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(54) An easy-handling compound saw

(57) The present invention relates to a compound saw which may be used as a mitre saw or as a table saw, in particular, an easy-handling saw of which the movable legs (308) may be used as handles. The base supporting the saw blade unit comprises a left side frame (32), a right side frame (31), and four independent movable legs (308) also acting as handles. Two sets of leg orientation devices are respectively disposed at the lower end of the left and right side frames, and each set of leg orientation devices respectively includes a vertical orientation slot which extends approximately vertically and a horizontal orientation slot which extends approximately horizontally. The upper ends of the movable legs may be connected to the leg orientation devices by movable locking mechanisms (311) and the movable legs may be restricted inside the vertical orientation slots or the horizontal orientation slots by means of the movable locking mechanisms. It has characteristics such as providing movable legs also acting as handles, light weight, and easy handling, etc, and it solves the problem of awkward, inconvenient handling due to the structure of conventional compound saws.

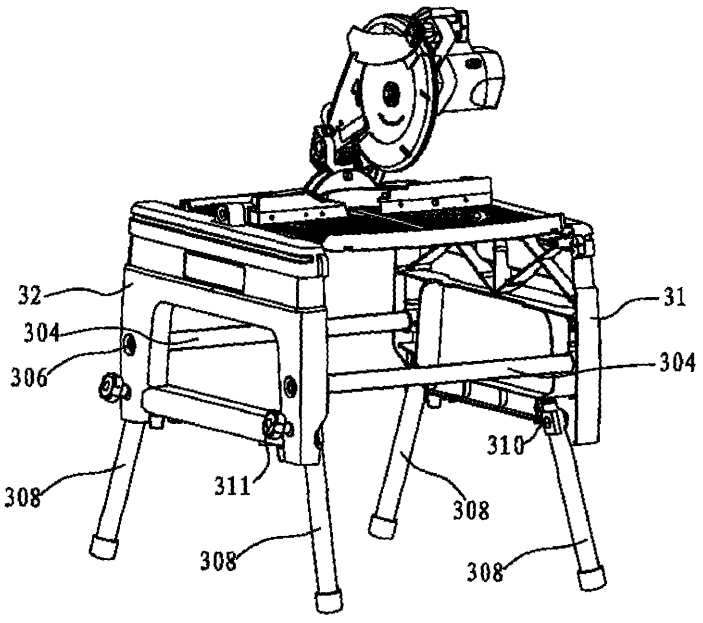

FIG15

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Description

Field of the invention

[0001] The present invention relates to a compound saw which may be used as a mitre saw or as a table saw, in particular, an easy-handling saw of which the movable leg may be used as a handle.

Description of the related art

[0002] The compound saw comprises a base, a workbench and a saw blade unit, wherein the base includes a left side frame and a right side frame. The workbench is supported between the left side frame and the right side frame through a turn shaft crossing the left side frame and the right side frame and may be rotated 180 degrees. An orientation device is positioned between the workbench and the base for horizontal orientation of the workbench, and it may set the workbench into the horizontal mitre saw working mode or the horizontal table saw working mode.

[0003] In order to make the compound saw more compact, storable, and transportable , China patent application no. 200510083989.8 has published a sawing machine for which movable legs are held on the base of the rotary power saw blade, and the movable legs may be rotated between a position in which the movable legs are retracted under the above-mentioned base and a position in which the retracted legs can be pulled out from under the base. The movable legs may be set in a mode in which they may be slid slightly to a pushed-in position in an axial direction from a pulled-out position towards the side of the base, and there may be a rotating locking mechanism and a sliding locking mechanism between the base and the movable legs. The rotating locking mechanism may restrict rotation of the movable legs at the pushed-in position and allow rotation of the movable legs at the pulled-out position. The sliding locking mechanism may be operated at will to block sliding of the movable legs from the pushed-in position to the pulled-out position or to release the blockage. To some extent the above-mentioned structure makes the compound saw more compact and easy to packed away, but forces are applied to the side frames during handling of the compound saw, making handling awkward. And at the same time, handlers' vision may often be obstructed by the workbench during handling, so it is inconvenient for handling.

Summary of the invention

[0004] An object of the present invention is to provide a light-weight and easy-handling compound saw equipped with movable legs which also function as handles, thus solving the problem of awkward, inconvenient handling of conventional compound saws as a result of the structure of the said saws.

[0005] The above-mentioned technical object of the present invention is achieved by the following technical means. The compound saw comprises a base, a workbench and a saw blade unit. The workbench is supported on the base and may be rotated 180 degrees. An orientation device is disposed between the workbench and the base for horizontal orientation of the workbench, and a round turn plate which may be horizontally rotated is disposed on the workbench. The saw blade unit includes a supporting arm and a main body, wherein the supporting arm is fixedly arranged behind the turn plate, and the back end of the main body is connected to the supporting arm by a supporting shaft for up-and-down movement of the main body around the supporting shaft. The main body contains a saw blade cover acting as the shell, an actuating motor on one side of the saw blade cover and a handle. The above-mentioned base includes a left side frame, a right side frame, and four independent movable legs also acting as handles. Two sets of leg orientation devices are respectively disposed in the lower section of the left and right side frames, and each set of leg orientation devices respectively contains a vertical location slot extending approximately vertically and a horizontal location slot extending approximately horizontally.

[0006] The upper ends of the movable legs may be movably connected to the leg orientation devices by movable locking mechanisms, and the movable legs may be fixed inside the vertical orientation slots or the horizontal orientation slots by operation of the movable locking mechanisms.

[0007] When the movable locking mechanisms are loosened, the movable legs may be rotated and switched between the vertical orientation slots and the horizontal orientation slots of the leg orientation devices. When the movable locking mechanisms are kept locked, the movable legs are restricted against rotation so as to be fixed within the vertical orientation slots or the horizontal orientation slots of the leg orientation devices. When all four legs are respectively fixed inside the vertical orientation slots of the leg orientation devices by the movable locking mechanisms, their function is to support the base above the ground. When all four movable legs are respectively fixed inside the horizontal orientation slots of the four leg orientation devices by the movable locking mechanisms with the lower ends swung outwards, the movable legs may be used as handles to manoeuvre the compound saw. This provides labour-saving, relatively longer space between the two handlers during handling of the compound saw, when handlers will apply forces on the movable legs. Furthermore, the relatively longer space between the movable legs allows handlers a clear view and is thus convenient for handling. When the movable legs are fixed inside the horizontal orientation slots by the movable locking mechanisms with the lower ends swung inwards for packing, the space occupied by the compound saw becomes narrower, convenient for storage and transport.

