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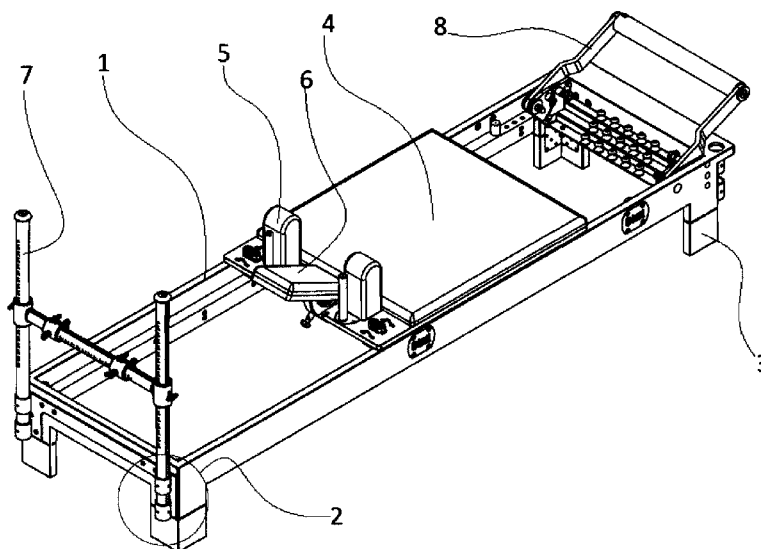


FIGURE 1

(57) Abstract: In order to obtain an easily-used novel Pilates embodiment with improved design in the Pilates exercise device comprising an upper mechanism to which a jumping board and upper adjustment columns are connected, leg connection mechanism having a changeable leg connection in different sizes, spring connection mechanisms to which a movable console or platform in the middle part are connected, and a headrest mechanism to which different types of headrests in different types of Pilates equipment are connected, an engineering design is achieved accommodating very different features together.



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EXTENSIVE DEVELOPMENTS IN THE DESIGN OF PILATES EXERCISE DEVICE

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The subject innovation basically relates to technical developments made in exercise devices. These technical developments refer to an exercise device, known as "Pilates" in the market and mainly aiming to develop the physical conditions of humans. The basic technical developments in the Pilates exercise device according to the present invention comprise developments in upper connection and adjustment mechanisms, leg connection and adjustment mechanisms, middle spring-part connection and adjustment mechanisms, and headrest connection and adjustment mechanisms. The present invention particularly comprises developments made in the constructions of upper mechanisms where jumping boards and upper adjustment columns are connected, leg connection mechanisms comprising a changeable leg connection in different sizes, spring connection mechanisms where moving consoles in the middle are connected, and in headrest mechanisms where different types of headrests in different types of Pilates devices are connected.

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Prior Art

Exercise devices are known for many years. A Pilates exercise equipment, in turn, is a device used in Pilates exercise methods. The Pilates exercise method, or in the most general designation, Pilates, is an exercise system developed by Joseph 'Joe' Huberts Pilates. Pilates exercise devices are designed to generate positions and movements which build the whole body, as well as correct and balance the body posture. Various exercises for users in a very wide range from new beginners to masters can be performed. Springs, spools, and devices making use of gravity impact the muscle structure from various angles and particularly focus on the inner

muscle system. As a result of working the deeper layers of muscles, correct position, posture, and optimum movement mechanics are achieved. With the developments in the Pilates science, both the Pilates masters, and the designers of Pilates devices have uncovered novel approaches day by day.

- 5 The most prominent feature of Pilates devices of the prior art, which are positioned on a ground and to which different devices are connected, is that support elements in the form of tubes or profiles can be connected to the device so that a Pilates performer can work his hand or foot muscles using springs and spools. Adjustable mechanisms are provided on the top, the sides and horizontal parts to adjust such
- 10 movable mechanisms. There are many Pilates exercise devices on the market, generally named as REFORMER, CADILLAC, TOWER, LADDER and CHAIR, designed for different types of exercises. Among these, the REFORMER and CADILLAC models, though having differences, are such type of exercise devices which comprise a movable binder and enable a user to make movements typically
- 15 as the user is lying on his/her back.

For the exercise devices of the prior art, as mentioned above, a separate connection manner is provided for an extra apparatus known as the "jumping board" and separate connection mechanisms are provided for adjustment profiles or columns. This type of connection mechanisms both enhances the operations during

20 manufacture and increases the costs. On the other hand, it may be difficult to use a Pilates exercise device equipped with separate mechanisms for different users.

The height of Pilates devices of the prior art is generally invariable. However, there are Pilates devices manufactured at different heights for different types of users. This, in turn, both increases the costs in terms of manufacture, and increases the

25 costs for the owners of Pilates centers as they have to make available different sorts of devices.

The middle body parts of the Pilates devices according to the prior art are provided with movable arms, of which one end is connected to the front side of the device by means of springs. The spring in these devices are connected to hooks at different

30 distances such that different spring tensions are obtained. However, when this

adjustment is made, the spring connections come very closer side by side. This type of design both raises difficulty for the users, and gives rise to an unpleasant appearance.

5 In the Pilates devices according to the prior art, a headrest to which the user's head is rested and a recess (opening) into which the headrest gets during movement are provided particularly for exercises performed while lying. This type of design is described in the patent US6120425 of Enderman. While this type of design brings an advantage in that it allows the headrest connected to the front side of a bed bracket moving back and forth on the body to move easily and not to touch the front
10 side of the body, the difficulty in adjusting the headrest brings another problem.

The design of such a Pilates exercise device comprising some of said features in the prior art are described in the patent US6120425 of Endelman, as well as in the European patent EP1123141. The disclosure of said patent application brings an advantage over the prior art in the time it was published, but still has some of the
15 drawbacks referred to above.

Object and Description of Invention

The basic object of the present invention is to achieve a Pilates embodiment, which is easily used and has a developed design, comprising particularly an upper
20 mechanism to which a jumping board and upper adjustment columns are connected, leg connection mechanism comprising a changeable leg connection of different sizes, spring connection mechanisms to which a movable bracket in the middle part is connected, and a headrest mechanism to which different types of headrests are connected in different types of Pilates devices, particularly the REFORMER and
25 CADILLAC models of devices.

One advantage of the design of the Pilates exercise device according to the present invention is that it comprises connection mechanisms at the edge parts of the frame. Said connection mechanisms support both the jumping board, and the connection profiles or tubes supporting the adjustment mechanisms provided at the lateral

sides. Thus, by virtue of a single connection manner, it is made possible to connect more than one type of apparatuses to the Pilates exercise equipment.

Another advantage of the Pilates exercise device according to the present invention is that legs of different heights can be mounted so that Pilates exercise devices of different heights can be formed. For this purpose, improvements and developments are made in the mechanism by which the legs are connected to the body.

A further advantage of the Pilates exercise device according to the present invention is that spring connection apparatuses are formed which can be connected in an optimized and regular manner for the springs provided in the body. These apparatuses do not deteriorate the appearance, but provide a good and efficient spring connection.

Another advantage of the Pilates exercise design according to the present invention is that it provides individual different adjustable headrest designs for the types of Pilates devices generally known in the Pilates market as "REFORMER" and "CADILLAC". By virtue of these designs, the headrest to which the user rests his head is enabled to move horizontally without contacting the lower body and at the same time, without forming a recess-like seat for this headrest in the lower body, or the height adjustment of the headrest can be made as desired.

In order to provide a better understanding of the construction of the Pilates exercise device according to the present invention, it shall be referred to the accompanying figures briefly described hereunder.

Description of Figures

Figure 1 is a perspective view of a REFORMER model of Pilates exercise device according to the present invention.

Figure 2 is a projection view from above of the REFORMER model Pilates exercise device according to the present invention.

Figure 3 is a projection view from below of the REFORMER model Pilates exercise device according to the present invention.

Figure 4 is a sidewise projection view of the REFORMER model Pilates exercise device according to the present invention.

5 Figure 5 is a perspective view of an outer connection mechanism connected to a side wall of the frame of the REFORMER model Pilates exercise device according to the present invention.

Figure 6 is an exploded perspective view of the outer connection mechanism connected to the side walls of the frame of the REFORMER model Pilates exercise
10 device according to the present invention.

Figure 7 is an enlarged perspective view of the outer connection connected to the side walls of the frame of the Pilates exercise device according to the present invention.

Figure 8 is a cross-sectional projection view of the outer connection connected to
15 the side walls of the frame of the Pilates exercise device according to the present invention.

Figure 9 is a perspective view from below of the REFORMER model Pilates exercise device according to the present invention.

Figure 10 is a view from below of leg connection mechanisms of the Pilates exercise
20 device according to the present invention.

Figure 11 is a cross-sectional projection view from the front of the Pilates exercise device according to the present invention.

Figure 12 is an exploded perspective view of the leg connection mechanism of the Pilates exercise device according to the present invention with legs of alternative
25 sizes.

Figure 13 is a perspective view of a spring connection mechanism of the Pilates exercise device according to the present invention.

Figure 14 is a view depicting the construction of spring connection spools of the Pilates exercise device according to the present invention.

Figure 15 is a perspective view of a spring-loaded leg workout unit of the Pilates exercise device according to the present invention.

- 5 Figure 16 is a detailed perspective view of a part of the spring-loaded leg workout unit of the Pilates exercise device according to the present invention.

Figure 17 is a detailed perspective view of another part of the spring-loaded leg workout unit of the Pilates exercise device according to the present invention.

- 10 Figure 18 is a perspective view of the Pilates exercise device according to the present invention while the spring-loaded leg workout unit is adjusted upwards.

Figure 19 is a detailed perspective view of a part of the spring-loaded leg workout unit of the Pilates exercise device according to the present invention while the unit is adjusted upwards.

- 15 Figure 20 is a representative perspective view depicting the mode of operation of the spring-loaded leg workout unit of the Pilates exercise device according to the present invention.

Figure 21 is a perspective view of a headrest used in the REFORMER model of the Pilates exercise device according to the present invention.

- 20 Figure 22 is a projection view from above of the headrest used in the REFORMER model Pilates exercise device according to the present invention.

Figure 23 is a sidewise projection view of the headrest used in the REFORMER model Pilates exercise device according to the present invention.

Figure 24 is a sidewise cross-sectional projection view of the headrest used in the REFORMER model Pilates exercise device according to the present invention.

- 25 Figure 25 is a sidewise projection view of an adjustment part of the headrest used in the REFORMER model Pilates exercise device according to the present invention.

Figure 26 is a perspective view from below of the headrest used in the REFORMER model Pilates exercise device according to the present invention, while the headrest is inside.

Figure 27 is an exploded perspective view from below of the headrest used in the REFORMER model Pilates exercise device according to the present invention.

Figure 28 is a perspective view from below of a headrest used in a CADILLAC model Pilates exercise device according to the present invention.

Figure 29 is a perspective view from above of the headrest used in the CADILLAC model Pilates exercise device according to the present invention.

Figure 30 is a perspective view from above of the headrest used in the CADILLAC model Pilates exercise device according to the present invention, when the headrest is out.

Figure 31 is a perspective view from below of the headrest used in the CADILLAC model Pilates exercise device according to the present invention, when the headrest is out.

Figure 32 is an exploded perspective view of the headrest used in the CADILLAC model Pilates exercise device according to the present invention.

Figure 33 is a projection view from above of the headrest used in the CADILLAC model Pilates exercise device according to the present invention.

Figure 34 is a cross-sectional projection view from the front of the headrest used in the CADILLAC model Pilates exercise device according to the present invention.

Designation of the Steps, Sections and Parts in the Figures illustrating the Present Invention

- 1- Frame
- 1a- Sheet bar recess
- 2- Outer connection mechanism

- 2a- Surface support
- 2b- Profile mount
- 2c- Profile fixation member
- 2d- Surface support fixation member
- 5 3- Leg
 - 3a- Sheet bar recess for the leg
 - 3b- Sheet bar
 - 3c- Reinforcing sheet bar
 - 3d- Sheet bar connection
- 10 4- Moving platform
 - 4a- Headrest cutout
 - 5- Shoulder rest
 - 6- Headrest
 - 7- Support profile
 - 15 8- Adjustment arm
 - 9- Adjustment arm mechanism
 - 9a- Joint
 - 9b- Retainer of adjustment arm
 - 9c- Spring-loaded adjustment pin
 - 20 9d- Fixation pin
 - 9e- Adjustment holes
 - 9f- Body of adjustment arm
 - 10- Stairway body
 - 11- Spring connection spool
 - 25 11a- Spool support
 - 12- Rotational movement mechanism
 - 12a- Stationary semilunar body
 - 12b- Movable semicircular body
 - 12c- Movable semicircular connection
 - 30 12d- Stationary semicircular connection
 - 12e- Spring-loaded semicircle fixation pin
 - 12g- Semicircular pin hole

- 12h- Semicircular pin side hole
- 12i- Circular slot
- 12k- Limiter
- 12L- Semicircular joint
- 5 12m- Side pin
- 13-Linear movement mechanism
- 13a- Slide extension
- 13b- Track bearer
- 13c- Track
- 10 13d- Slot
- X- Spool height
- M-N – Adjustment arm movement directions

Detailed Description of Invention

- 15 In order to obtain an easily-used novel Pilates embodiment with improved design in the Pilates exercise device, particularly in REFORMER and CADILLAC models according to the present invention comprising an upper mechanism to which a jumping board and upper adjustment columns are connected, leg connection mechanism having a changeable leg connection in different sizes, spring connection
- 20 mechanisms to which a movable console or platform in the middle part are connected, and a headrest mechanism to which different types of headrests in different types of Pilates equipment are connected, an engineering design is achieved accommodating very different features together. Maintaining the basic logic, visual design alternations can be made in size etc. without affecting the
- 25 design. Or, small alterations can be made which will develop or change the manufacture and use. It is considered that such changes and alterations will not change the general protection scope of the patent.

