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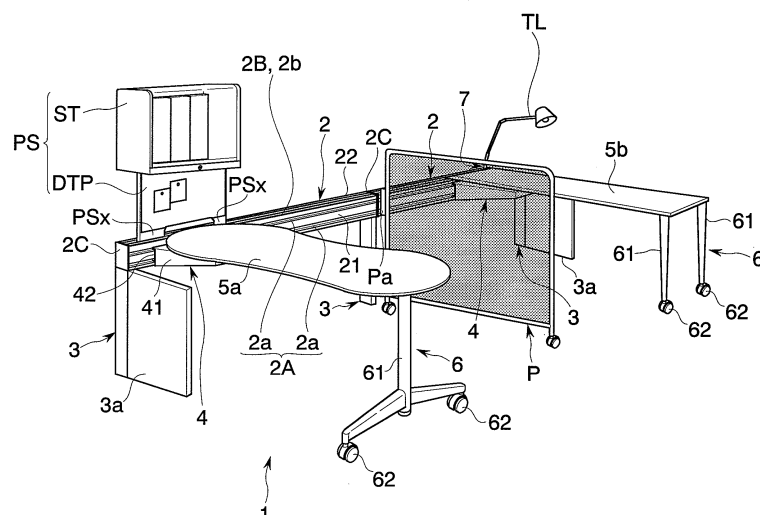
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(54) **Furniture**

(57) The present invention provides a desk with which flexibility of a change in the position of an optional member with respect to a base is increased, and by which the position of an optional member with respect to the base can be changed easily and accurately in accordance with the posture of a top board with respect to the

base. A desk includes: a base extending in a predetermined direction; a top board capable of selecting a plurality of postures with respect to the base; an option supporting member supported so as to be movable along the base in accordance with the posture of the top board; and a panel system and a task light supported by the option supporting member.

FIG.1



EP 1 886 597 A2

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to furniture provided with an optional member.

2. Background Art

[0002] Hitherto, in furniture having a top board such as a desk or a table, for example, a plurality of fitting holes to which an option supporting member for supporting an optional member such as a task light can be attached are formed at predetermined pitches on the side opposite to the use end. By inserting an insertion part provided for the option supporting member into a fitting hole selected from the plurality of fitting holes, the attachment position of an optional member can be changed (refer to, for example, Japanese Unexamined Patent Publication No. 2001-169834).

[0003] However, since the attachment position of an optional member which can be selected is determined by the fitting hole formation position in the conventional technique, there is a problem that the attachment position of an optional member cannot be finely adjusted. Moreover, in the case of changing the attachment position of an optional member, the fitting state between the insertion part and the engagement hole is once cancelled. After that, the insertion part has to be fit again in another fitting hole. Such a work is troublesome. In some cases, the user has to ask the work for a specialist. There is a problem that the attachment position of an optional member cannot be changed easily and accurately according to the posture of the top board. In particular, in the case of a desk in which the posture of the top board with respect to the base can be changed and which can address a layout change, the frequency of changing the attachment position of an optional member in accordance with a change in the posture of the top board increases. However, due to the above-described inconvenience, practicability is low, the desk is not suitable as a component of a work space and an office in which layout is changed frequently, and it is difficult to satisfy the work environment of workers.

SUMMARY OF THE INVENTION

[0004] The present invention has been achieved in view of such problems and an object of the invention is to provide furniture with which flexibility of a change in the position of an optional member with respect to a base is increased, and by which the position of an optional member with respect to the base can be changed easily and accurately in accordance with the posture of a top board with respect to the base.

[0005] Furniture of the present invention includes: a

base extending in a predetermined direction; a top board capable of selecting a plurality of postures with respect to the base; an option supporting member supported so as to be movable along the base in accordance with the posture of the top board; and an optional member supported by the option supporting member.

[0006] In such furniture, since the option supporting member is movable along the base, the flexibility of a change in the position of an optional member with respect to the base improves and, moreover, the conventional work is unnecessary, of once cancelling the fit state between an insertion part and a fitting hole and fitting again the insertion part to another fitting hole each time the position of attaching an optional member is changed. The position of an optional member with respect to a base can be easily and accurately changed in accordance with the posture or arrangement posture of a top board with respect to the base by the worker himself/herself, and the work environment of the worker can be satisfied. Moreover, the movement range of the option supporting member is restricted by the base, so that a work space and an entire office can be prevented from becoming unruly and disorganized with a change in the position of the optional member. The furniture is suitable as a component of a work space and an office in which layout is changed frequently.

[0007] The "top board capable of selecting a plurality of postures with respect to the base" denotes a concept including a top board supported by the base and a top board which is not supported by the base but is supported by a leg or the like and is independent of the base.

[0008] Another furniture according to the invention includes:

a base extending in a predetermined direction; a top board capable of selecting a plurality of postures with respect to the base; an option supporting member supported so as to be movable along the base in accordance with the posture of the top board; and an optional member supported by the option supporting member, wherein the option supporting member can move together with the optional member along the base in a state where the option supporting member supports the optional member.

[0009] With such furniture as well, effects similar to those of the above-described furniture can be obtained. In addition, at the time of changing the relative arranging position of the optional member relative to the base, a work of detaching the optional member from the option supporting member and attaching the optional member again is unnecessary. Thus, operability is excellent. In a manner similar to the above, the "top board capable of selecting a plurality of postures with respect to the base" denotes a concept including a top board supported by the base and a top board which is not supported by the base but is supported by a leg or the like and is independent of the base.

[0010] In particular, when the option supporting member supports one or plural optional members selected from a plurality of optional members of different kinds, as compared with a mode of preparing option supporting members dedicated to respective optional members of different kinds, parts can be commonly used and the number of parts can be reduced.

[0011] When the option supporting member detachably supports the optional member, an optional member to be supported by the option supporting member can be properly selected in accordance with the use of the desk, and high practicability can be achieved.

[0012] Further, when the option supporting member supports the optional member so as to be horizontally turnable, the angle of the optional member relative to the base can be adjusted corresponding to the angle of the top board relative to the base, and wide general versatility can be obtained.

[0013] To smoothly and reliably move an option supporting member along a base, it is sufficient to provide the base with a guide for guiding movement of the option supporting member, and to provide the option supporting member with a guided part which is guided by the guide. In this case, suitable modes include a mode in which the guide is a rail formed along an extension direction of the base and a mode in which the guided part is an insertion part capable of moving along the rail in a state where it is inserted in the rail.

[0014] A concrete example of a plurality of different optional members is a storage having a storage body having therein a storage space; and a leg for holding the storage body at a predetermined level. With such a storage, the storage body is held at a predetermined level by the leg, so that some space is created below the storage body, and another optional member can be disposed by using the space. Consequently, the furniture can be adapted to various working styles using various optional members. Depending on setting of the level of the storage body, the storage body can be made function as a blind.

[0015] The base may have a plurality of guides provided continuously along the extension direction and guiding movement of the option supporting member. A plurality of optional members of different kinds can be attached by using the option supporting member supported by the guides. Height of the leg of the storage supported by the option supporting member guided by one guide is set so that interference between the storage body and another optional member can be avoided when the storage and another optional member supported by an option supporting member guided by another guide pass each other. At the time of changing the relative positions of the storage and another optional member in accordance with the position of the top board and the use state of the user, the storage and another optional member can be moved along the guide in a state where the storage and the another optional member are supported by the option supporting member. Thus, the work of changing the relative positions of optional members can be performed

easily.

[0016] When the legs support regions in the storage body to balance the storage body, the storage body can be supported in a stable state by the legs. An operation of moving the storage along the base via the option supporting member can be smoothly and stably performed.

[0017] In another mode of the storage, the storage space of the storage body opens at least to the user side, and a pair of legs support regions displaced to the side opposite to the opening in the storage body. In such a mode, in the case where the base has a plurality of guides provided continuously in the extension direction and for guiding movement of the option supporting member, the storage bodies can be disposed back to back via the option supporting member in each of the guides. Moreover, the storage bodies can be also avoided from interfering each other when they pass each other.

[0018] According to the present invention described above, the flexibility in the change in the position of an optional member with respect to the base is increased, the position of an optional member with respect to the base can be easily and accurately changed according to the posture of the top board with respect to the base, and the work environment of workers can be satisfied.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019]

FIG. 1 is a general schematic diagram of desks and an office construction system using the desks according to an embodiment of the invention;

FIGS. 2A to 2C are plan views schematically showing layout examples which can be set with the desks of the embodiment and the office construction system using the desks;

FIG. 3 is a general schematic diagram of a desk having different optional members and an office construction system using the desk corresponding to FIG. 1;

FIGS. 4A and 4B are plan views schematically showing layout examples which can be set with the desks of the embodiment and the office construction system using the desks;

FIGS. 5A and 5B are diagrams showing an example of the optional member;

FIG. 6 is a diagram showing a state where the optional member illustrated in FIGS. 5A and 5B is attached to a base;

FIGS. 7A and 7B are diagrams showing another example of the optional member;

FIG. 8 is a diagram showing a state where the optional member illustrated in FIGS. 7A and 7B is attached to the base.

FIG. 9 is a diagram showing an example of an option supporting member;

FIG. 10 is a diagram showing a mode in which a pair of option supporting members is provided;

FIG. 11 is a cross section taken along line I-I of FIG. 10 showing the option supporting member in which a switching mechanism is in a movement restriction state;

FIG. 12 is a cross section taken along line II-II of FIG. 11;

FIG. 13 is a diagram showing the option supporting member in which the switching mechanism is in the movement permission state corresponding to FIG. 11;

FIG. 14 is a diagram showing the option supporting member in which the switching mechanism is in the movement permission state corresponding to FIG. 13;

FIG. 15 is a diagram illustrating that the option supporting member in which the switching mechanism is in the movement permission state can be inserted/extracted to/from the base;

FIG. 16 is a diagram showing another example of the option supporting member;

FIG. 17 is a cross section of an almost center portion in the thickness direction of the option supporting member in which the switching mechanism is in the movement restriction state;

FIG. 18 is a cross section taken along line I-I of FIG. 17;

FIG. 19 is a diagram showing the option supporting member in which the switching mechanism is in the movement permission state corresponding to FIG. 17; and

FIG. 20 is a diagram showing the option supporting member in which the switching mechanism is in the movement permission state corresponding to FIG. 18.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] An embodiment of the present invention will be described below with reference to the drawings.

[0021] In the embodiment, as shown in FIG. 1, as furniture, a desk 1 is applied including a base 2 disposed above the floor and extending in a predetermined direction, a base supporting member 3 for supporting the base 2, a top board supporting member 4 supported so as to be able to slide along the base 2, a top board 5a (or 5b) whose one end is supported by the top board supporting member 4, and a leg member 6 supporting the other end of the top board 5a (or 5b) and standing on the floor. FIG. 1 shows an office construction system formed by linking two desks 1 which have almost the same shapes and configurations except for the shapes of the top boards 5a and 5b. The same reference numerals are assigned to corresponding members in the diagram.

[0022] The base 2 has, for example, an almost quadrangular pillar shape extending almost linearly. A top board guide 2A for guiding movement of the top board supporting member 4 is provided in a pair of upright faces 21 facing each other in the longitudinal direction of the

base 2. The top board guide 2A is constructed by rails 2a formed along the longitudinal direction of the base 2. In the embodiment, the top board guide 2A is formed by the pair of rails 2a extending in parallel with each other so as to be apart from each other by a predetermined pitch in the height direction and each obtained by forming a recess in each of the upright faces 21. A top face 22 of the base 2 is provided with an optional member guide 2B (corresponding to "guide" in the invention). The optional member guide 2B is constructed by using a rail 2b formed along the longitudinal direction of the base 2. In the embodiment, the optional member guide 2B is constructed by the rail 2b recessed from the other part in the top face 22. The guides 2A and 2B are formed so as to extend from one end to the other end of the base 2. End caps 2C are detachably attached to both ends of the base 2.

[0023] The base supporting members 3 support both ends of the base 2. Each of the base supporting members 3 has, for example, a pillar shape whose depth is almost equal to the short dimension of the base 2. In the office construction system according to the embodiment in which the plural desks 1 are linked so that their bases 2 are continuous in the longitudinal direction, auxiliary base supporting members 3a are integrally assembled to, at least, the base supporting members 3 positioned at both ends of the office construction system among the plural base supporting members 3, thereby realizing excellent self-supporting performance and stability of the office construction system.

[0024] The top board supporting member 4 has, as shown in FIG. 1, a top board receiving part 31 for supporting the top board 5a (or 5b) and a guided part 42 guided by the top board guide 2A.

[0025] Each of the top boards 5a and 5b is a board having a gourd shape (ellipse shape whose center portion is narrowed) or a rectangular shape in plan view, and is designed so that the maximum longitudinal dimension is almost equal to or smaller than the longitudinal dimension of the base 2. One end of each of the top boards 5a and 5b is supported by the top board supporting member 4 so as to be turnable in the horizontal direction. A concrete mode of supporting the top board 5a or 5b by the top board supporting member 4 so as to be turnable is, for example, a simple uniaxial structure using a single axis. In the embodiment, the under face of each of the top boards 5a and 5b is positioned slightly upper than the top face 22 of the base 2, thereby avoiding interference between the top board 5a or 5b and the base 2 at the time of horizontal turn of the top board 5a or 5b. Although a part of the top board 5a or 5b and the top face 22 of the base 2 overlap each other with a gap of a predetermined dimension in the height direction, it is designed so that a part of the top board 5a or 5b does not overlap the optional member guide 2B formed in the top face 22 of the base 2, thereby avoiding interference between a part of the optional member guided by the optional member guide 2B and a part of the top boards 5a

and 5b.

[0026] The legmember 6 has a legmemberbody 61 directly supporting the other end of the top board 5a or 5b and a caster 62 provided at the lower end of the leg member body 61.

[0027] In the desk 1 having such a configuration, by making the top board 5a or 5b slide along the longitudinal direction of the base 2, the position of the top board 5a or 5b relative to the base 2 can be changed. The turn angle posture of the top board 5a or 5b relative to the base 2 such as a posture in which the longitudinal direction of the top board 5a or 5b is almost parallel with the longitudinal direction of the base 2, or a posture in which the longitudinal direction of the top board 5a or 5b is almost orthogonal to the longitudinal direction of the base 2 can be properly selected.