[0008] In an enhanced embodiment, the two horizontal

orientation slots of the leg orientation mechanism for the above-mentioned left side frame and the two horizontal orientation slots of the leg orientation mechanism for the above-mentioned right side frame are respectively disposed at the left side of the left side frame and the right side of the right side frame. The two movable legs on the same side frame can thus be respectively positioned on the left and on the right when they are in packing mode in order to avoid interfering with each other. The four horizontal orientation slots of the leg orientation devices on the left and right side frames are disposed at the same level, so the four movable legs will all be on the same level when used as handles, convenient for handling.

[0009] In an enhanced embodiment, the horizontal distance between the two horizontal orientation slots of the leg orientation mechanism on left side frame and the two horizontal orientation slots of the leg orientation mechanism on the right side frame is equal to or greater than the thickness of the right and left movable legs.

[0010] In an enhanced embodiment, the above locking mechanisms consist of bolts and knobs with threaded holes coupling with the threads on the bolts. Through-holes are drilled in the leg orientation mechanisms and the upper ends of the movable legs for the threaded shanks of the bolts to pass through, and the threaded shanks of the bolts pass through the holes in the leg orientation mechanisms and the upper ends of the movable legs and then couple with threads in the knobs. When the bolts and knobs are loosened, the movable legs may be switched between a packing mode, a workbench support mode and a handle mode. When the bolts and knobs are tightened, the movable legs are restricted against rotation and fixed inside the vertical orientation slots or the horizontal orientation slots of the leg orientation mechanisms. The heads of the locking mechanisms may thus be articulated to the locking body of an eccentric clamp, so that the movable legs may be rotated or locked by adjusting the axial movement of the locking body by rotating the eccentric clamp. The heads of the locking mechanisms may be fixed to the locking body by a spacer pin vertical to the locking mechanism, with several restricting slots of different depths on the surface of the side frames. On rotating the locking body, the spacer pin located at the end of the locking body will fall into the different restricting slots, whereby each movable leg may be rotated or locked by adjusting the axial movement of the locking body.

[0011] In an enhanced embodiment, the vertical orientation slots of the leg orientation mechanisms on the left side frame and the right side frame slant outwards from top to bottom, so the lower parts of the four movable legs will slant outwards when fixed inside the vertical orientation slots of the leg orientation mechanisms by the locking devices, whereby the lower part is larger than the upper part, making the legs steadier and increasing the stability of the saw.

[0012] In an enhanced embodiment, each of the movable legs is circular in cross-section, and the vertical orientation slots and the horizontal orientation slots are curved. A circular cross-section for the movable legs is more comfortable for handlers when the movable legs are used as handles for manoeuvring the compound saw.

[0013] In an enhanced embodiment, the leg orientation mechanisms, the left side frame and the right side frame are manufactured integrally to reduce the number of components of the compound saw and simplify its structure.

[0014] In an enhanced embodiment, the length of each movable leg is less than the thickness of the left side frame and of the right side frame, so the retracted movable legs can be stored inside the left side frame or the right side frame and the structure is more compact when the base frame is packed up.

[0015] In an enhanced embodiment, the left side frame and the right side frame have an upper hollow structure and a lower hollow structure, and several crossed reinforcing bars for the upper hollow structure. The hollow structure of the left side frame and the right side frame is intended to lighten the base fame and make it convenient for handling, and the reinforcing bars in the hollow structure will improve the strength of both the hollow structures on the left side frame and the right side frame.

[0016] In an enhanced embodiment, the left side frame may be connected to the right side frame with crosspieces. Connecting holes are drilled in the left side frame and the right side frame for inserting the crosspieces, and after the crosspieces have been inserted into the connecting holes on the left side frame and the right side frame they are anchored with screws. The crosspieces set between the left side frame and the right side frame will improve the strength of the base frame as a whole.

[0017] Thus, the present invention is characterized by its compact structure, labour-saving design, and convenience of handling.

Brief description of the drawings

[0018]

Figure 1 is a structural schematic diagram of the compound saw used as a table saw in accordance with the present invention.

Figure 2 is a structural schematic diagram of the compound saw used as a mitre saw in accordance with the present invention.

Figure 3 is the top structural schematic diagram of Figure 2.

Figure 4 is the view of P direction of Figure 3.

Figure 5 is a drawing of the stop plate of the orientation device of the compound saw of the present invention.

Figure 6 is a drawing of the foot pad of the orientation

device of the compound saw of the present invention.

Figure 7 is the structural schematic diagram of a side of main body where the actuating motor is arranged in accordance with the present invention.

Figure 8 is a structural schematic diagram of the main body of the compound saw of the present invention when the guard for the main body is closed.

Figure 9 is a structural schematic diagram of the main body of the compound saw of the present invention when the guard of main body is partly open.

Figure 10 is a structural schematic diagram of the main body of the compound saw of the present invention when the guard of main body is under a generally opening status.

Figure 11 is a structural schematic diagram of the guard of the present invention.

Figure 12 is the B-B view of Figure 11.

Figure 13 is a structural schematic diagram of the connecting rod of the present invention.

Figure 14 is the top view with partial section of Figure 13.

Figure 15 is a structural schematic diagram of the movable legs of the present invention where the movable legs are in load-bearing mode.

Figure 16 is a structural schematic diagram of the movable legs of the present invention where the movable legs are in retracted mode.

Figure 17 is a structural schematic diagram of the movable legs of the present invention where the movable legs are in carrying mode for use as handles.

Figure 18 is a schematic diagram of the structure of the movable legs and the side frames in accordance with the present invention.

Detailed description of the invention

[0019] Hereinafter, the technical scheme of the present invention will be described in detail with concrete embodiments taken in conjunction with the accompanying drawings.

[0020] Embodiment 1: As shown in Figure 1, Figure 2 and Figure 3, base 3 consists of a vertical frame and closing plates located in the middle of the vertical frame wherein the front and back sides of the upper part of the base have openings, and left side frame 32 and right side frame 31, respectively fixed to the vertical frame, are on the upper part of the base. Work table 11 used for installation of the saw blade unit is supported between left side frame 32 and right side frame 31 on base 3 and may be turned over by flip-over shaft 4 along axial line O-O. Small ends 41 are respectively set at the both ends of flip over shaft 4; small end 41, right side frame 31 and left side frame of base 3 are connected by connecting bolt 1, and wear-resistant connecting sleeves are arranged among the connecting bolt, the flip-over shaft and the left and right side frames.

[0021] Left side frame 32 and right side frame 31 respectively have an upper foot pad 61 corresponding to the front side of shaft O-O, and left side frame 32 and right side frame 31 both have a lower foot pad 62 corresponding to the back side of shaft O-O. As shown in Figure 6, upper foot pad 61 and lower foot pad respectively have an inverted L-type foot pad bracket 8 and a foot pad body 6, wherein foot pad bracket 8 has a vertical part 81 and a horizontal part 82, vertical part 81 is fixed to the left side frame and the right side frame of base 3, horizontal part 82 being fixed to foot pad body 6.

