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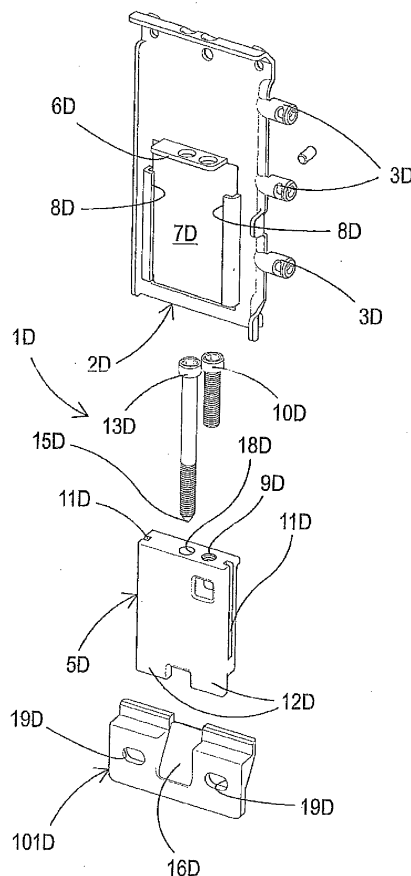
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(54) **ANCHORING GROUP FOR WALL CUPBOARDS WITH REGULATION FROM ABOVE**

(57) An adjustable anchoring group (100A, 100B, 100C, 100D) for the wall assembly (M) of wall cupboards (P) comprises a hanging bracket device (1A, 1B, 1C, 1D) equipped with at least one anchoring flange (2A, 2B, 2C, 2D) to a wall cupboard (P) and a hook (12A, 12B, 12C, 12D). Said group also comprises an anchoring plaque (101A, 101B, 101C, 101D) to a wall (M). According to the invention, said hanging bracket device (1A, 1B, 1C, 1D) comprises a slide (5A, 5B, 5C, 5D) which slides linearly with respect to said flange (2A, 2B, 2C, 2D) in a first direction, said hook (12A, 12B, 12C, 12D) being at least partly associated with said slide (5A, 5B, 5C, 5D) and being movable with respect to the latter in at least a second direction substantially perpendicular with respect to said first direction, regulation means and actuation means, both accessible from above, being associated with said slide and said hook, respectively.

Fig. 16



## Description

**[0001]** The present invention relates to an anchoring group for the wall assembly of wall cupboards with regulation from above.

**[0002]** The term "anchoring group" refers herein to the combination of a plaque (support) which can be fixed to the wall by means of screws and/or pegs, and an anchoring device (so-called hanging bracket) comprising a hook which can be fixed to the cupboard.

**[0003]** These anchoring groups are typically adjustable, in the sense that the hanging bracket can be moved with respect to the supporting plaque to allow a regulation in height (vertical) and a regulation in depth (horizontal), in order to correctly position the cupboard on the wall, also with respect to other adjacent pieces of furniture.

**[0004]** It should be pointed out that wall cupboards are normally equipped with a rear wall, called "lining", which is typically produced by means of a panel made of plywood or thin wood.

**[0005]** The lining has a purely aesthetic function for closing the rear of the cupboard and cannot have any structural function: its thickness is in fact too thin to be able to hang the cupboard by fixing the hanging bracket to this alone.

**[0006]** The hanging bracket of the anchoring group must therefore be mainly fixed to the structural parts of the cupboard, such as for example, the side shoulders, which, on the other hand, have a supporting function, with a thickness and resistance adequate for the purpose.

**[0007]** Various types of anchoring groups are generally known, all having double regulation, in height and depth.

**[0008]** These anchoring groups generally have relatively complex structures or a non-intuitive actuation, with the result that regulation in height and depth can be quite inconvenient.

**[0009]** Furthermore, in these groups, there are commonly holes in the lining, through which a tool is passed, which acts on the screws for effecting the above regulations in horizontal and vertical.

**[0010]** Perforation of the lining, however, may not be desirable, as the wall cupboard may, for example, have a certain value and visible holes left in the lining would ruin it.

**[0011]** This can be the case with cupboards without closing doors or having partially transparent doors (for example, made of glass, as in the case of glass cabinets or the like), in which holes in the lining are visible.