[0028] In the office construction system according to the embodiment in which two desks 1 are linked, as shown in FIGS. 1 and 2A, the top boards 5a and 5b are set in a posture that their longitudinal direction is almost orthogonal to the longitudinal direction of the bases 2, and are positioned on the sides apart from the other base 2 (the sides opposite to the connection end), thereby allowing workers to use the top boards 5a and 5b back to back. In such a manner, a first layout forming a work space and an office in which each worker can concentrate on his/her work can be set. In FIGS. 2A to 2C, a pattern is formed in the base 2. As shown in FIG. 2B, the top boards 5a and 5b are set in a posture that their longitudinal direction is almost orthogonal to the longitudinal direction of the bases 2, and are positioned on the side of connecting the top boards 5a and 5b to the other base 2 (the connection end side), thereby enabling a second layout in which workers using the top boards 5a and 5b face each other to be set. In the second layout, a work space and an office in which workers can work while communicating with each other are formed. Further, as shown in FIG. 2C, the top boards 5a and 5b are set in the posture that their longitudinal direction is almost parallel with the longitudinal direction of the bases 2, and the top boards 5a and 5b are arranged side by side in the longitudinal direction. In such a manner, a third layout in which workers using the top boards 5a and 5b sit side by side can be set. The third layout forms a work space and an office in which workers can concentrate on their works while communicating with each other. By moving an optional member along the base 2 by using the optional member guide 2B corresponding to each layout, a work space and an office having excellent workability can be formed. A layout properly selected from at least layouts in three patterns can be set. In FIG. 1 and FIGS. 2A to 2C, a partition P partitioning work spaces of the workers is disposed. In the embodiment, an attachment member Pa for attaching the partition P to the base 2 is provided for a part of the partition P (refer to FIG. 1). According to choice of a worker, a layout using no partition P may be employed. At the time of integrally linking the desks 2, it is sufficient to use connecting means, which

is not shown, for integrally connecting one base 2 to another base 2. Examples of the connecting means include means using an engagement part provided for each end cap and capable of engaging (fitting or hooking) with (to) an end cap adjacent thereto, means using an engagement part provided at an end of the base and capable of engaging (fitting or hooking) with (to) an end of a base adjacent thereto, and means using a fastening member such as a screw for fastening the bases 2.

[0029] The desk 1 according to the embodiment has optional members whose positions can be changed relative to the base 2. In the embodiment, as the optional members, a panel system PS obtained by integrating a desk top panel DTP and a storage rack ST and a task light TL are applied.

[0030] A pair of guided parts PSx guided by the option guide 2B is integrally or almost integrally provided at the lower end of the panel system PS. In the embodiment, as the guided parts PSx, insertion parts which can move along the rails 2b in a state where they are inserted in the rails 2b are applied. The panel system PS also functions as an "option supporting member" of the present invention in which the guided parts PSx are supported so as to be movable relative to the base 2.

[0031] On the other hand, the task light TL is supported by an option supporting member 7 as a member different from the task light TL. The option supporting member 7 is supported so as to be movable relative to the base 2, and has a guided part 7a guided by the optional member guide 2B. In the embodiment, as the guided part 7a, an insertion part which can move along the rail 2b in a state where it is inserted in the rail 2b is applied. In the option supporting member 7, a fitting part 7b in which an insertion part (not shown) provided at the lower end of the task light TL can be fit is provided. In a state where the task light TL is supported by the option supporting member 7 by inserting the insertion part of the task light TL in the fitting part 7b, the task light TL can turn horizontally around the fit portion between the insertion part and the fitting part 7b.

[0032] By moving the panel system PS and the task light TL so as to slide along the base 2, the positions of the panel system PS and the task light TL relative to the base 2 can be changed.

[0033] Therefore, according to the posture of the top boards 5a and 5b disposed for the base 2, the panel system PS and the task light TL can be moved along the base 2 to optimum positions in order to improve the workability of workers using the top boards 5a and 5b.

[0034] In the embodiment, the task light TL is detachably supported by the option supporting member 7. The option supporting member 7 can support, in place of the task light TL, an optional member of another kind, for example, a blind panel EP shown in FIGS. 3 and 4A (FIG. 4A is a diagram schematically showing the plan view of FIG. 3). Concretely, an insertion part (not shown) which can be inserted in the fitting part 7b of the option supporting member 7 is provided at the lower end of the blind

panel EP. In a state where the insertion part is fit in the fitting part 7b, as shown in FIG. 4A, the blind panel EP is supported by the option supporting member 7 so as to be horizontally turnable around the fitting part as a center. With the configuration, even in the case of employing a layout in which the longitudinal direction of the top board 5b is set at, for example, about 45 degrees with respect to the longitudinal direction of the base 2, by turning the blind panel EP by predetermined angle, the angle of the blind panel EP relative to the base 2 can be made correspond to the relative angle between the top board 5b and the base 2.

[0035] As described above, the desk 1 of the embodiment has the base 2 extending in a predetermined direction, the top boards 5a and 5b which can be in any of a plurality of postures or arrangement postures with respect to the base 2, the option supporting member 7 (and the guided parts PSx functioning as the option supporting member) supported so as to be movable along the base 2 in accordance with the posture of the top board 5a and 5b, and the optional members (the task light TL, the blind panel EP, and the panel system PS) supported by the option supporting member 7 and the guided parts PSx. Consequently, unlike the conventional technique, it is unnecessary to perform the conventional work, which is done each time the position of the optional member relative to the base is changed, of once cancelling the fit state between the insertion parts and the fitting holes and fitting the insertion parts to different fitting holes again. Therefore, the worker himself can easily and accurately change the positions of the task light TL, the blind panel EP, and the panel system PS relative to the base 2. Moreover, the option supporting member 7 and the guided part PSx are continuously able to slide along the base 2, so that the positions of the task light TL, the blind panel EP, and the panel system PS can be finely adjusted. Further, the movement range of the option supporting member 7 and the guided part PSx is restricted by the base 2. Consequently, a work space and an entire office can be prevented from becoming disordered with the change of the positions of the task light TL, the blind panel EP, and the panel system PS. The desk is suitable as a component of a work space and an office in which layout is frequently changed, and the work environment for workers is satisfied.

[0036] In particular, the option supporting member 7 supports an optional member properly selected from different kinds of plural optional members (in the embodiment, the task light TL and the blind panel EP), so that parts can be shared and the number of parts can be reduced more than the mode of preparing option supporting members dedicated to respective different kinds of optional members.

[0037] In addition, the option supporting member 7 detachably supports the optional members (in the embodiment, the task light TL and the blind panel EP). Thus, an optional member supported by the option supporting member 7 can be properly selected and attached in ac-

cordance with the work environment, so that the invention provides excellent practicability.

[0038] Further, since the option supporting member 7 supports an optional member (in the embodiment, the task light TL and the blind panel EP) so as to be horizontally turnable, the angle of the optional member relative to the base 1 can be adjusted corresponding to the angle of the top board 5a or 5b relative to the base 2, and general versatility can be given.

[0039] Since the optional member guide 2B for guiding movement of the option supporting member 7 is provided for the base 2 and the guided part 7a to be guided by the optional member guide 2B is provided for the option supporting member 7, the option supporting members 7 and PSx can be smoothly and reliably moved along the base 2. The guided part PSx of the panel system PS also functions as an option supporting member as described above. In particular, since the optional member guide 2B is the rail 2b formed along the extending direction of the base 2 and the guided parts 7a and PSx are insertion parts which can be moved along the rail 2b in a state where they are inserted in the rail 2b, the optional member guide 2B and the guided parts 7a and PSx can be realized by a simple structure, and it contributes to reduction in cost.

[0040] The present invention is not limited to the embodiments described in detail above.

[0041] For example, as the optional member, a storage CA shown in FIGS. 5A and 5B and FIG. 6 may be applied.

[0042] As shown in FIGS. 5A and 5B (a general schematic view and a side view, respectively, of the storage CA), the storage CA includes a storage body CA1 having therein a storage space CA1s and legs CA2 holding the storage body CA1 at a predetermined level.

[0043] The storage body CA1 has therein the storage space CA1s that opens at least to the user side, and has a door CA11 capable of closing the opening of the storage space CA1s. Although a flappable door is applied as the door CA11 in the embodiment, another door (a double sliding door, a single turn door, a double turn door, a shutter door, or the like) may be applied. A storage body CA1 having no door may be also employed.

[0044] The front end of the leg CA2 is fixed to the under face of the storage body CA1. Concretely, the leg CA2 supports regions to balance the storage body CA1, in the storage body CA1. In the embodiment, the leg is fixed by proper means in an almost center portion in the depth direction of the storage body CA1. The storage CA has a pair of right and left legs CA2, and a stable support state of the storage body CA1 is realized by the legs CA2. As shown in FIG. 6, the height of each of the legs CA2 is set to be larger than that of other options (for example, the blind panel EP).

[0045] With such a storage CA, a space CAs corresponding to the height of the legs CA2 is formed below the storage body CA1. Consequently, another optional member (for example, the blind panel EP) can be disposed by using the space CAs. The furniture can be flex-

ibly adapted to various working styles using various optional members.

[0046] In particular, in a single base 2, in the case where the storage CA is supported by the option supporting member 7 guided by one rail 2b and another optional member (for example, the blind panel EP) is supported by the option supporting member 7 guided by another rail 2b, when the option supporting members 7 are moved in directions different from each other along the rails 2b in a state where the storage body CA1 and the other optional members are supported, interference between the storage body CA1 and the other optional members can be avoided. A work of changing the relative positions of the storage CA and the other optional members can be performed smoothly and accurately.

[0047] As the optional member, a storage CB shown in FIGS. 7A and 7B and FIG. 8 may be applied.

[0048] The storage CB is similar to the storage CA with respect to the point that a storage body CB1 having a storage space CB1s that opens at least to the user and a door CB11 capable of closing the storage space CB1s, and legs CB2 holding the storage body CB1 at predetermined level are provided, but is different from the storage CA with respect to the attachment positions (fixing positions) of the legs CB2 in the storage body CB1. That is, in the storage CB, the legs CB2 are fixed by appropriate means in positions displaced to the side opposite to the opening in the storage body CB1 (the side of one end along the depth direction of the storage body CB1).

[0049] In the case where such a storage CB is supported by the option supporting member 7, the storage body CB1 is held near to the user side. Consequently, when a storage CB is supported by the option supporting member 7 guided by one rail 2b and a storage CB is supported by the option supporting member 7 guided by another rail 2b in a single base 2, the storages CB can be disposed in a state that the faces on the side opposite to the opening side of the storage bodies CB face each other (a state where the storage bodies CB1 are disposed back to back). Also in the case of moving the storages CB in the directions opposite to each other, interference between the storage bodies CB1 can be avoided. As shown in FIG. 8, in the case where the top boards 5 are disposed in the areas having the base 2 therebetween, the storage CB can be given to each of the users of the top boards 5. Since a space CBs corresponding to the height of the leg CB2 is formed below the storage body CB1, another optional member (for example, the blind panel EP) can be disposed by using the space CBs. The storage CB is similar to the storage CA with respect to the point that it can be flexibly adapted to various working styles using various optional members.

[0050] An option supporting member as shown in FIGS. 9 and 10 may be also applied.

[0051] An option supporting member 8 has, as shown in FIGS. 9 to 14, a base part 81 to which the lower end of an optional member (for example, the lower end of the leg CA2 of the storage CA) can be attached, an engage-

ment part 82 which can engage with a projection 2ba of the rail 2b, a press part 83 pressed against the top face 22 of the rail 2b and capable of pressing the top face 22 of the rail 2b, and a rolling member 84 which can come into contact with a bottom 2bb of the rail 2b. The projection 2ba provided for each of the rails 2b projects in the direction of decreasing the dimension of the opening of each of the rails 2b. In the embodiment, each of the projections 2ba is formed in an almost center portion in the height direction of the rail 2b from the top face 22 of the base 2 or an area displaced downward from the almost center portion in the height direction. On the upper end side of the projection 2ba, a cap slider holding part 2bax having a groove shape and capable of holding a cap slider (not shown) so as to enable sliding is formed.

[0052] The base part 81 has an almost flat plate shape and can be fixed to the lower end of an optional member via fixing means such as bolting or welding.

[0053] The engagement part 82 is attached to the base part 81 and can move between an engagement enabling position in which the engagement part 82 engages with the projection 2ba provided for the rail 2b and a disengagement position in which the engagement part 82 cannot engage with the projection 2ba. In the embodiment, a pair of engagement parts 82 which can be inserted in the rails 2b adjacent thereto is provided, and each of the engagement parts 82 can horizontally turn around a rotary shaft 82x provided for the base part 81 as a center. More concretely, an engagement nail 82a which can be engaged with an under face 2bay of the projection 2ba is provided at the lower end of each of the engagement part 82, and tips of the engagement nails 82a are projected opposite to each other. In the embodiment, a biasing member 85 (such as a spring) for biasing the engagement part 82 to the engagement enabling position is provided at the upper end of each of the engagement parts 82. Even in the case where the biasing member 85 does not act, by providing the engagement parts 82 in positions where the rotary shaft 82x is displaced from the center of gravity, the engagement parts 82 can be positioned in the engagement enabling positions by the dead load.

[0054] The press part 83 is movable in the vertical direction with respect to the base part 81. In the embodiment, the press part 83 has a multilayer part having a press plate 83a which is directly pressed against the cam face of an eccentric cam 86a provided at the lower end of an operation lever 86 to be described later, and a resin press pad 83b which is integrally provided for the under face of the press plate 83a and comes into direct contact with the top face 22 of the rail 2b.

[0055] A rolling member 84 can move between a touchable position in which the rolling member 84 comes into contact with the bottom 2bb of the rail 2b and a detached position in which the rolling member 84 is apart from the bottom 2bb of the rail 2b. In the embodiment, the rolling member 84 is attached so as to be turnable around the horizontal axis to the lower end of a trailing

piece 811 integrally provided for the base part 81.

[0056] The option supporting member 8 according to the embodiment has the operation lever 86 horizontally turnable around a rotary shaft 8 6x provided for the base part 81 as a center. The operation lever 86 has a handle 86b which can be gripped by the user and the eccentric cam 86a provided on the turn base side. Further, the operation lever 86 has an engagement part operating body 86c which fits between the upper ends of the pair of engagement parts 82 in a process of changing an almost upright posture to a pull-down posture in which the operation lever 86 is pulled down by about 90 degrees, and moves each of the engagement parts 82 from the engagement enabling position to the disengagement position against the biasing force of the biasing member 85. In the embodiment, the engagement part operating body 8 6c having an almost rod shape whose dimension is larger than the distance between the inner faces of the engagement parts 82 is applied.

[0057] In such a manner, the option supporting member 8 according to the embodiment has a switching mechanism 8X capable of switching between a movement permission state of permitting movement of the option supporting member 8 along the rail 2b by using the operation lever 86, the engagement part 82, the rolling member 84, and the like and a movement restriction state of restricting movement of the option supporting member 8 along the rail 2b.

[0058] In the case where the switching mechanism 8X is in the movement restriction state, the engagement part 82 is set in the engagement enabling position, and the rolling member 84 is set in the detached position (see FIGS. 11 and 12). On the other hand, when the switching mechanism 8X is in the movement permission state, the engagement part 82 is set in the disengagement position, and the rolling member 84 is set in the touchable position (see FIGS. 13 and 14).

[0059] A method of using the option supporting member 8 and the action will now be described.