One general view particularly of the REFORMER model of exercise device according to the present invention is shown in figure 1, figure 2, figure 3 and figure

4. Here, a device is shown by which exercises can be made in a lying, sitting or crouching position. Said device comprises a moving platform (4) positioned on a frame (1), a shoulder rest (5) on said moving platform (4), a headrest (6) adjustable down- and upward between the two shoulder rests (5), a circular movement mechanism (12) connecting said headrest (6) to the moving platform, an adjustment arm (8) and adjustment arm mechanism (9) formed between said frame (1) and moving platform (4), and support profiles (7) positioned on the outer part of said frame (1). The frame (1) can be made of wooden, metallic, plastic or composite materials. The user can make Pilates exercises by leaning his/her feet or hands on the adjustment arm (8). The support profiles (7) are used in exercise devices called the jumping board, or other connection mechanisms are used to support the exercises from above or from the sides. Here, the construction of the headrest (6) shown in the figures is for the REFORMER model, but other constructions, i.e. parts like frame (1) structure, leg (3) etc. can also be used for the CADILLAC model.

15 The construction of the Pilates exercise device according to the present invention, as illustrated in figure 5, figure 6, figure 7 and figure 8, comprises an outer connection mechanism (2) supporting the profiles to which a jumping board or other exercise equipment are connected. Said outer connection mechanism (2) is connected to the frame (1) from the sides. However, it can also be positioned in a seat at front or rear sides, just at a corner part, or at a part projecting inward from the corner. The edge connection mechanism (2) comprises at least one surface support (2a) connected to the frame (1), at least one profile mount (2b) positioned on said surface support (2a) and through which a support profile (7) is passed, at least one profile fixation member (2c) holding said support profile (7) in the profile mount (2b) in a rigid manner and at least one surface support fixation member (2d) connecting said surface support (2a) to the frame (1) so as to make it rigid. The profile mount (2b) can be mounted to the surface support (2a) by means of screws, pins, welding, or rivet. If desired, the profile mount (2b) can be mounted directly to the frame (1) by means of screws, pins, rivets, or it may be positioned to a hole at the respective edges or corners of the frame to which the profile mount (2b) can be inserted. The profile fixation member (2c) can be a screw, pin, rivet or tightening

means which provides the fixation of the support profile (7). The surface support fixation member (2d) can be a screw, pin, rivet, or a tightening means.

It is seen in figure 9, figure 10, figure 11 and figure 12 that the Pilates exercise device according to the present invention comprises legs (3) which are connected
5 to the frame (1) from below. The leg (3) comprises in its inner part a sheet bar recess for the leg (3a), a sheet bar (3b) placed in the sheet bar recess for the leg (2a), a sheet bar recess (1a) which enables to mount said sheet bar (3b) to the lower part of the frame (1) and formed on the lower part of the frame (1), and a sheet bar connection (3d) which is a connection element enabling to rigidly connect the
10 reinforcing sheet bar (3c) and sheet bar (3b) to the frame (1). The leg (3) is from the same material with that of the frame (1) preferably designed in an "L" shape, or can be made from metals, aluminum, plastic or composite materials. However, the leg (3) can also be made in the form of a rectangular prism, in the form of an arc comprising a part of a circle, or in similar forms. The leg (3) is preferably mounted
15 to the edges or exactly to a lower part of the frame (1). If desired, it can be directly connected to the frame (1) in a rigid manner by means of a sheet bar connection (3d) without using any sheet bar recess (1a) or a sheet bar recess for the leg (3a) in the interior of the leg (3) and in the interior of the frame (1) corresponding to the leg (3). If desired, no reinforcing sheet bar (3c) is used. The leg (3) can be made
20 long or short. When it is aimed to have a high frame (1), a higher leg (3) is used, but when it is aimed to have it low, a lower leg (3) is used. For this reason, the sheet bar connection (3d) can be loosened and removed to mount any desired leg (3). The sheet bar connection (3d) is preferably made with a screw, but it can also be made using rivets or other tightening means.

25 The construction of the Pilates exercise device according to the present invention, as seen in figure 13, figure 14, figure 15, figure 16, figure 17, figure 18, figure 19, and figure 20, comprises a moving platform (4) positioned in a movable manner on the frame (1) and an adjustment arm (8) and adjustment arm mechanism (9) positioned in the inner edge sites of said frame (1), a stairway body (10) connected
30 to the moving platform (4) in the frame (1) by means of a spring, and spring connection spools (11) positioned in said stairway body (10). The spring is not

shown in the figures. In fact, the spring is already used according to the prior art and it is connected to one side of the moving platform (4) and frame (1) to adjust the power consumed during Pilates exercises. Here, the point that is different from the prior art is that the spring size is adjusted and one end of the spring is connected not to hooks, as is the case of the prior art, but to spring connection spools (11) provided on a body construction named as the stairway body (10). Here, the springs are connected to one end of the moving platform (4) positioned in an inner gap of the frame so as to make a linear movement with the springs at the edges of the frame. The displacement of the moving platform (4) by the user of the Pilates device is restricted by means of hooks provided at the inner edge of the frame (1) side by side and by means of springs connected to these hooks. This restriction is made difficult or easier by changing the extent to which the spring stretches. This mechanism used in the prior art is developed here by changing the manner the springs are connected. The Pilates exercise device according to the present invention comprises the stairway body (10) positioned in the inner edge of the frame (1) and the spring connection spool (11) positioned together with a spool support (11a) in the stairway body (10). Springs (not illustrated in the figures) are connected to the spring connection spool (11) and one end of said springs is connected to the moving platform (4) so that the displacement of the moving platform (4) is restricted for exercise purposes. Here the stairway body (10) is just as a "Z" shaped stairway when viewed cross-sectionally from the side. The spring connection spool (11) is connected to an upper part of this stairway embodiment by means of the spool support (11a). The spool support (11) is connected preferably using screws, pins, or rivets. The height of the steps of the stairway body (10) is at least as high as that of the spring connection spool (11) or is such a spool height (X) that when springs are connected to the spring connection spool (11) they will not contact each other. By virtue of such a construction, the spring connection spools (11) will not contact each other even if they are in alignment. On the other hand, in the regions representing the upper steps of the stairway-shaped embodiment, since the stroke of the spring (the distance the spring extends) will increase, a better adjustment can be ensured. On the other hand, the adjustment arm (8) positioned with the adjustment arm mechanism (9) to the inner edge of the frame (1) can make a partial

rotational movement in the M-N movement directions of the adjustment arm. The movement means that the adjustment arm (8) can be adjusted in terms of height or forward and backward according to the type of exercise performed. The adjustment arm mechanism (9) comprises a body of the adjustment arm (9f) positioned in the inner edge of the frame (1), at least one joint (9a) positioned in said body of the adjustment arm (9f), at least one adjustment arm retainer (9b) and spring-loaded adjustment pin (9c), adjustment holes (9e) produced in said spring-loaded adjustment pin retainer (9b) and into which a tip portion of said spring-loaded adjustment pin (9c) is inserted, and at least one fixation pin (9d), which sets the rotation amount of said adjustment arm (8) and is inserted into the holes (not illustrated in the figures) provided thereon to make another adjustment. The adjustment arm (8) rotates around a center in the M-N movement directions of the adjustment arm by means of the joint (9a) so as to perform a partial rotational movement. The limits of this rotation is provided by virtue of the fixation pin (9d). As for the adjustment arm retainer (9b) by which the joint (9a) and therefore the adjustment arm (8) is positioned, it makes also a partial rotational movement and the limits of this movement is provided with spring-loaded adjustment pins (9c) in the body of the adjustment arm (9b) and corresponding adjustment holes (9e). The spring-loaded adjustment pin (9c) and the fixation pin (9d) are known from the prior art, each comprising a spring inside such that when the pin is retracted it is removed from the corresponding hole and when released the pin is inserted into the hole under the effect of the respective spring. However, a normal pin or screw mechanism can also be used. The construction described here can be used in Pilates equipment practically known as REFORMER, but it can also be used for the CADILLAC models.

Figure 21, figure 22, figure 23, figure 24, figure 25, figure 26, and figure 27 show the constructions related to a headrest (6) used particularly in Pilates exercise devices according to the present invention known as the REFORMER model. In this system the rotational movement mechanism (12) comprises a stationary semilunar body (12a) which is connected to the moving platform (4) from below, is in the form of a crescent, functions as a support and enables the part above it to make a rotational motion and a movable semicircular body (12b) connected to the headrest (6),

wherein the stationary semilunar body (12a) and the movable semicircular body (12b) are positioned concentrically. This positioning requires that the movable semilunar body (12b) is out of the stationary semilunar body (12a), wherein the rotational movement mechanism comprises a semicircular joint (12L) connecting the headrest (6) to the moving platform (4) by means of said stationary semilunar body (12a) and movable semicircular body (12b), a movable semicircular connection (12c) connecting said movable semicircular body (12b) to the moving platform (4), a stationary semicircular connection (12d) connecting said stationary semilunar body (12a) to the headrest (6), a semicircular spring-loaded fixation pin (12e) positioned at the edge of the outer surface of the movable semicircular body (12b) which provides adjustment possibility as said movable semicircular body (12b) is concentrically rotated around the semicircular joint (12L) and out of the stationary semilunar body (12a), a semicircular pin hole (12g) formed at the outer surface of the stationary semilunar body (12a) corresponding to said spring-loaded semicircular fixation pin (12e), at least one semicircular pin side hole (12h) formed at lateral sides of said movable semicircular body (12b), at least one circular slot (12i) formed at lateral sides of said stationary semilunar body (12a), at least one side pin (12m) inserted into said semicircular pin side hole (12h) and circular slot (12i). Here, it is basically desired to provide a joint connection by which the headrest (6) is connected to the moving platform (6) and its height and slope is adjusted accordingly. Therefore the basic feature of this configuration is that the stationary semilunar body (12a) and the movable semicircular body (12b) are coupled to each other and to the moving platform concentrically by means of the semicircular joint (12L). Here, the movement restriction and adjustment of the movable semicircular body (12b) is made using the semicircular spring-loaded pin (12e) and the corresponding semicircular pin hole (12g), and at the same time, using the semicircular pin hole (12h) at the outer side edge of the movable semicircular body (12b) and the circular slot (12i) in the form of a circular curve at the lateral edge of the corresponding stationary semicircular body (12a) and the side pin (12m) inserted into these holes. The assembly of the stationary semilunar body (12a) to the moving platform (4) and of the movable semicircular body (12b) to the headrest (6) is made using screws, pins, or rivets. The headrest (6) here is placed into a headrest cutout

(4a) in the moving platform (4). In order to prevent the headrest (6) from falling down or for safety purposes because of the high pressure force exerted by the headrest (6), a straight support plate, called as a limiter (12k), is positioned on a lower part of the moving platform (4) so as to correspond to an edge of the headrest cutout (4a).

5 This headrest (6) construction is made different from those of the REFORMER model Pilates exercise devices according to the prior art. In the REFORMER model Pilates devices according to the prior art, the headrest is moved back and forth with the stationary and moving platform and to prevent the headrest from contacting a wall on the top part of the moving platform during this movement, a cutout is formed
10 on this wall (to receive the headrest). However, this construction is not needed anymore in the system according to the present invention and a brand new headrest mechanism is produced.

Figure 28, figure 29, figure 30, figure 31, figure 32, figure 33, and figure 34 show the constructions related to a headrest (6) used particularly in Pilates exercise devices
15 according to the present invention known as the REFORMER model. In this system, the headrest (6) is positioned so as to make a linear movement under the frame (1). The linear movement mechanism (13) in this system comprises slide extension (13a) to which the headrest (6) is connected, at least two track bearers (13b) connected to a lower side of the frame (1) and positioned close enough to allow the
20 slide extension (13a) to slide through between them, and a track (12c) in the form of a channel produced in said track bearer (13b) with a width and height large enough that said slide extension (13a) can be inserted therein. In order to improve the appearance of the system, a slot (13d) is provided in the frame (1) with a size that will receive the slide extension (13a). This construction should not be confused
25 with the headrest used in Pilates exercise devices known as the REFORMER model of the prior art. The headrest according to the prior art moves in the horizontal direction, but no slot is present in the wall at the head part of the Pilates frame and is connected to the moving platform. In the system according to the present invention, however, it should be noted that the slot (the part shown with reference
30 13d in the figures) here is not provided for the headrest, but for the slide and track mechanism, whereas in the CADILLAC model Pilates exercise devices the headrest is placed to the tracks and slides underneath the moving platform.

The Pilates exercise device according to the present invention can comprise either the five basic embodiments described above, or only a part of these embodiments. Said mechanisms and systems can be applied to other Pilates equipment with similar features or designed for similar purposes in other sizes and shapes.

CLAIMS

1. A device for Pilates exercise equipment, characterized in that the frame (1) comprises an outer connection mechanism (2) supporting the profiles to which a jumping board or other exercise equipment are connected, and that said outer connection mechanism (2) is connected to the frame (1) at the lateral edges.
2. The device according to claim 1, characterized in that the outer connection mechanism can be positioned so as to be placed in a seat at front or rear sides, just at a corner part, or at a part projecting inward from the corner.
3. The device according to claim 1, characterized in that the edge connection mechanism (2) comprises at least one surface support (2a) connected to the frame (1), at least one profile mount (2b) positioned on said surface support (2a) and through which a support profile (7) is passed, at least one profile fixation member (2c) holding said support profile (7) in the profile mount (2b) in a rigid manner, and at least one surface support fixation member (2d) connecting said surface support (2a) to the frame (1) in a rigid manner.
4. The device according to claim 1 or 3, characterized in that the profile mount (2b) is mounted to the surface support (2a) by means of screws, pins, welding, or rivets, and optionally the profile mount (2b) is connected directly to the frame (1) by means of screws, pins, rivets, or it may be positioned in a hole at the respective edges or corners of the frame to which the profile mount (2b) is inserted.
5. A device for Pilates exercise equipment, characterized by comprising legs (3) connected to the frame (1) from underside of the frame (1), and the leg (3) comprises in its inner part a sheet bar recess for the leg (3a), a sheet bar (3b) placed in the sheet bar recess for the leg (2a), a sheet bar recess (1a) which enables to mount said sheet bar (3b) to the lower part of the frame (1) and

formed on the lower part of the frame (1), and a sheet bar connection (3d) which is a connection element enabling to rigidly connect the reinforcing sheet bar (3c) and sheet bar (3b) to the frame (1).