**[0012]** The objective of the present invention is to overcome the drawbacks discussed above.

**[0013]** The present invention also proposes an alternative to the known groups and those already on the market.

**[0014]** These and other objectives are achieved by an anchoring group produced according to claim 1 enclosed.

**[0015]** Further advantageous characteristics are object of the enclosed dependent claims, which should be

considered as being an integrant part of the present description.

**[0016]** The group, object of the present invention, advantageously comprises a wall cupboard equipped with at least one flange destined for being fixed to the cupboard and a first cursor which can be moved linearly with respect to the flange to regulate the vertical position of the cupboard; said first cursor also comprises regulation means of the position of the hook of the hanging bracket (anchoring device), to allow a regulation in horizontal.

**[0017]** The movements of the first cursor and horizontal regulation means of the cupboard are advantageously obtained by means of regulation screws with an axis parallel to each other and parallel to the lining of the wall cupboard (in an assembled condition on a wall), so that the position of the latter can be regulated, in both a vertical and horizontal direction, acting from above, without there being any holes in the lining.

**[0018]** Further characteristics and advantages will be more evident from some embodiments of the invention with reference to the enclosed figures, in which:

- figure 1 is an exploded perspective view illustrating the hanging bracket of an anchoring group not part of the invention;
- figure 2 is a partial cross-section and sectional perspective view of the hanging bracket of figure 1 assembled;
- figure 3 is a raised front view of the wall cupboard of figure 1 assembled;
- figure 4 is a sectional view of the anchoring group (plaque and hanging bracket) according to a first embodiment in an assembled condition;
- figure 5 is a perspective view of the group of figure 4 in an operative condition assembled on a cupboard;
- figure 6 is an exploded perspective view illustrating the hanging bracket of a second embodiment of an anchoring group not part of the invention;
- figure 7 is a partial cross-section and sectional perspective view of the hanging bracket of figure 6 assembled;
- figure 8 is a perspective view of the hanging bracket of figure 6;
- figure 9 is a sectional view illustrating the anchoring group of figures 6-8 in an assembled condition;
- figure 10 is a perspective view of the group of figure 9 in an operative condition assembled on a wall cupboard;
- figure 11 is an exploded perspective view illustrating the hanging bracket of an anchoring group according to a third embodiment not part of the invention;
- figure 12 is a partial cross-section and sectional perspective view of the hanging bracket of figure 11 assembled;
- figure 13 is a raised front view of the hanging bracket of figure 12;
- figure 14 is a sectional view illustrating the third em-

- bodiment of the anchoring group in an operative condition, assembled;
- figure 15 is a perspective view of the group of figure 14 in an operative view assembled on a wall cupboard;
  - figure 16 is an exploded perspective view illustrating a fourth embodiment of an anchoring group according to the present invention;
  - figure 17 is a sectional view of the groups of figure 16 assembled;
  - figure 18 is a raised front view of the groups of figures 16 and 17;
  - figure 19 is a sectional view of the group of figures 16 to 18 in an operative condition, assembled;
  - figure 20 is a perspective view of the group of figures 16 to 19 in an operative condition, assembled on a wall cupboard;
  - figure 21 is a perspective view illustrating a fifth embodiment of an anchoring group not part of the invention; and
  - figures 22-24 are views illustrating the group of figure 21 fixed in an operative condition on a wall cupboard.

**[0019]** Four different embodiments, indicated with the reference numbers (100A, 100B, 100C, 100D), of an adjustable anchoring group (figures 1-20), will be discussed in the description hereunder.

**[0020]** Embodiment 100D of figs.16-20 is part of the present invention.

**[0021]** A fifth embodiment of the group not part of the invention is illustrated in figures 21-24 and is indicated as a whole with 200.

**[0022]** As will appear evident below, the characteristics of said fifth embodiment (figures 21-24) can also be applied to all other four embodiments (figures 1-20).

**[0023]** With reference to all the figures 1-20 enclosed, the examples of the group 100A, 100B, 100C, 100D each comprise a hanging bracket device 1A, 1B, 1C, 1D which can be fixed to the wall cupboard P and are suitable for being engaged on a plaque 101A, 101B, 101C, 101D which can be fixed to a wall M by means of screws and/or pegs.