[0022] Front flange 111 and back flange 112, which are higher than the surface of work table 11, are respectively set at the front side and the back side of work table 11, wherein front flange 111 is straight and back flange 112 is curved. Front convex body 12 is set at the front flange corresponding to the side of work table 11, back convex body 13 is set at the back flange corresponding to the side of work table 11, and front convex body 12 and back convex body are set at the same side of the work table. Front convex body 12 and back convex body 13 consists of bolt 10 and guide sleeve 15, which is fixed to the side of the work table along the same axis of bolt 10. Stop plate 5 is set on side frame 31, which is adjacent to the end of the work table. As shown in Figure 4 and Figure 5, stop plate 5 has a bevelled edge 51 fitting with front convex body 12 and a hook 52 engaging with back convex body 13. One end of stop plate 5 is articulated to base 3, and curved slot 53, which takes the articulated point of stop plate 5 and base 3 as its centre, is set in the middle of stop plate 5. Guide body 14 is set on the base frame so as to fit into curved slot 53, and elastic element 7 is set between stop plate 5 and the base. Elastic element 7 tends to push the free end of stop plate 5 upwards, and in this embodiment a torsion spring is used as elastic element 7.

[0023] As shown in Figure 2 and Figure 3, when the saw blade unit is attached to the base normally, the lower foot pad on one side of shaft O-O and under the work table supports the side of the work table, the upper foot pad on the other side of shaft O-O overhangs the work table, and the work table may be orientated by means of the front convex body and the slope of the stop plate, so the saw blade unit on the work table can be used for normal cutting. As shown in Figure 1, when the saw blade unit is placed upside down, the lower foot pad on one side of shaft O-O is hung under the work table, and the

upper foot pad on the other side of shaft O-O under the work table supports the work table, and the work table may be orientated by means of the back convex body and the hook on the stop plate, so the main body is under the work table and can be used as a table saw. Thus, the main body may be used for normal cutting and can also be used as a table saw, as required. This combination of two saw functions in one machine will save on tool purchasing expenditures. When the work mode of the saw blade unit needs to be switched, the free end of the stop plate is to be pushed down to make the front convex body pass over the lower end of the bevelled edge so the front convex body may be moved up and down freely, or so the hook does not engage the back convex body, whereby the back convex body may be moved freely and the work table mode and further the operating mode of the main body can then be switched.

[0024] A round horizontal movable turn plate (not shown) is set on the workbench. As shown in Figure 8, Figure 9 and Figure 10, saw blade unit 200 comprises a supporting arm 201 and the main body 202. Supporting arm 201 is fixedly set behind the turn plate, and the back end of the main body 202 is connected to supporting arm 201 by supporting shaft 203, so main body 202 may be moved up and down along supporting arm 203. The main body 202 contains a saw blade cover 204 acting as the shell, an actuating motor 205 arranged on one side of the saw blade cover 204 and a handle 206. Nearly half of circular saw blade 207 driven by actuating motor 205 is exposed outside the saw blade cover 204. Movable fan guard 208 and circular saw blade 207 are connected to saw blade cover 204 along the same axis and can be rotated. One end of a draw spring 209 is connected to guard 208, and the other end of draw spring 209 is connected to saw blade cover 204. Draw spring 209 applies a load to movable guard 208 to force it to tend to close the part of circular saw blade 207 which is exposed outside saw blade cover 204.

[0025] A slide way 210 is set on the side of guard 208. As shown in Figure 11 and Figure 12, slide way 210 has a convex rib structure and is perpendicular to the guard. The slide way has an evolvent structure, and it extends form the end nearer to the centre of the guard to the end farther from the centre of the guard in a direction opposite to the direction of opening of the guard.

[0026] One end of connecting rod 211 is connected to supporting arm 202 and can be rotated, and the other end of connecting rod 211 is formed to the first curved member 212. The end of first curved member 212 is pin-jointed with a bearing 213, the pin-jointed shaft of bearing 213 being parallel to the level of the slide way, and the outer ring of bearing 213 is fit to slide way 210 and can roll along it. A guide chamfer 212 is set in the middle of connecting rod 211, and the two ends of the guide chamfer are respectively bent in opposite directions to form second curved member 219 and third curved member 220. A guide wheel 218 is pin-jointed to saw blade cover 204, the pin-jointed shaft of guide wheel 218 is parallel to the axial line of circular saw blade 207, and guide wheel 218 is fit to guide chamfer 212 in the middle of the connecting rod and can roll along it. The guide section of the connecting rod and the rolling element set on the connecting rod are respectively on the two sides of the centre of the movable guard, and they are also at the end where the bearing is set on the connecting rod. The points of support on connecting rod 211 and supporting arm 202 are between the points of support of the saw blade cover and supporting arm and the pin-jointed position of guide wheel to the saw blade cover. When the saw blade cover moves down around the supporting shaft, the guide wheel rolls along the guide chamfer in the middle of the connecting rod, while bearing 213 located on the end of connecting rod 211 will roll along the slide way on the side of the movable guard, and the guard is opened.

[0027] The following is the principle for opening the guard: Under the load of spring the guard always tends to surround the blade. With the movement of the main body downwards around the supporting shaft, the guide wheel pin-jointed to the saw blade cover will roll along the guide chamfer in the middle section of the connecting rod, so the space between the end where a bearing is set on the connecting rod and the centre of the guard will gradually increase, which will cause the bearing to roll along the slide way on the side of the guard. The slide way extends from the end nearer to the centre of the guard to the end farther from the centre of the guard in the direction opposite to the direction of opening of the guard, and with downwards motion by the main body, the bearing at the end of the connecting rod will roll from the end nearer to the centre of the guard to the end farther from the centre of the guard, so the guard will gradually open with the downwards motion of the main body and the saw blade is exposed for cutting. When the main body is raised, i.e., moved upwards, the guard will gradually close under the applied load of the pulling force, such that when the saw blade is not being used for cutting it will be covered to achieve the objectives of safety and protection. As shown in Figure 7, a locking trigger 214 is placed on the saw blade cover near the upper edge of the guard. The mid-portion of locking trigger 214 is connected to the saw blade cover by a rotating rocker shaft 215, and locking trigger 214 has a bend 216 at the end on the upper edge of the guard. There is an opening 217 on the saw blade cover at the end on the upper edge of the guard that allows bend 216 to enter. Bend 216 on locking trigger 214 tends to enter opening 217 under the action of rotating rocker shaft 215, and when bend 216 enters opening 217, it blocks the guard, preventing it from unlocking. When the guard needs to be opened, the other end of the locking trigger is pushed down, forcing the bend out of the opening in the saw blade cover, and then the guard will open when the main body moves downwards.