[0060] In the case of moving the option supporting member 8 along the rail 2b, the switching mechanism 8X has to be switched from the movement restriction state to the movement permission state. The switching work is performed by applying an operation force of changing the operation lever 86 in the upright posture to the collapsed posture. On the basis of the operation force, the base part 81 descends toward the press part 83 by the action of the eccentric cam 8 6a provided at the lower end of the operation lever 86, and the optional member, the engagement part 82, and the rolling member 84 integrally provided with the base part 81 also descend together with the base part 81 (in the base part 81, a space 81s permitting turn of the eccentric cam 86a is formed). As a result, the rolling member 84 is set in the touchable position in which the rolling member 84 comes into contact with the bottom 2bb of the rail 2b, the engagement part operating body 86c of the operation lever 86 is fit in the upper ends of the engagement parts 82, and the en-

gagement parts 82 turn around the turn shaft as a center, and is set in the disengagement position in which the engagement nail 82a is apart from the projection 2ba of the rail 2b (see FIGS. 13 and 14). Both ends of the engagement part operating body 86c are temporarily engaged in recesses 82b (see FIG. 12) formed in the upper ends of the engagement parts 82. By switching the switching mechanism 8X from the movement restriction state to the movement permission state as described above, the option supporting member 8 can be moved along the extending direction of the rail 2b in a state where the optional member is supported. The posture of the engagement part 82 is inclined in a state where the engagement part 82 is set in the disengagement position. As shown in FIG. 15, in the case of moving the option supporting member 8 in the posture toward the opening of the rail 2b (upward), the engagement nail 82a is set so as not to interfere with the projection 2ba of the rail 2b. Therefore, only by setting the switching mechanism 8X to the movement permission state, the option supporting member 8 can be inserted in the opening of the rail 2b, and the work of inserting/detaching the option supporting member 8 and an optional member to/from the rail 2b can be performed.

[0061] On the other hand, in the case of fixing a disposing position of an optional member (for example, the storage CA) relative to the base 22, the switching mechanism 8X has to be switched from the movement permission state to the movement restriction state. The switching work is performed by applying an operation force of changing the collapsed posture of the operation lever 86 to the upright posture. Based on the operation force, the press part 83 is pressed downward by the action of the eccentric cam 86a provided at the lower end of the operation lever 86, the base part 81 rises relative to the press part 83, and the optional member, the engagement part 82, and the rolling member 84 provided integrally with the base part 81 also rise relative to the press part 83. As a result, the rolling member 84 is set in the detached position in which it is apart from the bottom 2bb of the rail 2b, and the engagement part operating member 86c temporarily engaged and held in the recess 82b in the engagement part 82 is disengaged and apart from the upper ends of the engagement parts 82. The engagement part 82 turns around the rotary shaft 82x as a center and is set in the engagement enabling position in which the engagement nail 82a is engaged with the projection 2ba of the rail 2b (more concretely, the under face 2bay). The projection 2ba of the rail 2b is sandwiched by the engagement nail 82a and the press part 82 so as to compress the projection 2ba (see FIGS. 11 and 12). In this state, a substantially center portion of the press part 83 is pressed against a portion between the rails 2b in which the engagement parts 82 are inserted, in the top face 22 of the base 2. By switching the switching mechanism 8X from the movement permission state to the movement restriction state as described above, the option supporting member 8 and an optional member

(such as a storage) are firmly fixed to the base 2, and a stable supporting state can be realized.

[0062] In the embodiment, a pair of option supporting members 8 facing each other in positions apart from each other by a predetermined distance are coupled by a coupling member 8R, thereby realizing a stabler supporting state and smoother movement of the option supporting members 8 relative to the base 2 by interlocking both. The distance between the pair of option supporting members 8 corresponds to the width of the optional member (for example, the distance between a pair of legs CA2 in the storage CA).

[0063] The above-described option supporting member 8 is supported by the base 2 using two guides (the rails 2b). Obviously, the option supporting member 8 may be supported by the base 2 by using a single guide (the rail 2b). An example of the configuration will be described.

[0064] As shown in FIGS. 16 to 20, an option supporting member 9 has a body part 91 having a thickness smaller than the minimum opening dimension of the rail 2b, base parts 92 provided at the upper end of the body part 91 and to each of which the lower end of an optional member (for example, the lower end EP1 of the blind panel EP) can be attached, engagement parts 93 which can be engaged with the projection 2ba of the rail 2b, a press part 94 pressed against the top face 22 of the rail 2b (including the top face of the projection 2ba) and capable of pressing the top face 22 of the rail 2b, and a rolling member 95 capable of coming into contact with the bottom 2bb of the rail 2b. The projection 2ba provided for each of the rails 2b projects in the direction of decreasing the dimension of the opening of each of the rails 2b as shown in FIG. 18. In the embodiment, each of the projections 2ba is formed in an almost center portion in the height direction of the rail 2b from the top face 22 of the base 2 or an area displaced downward from the almost center portion in the height direction. On the upper end side of the projection 2ba, the cap slider holding part 2bax having a groove shape and capable of holding a cap slider (not shown) so as to enable sliding is formed.

[0065] The body part 91 includes a body 911 having therein a space of predetermined dimensions and a movable body 912 provided in the body 911 and vertically movable in the body 911. In the embodiment, as the movable body 912, a plate member having an inverted U shape in side view is applied as the movable body 912. The movable body 912 is biased upward by a movable body biasing member 913 provided for the body 911. In the body 911, an internal space 911s allowing the vertical movement of the movable body 912 is formed (see FIG. 17).

[0066] The base part 92 has an almost flat plate shape and can be fixed to the lower end of an optional member via fixing means such as bolting or welding. In the embodiment, the base parts 92 are provided in positions apart from each other by a predetermined distance along the longitudinal direction of the body part 91.

[0067] The engagement parts 93 are attached to the

body part 91 and are constructed by a pair of engagement pieces 931 which are disposed in positions so as to face each other and sandwich the movable body 912 and can open in a V shape (see FIG. 18). Each of the engagement pieces 931 can move between an engagement enabling position in which it engages with the projection 2ba of the rail 2b and a disengagement position in which the engagement piece 931 cannot engage with the projection 2ba. In the embodiment, a pair of engagement parts 93 each made by the pair of engagement pieces 931 is provided in positioned apart from each other by a predetermined distance in the longitudinal direction of the body part 91 (see FIGS. 16 and 17). Each of the engagement pieces 931 can horizontally turn around the rotary shaft 931x provided for the body part 91 as a center. More concretely, a rotary shaft 931x is provided at the lower end of each of the engagement pieces 931, an engagement nail 931a which can engage with (contact with or be pressed against) the under face 2bay of the projection 2ba is provided in a position displaced upward by a predetermined distance from the rotary shaft 931x. The tips of the engagement nails 931a are projected opposite to each other. In the embodiment, a biasing member 932 (such as a spring) for biasing the engagement piece 931 to the engagement enabling position is provided between the lower ends of the engagement pieces 931. Even in the case where the biasing member 932 does not act, by providing the engagement pieces 931 in positions where the rotary shaft 931x is displaced from the center of gravity, the engagement pieces 931 can be positioned in the engagement enabling positions by the dead load.

[0068] The press part 94 is provided so as to be linked to an operation lever 96 to be described later, and the details will be described later.

[0069] The rolling member 95 can move between an touchable position in which the rolling member 95 is touched to the bottom 2bb of the rail 2b and a detached position in which the rolling member 95 is apart from the bottom 2bb of the rail 2b. In the embodiment, the rolling member 95 is attached so as to be turnable around the horizontal axis to the lower end of the body part 91.

[0070] The option supporting member 9 according to the embodiment has the operation lever 96 horizontally turnable around a rotary shaft 96x provided for the body part 91 as a center. The operation lever 96 has an operation lever body 961 including a handle 961a which can be gripped by the user and a rail pressing eccentric cam 961b provided on the turn base side. The rail pressing eccentric cam 961b functions as the press part 94. In the embodiment, a pair of platelike operation lever bodies 961 is positioned so as to face each other in the thickness direction, and a sandwiched member 962 having, at its lower end, a movable body pressing eccentric cam 962a capable of pressing the movable body 912 of the body part 91 is sandwiched between the operation lever bodies 961. The sandwiched member 962 turns together with the operation lever body 961 around the rotary shaft 96x as a center.

[0071] In such a manner, the option supporting member 9 according to the embodiment has a switching mechanism 9X capable of switching between a movement permission state of permitting movement of the option supporting member 9 along the rail 2b by using the operation lever 96, the engagement part 93, the rolling member 95, and the like and a movement restriction state of restricting movement of the option supporting member 9 along the rail 2b.

[0072] In the case where the switching mechanism 9X is in the movement restriction state, each of the engagement pieces 931 of the engagement part 93 is set in the engagement enabling position, and the rolling member 95 is set in the detached position (see FIGS. 17 and 18). On the other hand, when the switching mechanism 9X is in the movement permission state, each of the engagement pieces 931 of the engagement part 93 is set in the disengagement position, and the rolling member 95 is set in the touchable position (see FIGS. 19 and 20).

[0073] A method of using the option supporting member 9 and the action will now be described.

[0074] In the case of moving the option supporting member 9 along the rail 2b, the switching mechanism 9X has to be switched from the movement restriction state to the movement permission state. The switching work is performed by applying an operation force of changing the operation lever 96 in the collapsed posture to the upright posture. On the basis of the operation force, by the action of the moving body pressing eccentric cam 962a provided at the lower end of the sandwiched member 962 of the operation lever 96, the movable body 912 is pressed downward against the biasing force of the movable body biasing member 913, the movable body 912 descends relative to the body 911 and enters the space between the lower ends of the engagement pieces 931 of the engagement parts 93. The engagement pieces 931 turn in the direction of drawing the engagement nails 931a to each other around the rotary shaft 931x as a center against the biasing force of the engagement piece biasing member 931 and move the engagement nails 931a to the disengagement positions apart from the projections 2ba of the rails 2b. Further, based on the operation force, the state where the rail pressing eccentric cam 961b (the press part 94) against the top face 22 of the base 2 (including the top face of the projection 2ba) is cancelled, and the entire option supporting member 9 descends. As a result, the rolling member 95 is set in the touchable position in which the rolling member 95 is touched to the bottom 2bb of the rail 2b (see FIGS. 19 and 20). By switching the switching mechanism 9X from the movement restriction state to the movement permission state, the option supporting member 9 can be moved along the extension direction of the rail 2b in a state where the optional member is supported. The posture of the engagement pieces 931 set in the disengagement positions becomes almost perpendicular. In the case of moving the option supporting member 9 in the posture toward the opening of the rail 2b (upward), the engagement nail

931a is set so as not to interfere with the projection 2ba of the rail 2b. Therefore, only by setting the switching mechanism 9X to the movement permission state, the option supporting member 9 can be inserted in the opening of the rail 2b, and the work of inserting/detaching the option supporting member 9 and an optional member to/from the rail 2b can be performed.

[0075] On the other hand, in the case of fixing a disposing position of an optional member relative to the base 22, the switching mechanism 9X has to be switched from the movement permission state to the movement restriction state. The switching work is performed by applying an operation force of changing the upright posture of the operation lever 96 to the collapsed posture. Based on the operation force, the state where the movable body pressing eccentric cam 962a is pressed against the movable body 912 is cancelled, the movable body 912 rises relative to the body 911 by the biasing force of the movable body biasing member 913 and is released between the lower ends of the engagement pieces 931 of the engagement parts 93. The engagement pieces 931 turn around the rotary shaft 931x as a center by the biasing force of the engagement piece biasing member 932 to open the engagement nails 931a, and the engagement nails 931a move to the engagement enabling positions in which the engagement nails 931a can engage with (contact with or is pressed against) the projection 2ba of the rail 2b (more concretely, the under face 2bay). Further, based on the operation force, the rail pressing cam 961b (press part 94) presses the top face 22 of the base 2 (including the top face of the projection 2ba). The entire option supporting member 9 rises by so-called the principal of leverage using the top face 22 of the base 2 (including the top face of the projection 2ba) as footing. As a result, the projection 2ba of the rail 2b is sandwiched by the engagement nails 931a and the rail pressing cam 961b (the press part 94) so as to compress the projection 2ba, thereby obtaining a tight sandwich state (see FIGS. 17 and 18). By switching the switching mechanism 9X from the movement permission state to the movement restriction state as described above, the option supporting member 9 and an optional member are firmly fixed to the base 2, and a stable supporting state can be realized.

[0076] In the embodiment, the body part 91 is provided with an auxiliary rolling member 914 capable of turning around the vertical axis and a grounding part 915 which can be grounded on the bottom 2bb of the rail 2b.

[0077] By enabling the option supporting members 8 and 9 of different kinds to be attached to the base, according to the weight or the like of an optional member, a type of supporting the optional member by the base 2 using two guides (rails 2b) (option supporting member 8) or a type of supporting the optional member by the base 2 using a single guide (rail 2b) (option supporting member 9) can be properly selected.

[0078] As optional members, a desk top panel, a receptacle, a wire housing member, an armed telephone

stand, a tray, a shelf, a display arm, and the like may be applied.

[0079] It is sufficient that the option supporting member is supported movably along the base. The invention is not limited to the mode of supporting the option supporting member continuously movable. Alternately, a mode of supporting the option supporting member so as to be snapped and stopped in predetermined pitches, or a mode of, not sliding the option supporting member by using a rolling member, but moving the option supporting member in a state where a sliding member or a contact member slides along or in contact with the guide of the base may be employed.

[0080] It is also possible to dispose a single or plural bases in an L shape, a T shape, or a cross shape in plan view and support the option supporting member movably in a plurality of directions along the base(s). Although the linearly extending base has been described in the embodiments, the invention is not limited to the base. A base extended in a curved shape (circular curve or elliptic curve shape) or a base extending while meandering may be used.

[0081] By providing lock means that regulates movement of the option supporting member along the base, unexpected movement of the optional member can be prevented.

[0082] Further, a snap action mechanism for snapping and stopping the horizontal turn angle of an optional member every predetermined angle may be provided between the optional member and the option supporting member. In the case where an optional member is supported by the option supporting member so as to be turnable in the horizontal direction, by providing turn lock means capable of switching between a horizontal turn permission state in which a horizontal turn of an optional member is permitted and a horizontal turn restriction state in which a horizontal turn of an optional member is restricted between the optional member and the option supporting member, an unexpected turn of an optional member can be prevented.

[0083] The rail in the guide may have a groove shape or a projected shape, and the number of rails may be properly increased or decreased. The guide and the guided part are not limited to the rail and the insertion part, respectively. Further, a plurality of option supporting members may be supported by a single base. In this case, when option supporting members can be attached/detached to/from the base by proper means, the number of option supporting members supported by the base can be selected corresponding to the number of optional members necessary for the worker himself/herself. With such a configuration, for example, in the embodiment, a desk in which all of the panel system PS, the task light TL, and the blind panel EP are provided for a single base 2 can be also obtained.

[0084] In the case where a plurality of desks are arranged so that a plurality of bases are continued in the longitudinal direction, preferably, an option supporting

member provided so as to be movable to one base can be moved from the one base to another base adjacent thereto. With such a configuration, an optional member supported by the option supporting member can be moved from one base to another base adjacent thereto, and the flexibility of the place of disposing an optional member can be further improved. In this case, by providing passage permission parts for permitting passage of the option supporting member for both ends of the base or end caps attached to both ends of the base, excellent movement of the option supporting member can be assured. Examples of the passage permission parts are the guide itself provided for the base, and a notch or a slit formed in a part corresponding to the guide in the end cap.

[0085] Any top board may be employed as long as its posture with respect to the base can be selected from a plurality of postures. A top board supported by a top board supporting member so that it cannot turn in the horizontal direction, a top board supported only by being simply put on a top board supporting member, or a top board which is not supported by the base and the top board supporting member but is supported by one or plural legs and uses an independent base may be applied. The top board is not limited to the gourd shape or the rectangular shape in the foregoing embodiments but may have various shapes such as a circular shape, an ellipse shape, and a polygonal shape in plan view.

[0086] As shown in FIG. 4B, a desk may be employed in which a plurality of top boards are provided for a single base according to the business style, the kind of a work, the number of people, and the like.