5 6. The device according to claim 5, characterized in that the leg (3) is preferably designed in an "L" shape and made of the same material with the frame (1) or from metals, aluminum, plastic or composite materials, but the leg (3) can also have the shape of a rectangular prism, or an arc comprising a part of a circle.

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7. The device according to claim 5, characterized in that the leg (3) is preferably connected to the edges and exactly to the lower part of the frame (1), and it can be directly connected to the frame (1) in a rigid manner by means of a sheet bar connection (3d) without using any sheet bar recess (1a) and a sheet bar recess for the leg (3a) in the interior of the leg (3) and in the interior of the frame (1) corresponding to the leg (3), and that the use of reinforcing sheet bar (3c) is optionally omitted, The leg (3) can be made long or short, When it is aimed to have a high frame (1), a higher leg (3) is used, but when it is aimed to have it low, it is mounted without using a lower leg (3).

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8. A device for Pilates exercise equipment, characterized by comprising a moving platform (4) positioned in a movable manner on the frame (1) and an adjustment arm (8) and adjustment arm mechanism (9) positioned in the inner edge sites of said frame (1), a stairway body (10) connected to the moving platform (4) in the frame (1) by means of a spring, and spring connection spools (11) positioned in said stairway body (10).

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9. The device according to claim 8, characterized by comprising the stairway body (10) positioned in the inner edge of the frame (1) and the spring connection spool (11) positioned together with a spool support (11a) in the stairway body (10), the stairway body (10) is a "Z" shaped stairway when viewed cross-sectionally from the side, the spring connection spool (11) is connected to an upper part of this stairway embodiment by means of the

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spool support (11a), and the height of the steps of the stairway body (10) is at least as high as that of the spring connection spool (11) or is such a spool height (X) that when springs are connected to the spring connection spool (11) they will not contact each other.

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10. The device according to claim 8, characterized by comprising an adjustment arm (8) positioned in the inner edges of the frame (1) by means of an adjustment arm mechanism (9), wherein the adjustment arm mechanism (9) comprises a body of the adjustment arm (9f) positioned in the inner edge of the frame (1), at least one joint (9a) positioned in said body of the adjustment arm (9f), at least one adjustment arm retainer (9b) and spring-loaded adjustment pin (9c), adjustment holes (9e) produced in said spring-loaded adjustment pin retainer (9b) and into which a tip portion of said spring-loaded adjustment pin (9c) is inserted, and at least one fixation pin (9d), which sets the rotation amount of said adjustment arm (8) and is inserted into the holes provided thereon to make another adjustment.

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11. A device for Pilates exercise equipment, characterized by comprising a rotational movement mechanism (12) connecting the headrest (6) to the moving platform (4).

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12. The device according to claim 11, characterized in that the rotational movement mechanism (12) comprises a semilunar shaped semicircular body (12a) connected to the moving platform (4) from below, that the movable semicircular connection (12b) is connected to the headrest (6), the stationary semicircular lunar body (12a) and the movable semicircular connection (12b) are positioned concentrically, that this positioning leaves the movable semicircular connection (12b) out of the stationary semicircular connection (12a), comprises a semicircular joint (12L) connecting the headrest (6) to an edge of the moving platform (4) in a concentric manner by virtue of said stationary semicircular body (12a) and movable semicircular body (12b), comprises a movable semicircular connection (12c) connecting said movable semicircular body (12b) to the moving platform (4), a stationary semicircular

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connection (12d) connecting said stationary semilunar body (12a) to the headrest (6), a semicircular spring-loaded fixation pin (12e) positioned at the edge of the outer surface of the movable semicircular body (12b) which provides adjustment possibility as said movable semicircular body (12b) is concentrically rotated around the semicircular joint (12L) and out of the stationary semilunar body (12a), a semicircular pin hole (12g) formed at the outer surface of the stationary semilunar body (12a) corresponding to said spring-loaded semicircular fixation pin (12e), at least one semicircular pin side hole (12h) formed at lateral sides of said movable semicircular body (12b), at least one circular slot (12i) formed at lateral sides of said stationary semilunar body (12a), at least one side pin (12m) inserted into said semicircular pin side hole (12h) and circular slot (12i).

13.A device for Pilates exercise equipment, characterized in that the linear movement mechanism (13) comprises a slide extension (13a) to which the headrest (6) is connected, at least two track bearers (13b) connected to a lower side of the frame (1) and positioned close enough to allow the slide extension (13a) to slide through between them, and a track (12c) in the form of a channel produced in said track bearer (13b) with a width and height large enough that said slide extension (13a) can be inserted therein, and optionally a slot (13d) produced in said frame with a size to receive said slide extension (13a).