[0028] As shown in Figure 15, Figure 16, Figure 17 and Figure 18, upper hollow structure 301 and the lower hollow structure are respectively set on left side frame

32 and right side frame 31, upper hollow structure 301 having several crossed reinforcing bars. Left side frame 32 is connected to right side frame 31 by crosspiece 304, and connecting holes 305 are formed on the left side frame and the right side frame to fit crosspiece 304. When the two ends of crosspiece 304 are inserted into the connecting holes on the left side frame and the right side frame, they are anchored by screw 306.

[0029] Two sets of leg orientation mechanisms are respectively positioned at the lower end of left side frame 32 and right side frame 31, each set of leg orientation mechanisms respectively including a vertical orientation slot 306 which extends generally vertically and a horizontal orientation slot 307 which extends generally horizontally, vertical orientation slot 306 and horizontal orientation slot 307 being integral with the left side frame and the right side frame. Vertical orientation slot 306 and the horizontal orientation slot are curved, and the vertical orientation slot slants outwards from top to bottom. The two vertical orientation slots 306 of the leg orientation mechanism on left side frame 32 and the two horizontal orientation slots 307 of the leg orientation mechanism on right side frame 31 are respectively arranged at the left side of the left side frame and the right side of the right side frame, wherein the horizontal orientation slot on the back side of left side frame 32 is on the left side of the horizontal orientation slot on the front side of left side frame 32, the distance between the horizontal orientation slot on the back side of left side frame 32 and the horizontal orientation slot on the front side of left side frame 32 being equal to the diameter of the movable leg, and the horizontal orientation slot on the back side of right side frame 31 being on the right side of the horizontal orientation slot on the front side of right side frame 31. The four horizontal orientation slots of the leg orientation devices on the left and right side frames are all positioned at the same level, the distance between the horizontal orientation slot on the back side of right side frame 31 and the horizontal orientation slot on the front side of right side frame 31 being equal to the diameter of the movable leg,

[0030] Movable legs 308 are circular in cross-section, the circular cross-section of the movable leg making handlers feel comfortable when the movable legs are used as handles for manoeuvring the compound saw. The length of one movable leg 308 is less than the width of the left and right side frames, and there is a plastic foot cap 313 on the lower end. Through-holes 309 are drilled on the left side frame, the right side frame and the upper ends of movable legs 308 for the threaded bolt 310 shanks to pass through, and threaded bolt 310 shanks in turn pass through holes 309 in the left side frame, the right side frame and the upper ends of movable legs 308 and then couple with the threads of knobs 311. Spacing pieces 312 being curved in cross-section are inserted between the heads of bolts 310 and movable legs 308. When the bolts and knobs are loosened, movable legs 308 may be rotated around bolts 310, and when the bolts and knobs are tightened, the movable legs are fixed in place.

[0031] As shown in Figure 15, when the four movable legs 308 are orientated inside vertical orientation slot 306 with tightened bolts 310 and knobs 311, the four movable legs 308 respectively support the left side and the right side of the left and right side frames and consequently the work table as well. As shown in Figure 16, when the four movable legs 308 are placed inside horizontal orientation slot 307 and bolts 310 and knobs 311 are tightened, all the lower ends of the four movable legs 308 being swung inwards, the four movable legs 308 are retracted in a manner suitable for packing and transport. As shown in Figure 17, when the four movable legs 308 are orientated inside horizontal orientation slot 307 with tightened bolts 310 and knobs 311 and the lower ends of the four movable legs 308 are swung outwards, the four movable legs 308 can be used as handles. During handling of the compound saw, when handlers will apply forces on the movable legs, the space between the two handlers is relatively larger and thus ergonomic. Further, the relatively larger space between the movable legs allows handlers to see better during handling of the compound saw, thereby being convenient for handling.

Claims

1. An easy-handling compound saw, comprising a base, a workbench and a saw blade unit; the workbench is supported on the base and may be turned through 180 degrees, an orientation device for horizontal orientation of the workbench is set between the workbench and the base, a round turn plate which may be turned horizontally being disposed on the workbench; the saw blade unit comprises a supporting arm and the main body, and the supporting arm is fixedly positioned behind the turn plate; the back end of the main body is connected to the supporting arm by a supporting shaft so the main body may move up and down around the supporting shaft; the main body comprises a saw blade cover which also acts as the shell, a driving motor on the side of the saw blade cover and a handle, and it is **characterized in that** the base comprises a left side frame, a right side frame and four independent movable legs which also act as handles; two sets of leg orientation mechanisms are respectively disposed at the lowers end of the left and right side frames, and each leg orientation mechanism respectively comprises a vertical orientation slot extending approximately vertically and a horizontal orientation slot extending approximately horizontally; the upper end of each movable leg may be connected to a leg orientation mechanism by a movable locking mechanism and may be rotated, and the movable legs may be restricted inside the vertical orientation slots or the horizontal orientation slots of the leg orientation mechanisms

by means of the locking mechanisms.

2. An easy-handling compound saw according to claim 1, **characterized in that** the two horizontal orientation slots of the leg orientation mechanism on left side frame and the two horizontal orientation slots of the leg orientation mechanism on the right side frame are respectively disposed on the left side of the left side frame and the right side of the right side frame, and the four horizontal orientation slots of the leg orientation mechanisms on the left and the right side frames are all located at the same level.

3. An easy-handling compound saw according to claim 1 or claim 2, **characterized in that** the horizontal distance between the two horizontal orientation slots of the leg orientation mechanism of left side frame and the two horizontal orientation slots of the leg orientation mechanism is equal to or longer than the thickness of the right and left movable legs.

4. An easy-handling compound saw according to claim 1 or claim 2 or claim 3, **characterized in that** the locking mechanism consists of threaded bolts and knobs with threaded holes that couple with the bolts, through-holes being drilled in the leg orientation mechanisms and the upper ends of the movable legs for the threaded bolt shanks to pass through, and the threaded bolt shanks pass through the holes in the leg orientation mechanisms and the upper ends of the movable legs and then couple with the threads in the knobs.

5. An easy-handling compound saw according to claim 1 or claim 2 or claim 3, **characterized in that** the vertical orientation slots of the leg orientation mechanisms on the left and right side frames slant outwards from top to bottom.

6. An easy-handling compound saw according to claim 1 or claim 2 or claim 3, **characterized in that** each of the movable legs is circular in cross-section, and the vertical orientation slots and the horizontal orientation slots of the leg orientation mechanisms are curved.