[0087] As the base, in place of the base whose both ends are supported by the base supporting member and whose under face is separated (lifted) from the floor, a base whose under face is in contact with the floor and having an upright wall shape also functioning as a front panel may be used.

[0088] The concrete configurations of the other parts are not limited to those of the foregoing embodiments but can be variously modified without departing from the gist of the present invention.

[0089] The present invention provides a desk with which flexibility of a change in the position of an optional member with respect to a base is increased, and by which the position of an optional member with respect to the base can be changed easily and accurately in accordance with the posture of a top board with respect to the base. A desk includes: a base extending in a predetermined direction; a top board capable of selecting a plurality of postures with respect to the base; an option supporting member supported so as to be movable along the base in accordance with the posture of the top board; and a panel system and a task light supported by the option supporting member.

Claims**1.** Furniture comprising:

a base extending in a predetermined direction; 5
 a top board capable of selecting a plurality of postures with respect to the base;
 an option supporting member supported so as to be movable along the base in accordance with the posture of the top board; and 10
 an optional member supported by the option supporting member.

2. Furniture comprising:

a base extending in a predetermined direction; 15
 a top board capable of selecting a plurality of postures with respect to the base;
 an option supporting member supported so as to be movable along the base in accordance with the posture of the top board; and 20
 an optional member supported by the option supporting member,

wherein the option supporting member can move together with the optional member along the base in a state where the option supporting member supports the optional member. 25

3. The furniture according to claim 1 or 2, wherein the option supporting member supports one or more optional members selected from a plurality of optional members of different kinds. 30**4.** The furniture according to claim 1, 2, or 3, wherein the option supporting member detachably supports the optional member. 35**5.** The furniture according to claim 1, 2, 3, or 4, wherein the option supporting member supports the optional member so as to be horizontally turnable. 40**6.** The furniture according to claim 1, 2, 3, 4, or 5, wherein the base is provided with a guide for guiding movement of the option supporting member, and the option supporting member is provided with a guided part which is guided by the guide. 45**7.** The furniture according to claim 6, wherein the guide is a rail formed along an extension direction of the base. 50**8.** The furniture according to claim 7, wherein the guided part is an insertion part capable of moving along the rail in a state where it is inserted in the rail. 55**9.** The furniture according to claim 1, 2, 3, 4, 5, 6, 7, or 8, wherein the optional member as one of the plurality

of optional members of different kinds is a storage comprising:

a storage body having a storage space therein; and
 a leg for holding the storage body at a predetermined level.

10. The furniture according to claim 9, wherein the base has a plurality of guides provided continuously along the extension direction and guiding movement of the option supporting member, a plurality of optional members of different kinds can be attached by using the option supporting member supported by the guides, and the height of the leg of the storage supported by the option supporting member guided by one guide is set so that interference between the storage body and another optional member can be avoided when the storage and another optional member supported by an option supporting member guided by another guide pass each other.**11.** The furniture according to claim 9 or 10, wherein the storage has a single storage body and a plurality of legs, and the legs support regions in the storage body to balance the storage body.**12.** The furniture according to claim 9 or 10, wherein the storage has a single storage body and a plurality of legs, the storage space of the storage body opens at least to the user side, and a pair of legs support regions displaced to the side opposite to the opening in the storage body.

