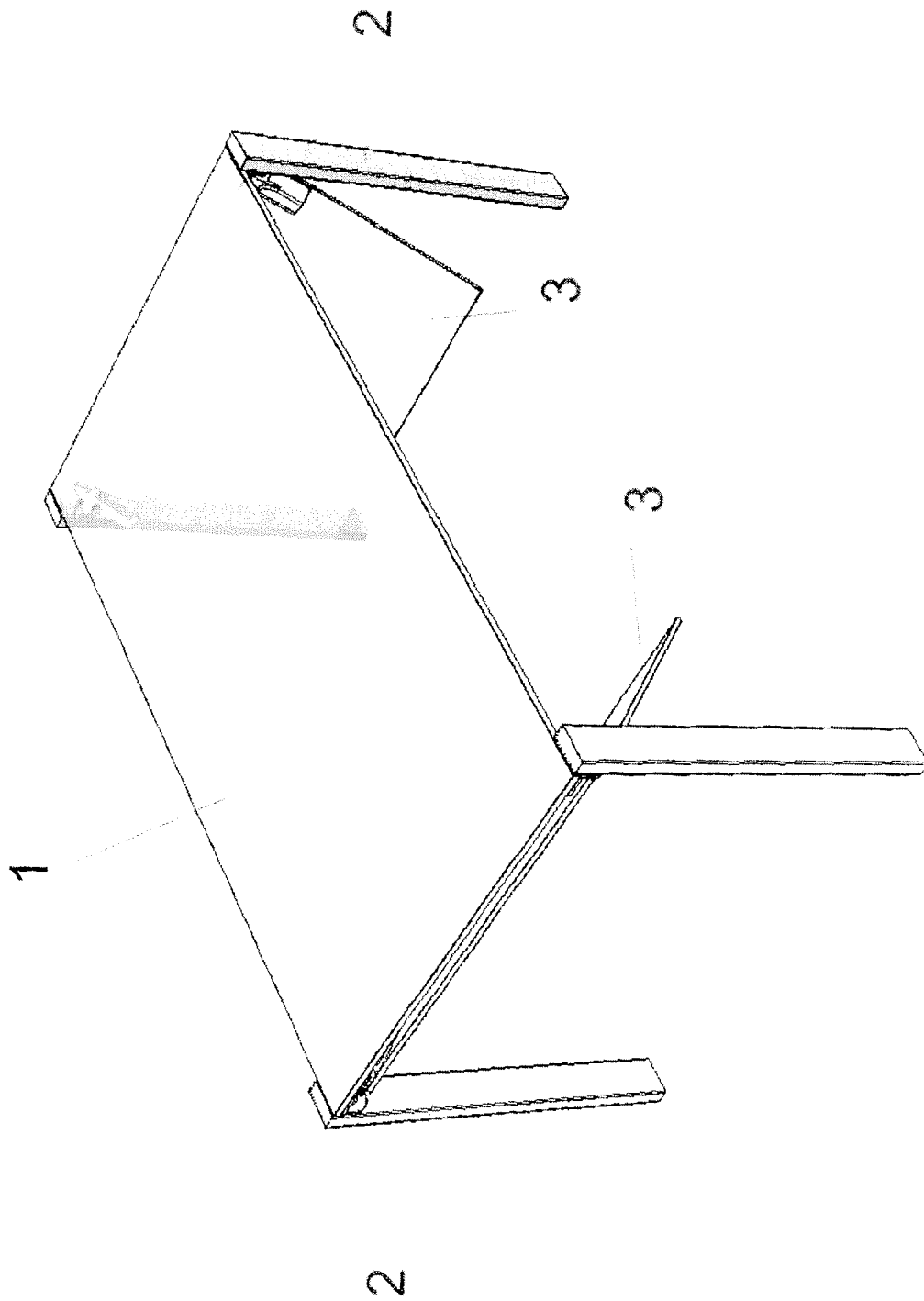


FIG. 9