7. An easy-handling compound saw according to claim 1 or claim 2 or claim 3, **characterized in that** the leg orientation mechanisms are integral with the left side frame and the right side frame.

8. An easy-handling compound saw according to claim 1 or claim 2 or claim 3, **characterized in that** the length of each movable leg is less than the width of the left and right side frames.

9. An easy-handling compound saw according to claim 1 or claim 2 or claim 3, **characterized in that** the left side frame and the right side frame have an upper hollow structure and a lower hollow structure and several crossed reinforcing bars are disposed in the upper hollow structure.

10. An easy-handling compound saw according to claim 1 or claim 2 or claim 3, **characterized in that** the left side frame is connected to the right side frame by crosspieces, connecting holes for inserting the crosspieces are drilled in the left and right side frames, and after the crosspieces have been inserted into the connecting holes on the left and right side frames they are anchored by screws.

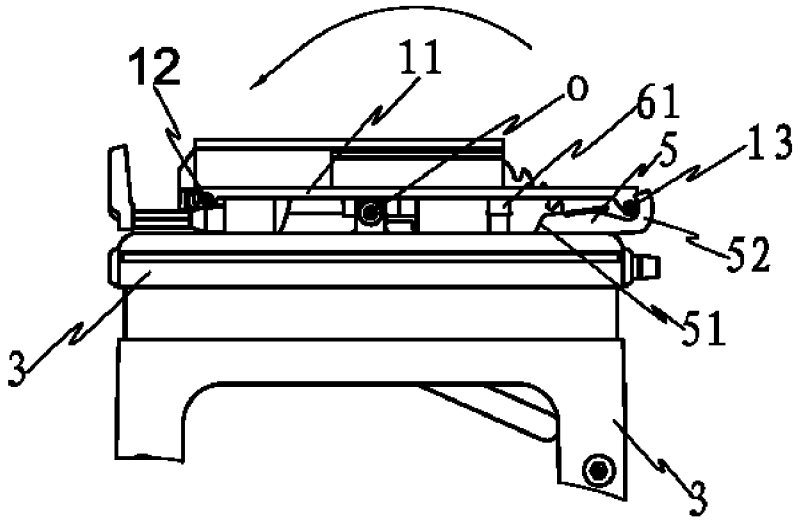

FIG1

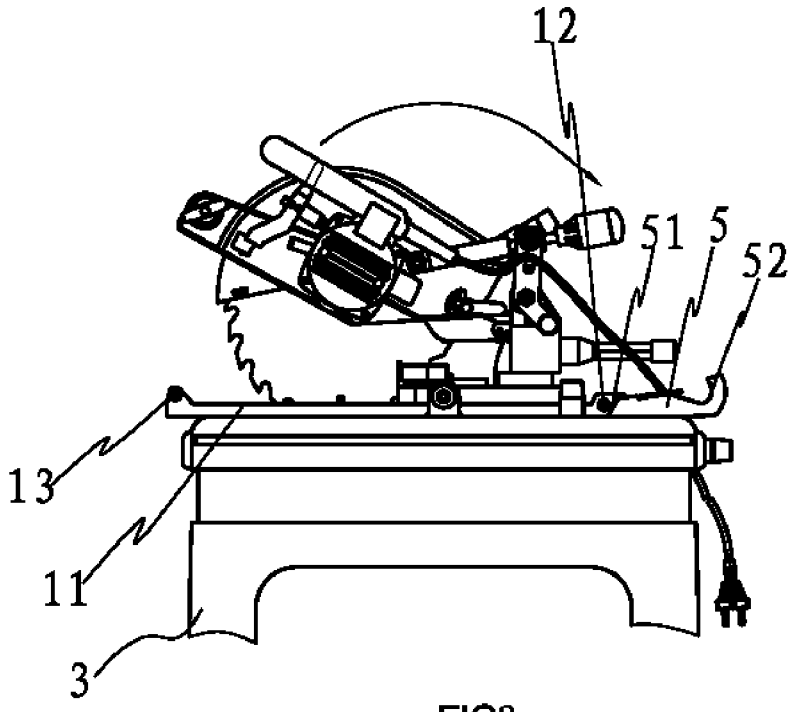

FIG2

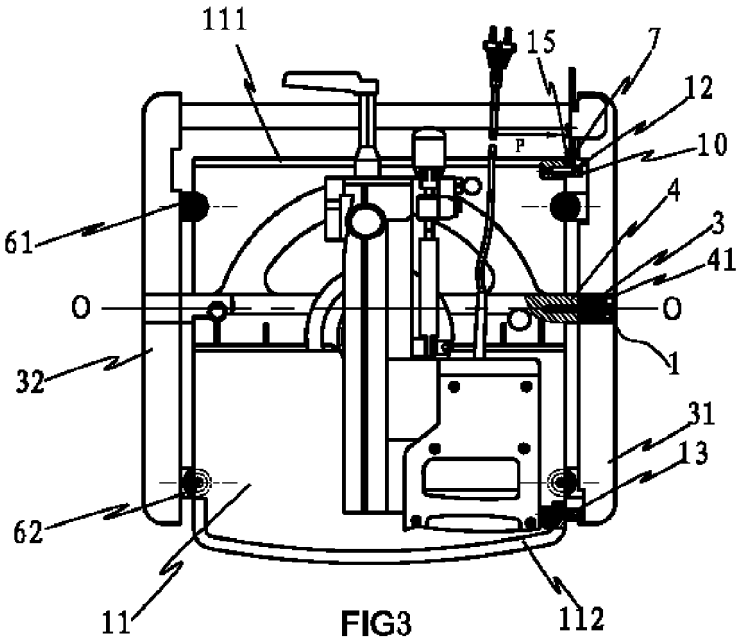

FIG3

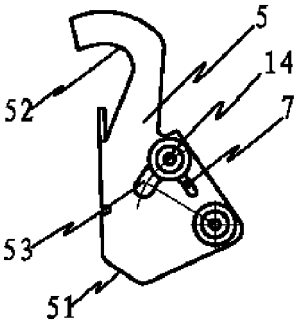

FIG4

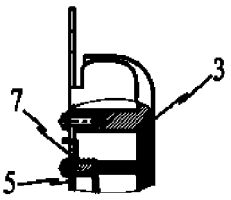

FIG5

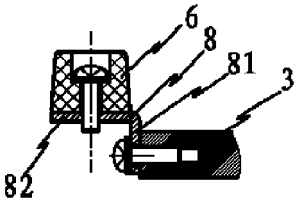

FIG6

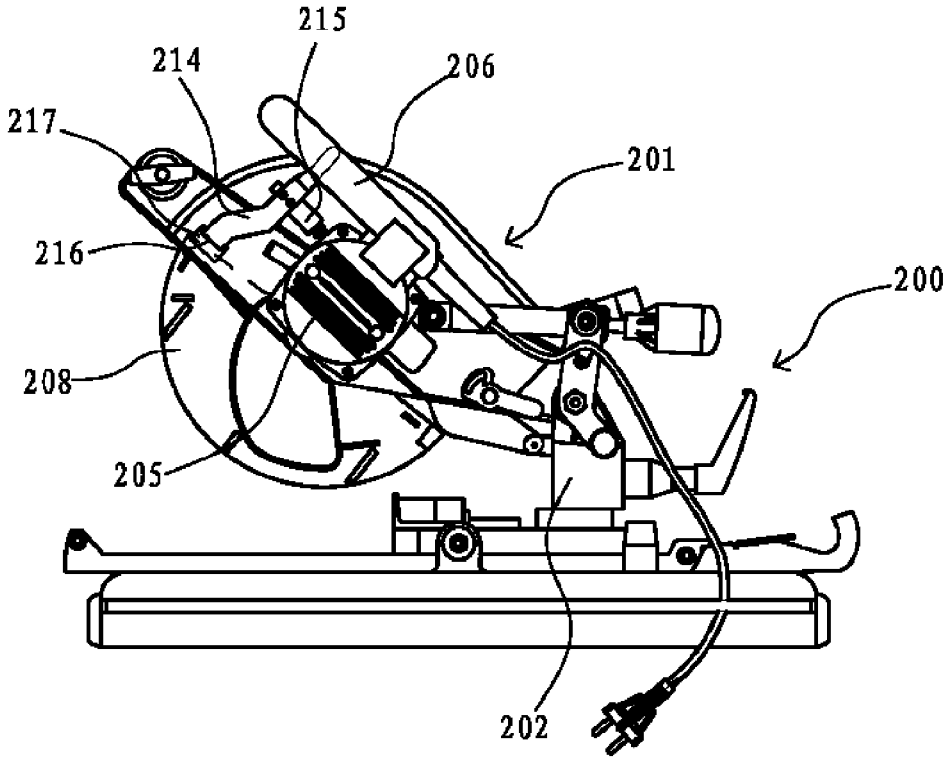
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FIG7

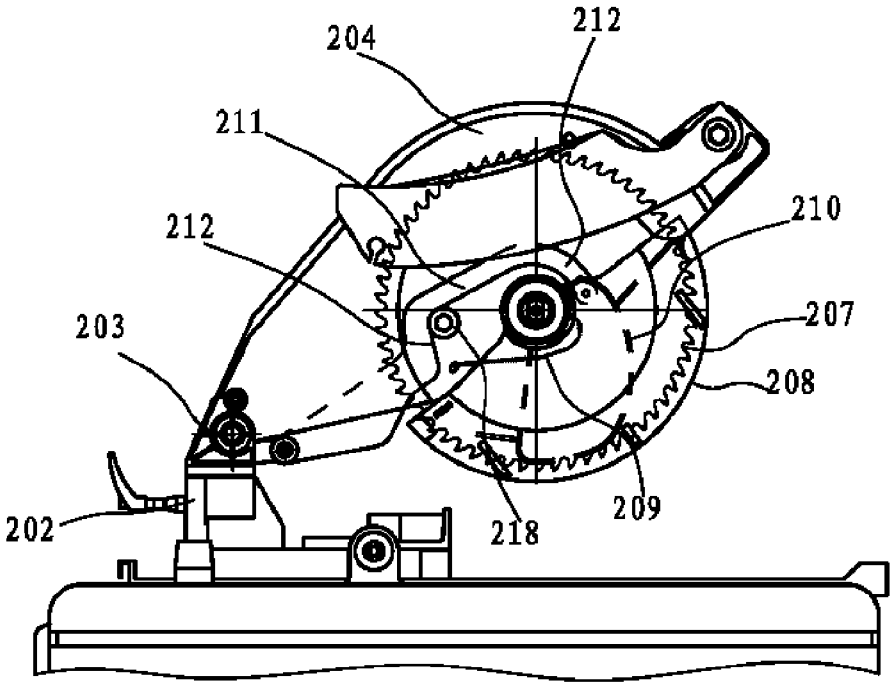
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FIG8

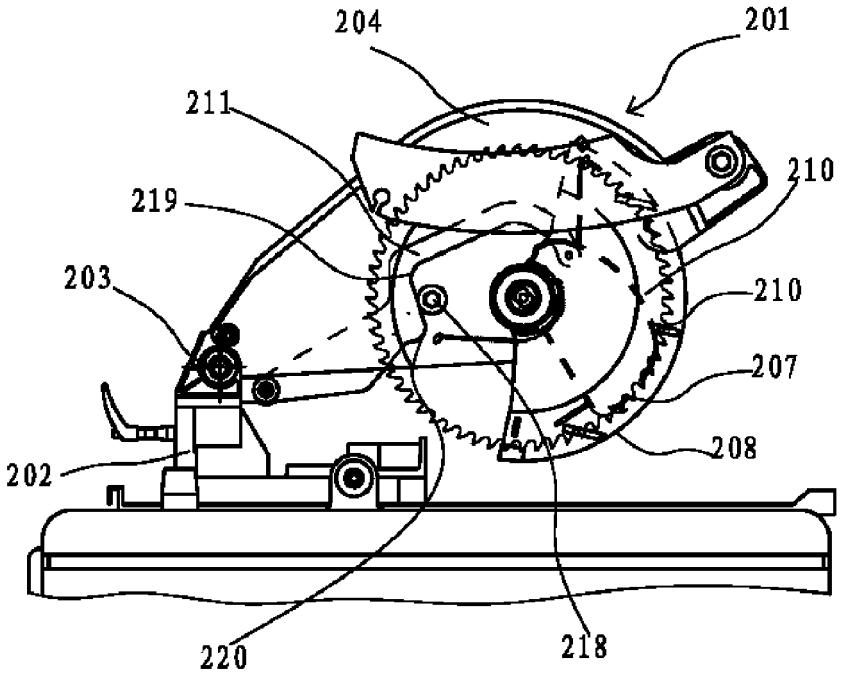
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FIG9