FIG. 1

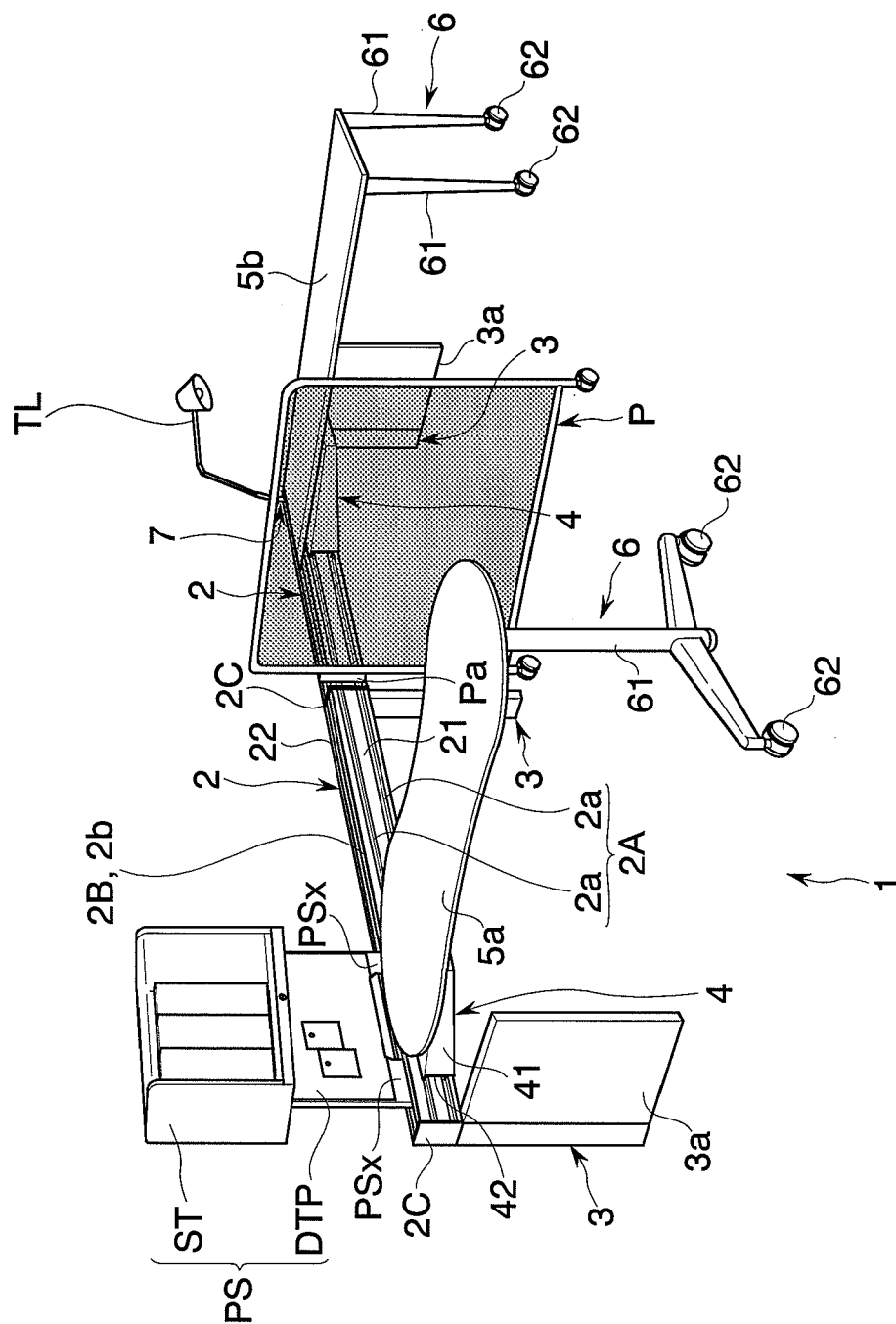


FIG.2A

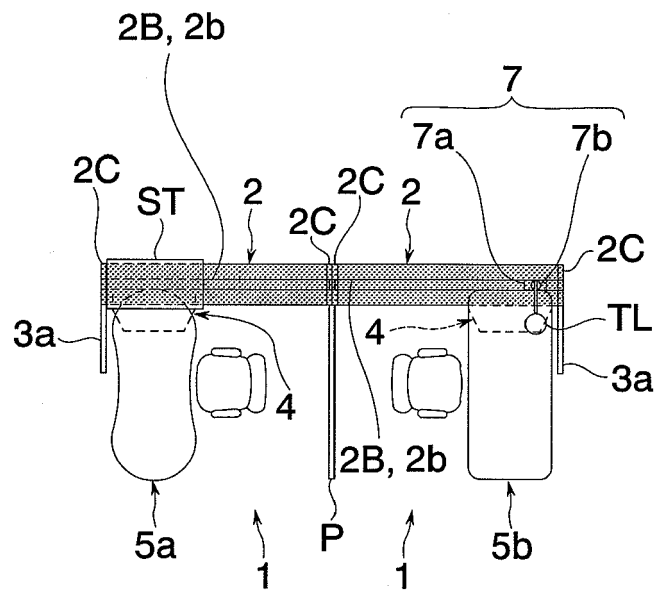


FIG.2B

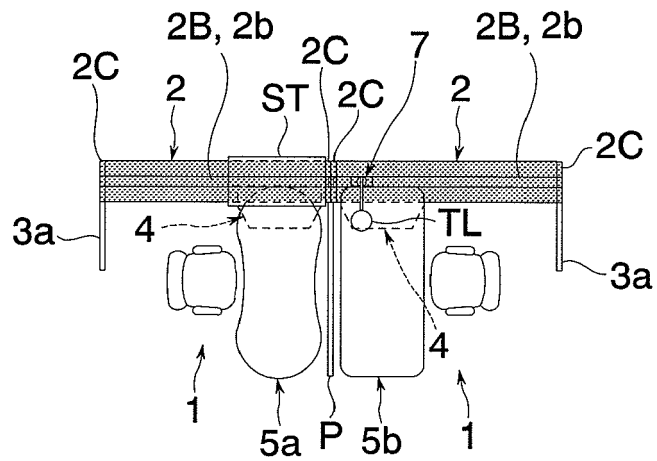


FIG.2C

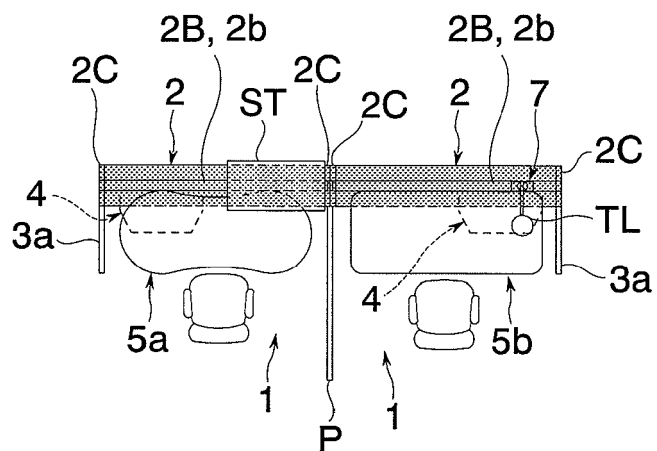


FIG. 3

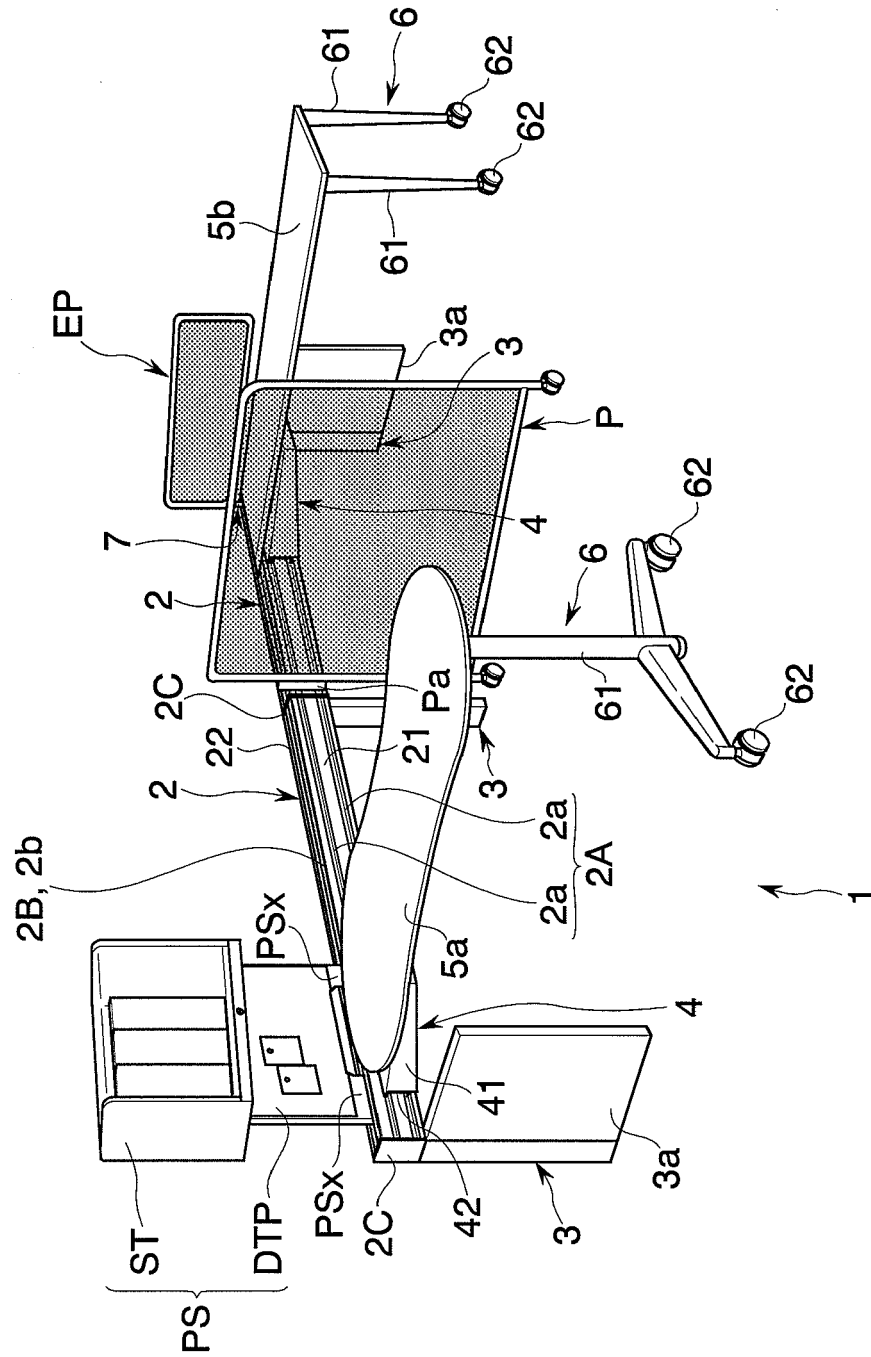


FIG.4A

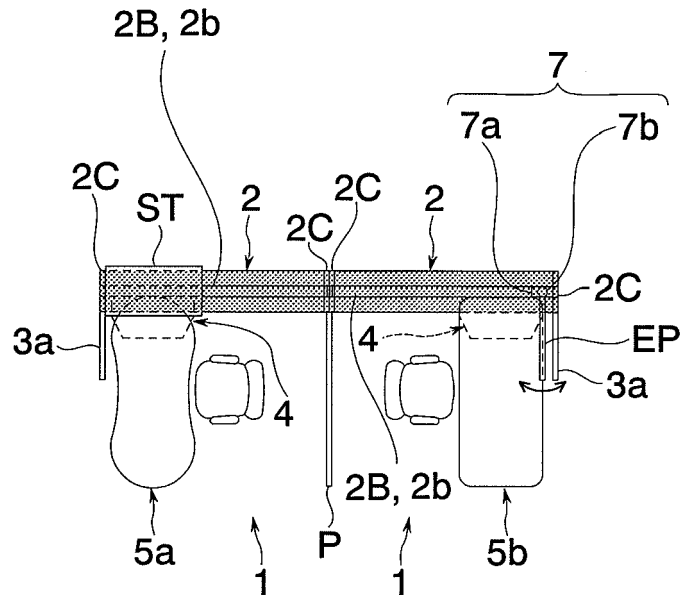


FIG.4B

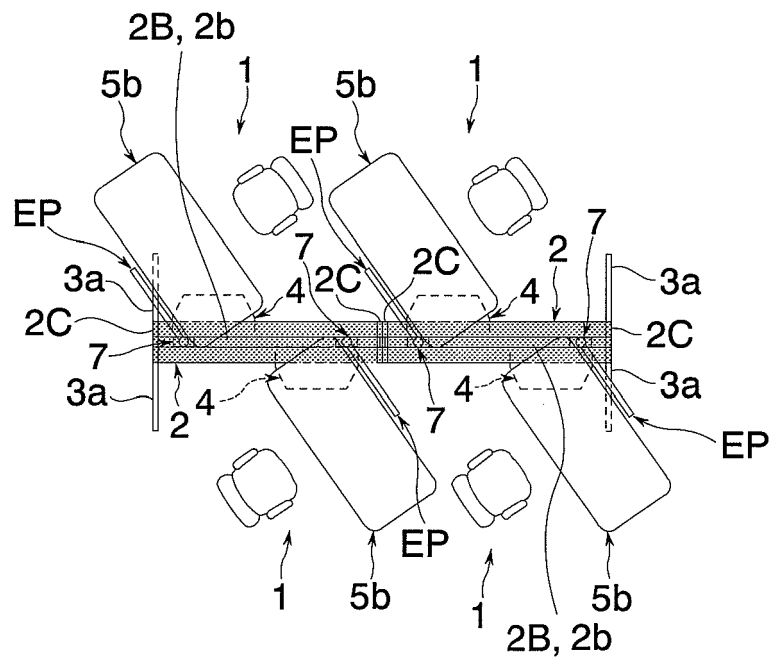