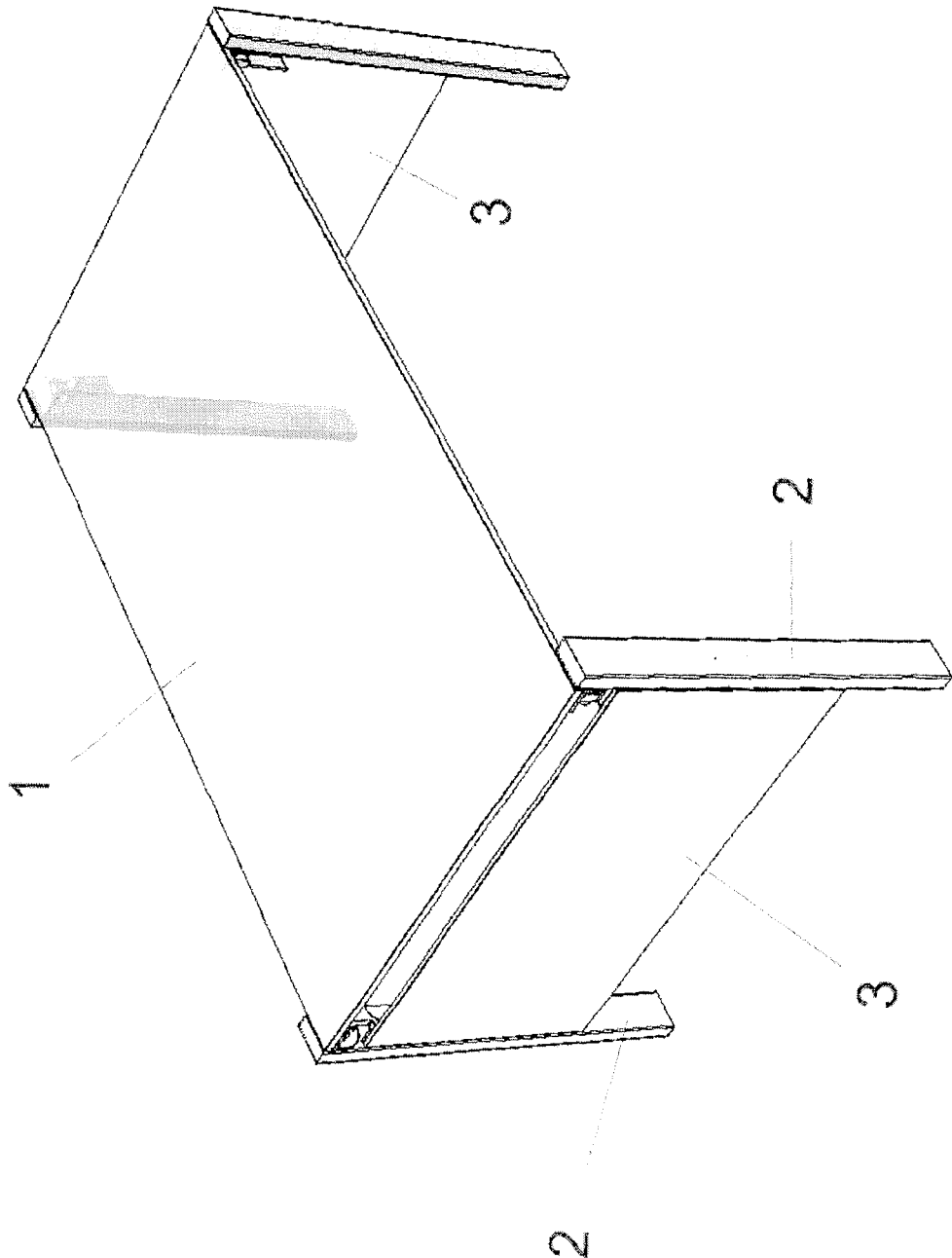


FIG. 10