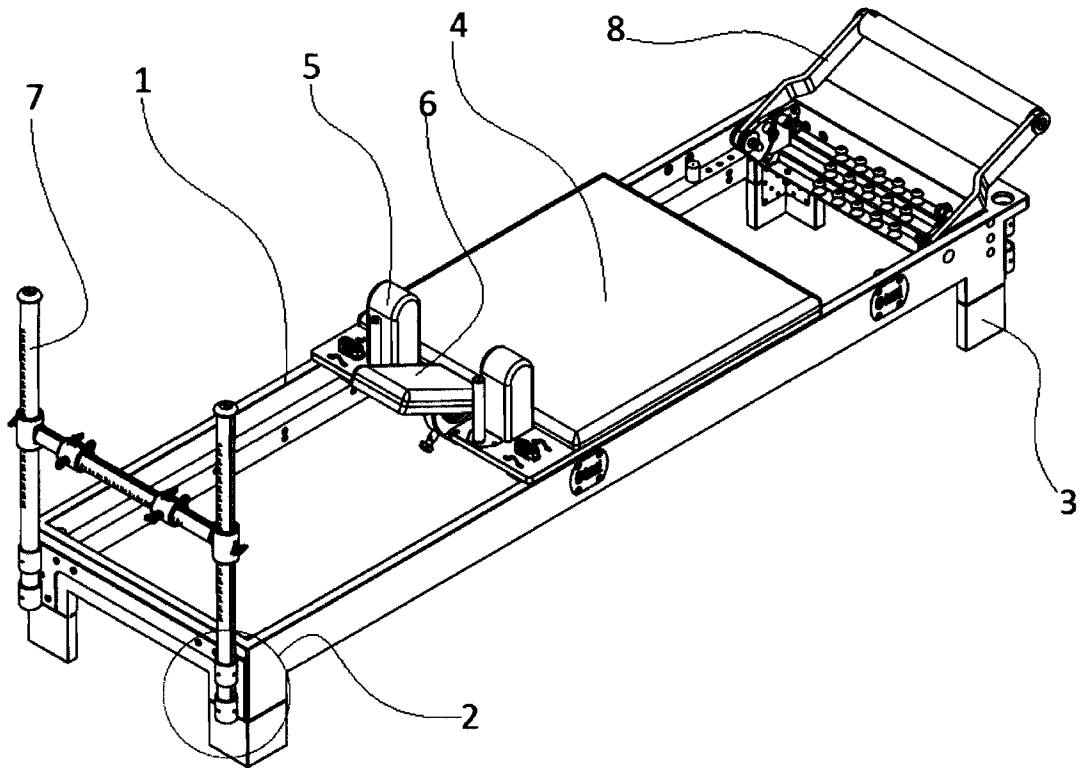


FIGURE 1

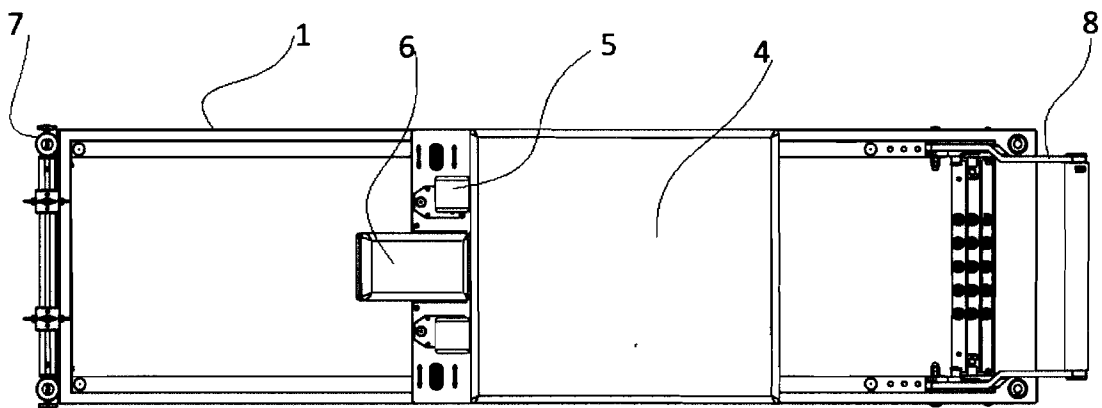


FIGURE 2

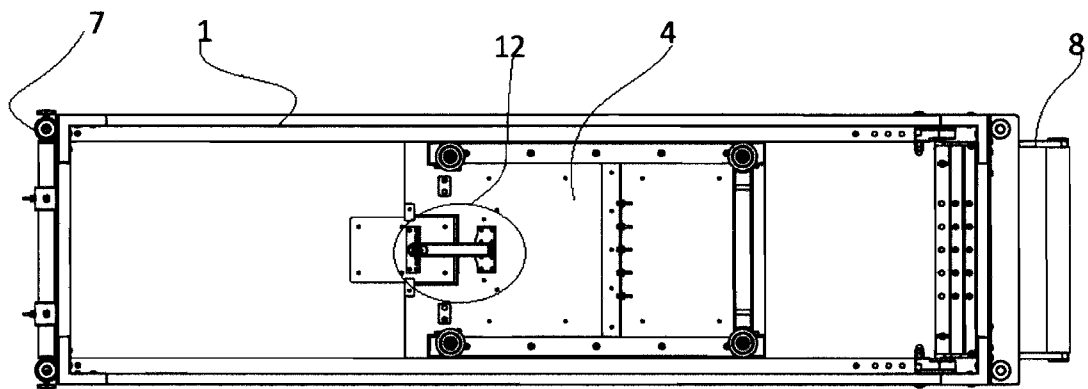


FIGURE 3

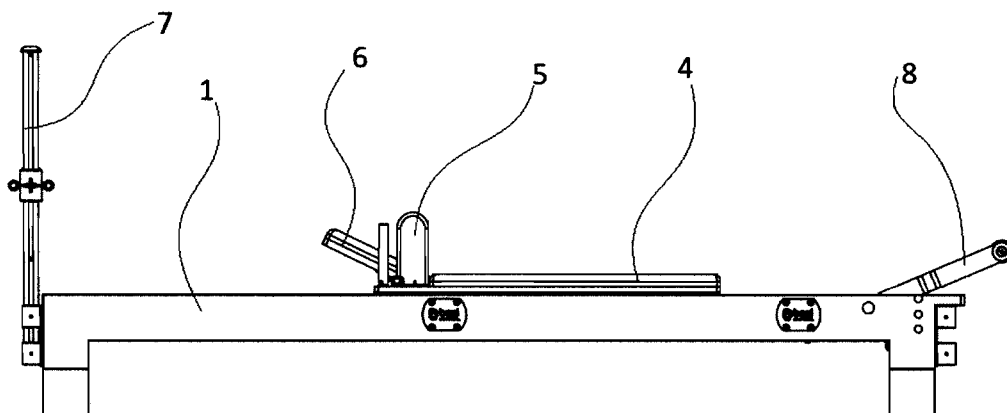


FIGURE 4

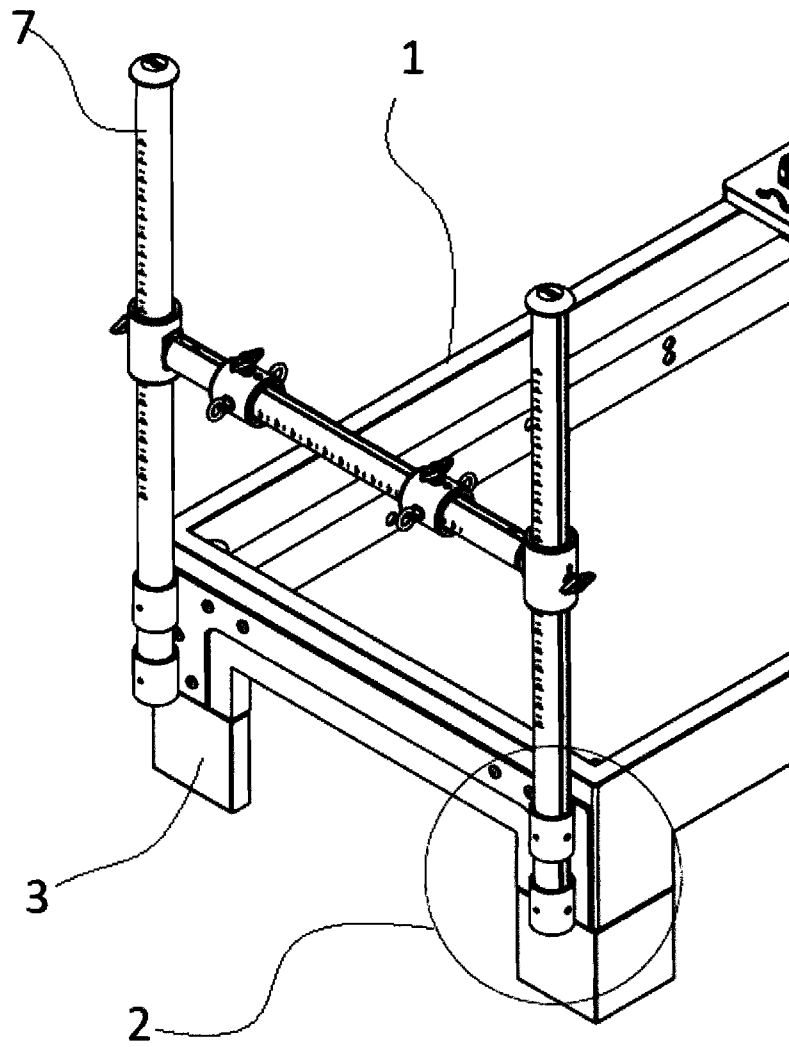


FIGURE 5

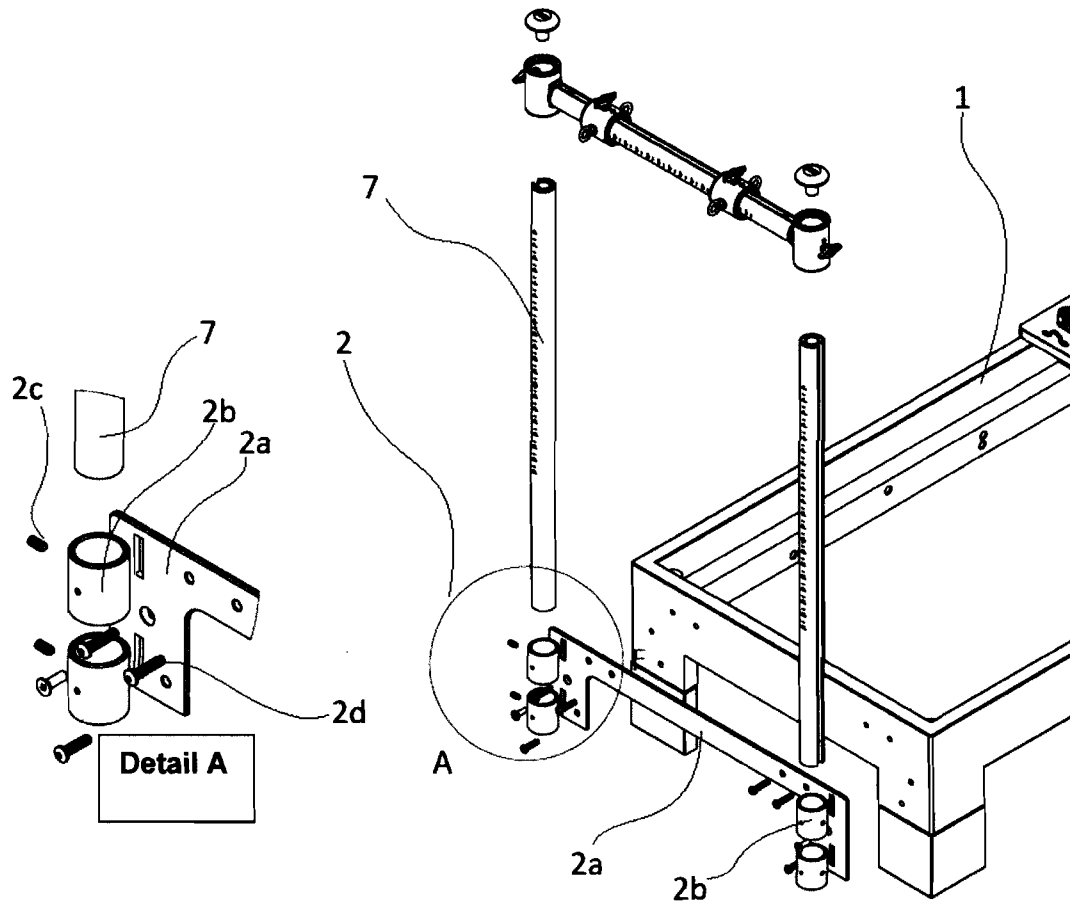


FIGURE 6

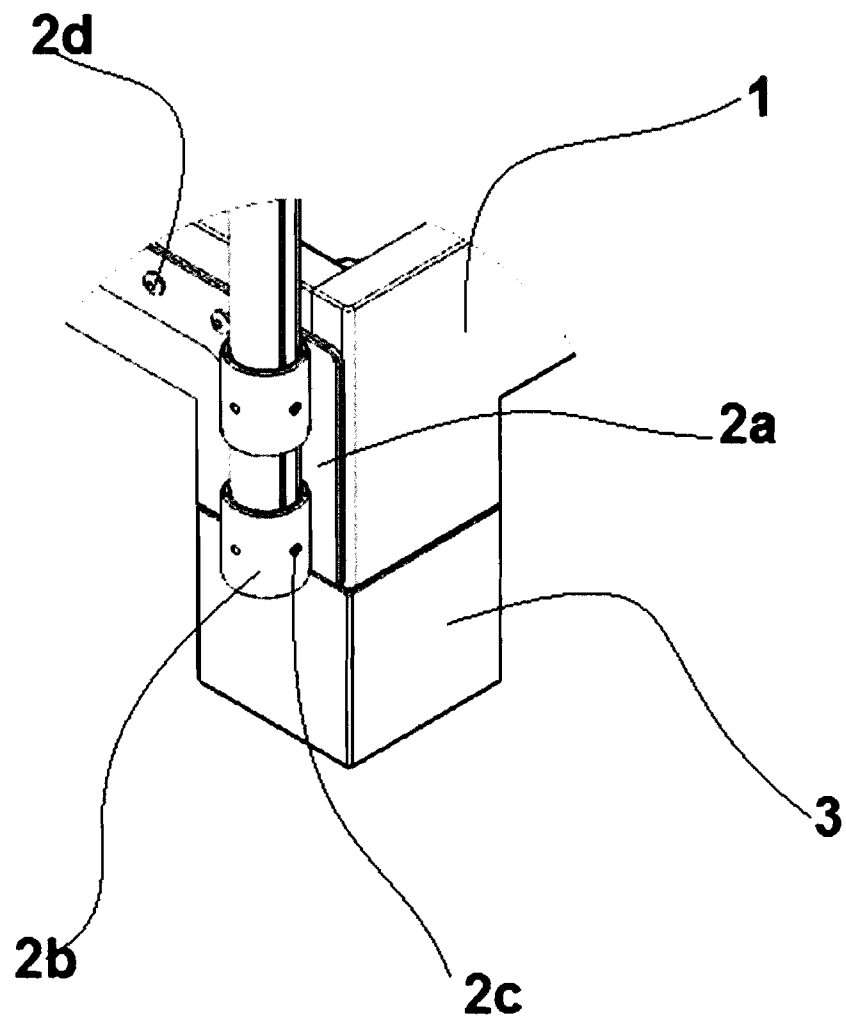