**[0024]** The wall cupboard P can comprise, for example, shoulders S, a top C and a rear lining FO.

**[0025]** Each hanging bracket 1A, 1B, 1C, 1D in turn comprises an anchoring flange 2A, 2B, 2C, 2D to the cupboard P and a hooking means 12A, 12B, 12C, 12D which is engaged with the wall plaque 101A, 101B, 101C, 101D.

**[0026]** Each hanging bracket 1A, 1B, 1C, 1D also comprises a slide 5A, 5B, 5C, 5D which slides linearly with respect to the flange 2A, 2B, 2C, 2D in a first direction F, whereas the hook 12A, 12B, 12C, 12D is at least partially associated with the slide 5A, 5B, 5C, 5D and can be moved with respect to the latter in at least a second direction F1 substantially perpendicular with respect to the first direction.

**[0027]** In this way, a regulation of the wall cupboard P

is obtained in two direction F, F1 perpendicular to each other, specifically in vertical (height) and horizontal (depth).

**[0028]** Generically speaking, each flange 2A, 2B, 2C, 2D of the various examples described in detail hereunder, comprises fixing elements 3A, 3B, 3C, 3D for fixing to the wall cupboard P.

**[0029]** More specifically, the fixing elements 3A, 3B, 3C, 3D extend from a side edge of the flange 2A, 2B, 2C, 2D and are substantially parallel to the extension of the latter in plan, so as to be engaged with one of the shoulders S (i.e. the side walls) of the wall cupboard P.

**[0030]** Preferably, the fixing elements 3A, 3B, 3C, 3D are in the form of fixing pins and there can be one, two or three of them, even if in the examples shown there are three of them.

**[0031]** Each flange 2A, 2B, 2C, 2D also comprises sliding rails 8A, 8B, 8C, 8D which cooperate with the relative slides 5A, 5B, 5C, 5D which comprise sliding guides 11A, 11B, 11C, 11D destined for cooperating with the respective rails 8A, 8B, 8C, 8D to guide the sliding of the slide 5A, 5B, 5C, 5D in the first direction, preferably in a vertical direction in an assembled condition, this direction being substantially perpendicular to the axis of the fixing pins 3A, 3B, 3C, 3D.

**[0032]** Again generically speaking, the various examples of the device 1A, 1B, 1C, 1D comprise regulation means for controlling the sliding of the respective slide 5A, 5B, 5C, 5D with respect to the flange 2A, 2B, 2C, 2D and these means preferably comprise: a threaded seat 9A, 9B, 9C, 9D situated in said slide 5A, 5B, 5C, 5D, a counter-flap 6A, 6B, 6C, 6D integral with the flange 2A, 2B, 2C, 2D and which extends perpendicularly to the rails 8A, 8B, 8C, 8D and a regulation screw 10A, 10B, 10C, 10D, accessible from above, cooperating with the counter-flap 6A, 6B, 6C, 6D and with the threaded seat 9A, 9B, 9C, 9D to effect the sliding of said slide 5A, 5B, 5C, 5D in the first direction.

**[0033]** In all the examples discussed, each hanging bracket device 1A, 1B, 1C, 1D comprises actuation means for controlling the movement of the hooking means 12A, 12B, 12C, 12D in the second direction; these actuation means generally comprise an actuation screw 13A, 13B, 13C, 13D, accessible from above, at least partly housed in the slide 5A, 5B, 5C, 5D and positioned parallelly to the regulation screw 10A, 10B, 10C, 10D.

**[0034]** In this way, the horizontal and vertical movement of the wall cupboard P can be advantageously regulated by acting on one side only, and without having to produce additional visible holes in the lining FO of the same wall cupboard, overcoming the drawbacks discussed above.

**[0035]** As can be seen, the first two embodiments have the characteristic in common that the hook is a hook 12A, 12B, that can be moved linearly along the second direction only, due to an actuation of the actuation screw 13A, 13B.

**[0036]** The third and fourth embodiments, on the con-

trary, have the similar characteristic that the actuation of the hooking means in the second direct F1 is obtained thanks to tilted planes with respect said first direction F1 sliding and cooperating with each other.