FIG.5A

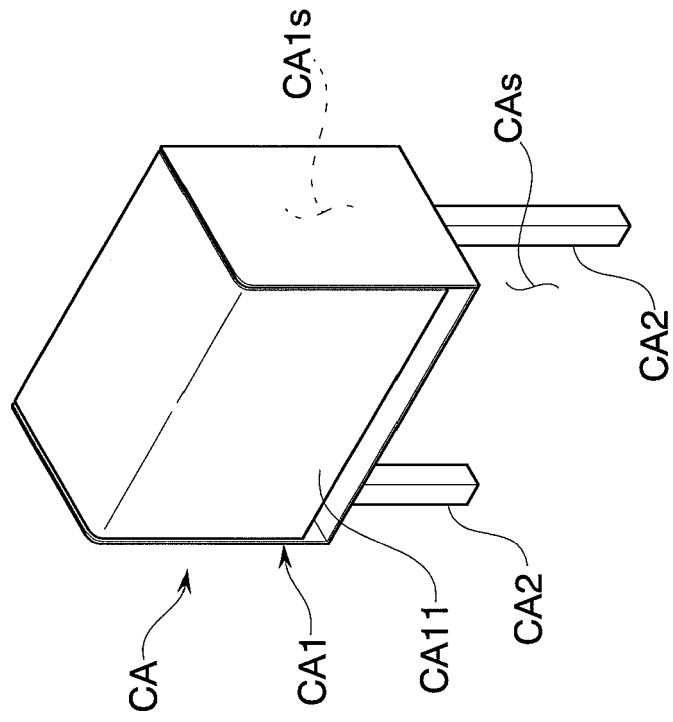


FIG.5B

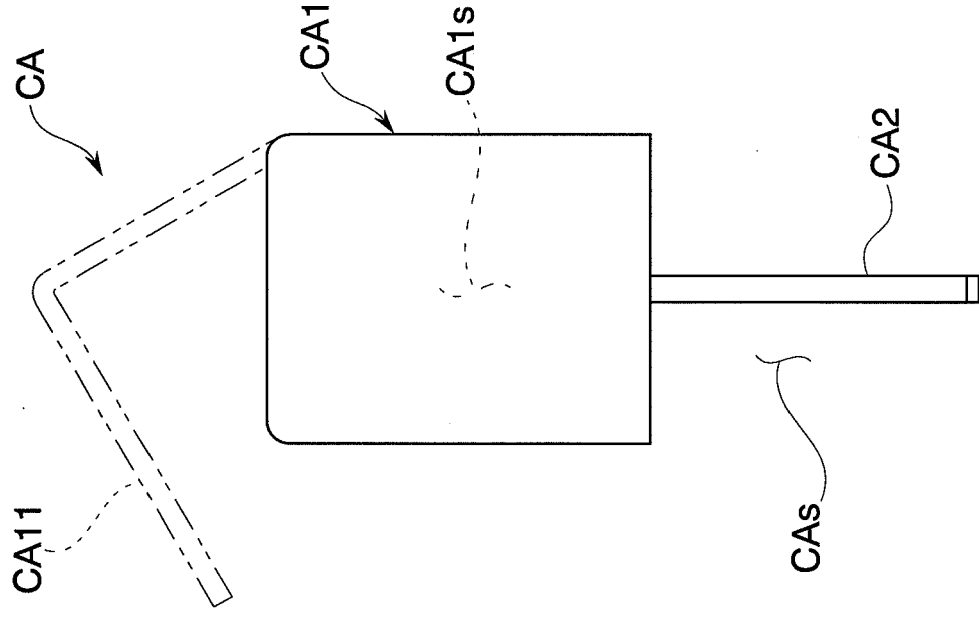


FIG. 6

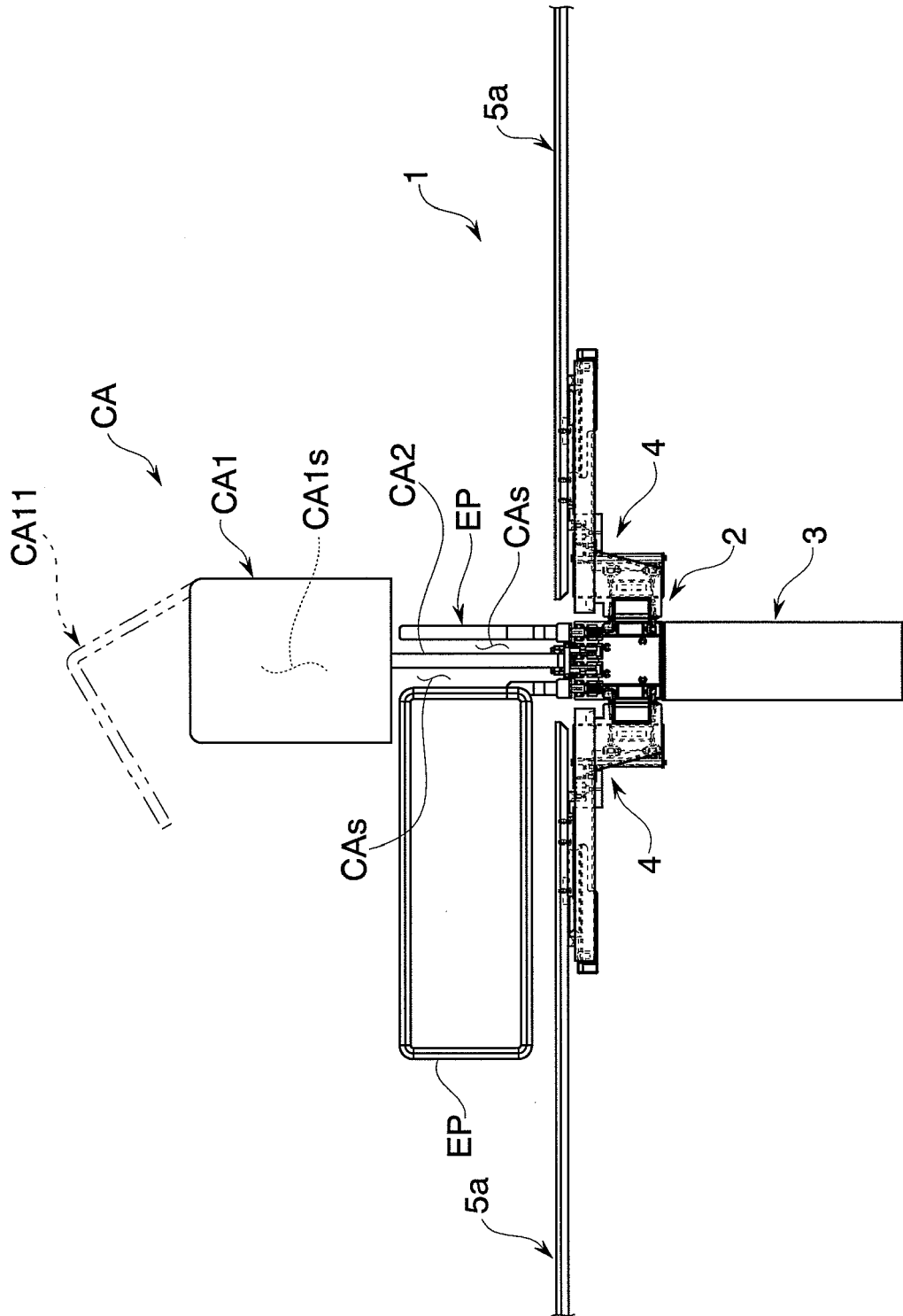


FIG.7A

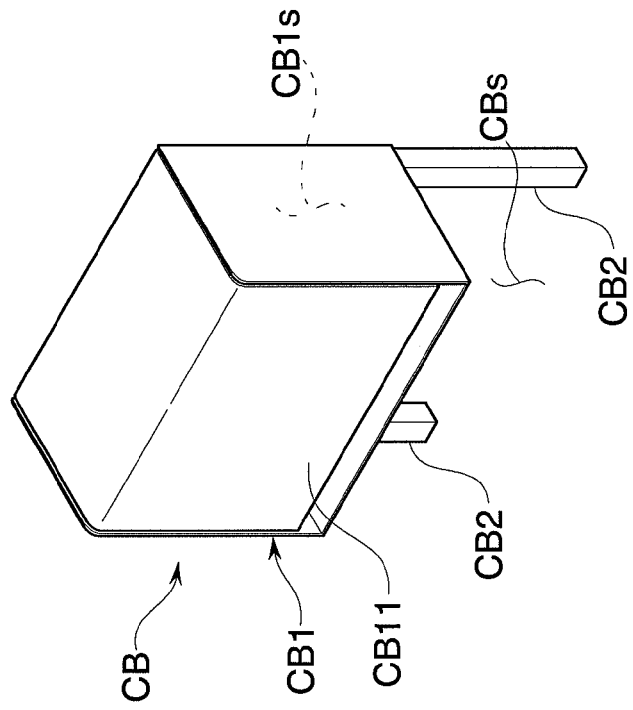


FIG.7B

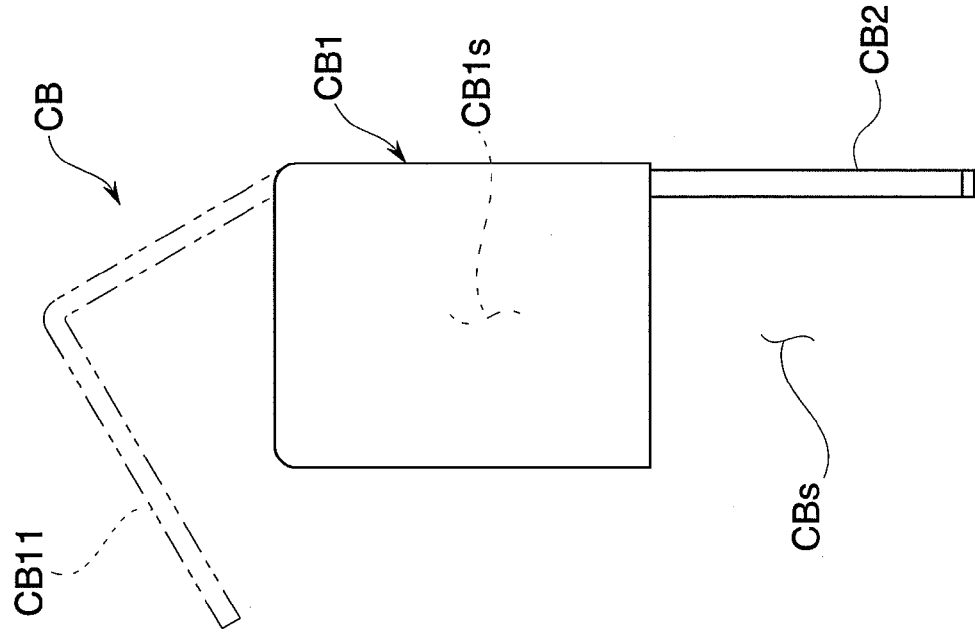


FIG.8

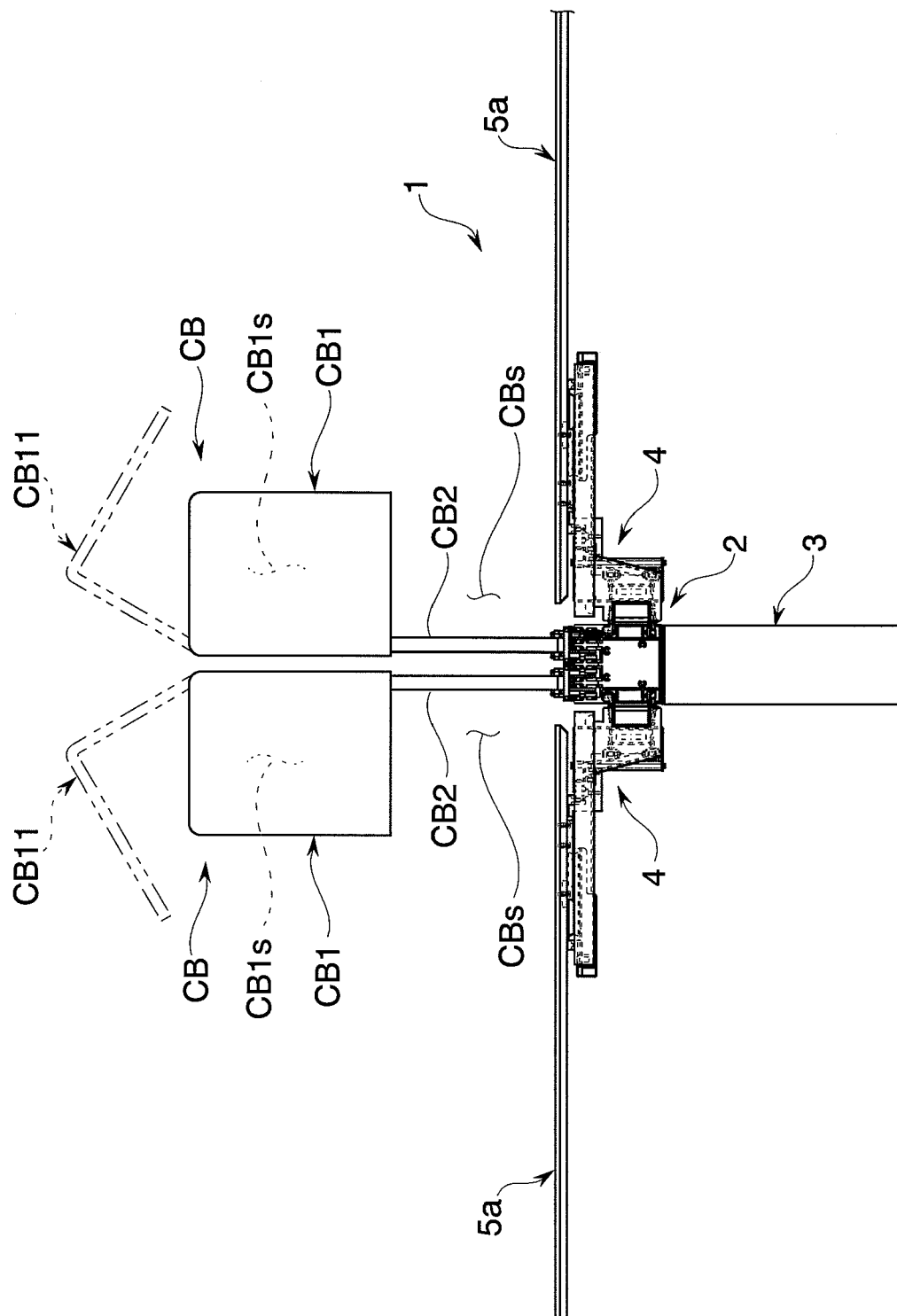
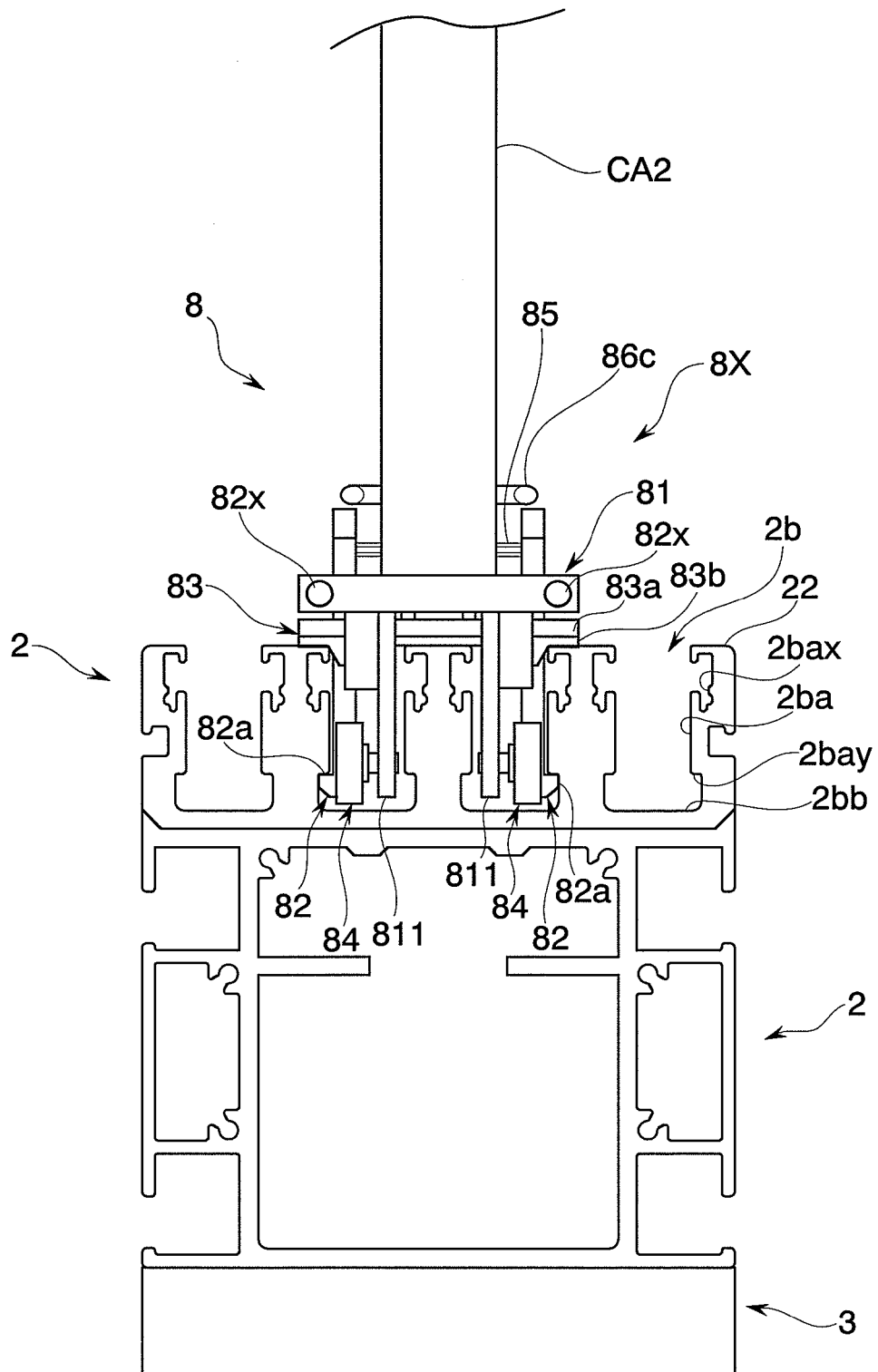