FIGURE 7

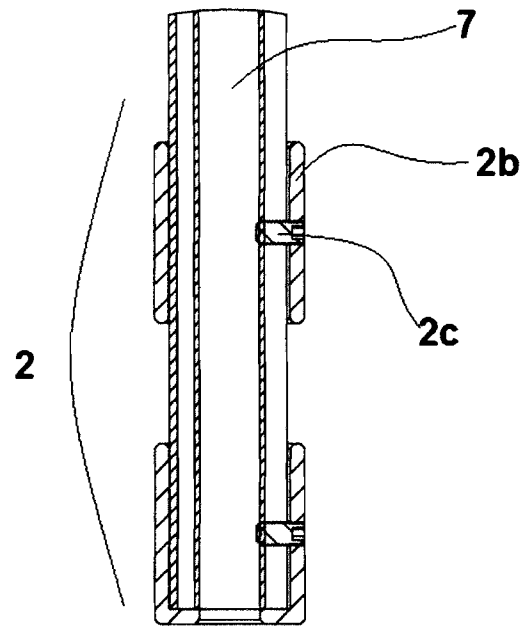


FIGURE 8

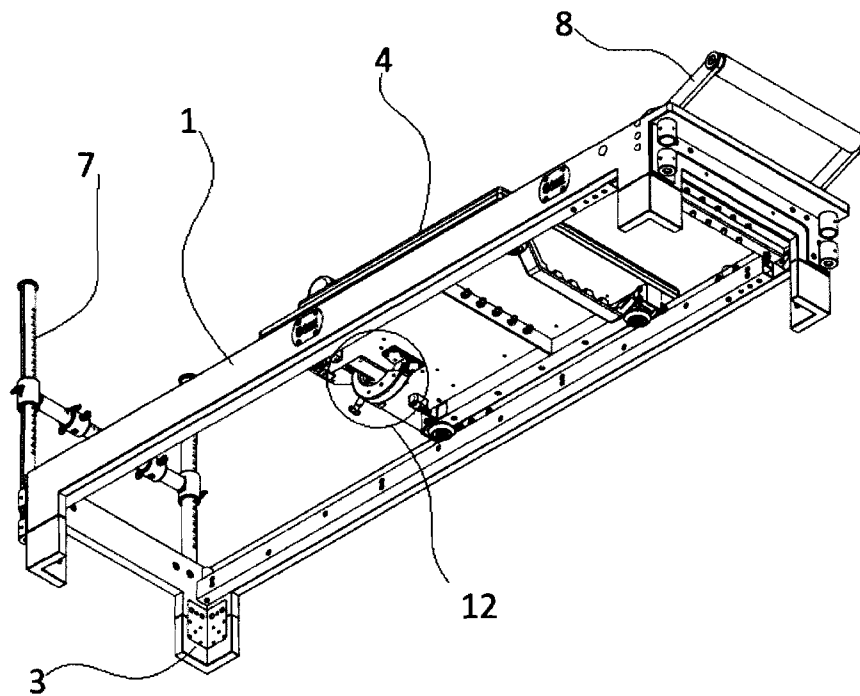


FIGURE 9

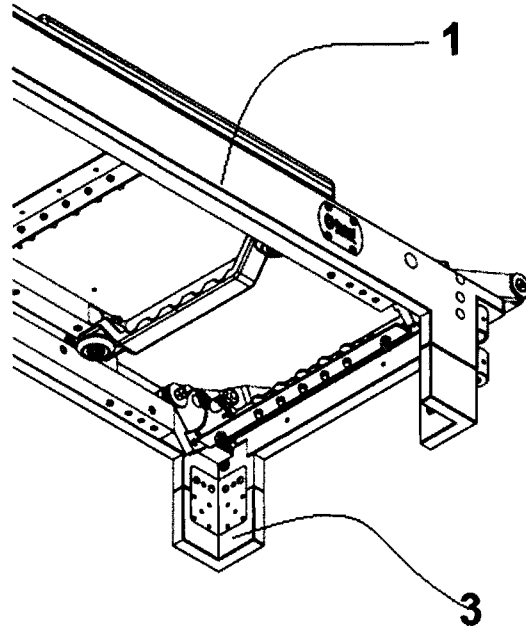


FIGURE 10

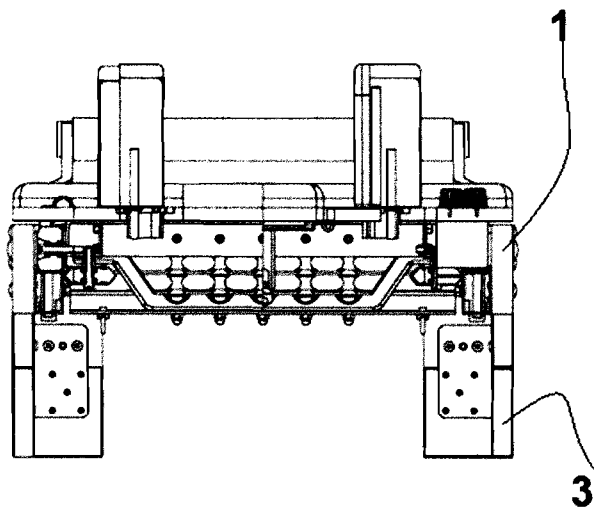


FIGURE 11

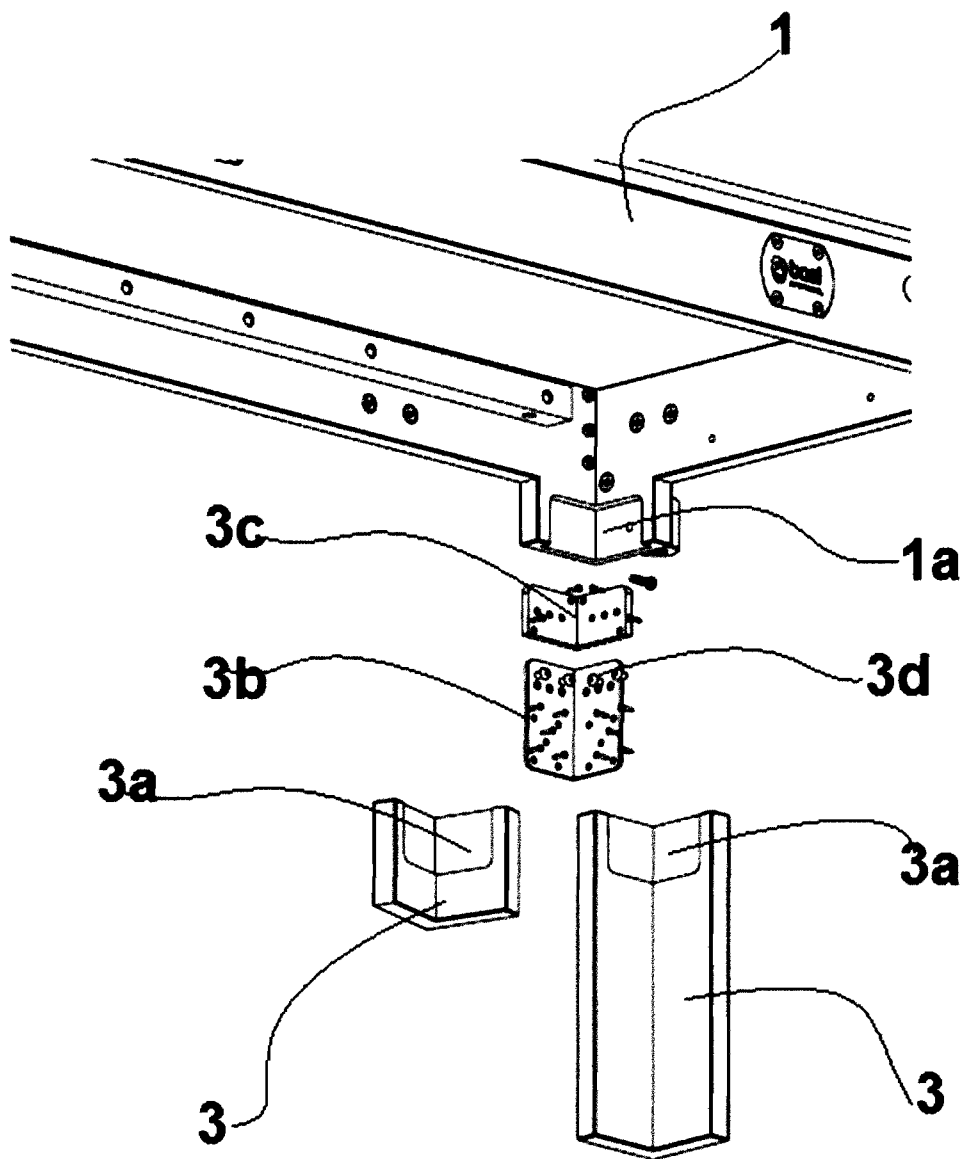


FIGURE 12

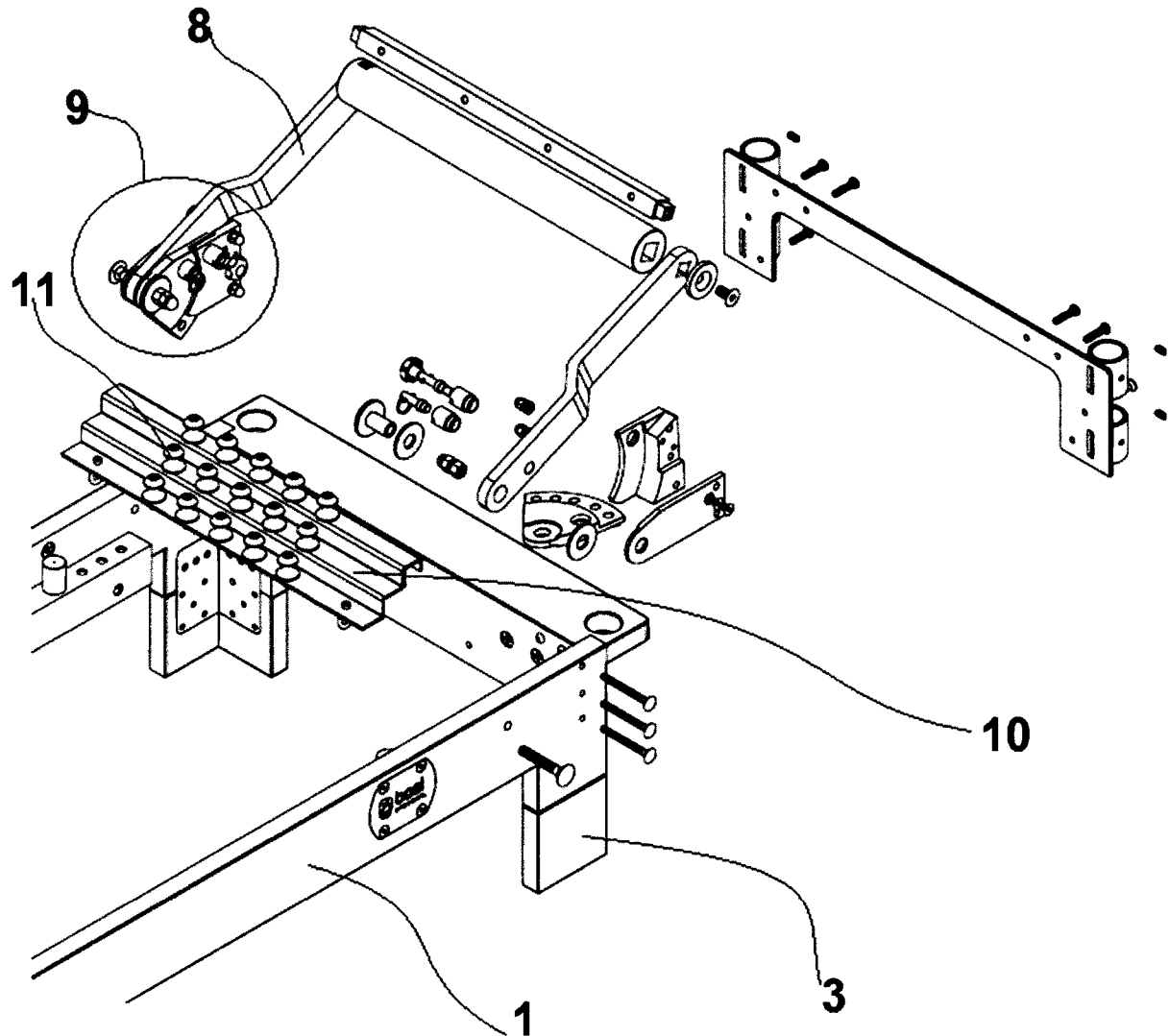


FIGURE 13

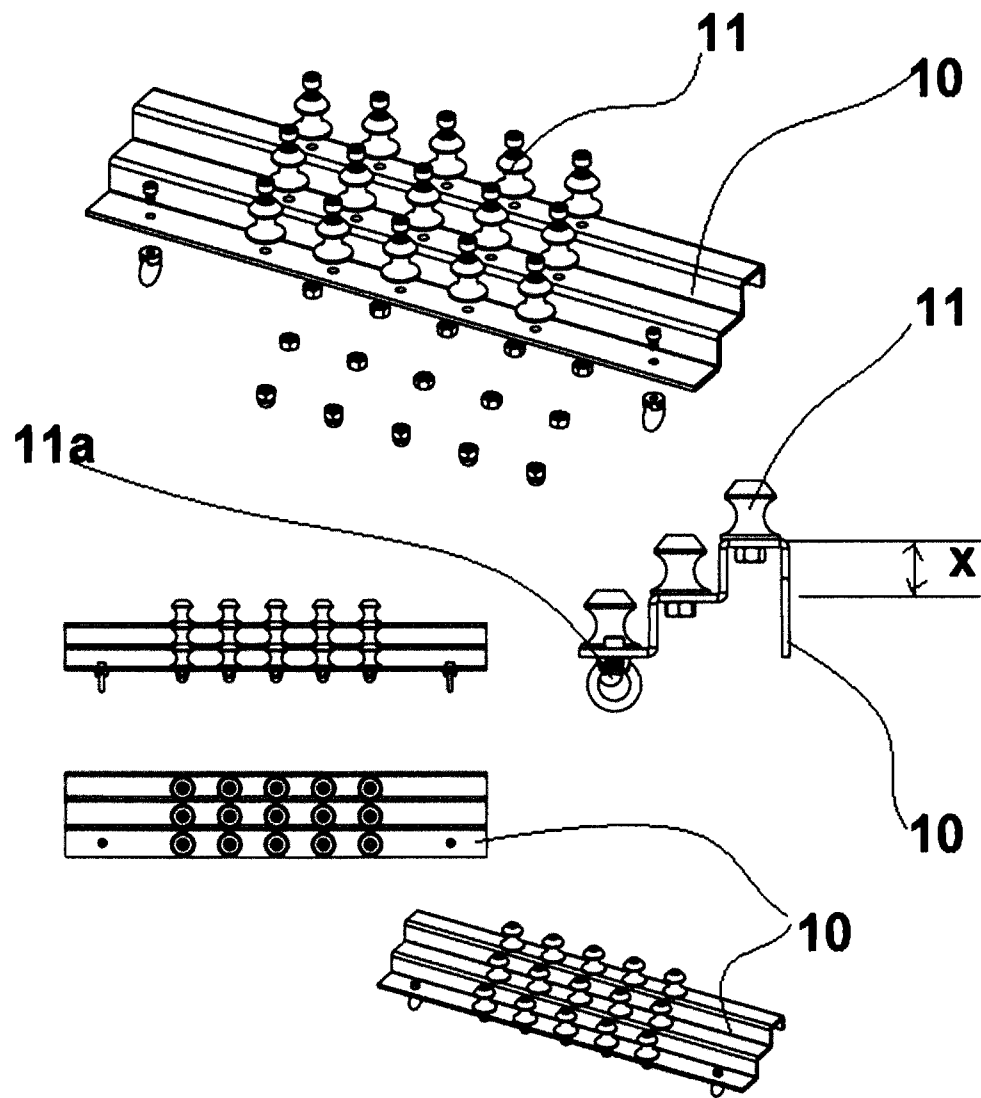