**[0037]** More specifically with respect to the examples of the figures, the first example of this type of embodiment is provided in the enclosed figures 1 to 5; these show a first embodiment of the group 100A equipped with an adjustable anchoring hanging bracket 1A for the assembly of a wall cupboard P on a wall M, preferably a shoulder of the cupboard.

**[0038]** The hanging bracket 1A comprises a flange 2A equipped with fixing elements 3A destined for being coupled with the cupboard P, as shown in the assembled configuration of figure 5.

**[0039]** The flange 2A comprises a counter-flap 6A and a window 7A whose facing side edges 8A form the sliding rails of the slide 5A, which can be moved linearly along said rails 8A thanks to the guides 11A situated at the sides of the slide 5A.

**[0040]** The slide 5A also comprises a threaded seat 9A for the regulation means of the position of the same slide 5A, which in this example comprises the screw 10A.

**[0041]** The axis of the threaded seat 9A is perpendicular to the counter-flap 6A, and parallel to the rails 8A and guides 11A for the reasons discussed hereunder.

**[0042]** The screw 10A, as shown in figures 4 and 5, cooperates with the threaded seat 9A and with the counter-flap 6A to cause the movement of the slide 5A with respect to the flange 2A: when in an assembled condition, in fact, the weight of the cupboard P ensures that the head of the screw 10A remains buffered against the counter-flap 6A; by screwing or unscrewing the screw 10A in the seat 9A, the position of the slide 5A is therefore regulated with respect to the flange 2A and consequently the vertical position of the wall cupboard P.

**[0043]** More specifically, the slide 5A of figures 1 and 2 also comprises, in addition to the threaded seat 9A described above, actuation means of the hook which cooperates with the support 101A.

**[0044]** In this example, said hook is the hook 12A cooperating with the support 101A which in this example is a simple section fixed to the wall M with pegs, screws or other similar items.

**[0045]** The actuation means in this example comprise a screw 13A similar to a worm screw housed in the slide 5A and rotatably held in position by means of a pin 16A.

**[0046]** Said pin 16A is inserted, in an assembled condition, into the slide 5A and into the neck 17A of the screw 13A.

**[0047]** The screw 13A cooperates with a toothed wheel 14A, also housed in the slide 5A and rotatably held in position by the pin 15A.

**[0048]** The pin 15A is inserted, for this purpose, into the slide 5A and is engaged in the neck 18A of the toothed wheel 14A.

**[0049]** The hook 12A is equipped with a partially threaded body 19A cooperating with a threaded seat in-

side the toothed wheel 14A.

**[0050]** The body 19A has two smooth opposite planes (or levelings) 20A sliding inside complementary guiding seats 21A of the hole 22A of the slide 5A.

5 **[0051]** In this way, the body 19A can be moved horizontally in an extraction/insertion direction F1 from the toothed wheel 14A following the rotation of the latter when actuated by the worm screw 13A.

10 **[0052]** As can be seen in figures 1 and 2, the axes of the worm screw 13A and screw 10A are parallel to each other, so that access by means of keys or screwdrivers for regulations of the cupboard P can be obtained by acting on the same part (from above) with the result of improving the access to the regulations and allowing a simplified assembly and regulations, without the necessity of having front pass-through holes on the lining of the wall cupboard P.

15 **[0053]** In the example shown, the holes on the cupboard are, on the other hand, situated on the upper portion of the latter (otherwise called "top" of the cupboard) which, however, is normally assembled at a greater height than people's eyes and said holes are consequently situated in a hidden, non-visible position, even when the cupboard P has no doors or is glass or a glass cabinet, with at least partially transparent doors.

20 **[0054]** A second example of the group 100B is shown in figures 6 to 10.

25 **[0055]** Analogously to the first example described above, it comprises a hanging bracket device 1B provided with at least one flange 2B equipped with protruding fixing elements 3B.

30 **[0056]** The latter, 3B, are fixing pins which can be seen in figure 10 for fixing to the wall cupboard P, analogously to the group 100A described above.