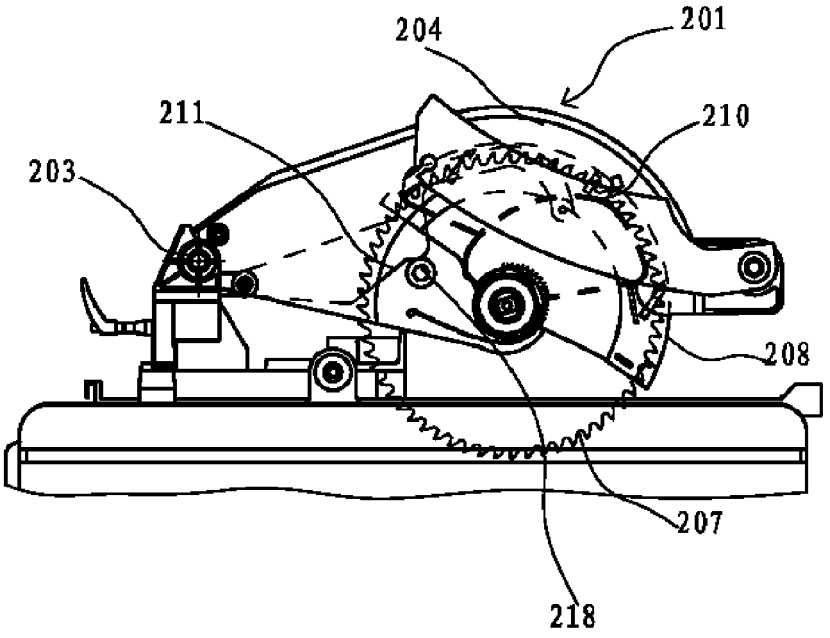
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FIG10