FIGURE 14

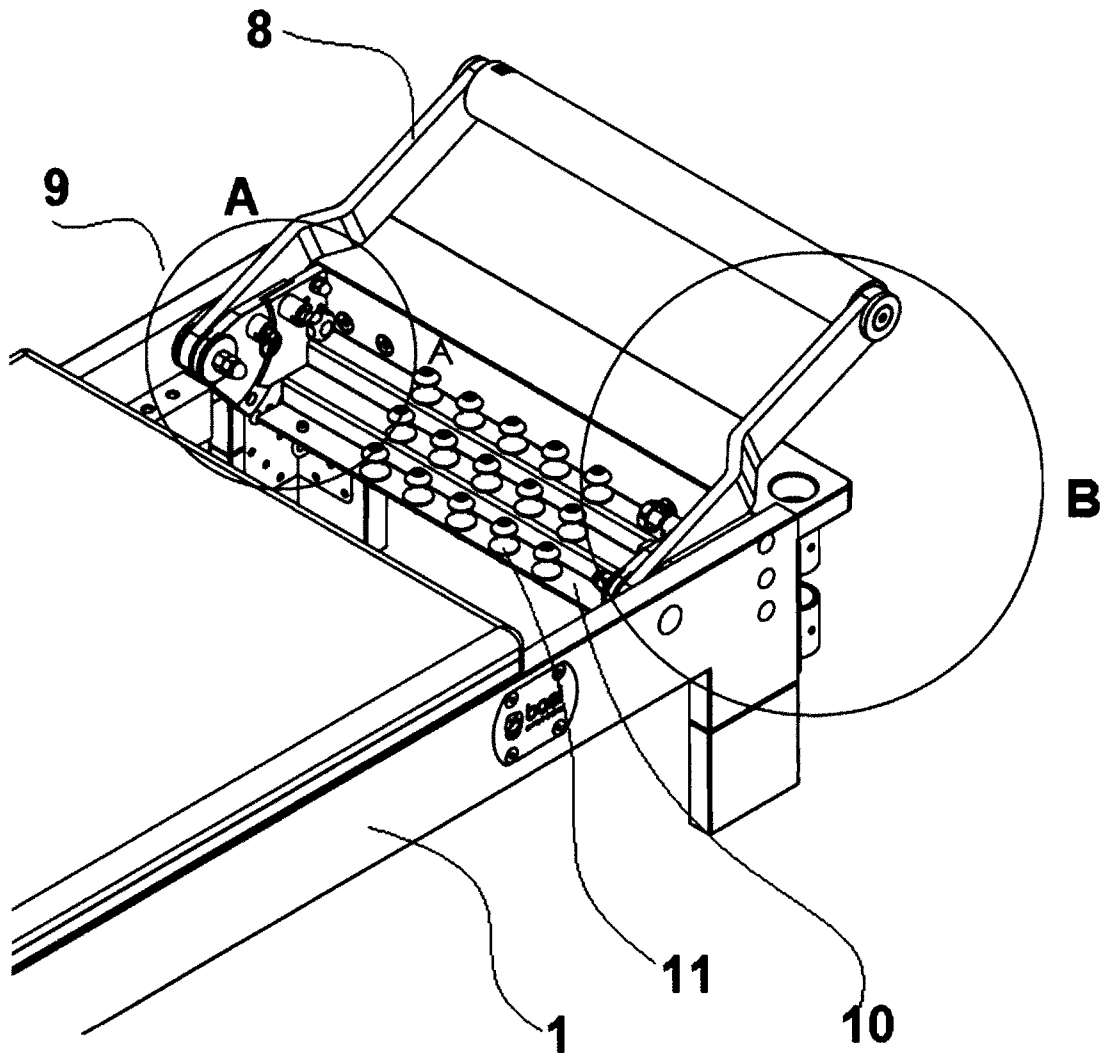


FIGURE 15

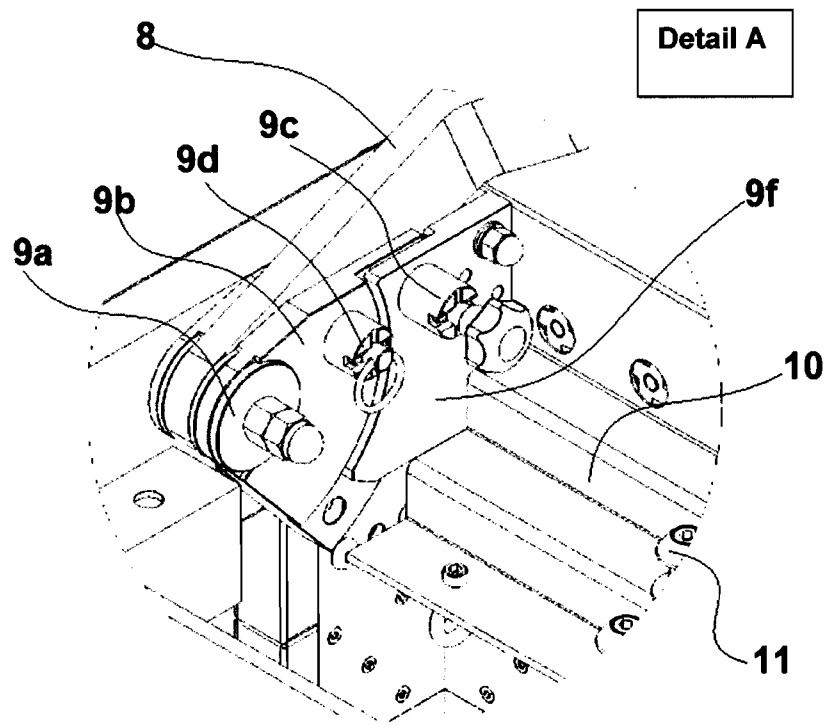


FIGURE 16

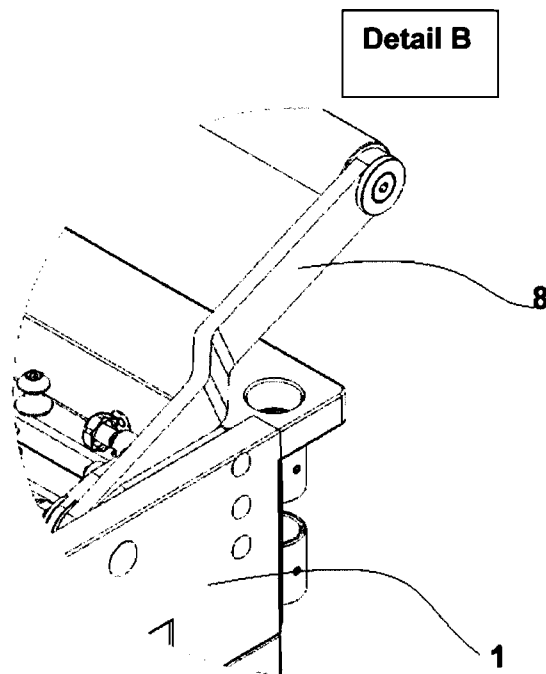


FIGURE 17

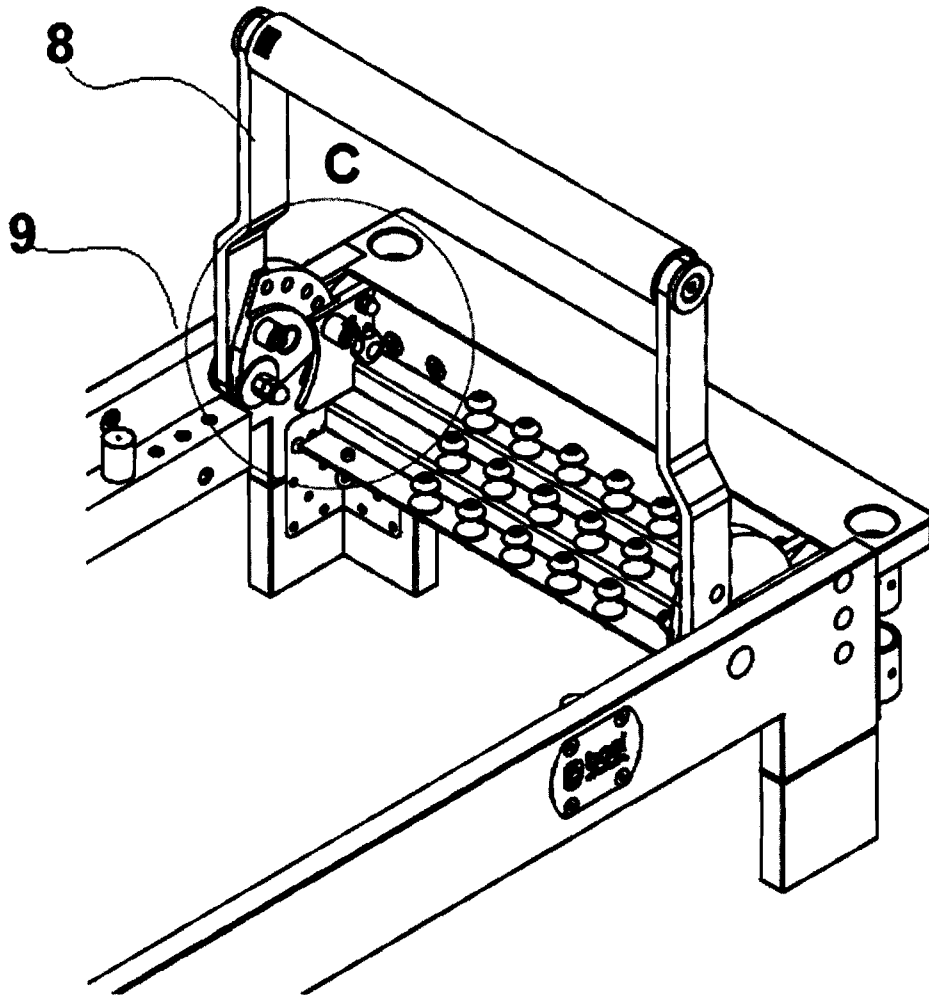


FIGURE 18

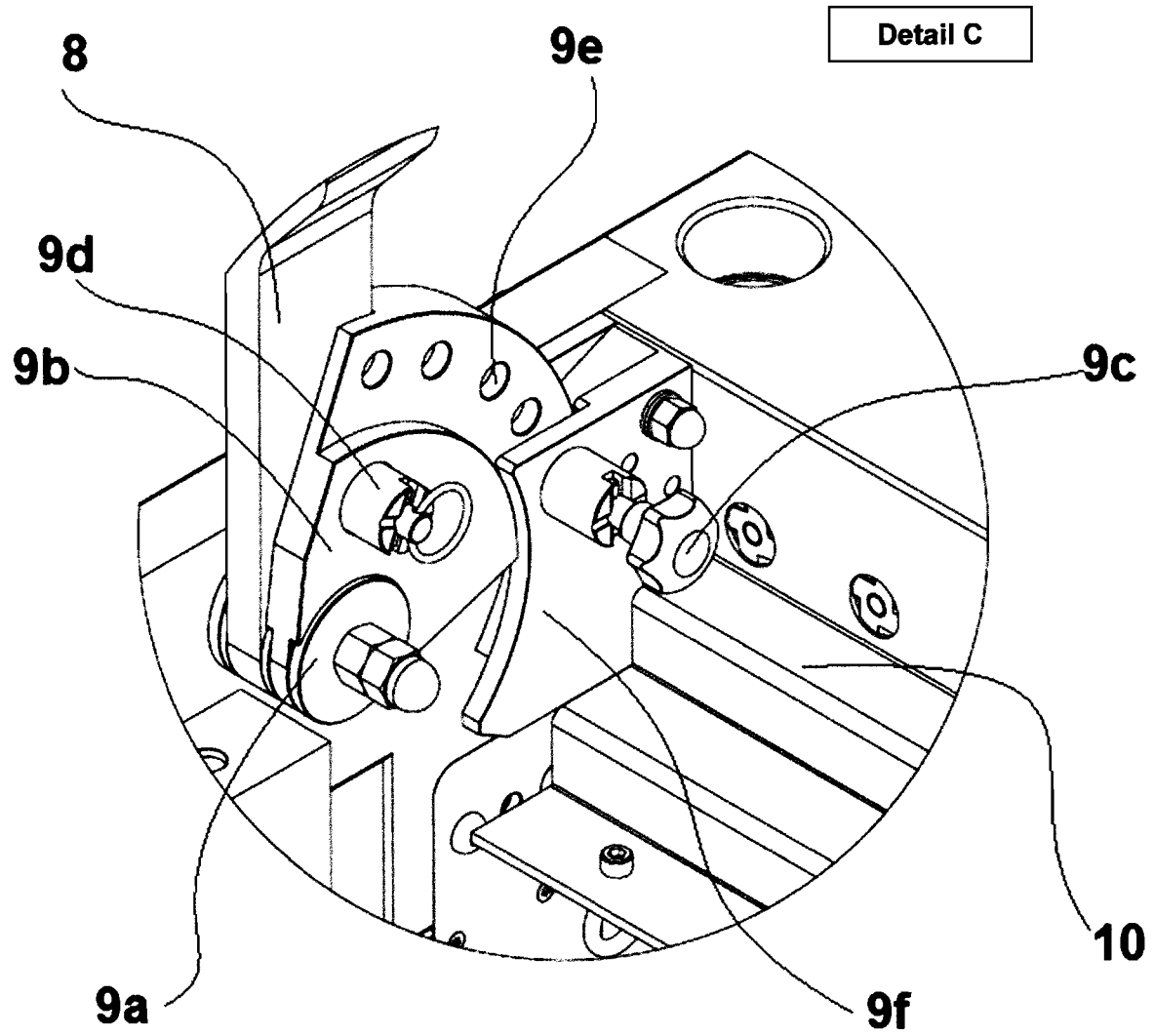


FIGURE 19

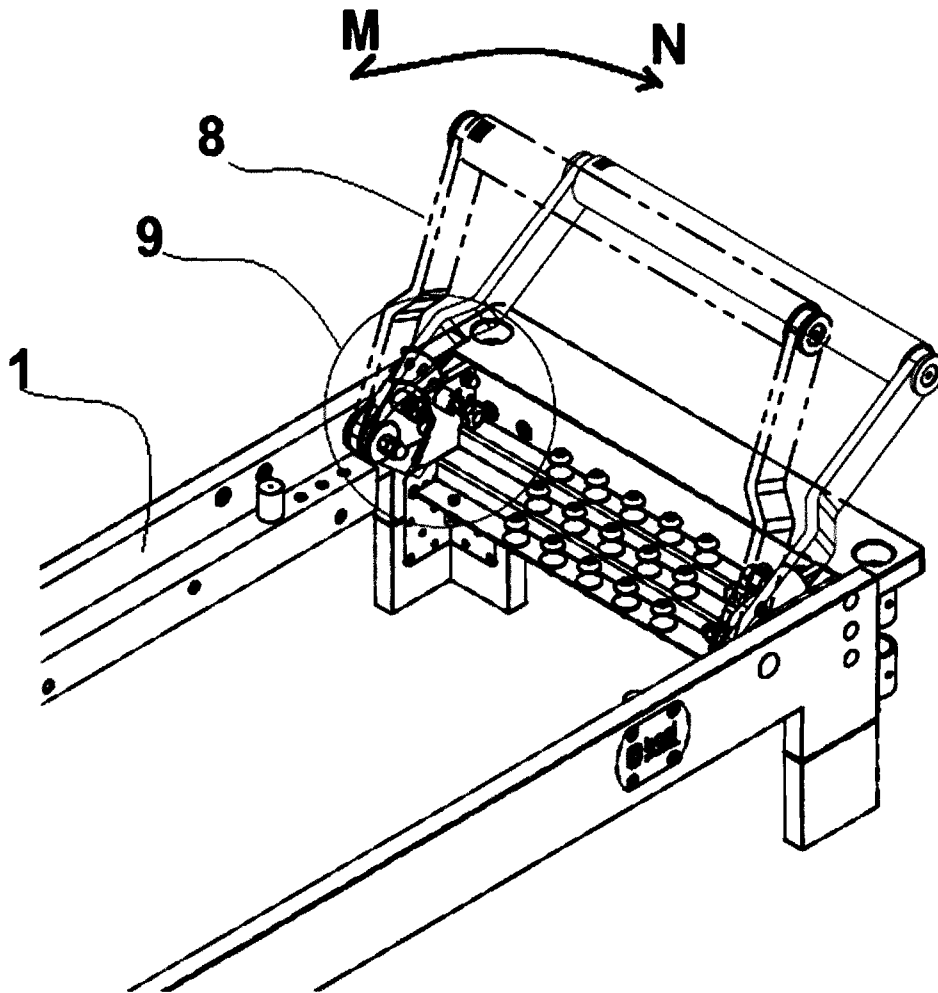


FIGURE 20

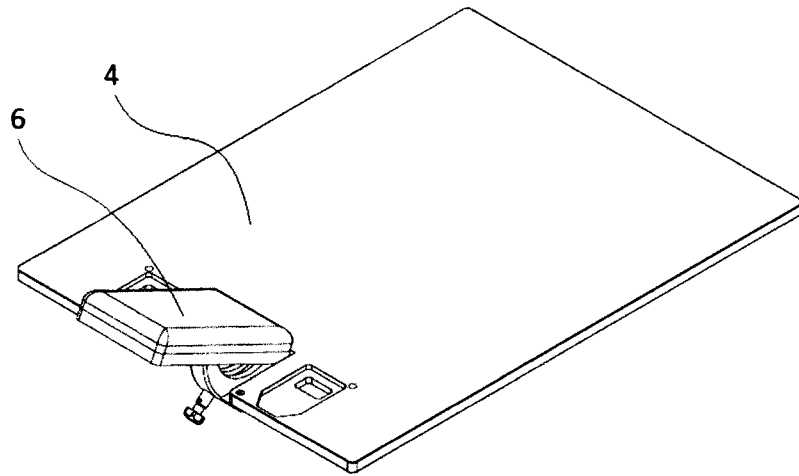