35 **[0057]** Analogously to what is described above, the flange 2B comprises a counter-flap 6B and a window 7B whose facing side edges 8B form the sliding rails of the slide 5B, which can be moved linearly (along said rails 8B) thanks to the guides 11B situated at the sides of the slide 5B.

40 **[0058]** The slide 5B comprises a threaded seat 9B for the regulation means of the position of the slide 5B, which in this example again comprises a screw 10B, the axis of the threaded seat 9B being perpendicular to the counter-flap 6B and parallel to the rails 8B and guides 11B.

45 **[0059]** The vertical regulation is effected by the movement of the slide, analogously to what is described above. In short, the screw 10B cooperates with the threaded seat 9B and with the counter-flap 6B to cause the movement of the slide 5B with respect to the flange 2B; an unscrewing or screwing of the screw 10B causes a movement of the slide 5B with respect to the flange 2B and therefore, ultimately, a vertical movement of the cupboard P when the device 1B is in an assembled condition, as shown in figure 9, in which it is coupled with the plaque 101B.

50 **[0060]** With respect to the example in figures 1-5, in this case, what differs are the actuation means of the

hook to the wall M.

**[0061]** The hanging bracket 1B of the group 100B comprises the hook 12B cooperating with the plaque 101B fixed to the wall with pegs or similar items; in this case, the plaque 101B is again a simple section of the known type.

**[0062]** The hook 12B can be moved with respect to the flange 2B in a perpendicular direction with respect to the movement of the slide 5B, so as to obtain the desired horizontal and vertical regulations.

**[0063]** The hook 12B is only coupled with the slide 5B and the actuation means in this case comprise an adjustable knee mechanism.

**[0064]** The latter in turn comprises the levers 15B, two pawls 14B and the relative pins.

**[0065]** The pawls 14B have threaded holes 23B which cooperate with the actuation screw 13B housed, like all the components of the actuation means, in the slide 5B, which, for this purpose, is provided with suitable seats.

**[0066]** The hook 12B is connected to the levers 15B, which are articulated with it and paired with the pawls 14B, whose threaded holes 23B are engaged with the actuation screw 13B.

**[0067]** In this way, the rotation of the screw 13B allows the pawls 14B to move closer or further away, tilting the levers 15B, causing a consequent horizontal movement according to F1 of the hook 12B.

**[0068]** Also in this case, the threaded seat 9B and that for the actuation screw 13B are arranged parallelly on the slide 5B, with analogous advantages to those described above with reference to the first embodiment of the invention.

**[0069]** A third example, analogous to the first two examples, of a hanging bracket device 1C for a group 100C is shown in figures 11 to 15.

**[0070]** The hanging bracket 1C is substantially analogous to those described above with reference to figures 1-10, except for the actuation means of the hook.

**[0071]** In short, however, it comprises a flange 2C provided with fixing elements 3C which extend on the same plane as the flange for fixing to the cupboard P, as shown in the assembled configuration of figure 15.

**[0072]** Analogously to the other solutions, the flange 2C comprises a counter-flap 6C and a window 7C whose facing side edges 8C form the sliding rails of the slide 5C, which can be moved linearly along said rails 8C thanks to the guides 11C situated at the sides of the slide 5C.

**[0073]** The slide 5C also comprises a threaded seat 9C for the regulation means of the position of the slide 5C, which in this example comprises the screw 10C.

**[0074]** The axis of the threaded seat 9C is perpendicular to the counter-flap 6C and parallel to the rails 8C and guides 11C, to allow the linear movement of the slide 5C with respect to the flange 2C by actuating the screw 10C analogously to what is described above.

**[0075]** The screw 10C, in fact, cooperates with the threaded seat 9C and with the counter-flap 6C to cause

the movement of the slide 5C with respect to the flange 2C: when in an assembled position, in fact, the weight of the cupboard P ensures that the head of the screw 10C remains buffered against the counter-flap 6C and consequently by screwing or unscrewing the screw 10C in the seat 9C, the position of the slide 5C is regulated with respect to the flange 2C and consequently the vertical position of the wall cupboard P according to the arrow F.

**[0076]** The wall hooking on the device again comprises a hook 12C which can be moved with respect to the slide 5C by means of the actuation means of the hook, which are described hereunder.