FIG.9



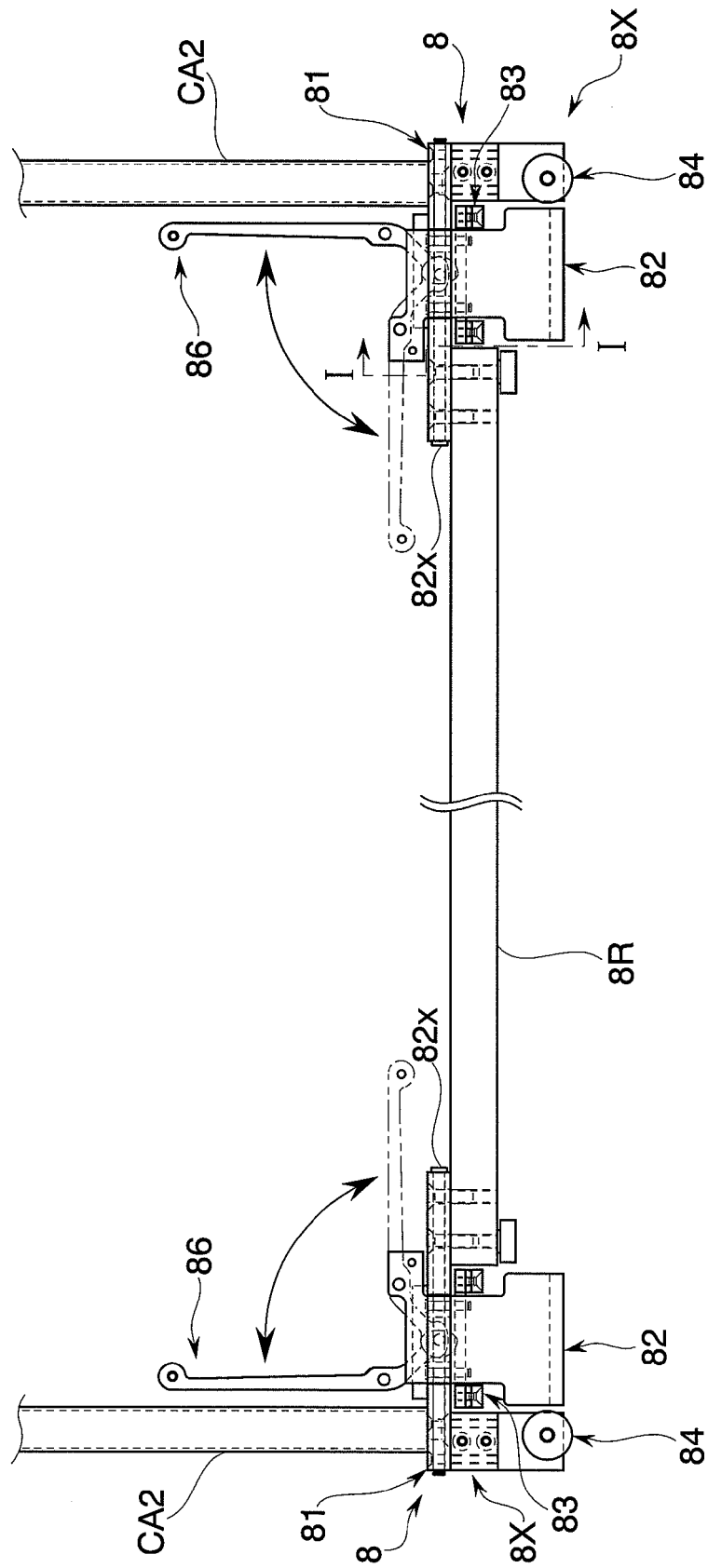


FIG. 10

FIG.11

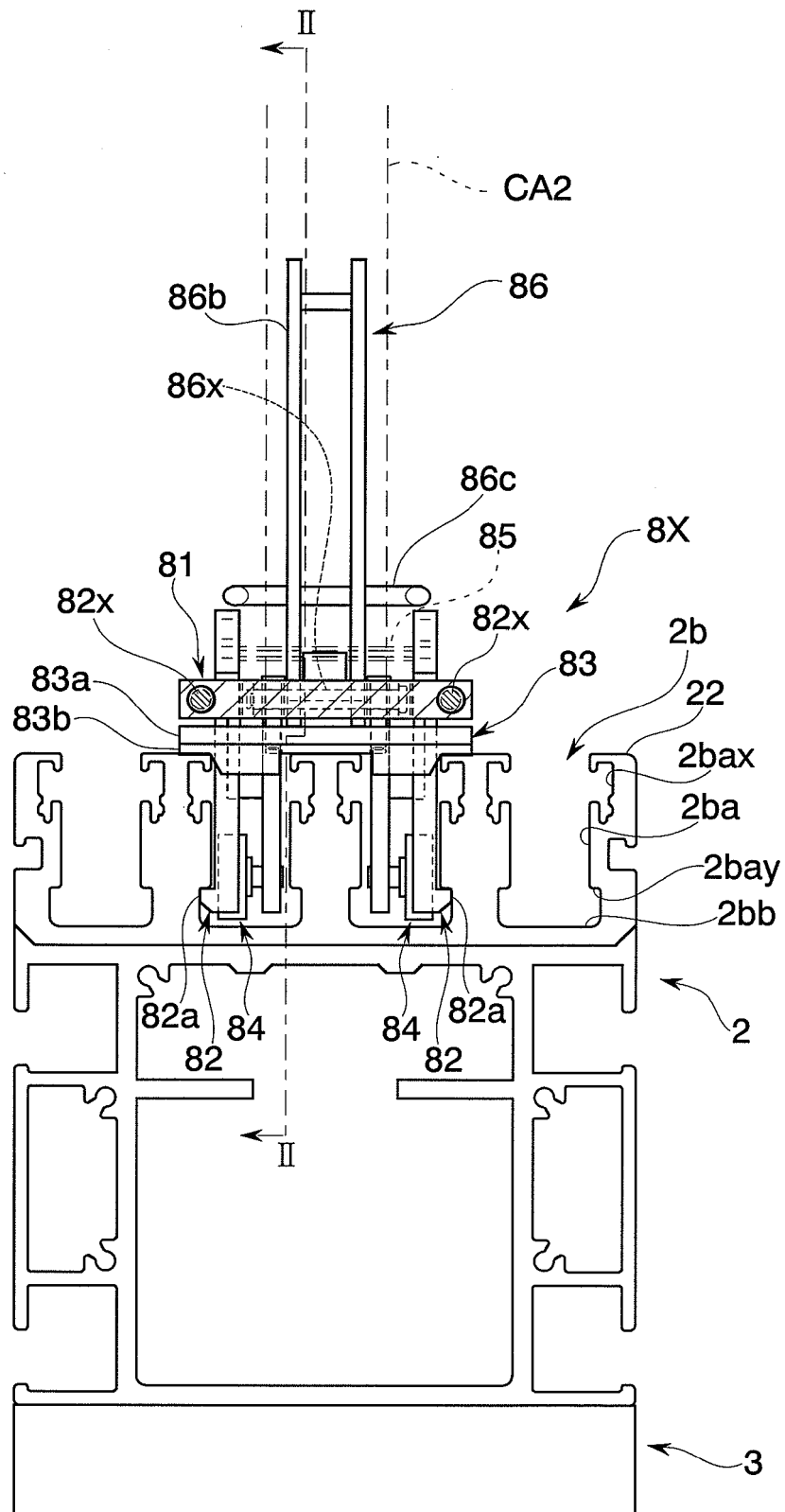


FIG.12

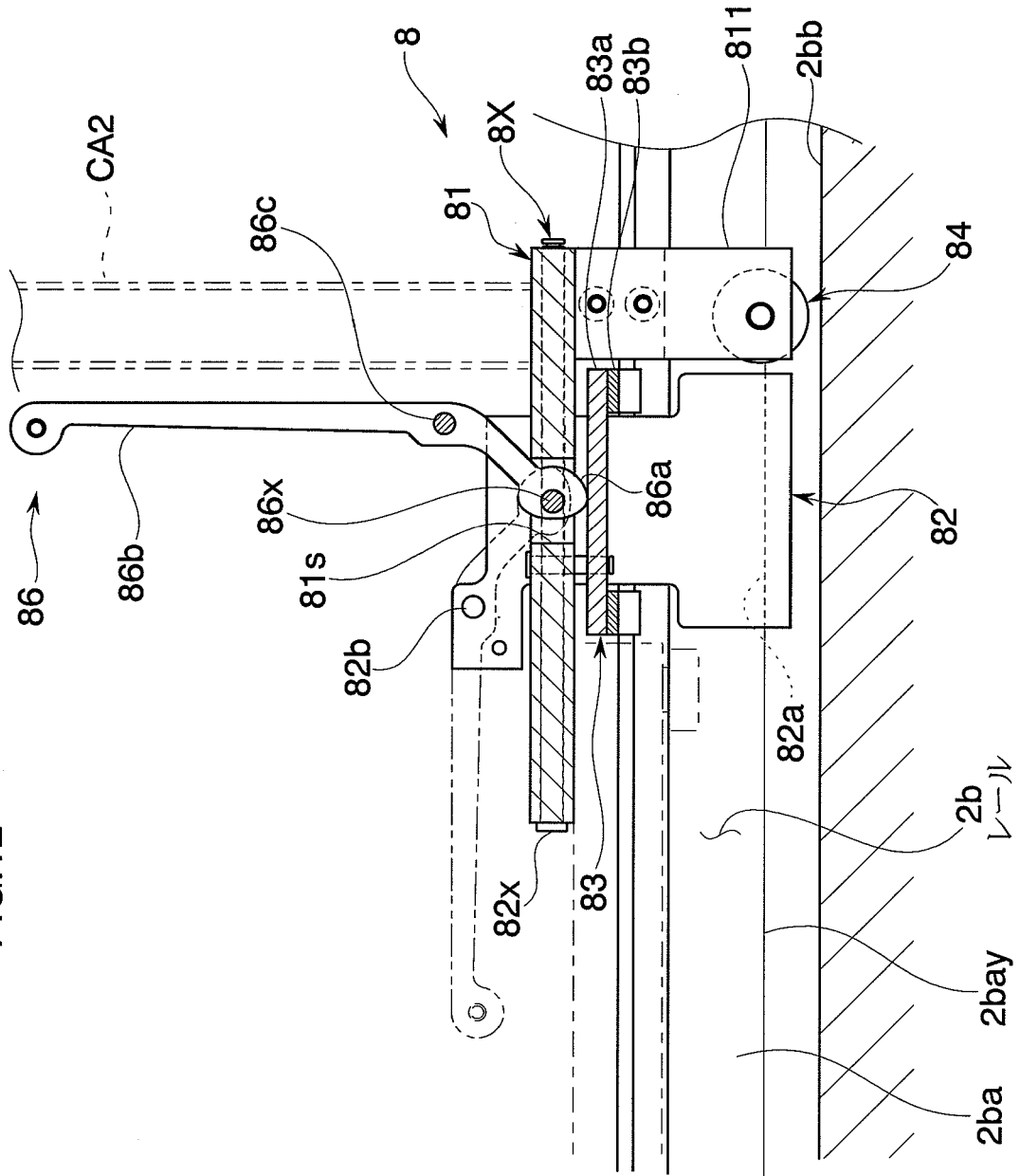


FIG.13

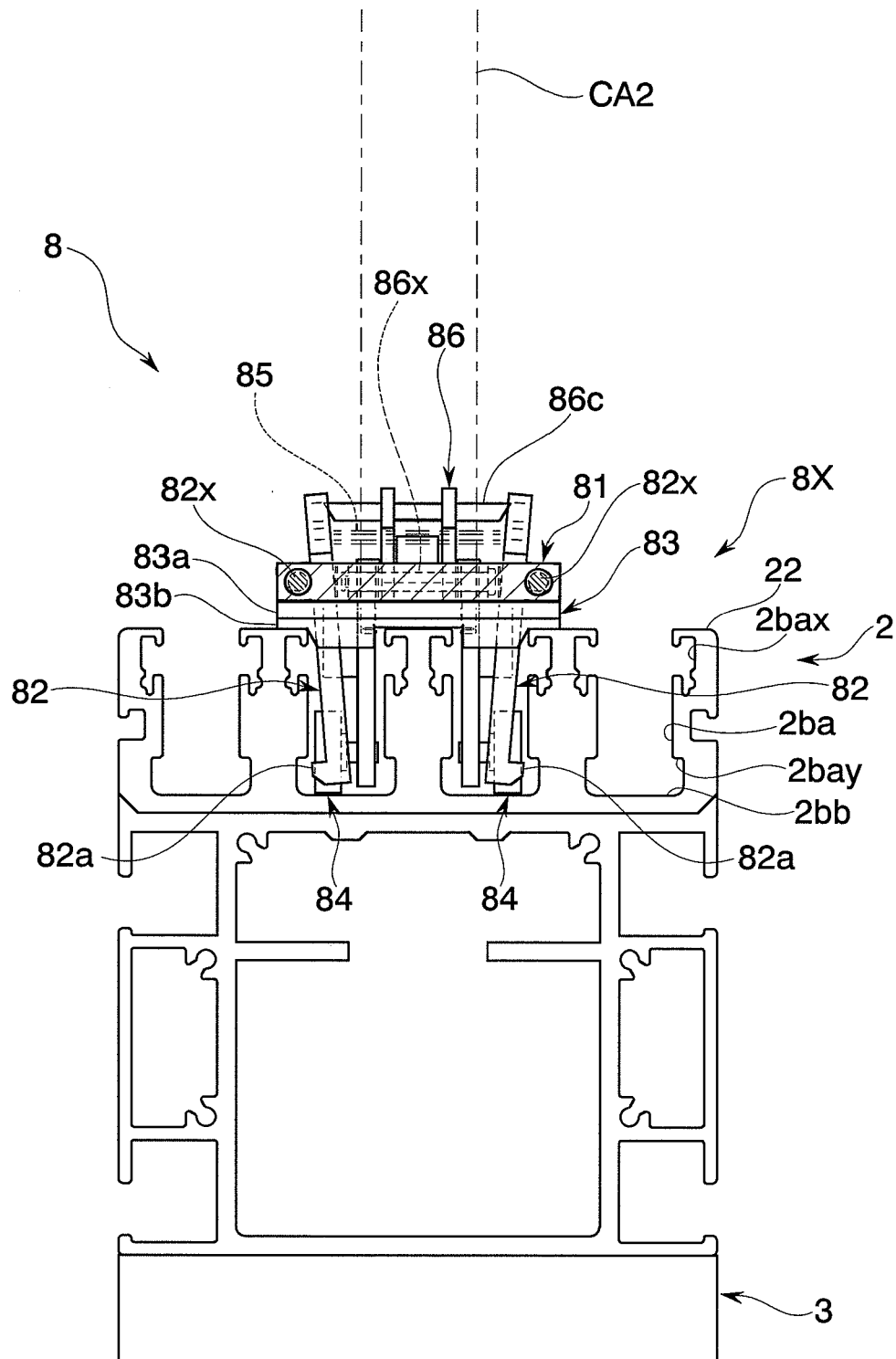


FIG.14

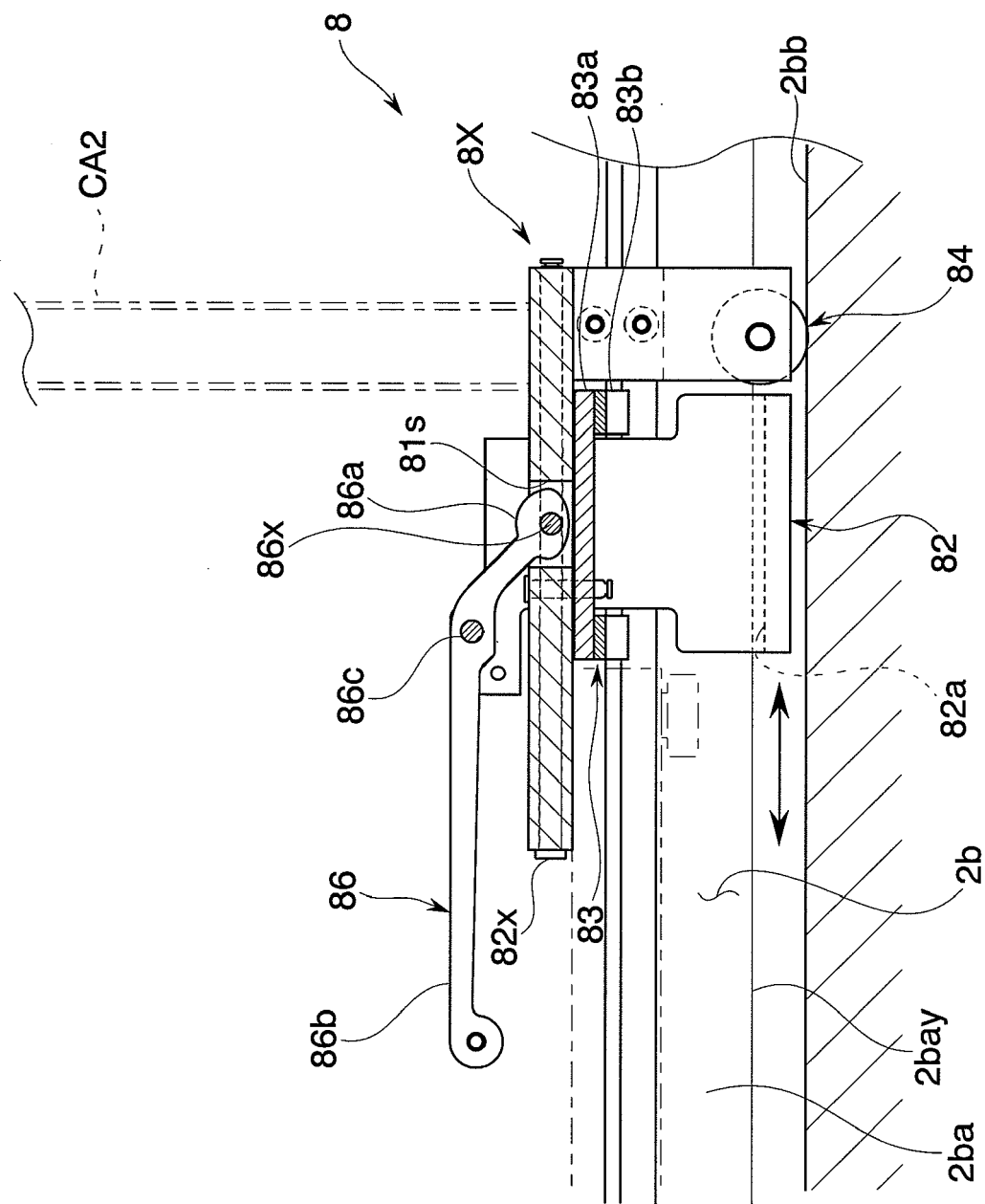
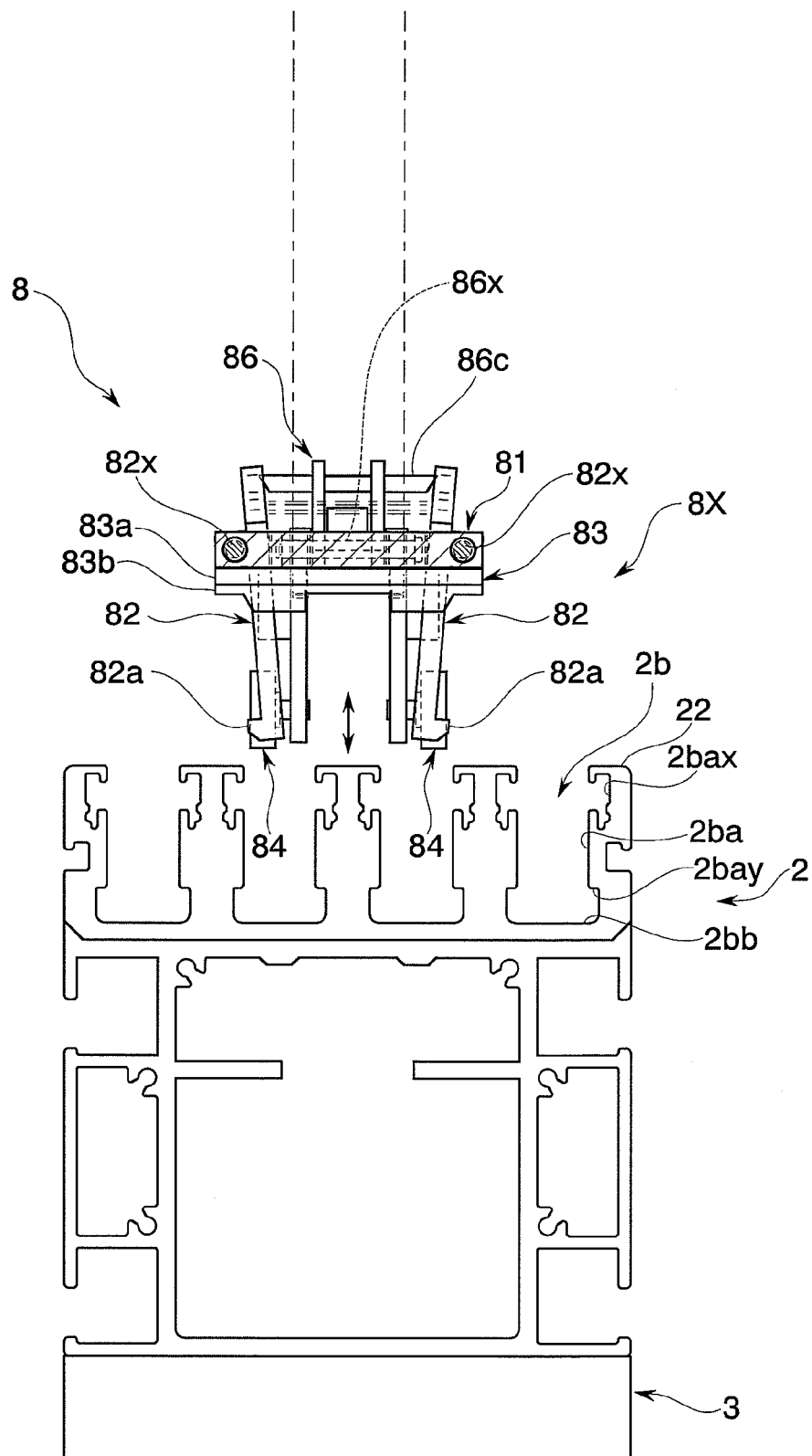
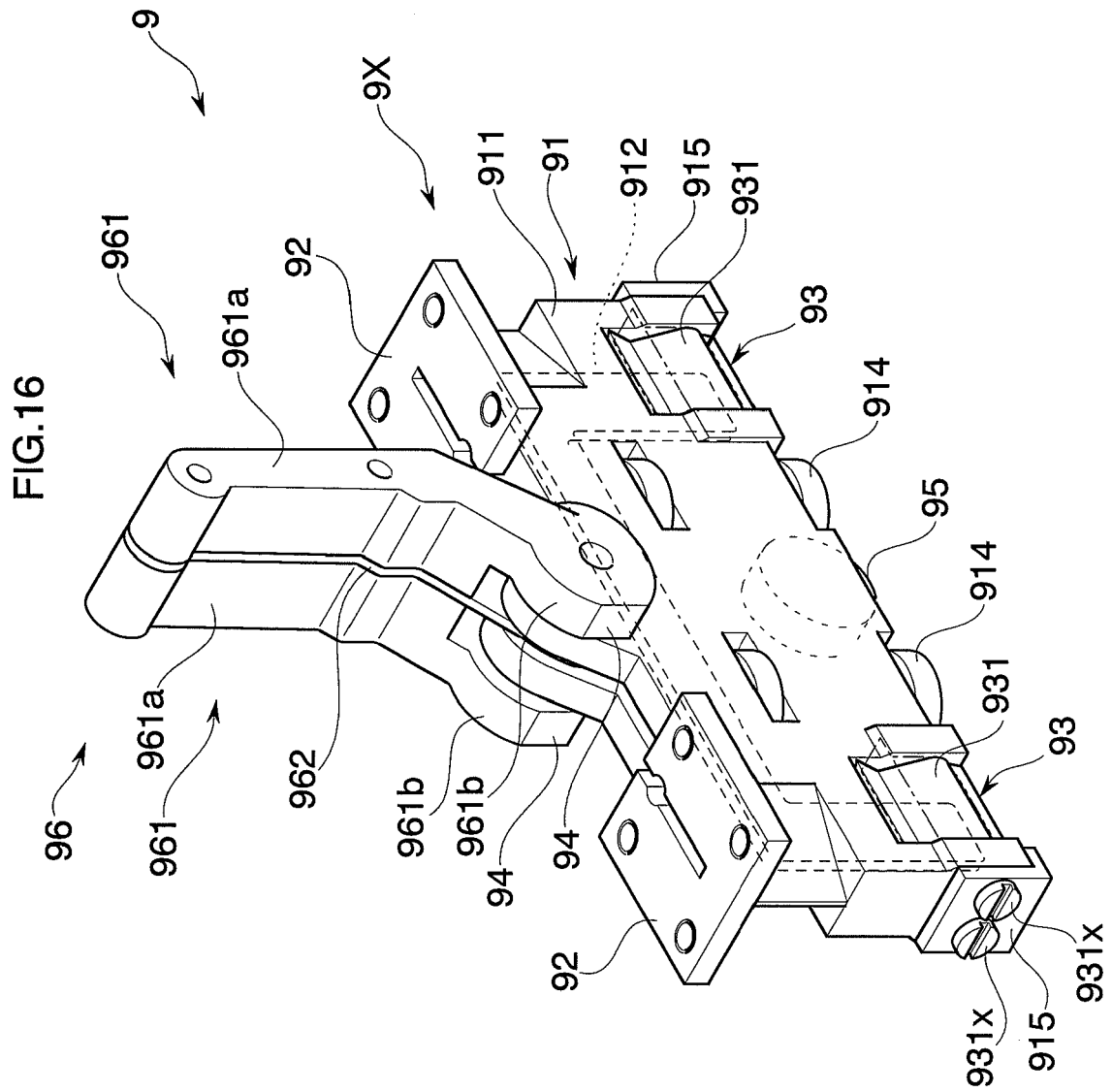