FIGURE 21

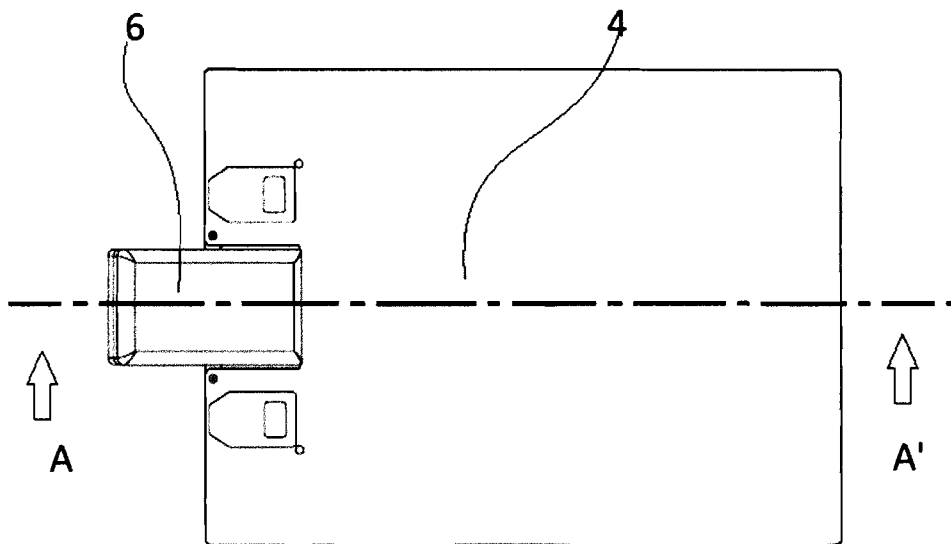


FIGURE 22

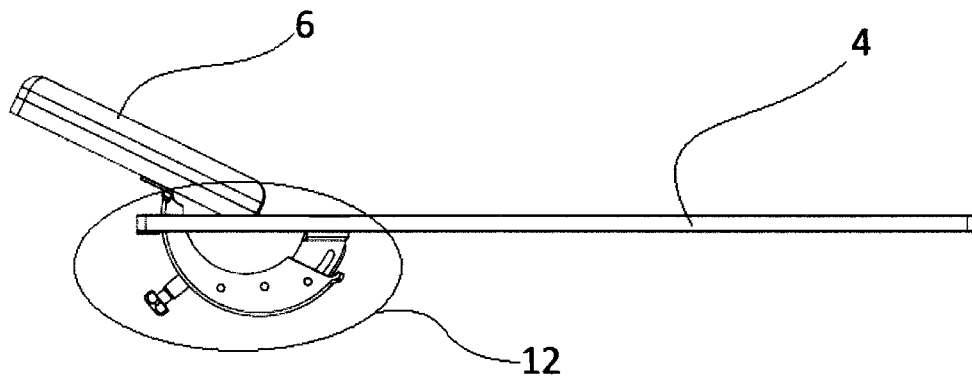


FIGURE 23

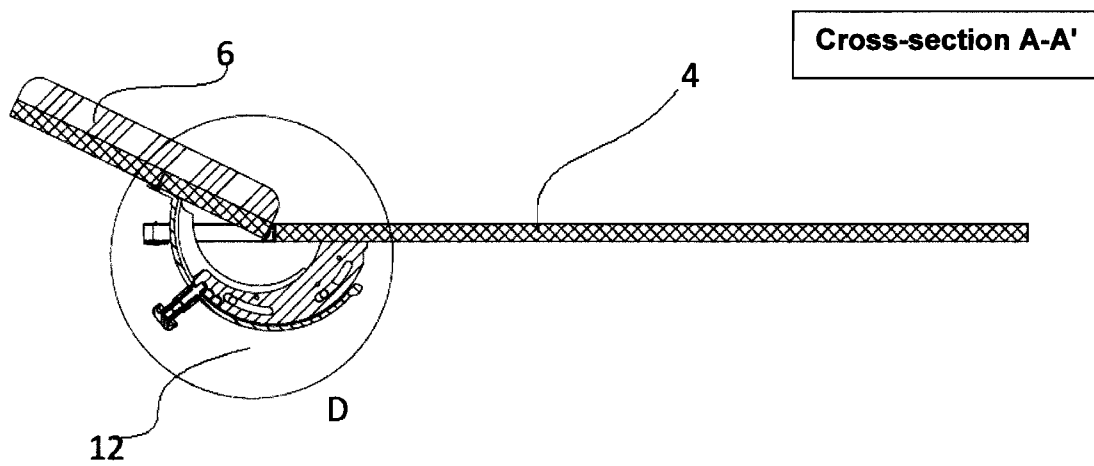


FIGURE 24

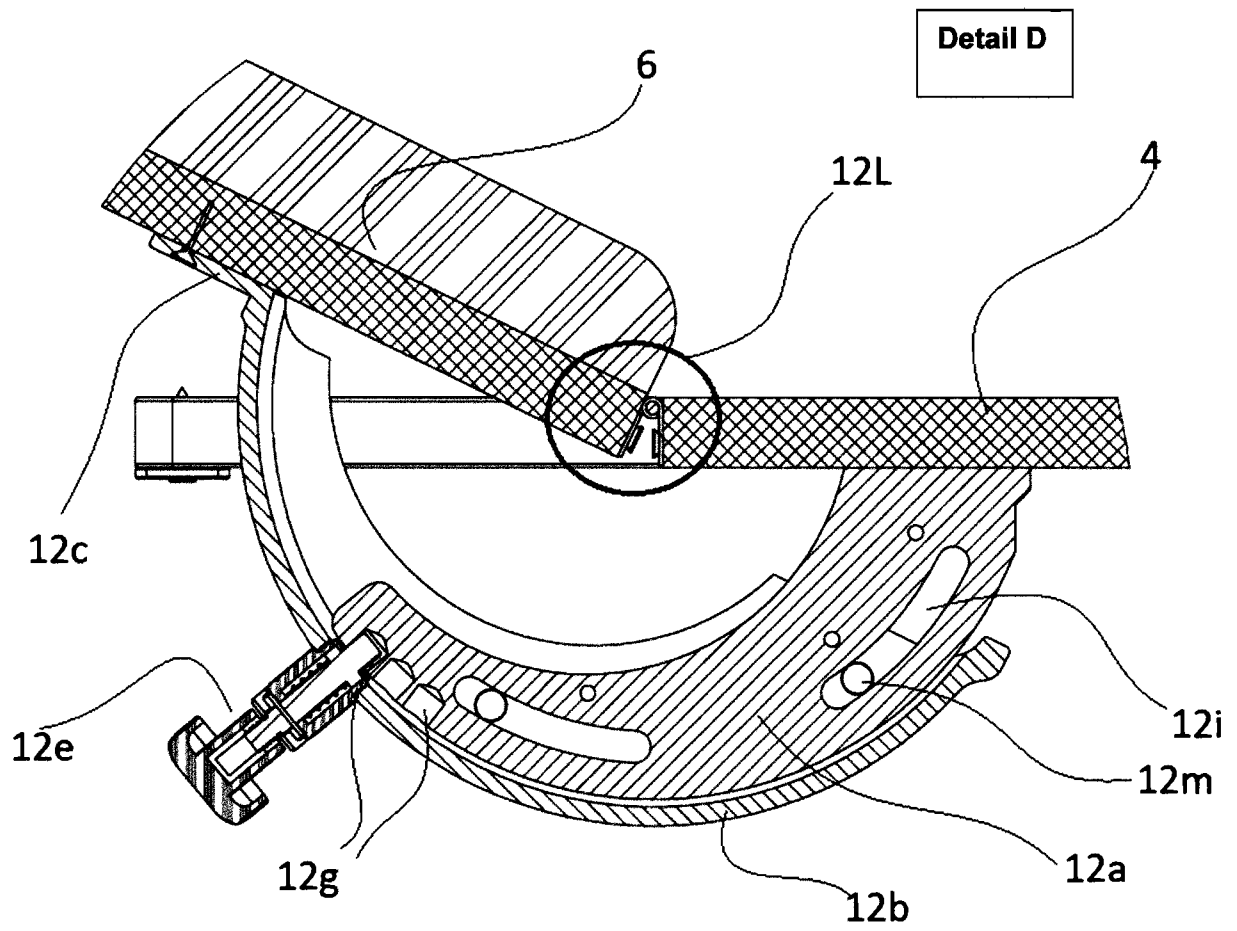


FIGURE 25

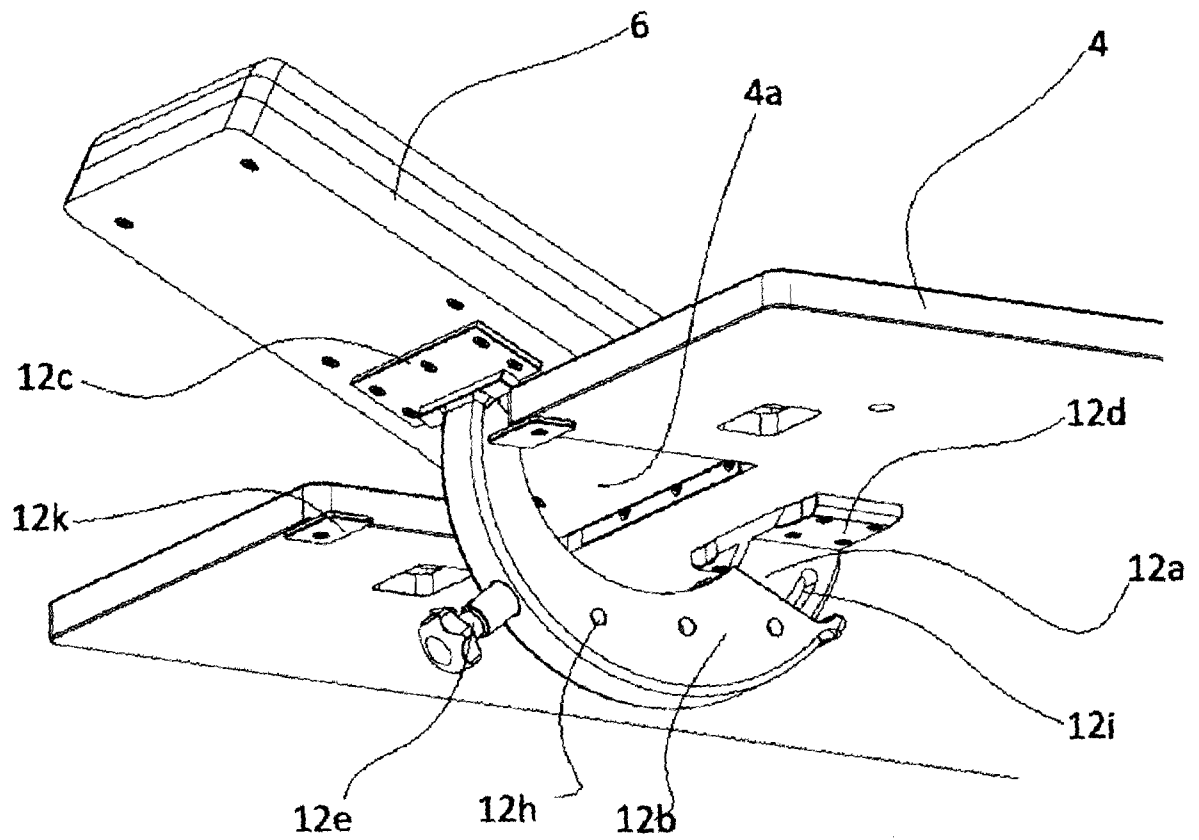


FIGURE 26

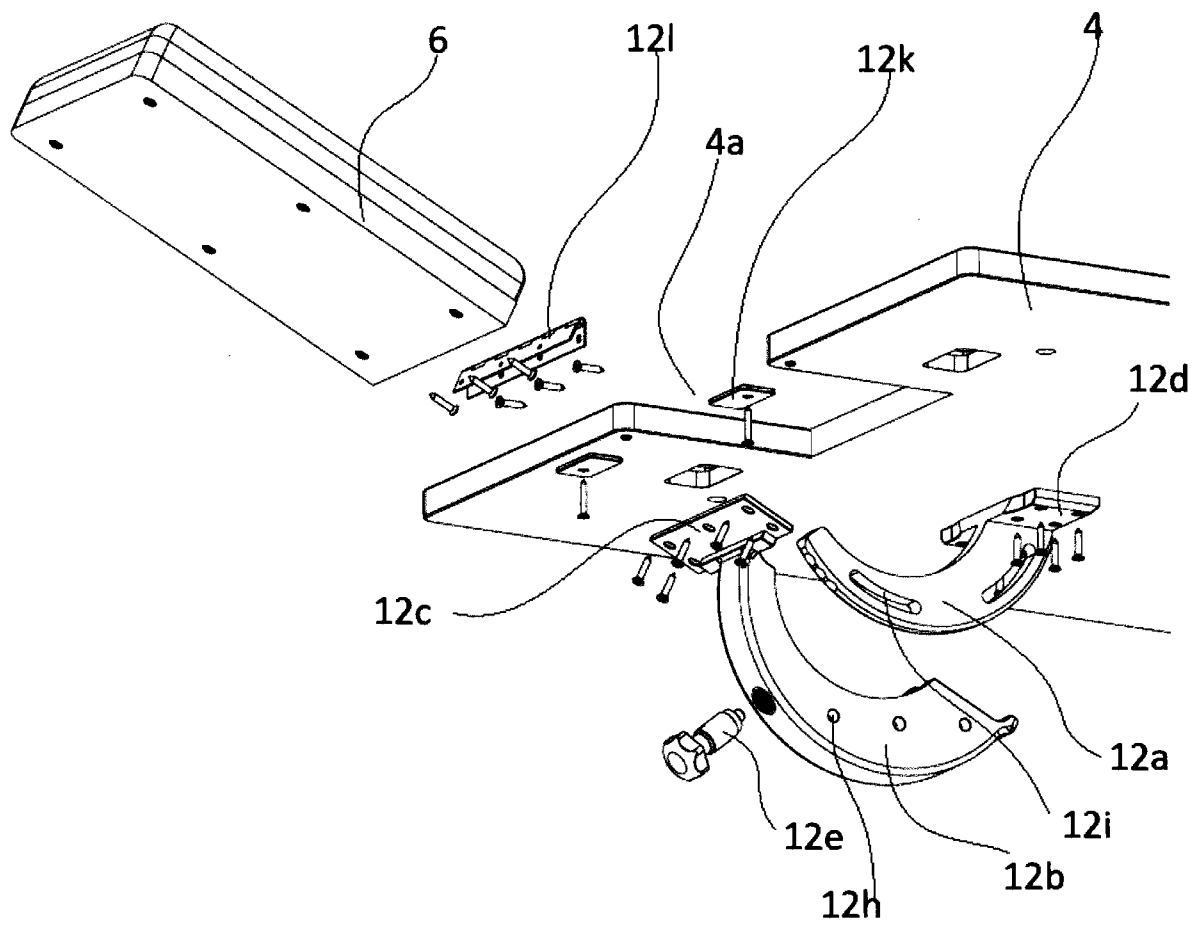


FIGURE 27