**[0077]** The hook 12C, analogously to what is described above, cooperates with a support 101C, which, in this example, is again a section fixed to the wall M with pegs, screws or similar items, as shown in figure 14.

**[0078]** The actuation means, in this third example, comprise tilted planes 19C whereby the hook 12C is moved with respect to the slide 5C: in this case, unlike the previous examples, the movement of the hook 12C does not develop only in a direction F1 perpendicular to the movement of the slide, but also in a direction parallel to the latter.

**[0079]** The actuation means in fact comprise tilted planes which cause the movement of the hook 12C in a tilted direction with respect to the movement of the slide 5C.

**[0080]** These actuation means comprise, in this example, an actuation screw 13C situated parallelly to the regulation screw 10C and cooperating with a stop 16C integral with the slide 5C and with a threaded seat 20C situated in a frame 17C housed integrally in the slide 5C, which can be moved vertically with respect to the flange 2C.

**[0081]** The actuation means also comprise tilted guides 18C positioned on said frame 17C and cooperating with said tilted planes 19C integral with the hook 12C.

**[0082]** The actuation screw 13C is stationary with respect to the slide 5C due to the stop 16C on which its head is buffered, and its actuation in rotation causes a movement of the hook 12C with respect to the frame 17C.

**[0083]** This movement causes a sliding of the tilted planes 19C (envisaged on the hook 12C) with respect to the tilted seats 18C (integral with the frame 17C) with a consequent movement of the hook 12C itself in a tilted direction with respect to the axis of the actuation screw 13C.

**[0084]** The movement of the hook 12C therefore takes place according to two components: one vertical F, parallel to the movement direction of the slide 5C and with no influence on the horizontal regulation of the cupboard P, and one horizontal F1, perpendicular to the movement direction of the slide 5C, which, on the contrary, as described above, causes a movement of the cupboard in a vertical direction, thus allowing regulation according to the two axes, with the same advantages discussed above with reference to the previous examples.

**[0085]** Yet another variant of the hanging bracket de-

vice 1D is shown in the enclosed figures 16 to 20.

**[0086]** This variant 1D differs in various aspects with respect to the previous three variants and not only those relating to the actuation means.

**[0087]** As far as the vertical regulation according to F is concerned, the device 1D is substantially analogous to those described above; in fact, it comprises a flange 2D provided with fixing elements 3D destined for being engaged in appropriate apertures of the cupboard P, as shown in the assembled configuration of figure 20.

**[0088]** Analogously to the other solutions, the flange 2D comprises a counter-flap 6D and a housing 7D equipped at the sides with two sliding rails 8D of the slide 5D, which can be moved linearly along said rails 8D thanks to the guides 11D situated at its sides.

**[0089]** Analogously to what is described above, the slide 5D comprises a threaded seat 9D for the regulation means of the position of the slide 5D, which, in this example, again comprises a screw 10D.

**[0090]** The axis of the threaded seat 9D is perpendicular to the counter-flap 6D and parallel to the rails 8D and guides 11D, to allow the linear movement of the slide 5D with respect to the flange 2D by actuating the screw 10D, analogously to what is described above.

**[0091]** The screw 10D, in fact, cooperates with the threaded seat 9D and with the counter-flap 6D to cause the movement of the slide 5D with respect to the flange 2D: when in an assembled position, in fact, the weight of the cupboard P ensures that the head of the screw 10D remains buffered against the counter-flap 6D and consequently by screwing or unscrewing the screw 10D in the seat 9D, the position of the slide 5D is regulated with respect to the flange 2D and consequently the vertical position of the wall cupboard P according to the arrow F.

**[0092]** The wall hooking in this case is obtained by an interference between a hook 13D with a conical tip 15D, and hooking portions 12D of the slide 5D, with a base 101D, which can be fixed to the wall M by means of centering loops 19D and appropriate pegs.

**[0093]** The actuation means in this case comprise the same screw 13D whose conical tip 15D cooperates with a seat having a tilted plane 16D situated on the base 101D.

**[0094]** For this purpose, the screw 13D is screwed into a seat 18D of the slide 5D, and, in an assembled condition, its smooth conical (or truncated-conical) tip is in contact with the seat having a tilted plane 16D of the base 101D.