FIG.15





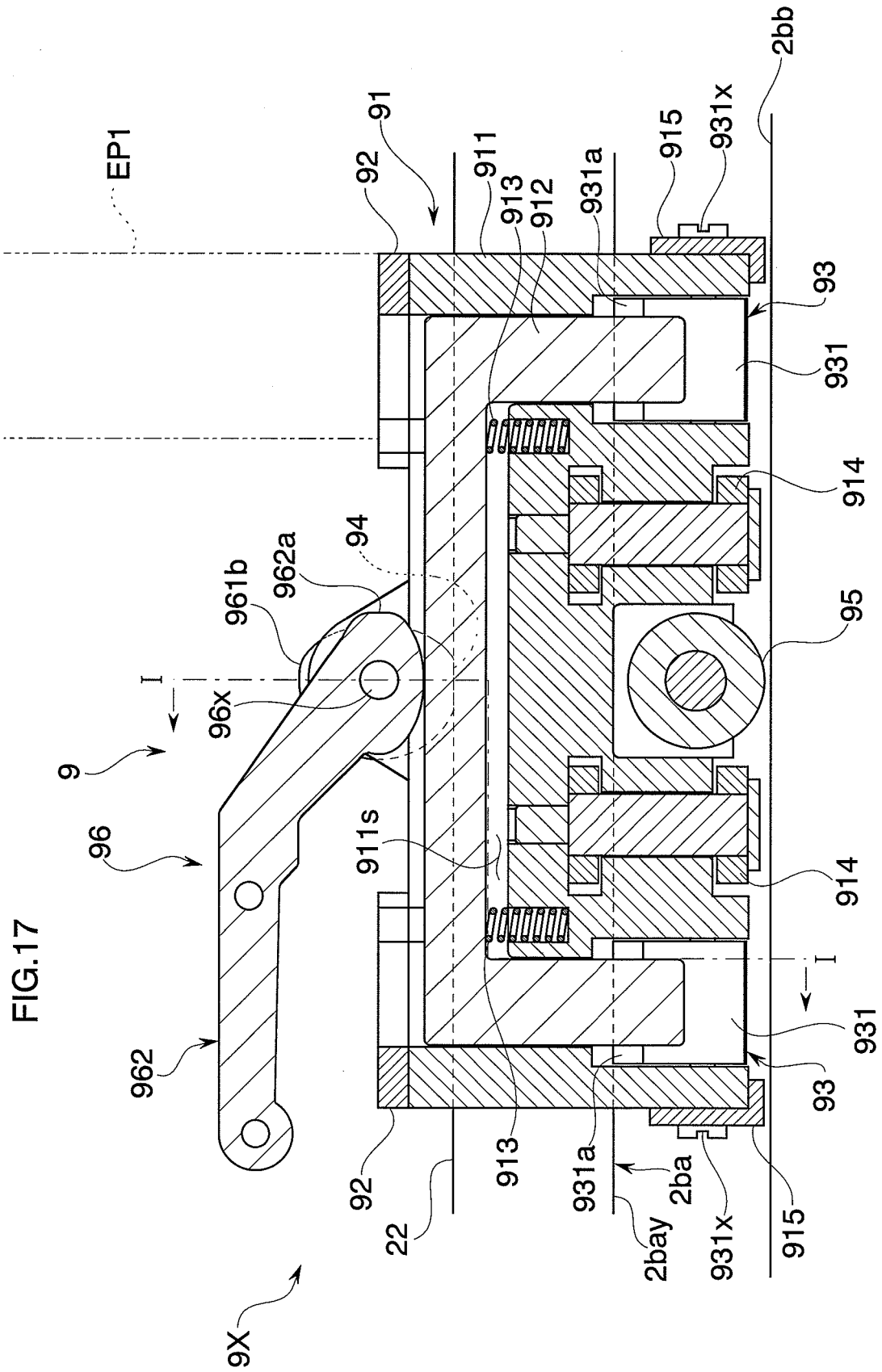
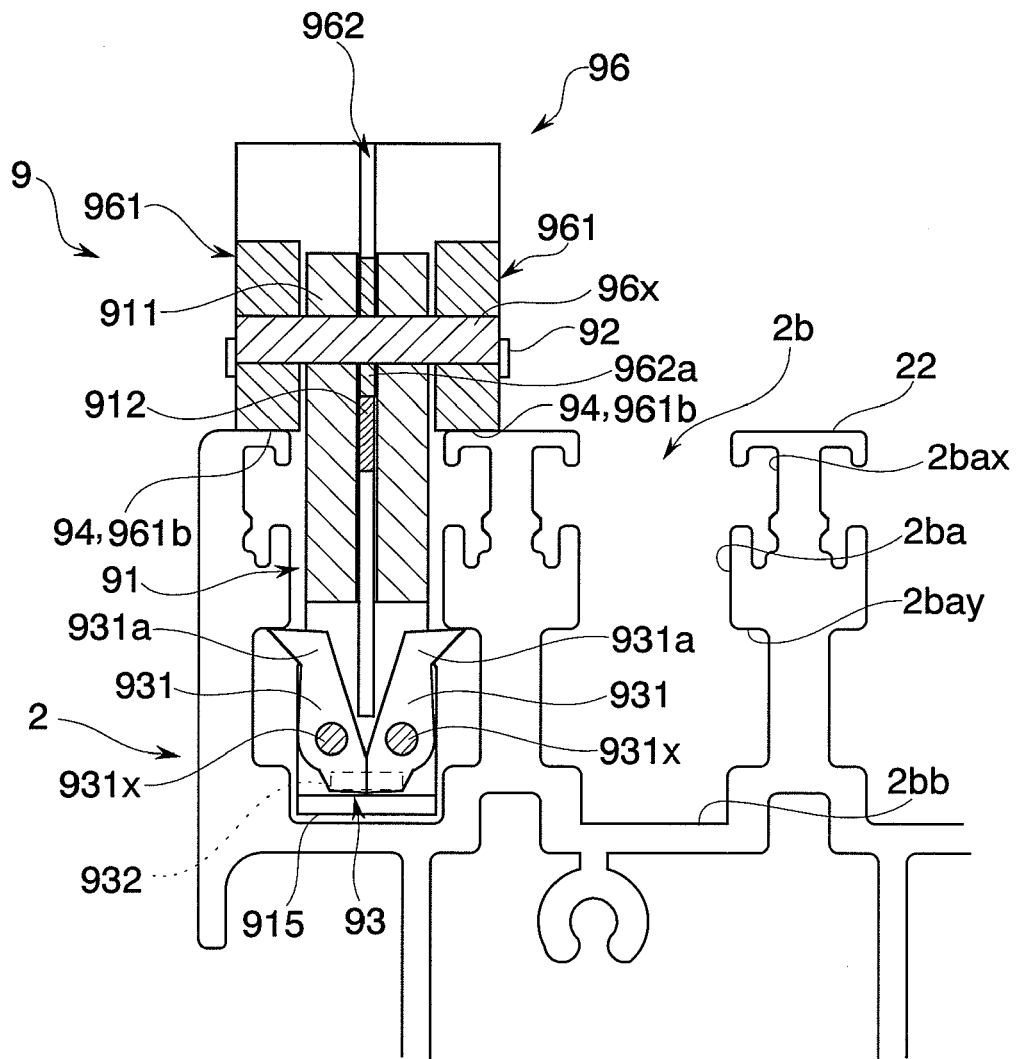


FIG.18



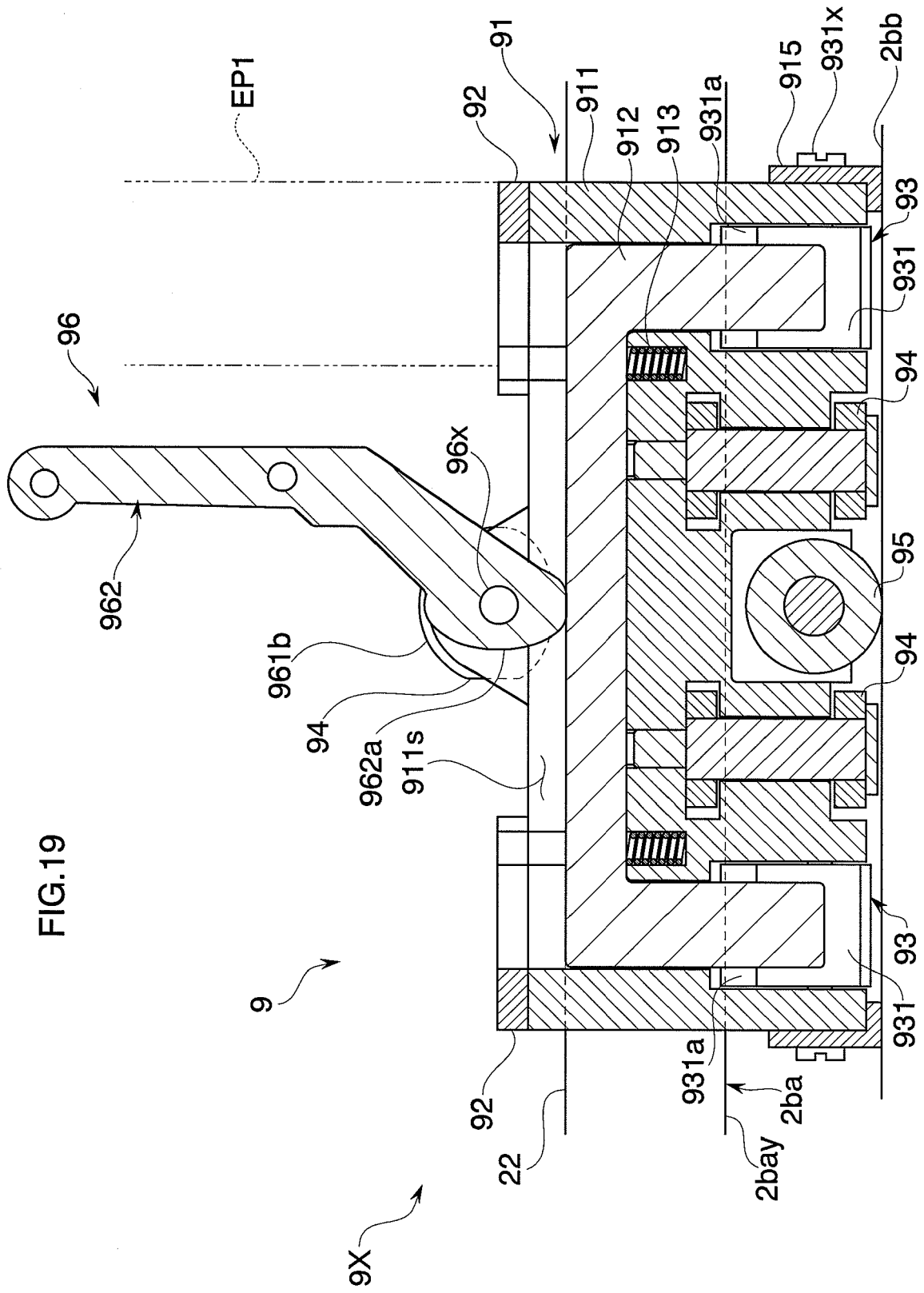
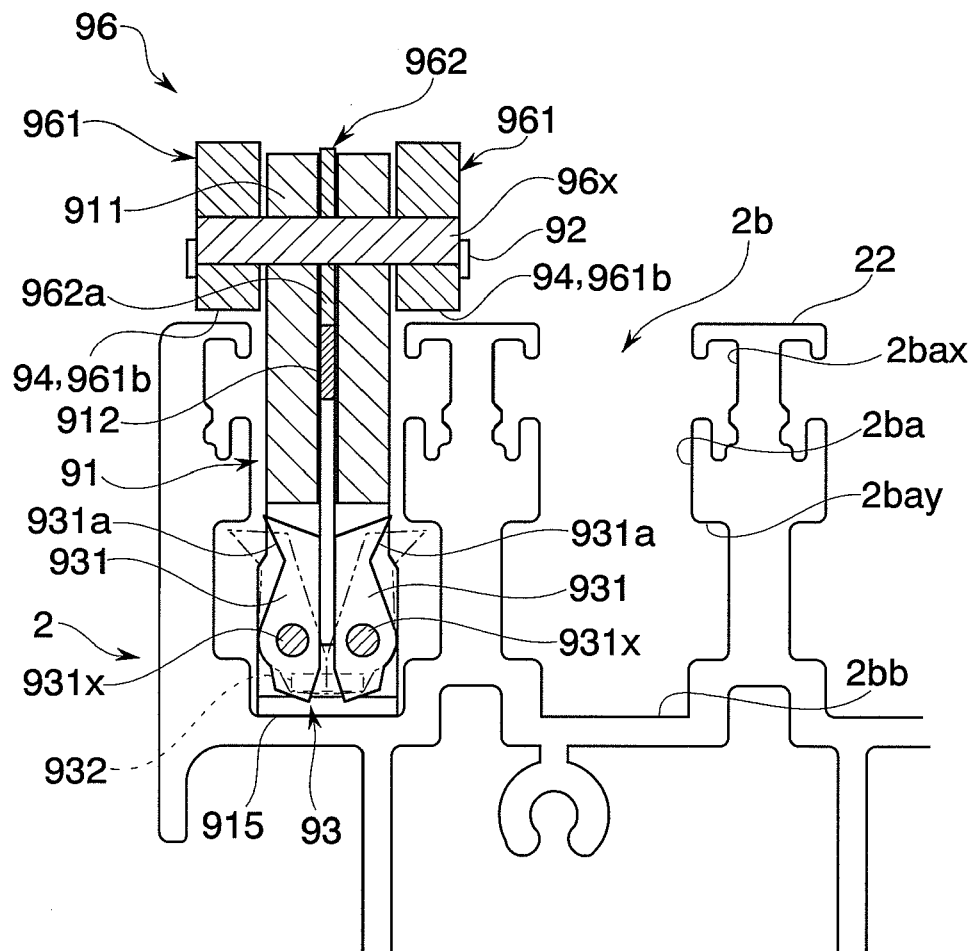


FIG.20



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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