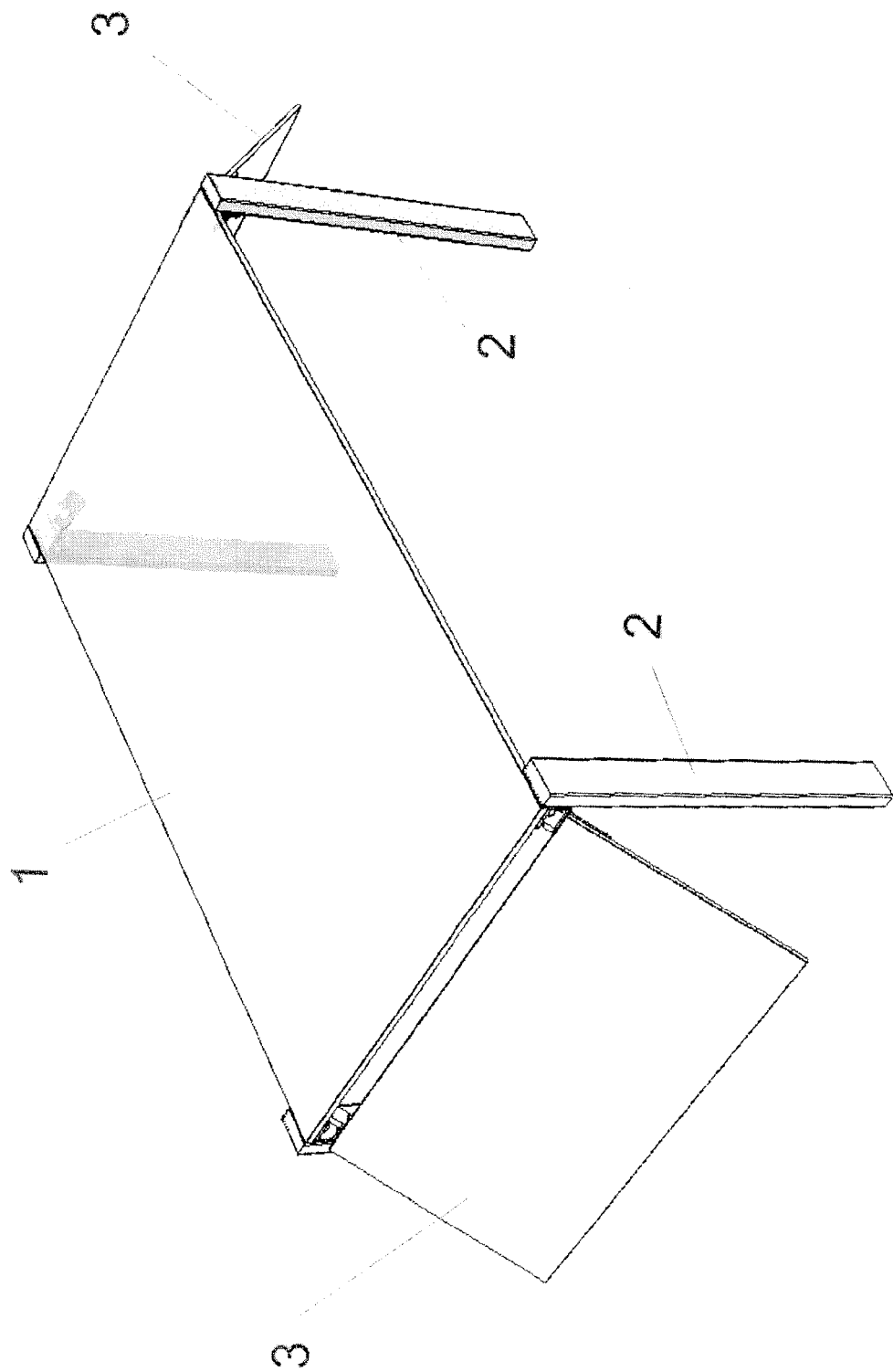


FIG. 11