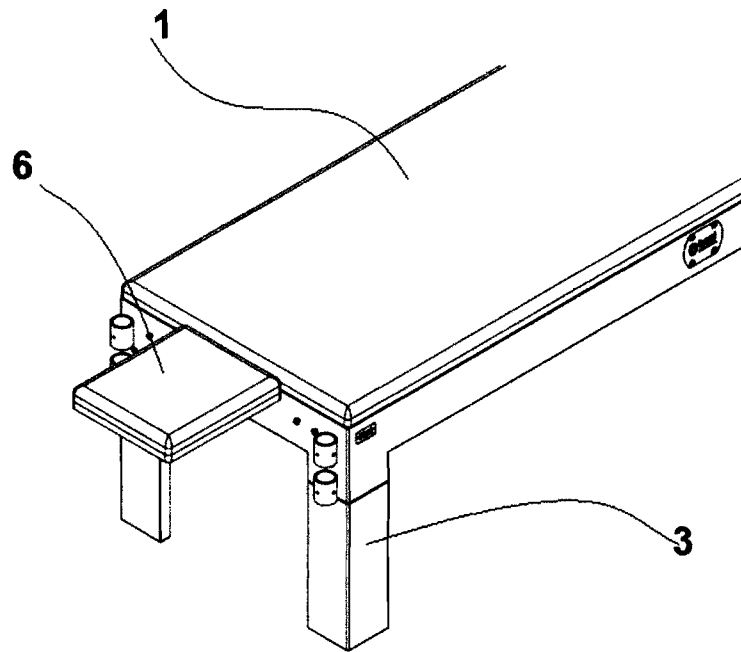


FIGURE 28

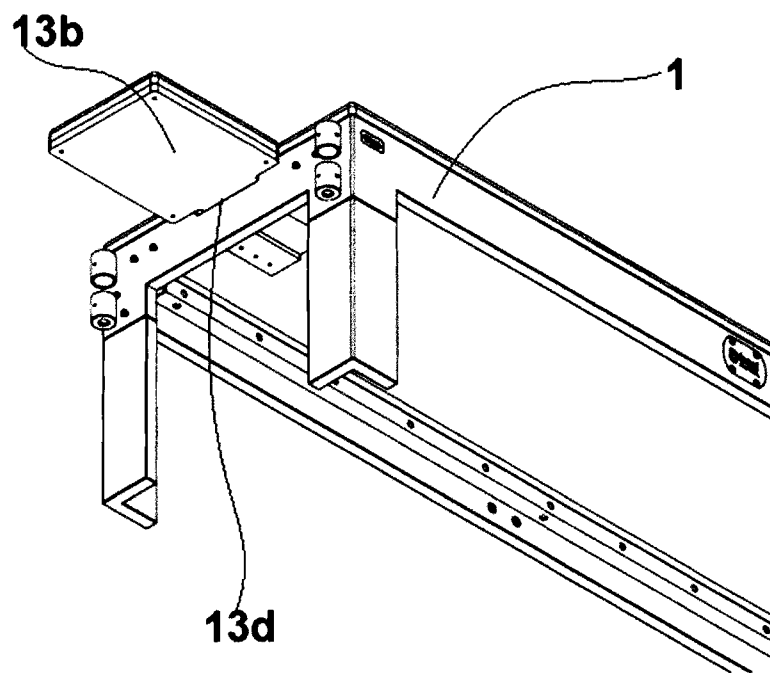


FIGURE 29

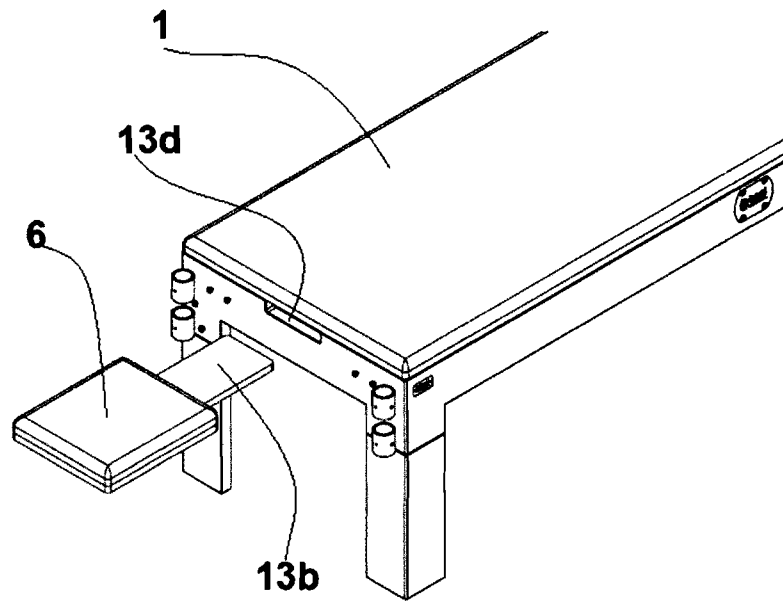


FIGURE 30

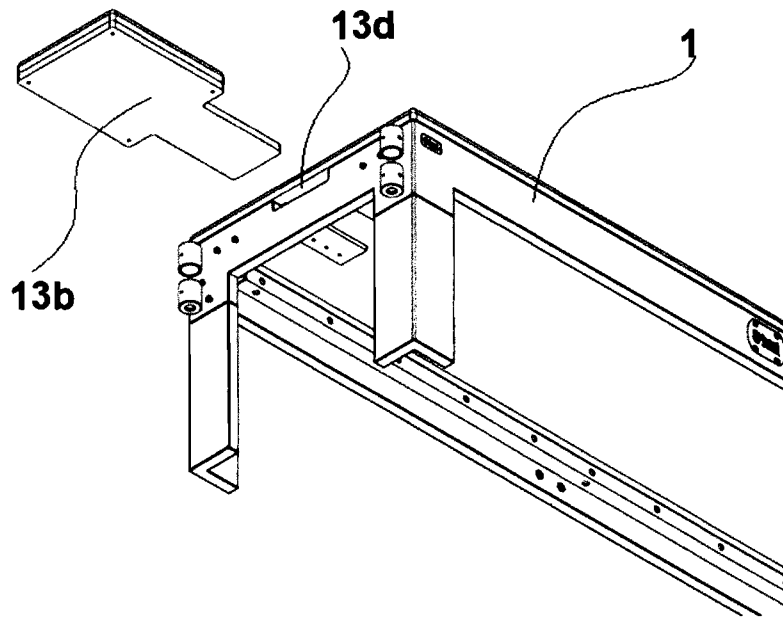


FIGURE 31

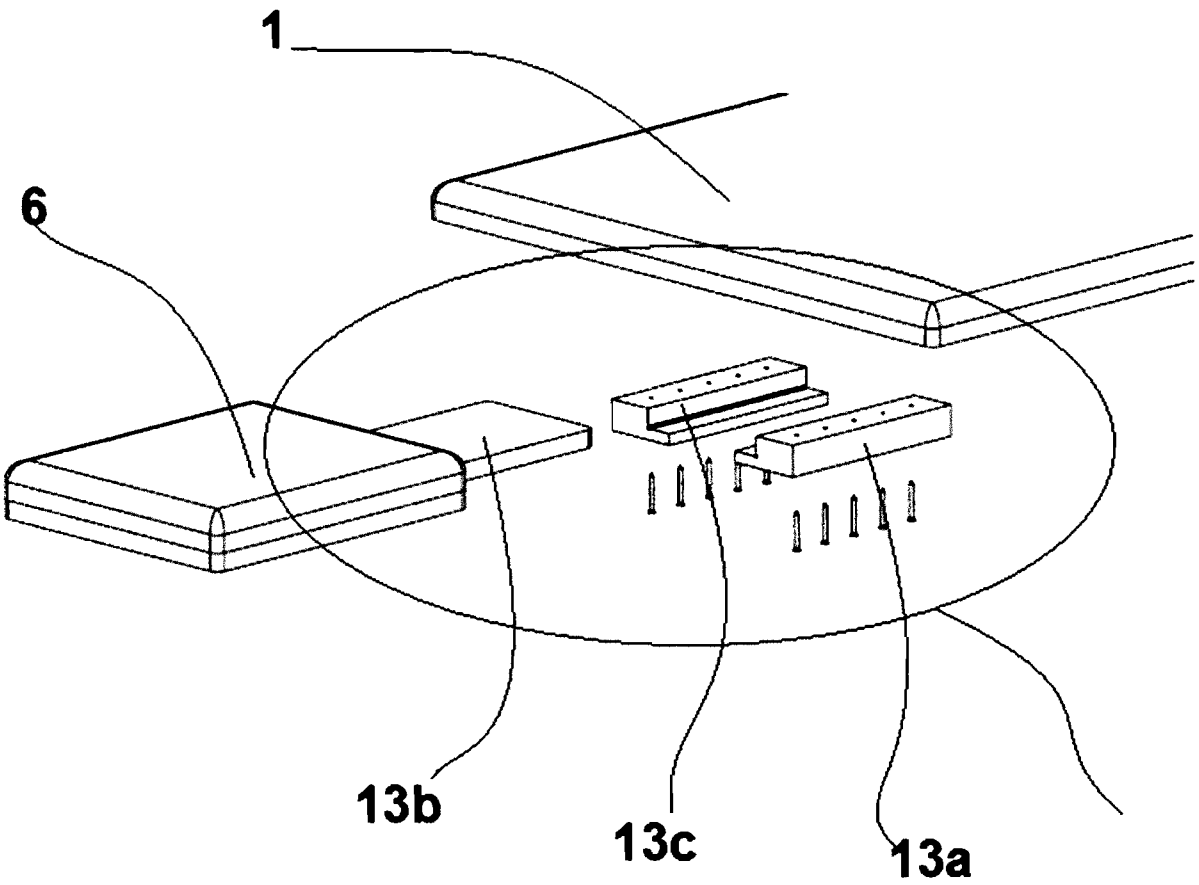


FIGURE 32

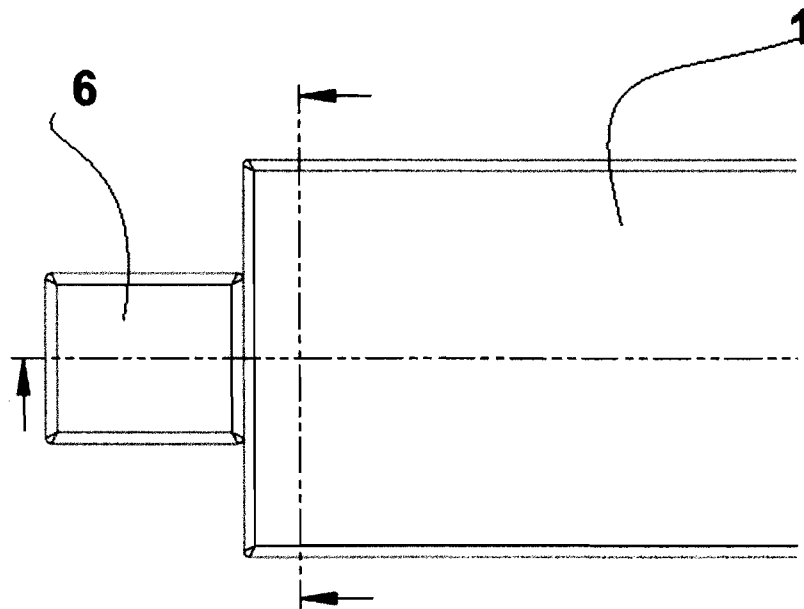


FIGURE 33

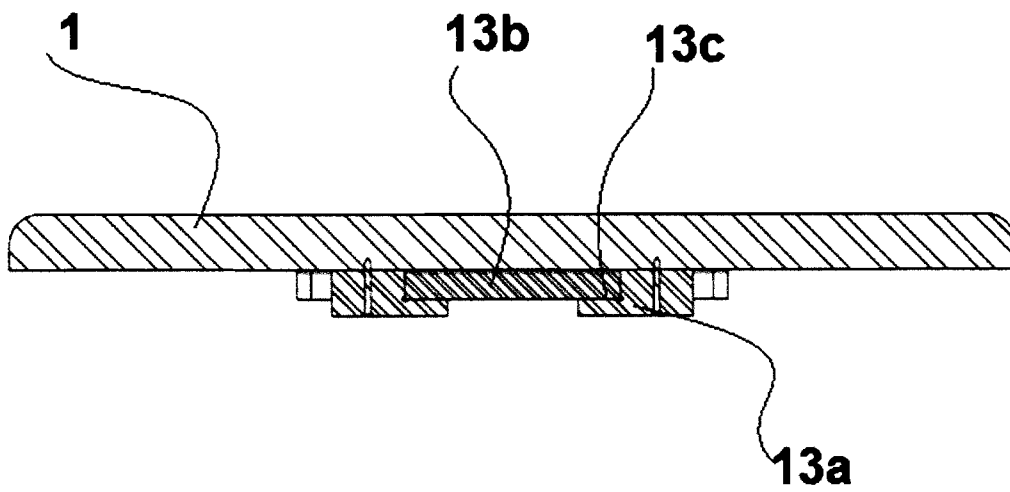


FIGURE 34