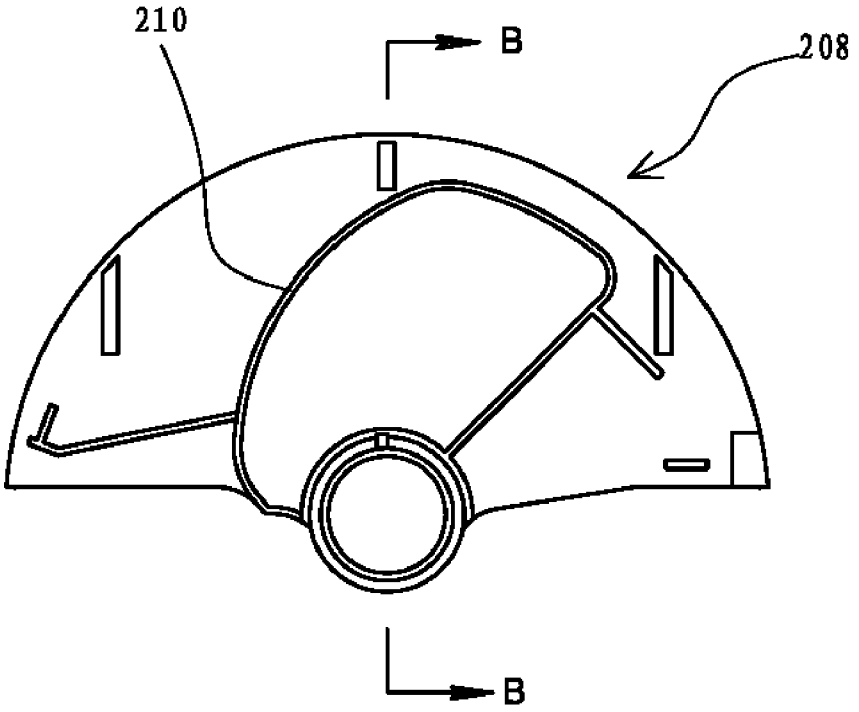

FIG11

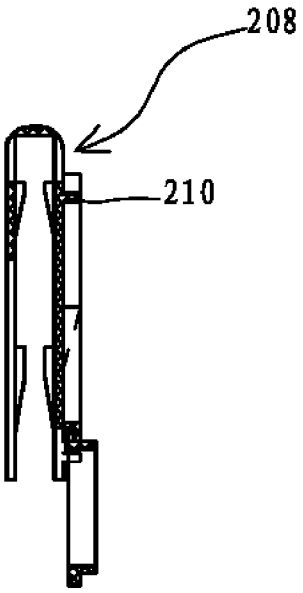

FIG12

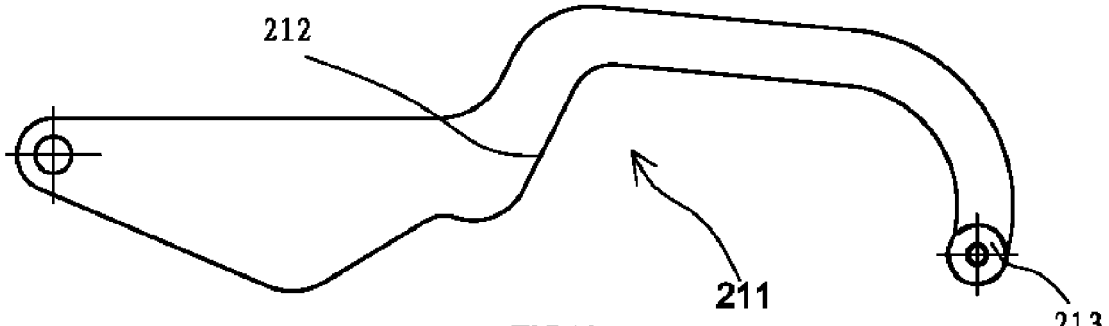

FIG13

FIG14

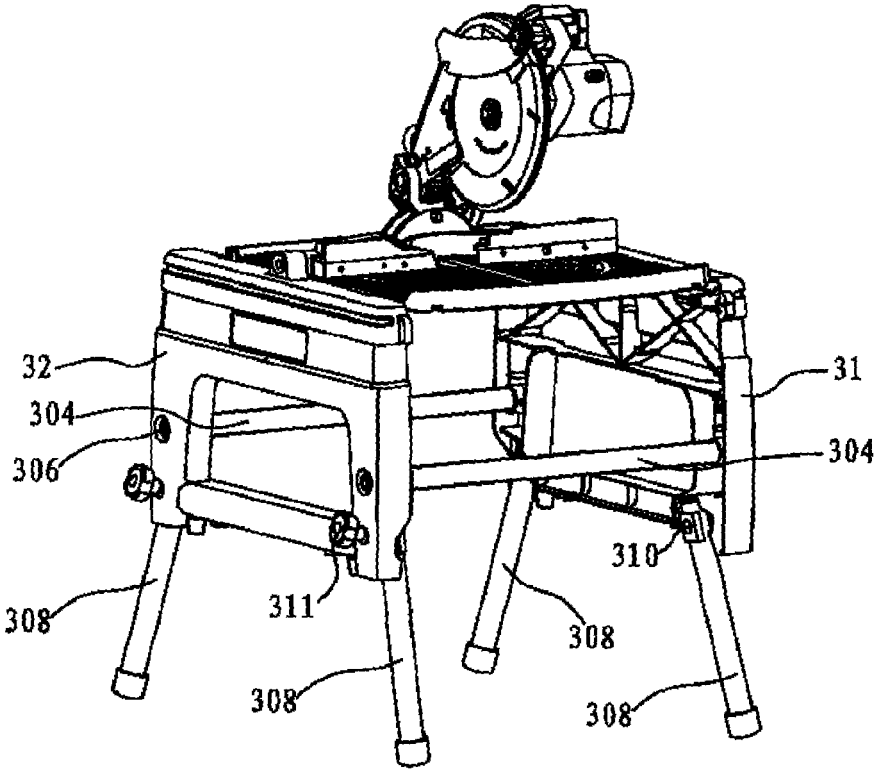

FIG15

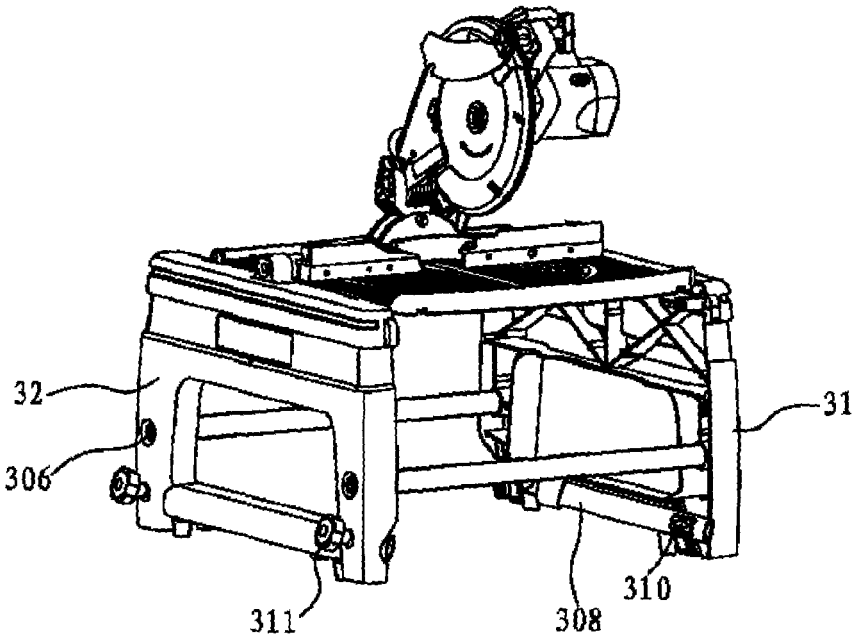

FIG16

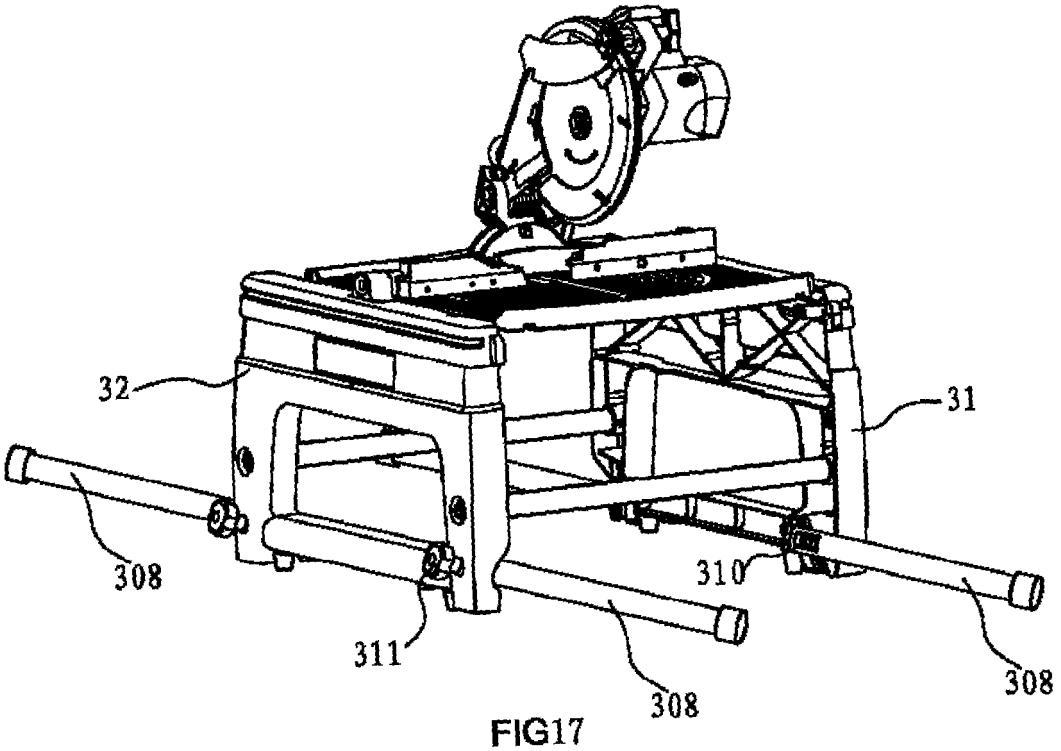
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FIG17

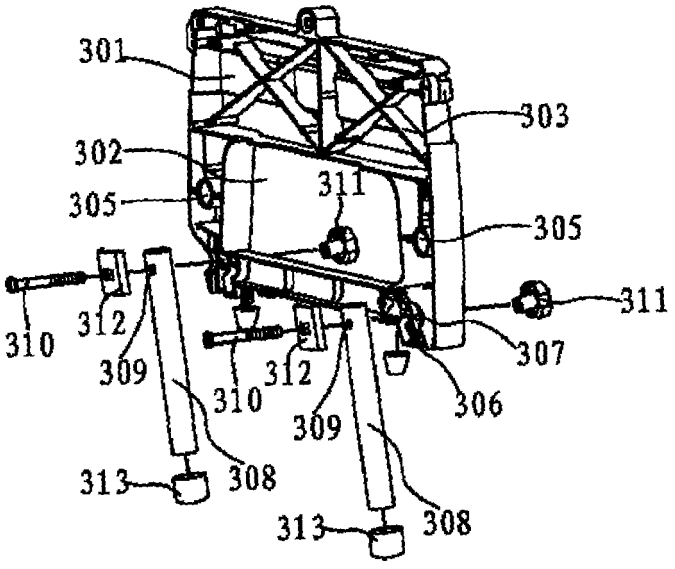
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FIG18

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 10 3785

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 1 614 508 A (BLACK & DECKER INC [US]) 11 January 2006 (2006-01-11) * paragraph [0007] - paragraph [0020]; figures 1-4 *	1-10	INV. B23D45/04 B27B5/16 B27B5/20 B23D47/02
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TECHNICAL FIELDS SEARCHED (IPC)

B23D
B27B
B25H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	21 June 2007	Frisch, Ulrich

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21-06-2007

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