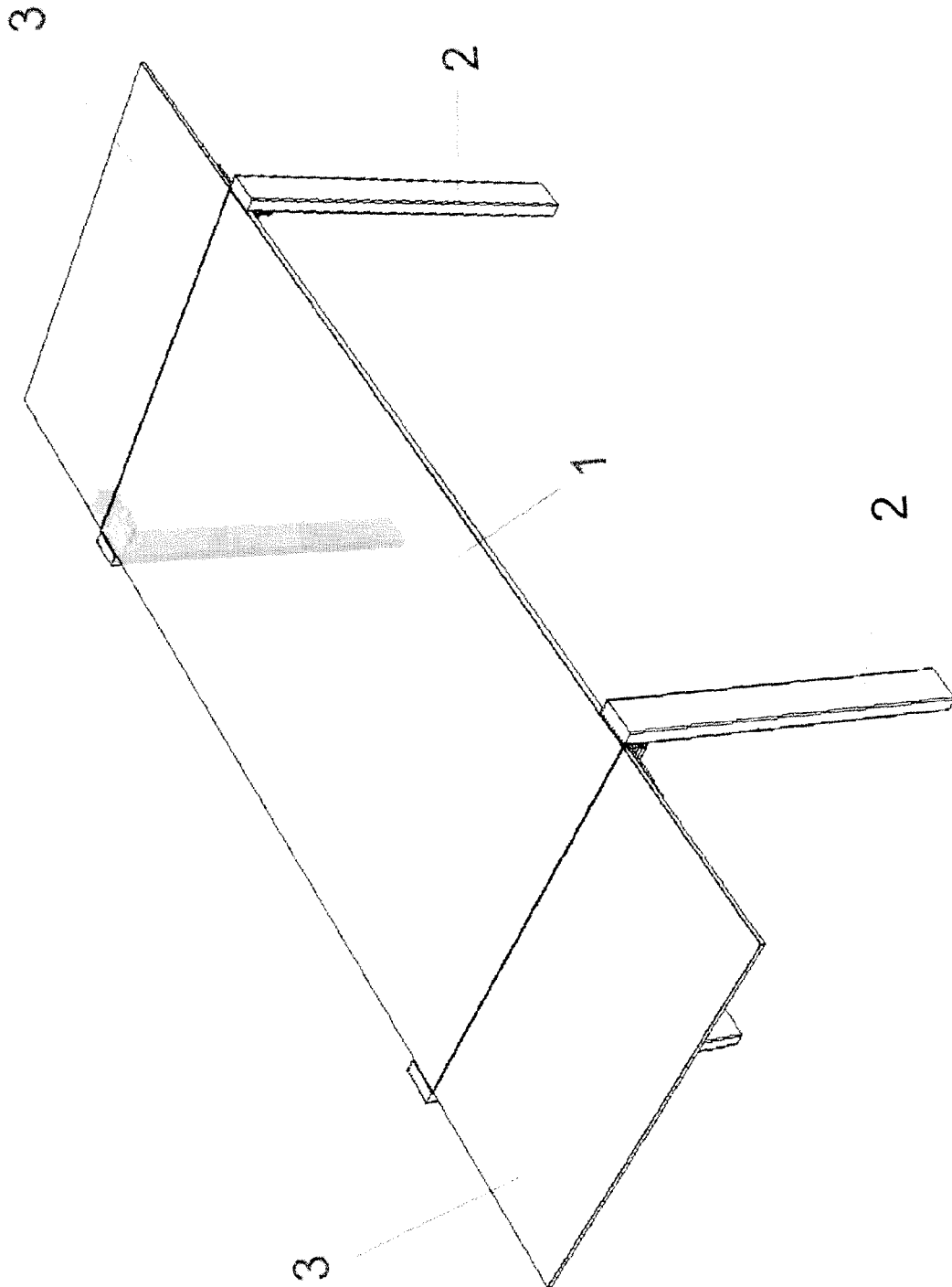


FIG. 12