**[0095]** When the actuation screw 13D is rotated (by screwing or unscrewing it), its conical tip runs on the tilted plane 16D thus horizontally moving the flange 2D with respect to the base 101D and obtaining the horizontal regulation of the cupboard P according to F1.

**[0096]** Figures 21-24 illustrate a possible fifth embodiment of the anchoring group (hanging bracket) not part of the invention, wherein said group is indicated as a whole with the reference number 200.

**[0097]** The group 200 can indifferently comprise any

of the regulation mechanisms (kinematic mechanisms) in vertical (height) and horizontal (depth) of a hooking means 201, which serves to hook the same group 200 to a plaque 202 fixed to a wall M.

5 **[0098]** According to this fifth embodiment not part of the invention, the group 200 is provided with (means) regulation screws in vertical 203 and in horizontal 204, to which respective axial extension bushes 205, 206 (or equivalent elements) are fixed.

10 **[0099]** Said bushes 205, 206 have shaped seats 207, 208, at the free end, for engagement by means of a maneuvering tool 209.

15 **[0100]** As can be clearly seen in figures 23 and 24, the length of said bushes 205, 206 is such as to bring exact access to the seats 207, 208, i.e. from the outside of the top C of the cupboard P. For the passage of the bushes 205, 206, the top C has pass-through holes 210, 211. In this way, the regulation of the hanging bracket can also be conveniently effected in narrow spaces, with the maneuvering tool tilted, as shown in figures 23 and 24: which is impossible with the hanging brackets of the first four embodiments, as can be clearly seen in figures 5, 10, 15 and 20.

20 **[0101]** In all the solutions presented so far, other optional characteristics are present, such as, for example, holes for the passage of tools destined for actuating the screws 10A, 10B, 10C, 10D, and 13A, 13B, 13C, 13D or similar items.

25 **[0102]** Further variants or equivalent modifications are also possible, all considered included in the scope of the present invention.

30 **[0103]** The scope of the invention is therefore defined by the following claims.

### 35 Claims

1. An adjustable anchoring group (100D) for the wall assembly (M) of wall cupboards (P) comprising a hanging bracket device (1D) equipped with at least one anchoring flange (2D) to a wall cupboard (P) with shoulders (S), a top (C) and lining (FO), and a hook (12D), said group also comprising an anchoring support (101D) to a wall (M), **characterized in that** said hanging bracket device (1D) comprises a slide (5D) which slides linearly with respect to said flange (2D) in a first direction, said hook (12A, 12B, 12C, 12D) being at least partly associated with said slide (5D) and being movable with respect to the latter in at least a second direction substantially perpendicular with respect to said first direction, regulation means and actuation means, both accessible from above, being associated with said slide and said hook, respectively.
- 40 2. The group (100D) according to claim 1, **characterized in that** said flange (2D) comprises fixing elements (3D) for fixing to a cupboard (P) and sliding

- rails (8D), and wherein said slide (5D) comprises sliding guides (11D), said rails (8D) and said guides (11D) being suitable for cooperating with each other for guiding the sliding of said slide (5D) in at least said first direction, said first direction being substantially perpendicular to the axis of said fixing elements (3D).
3. The group (100D) according to claim 1, **characterized in that** it comprises regulation means accessible from above (6D, 9D, 10D) suitable for controlling the sliding of said slide (5D) with respect to said flange (2D).
4. The group (100D) according to claim 2 or 3, **characterized in that** said regulation means comprise: a threaded seat (9D) situated in said slide (5D), a counter-flap (6D) integral with said flange (2D) which extends perpendicularly to said rails (8D) and a regulation screw (10D) cooperating with said counter-flap (6D) and with said threaded seat (9D) to effect the sliding of said slide (5D) in said first direction.
5. The group (100D) according to any of the previous claims, **characterized in that** it comprises actuation means (13D, 101D, 15D, 16D) accessible from above, suitable for controlling said movement of said hook (15D) in said second direction.
6. The group (100D) according to claim 5, **characterized in that** said actuation means comprise an actuation screw (13D), at least partly housed in said slide (5D), said actuation screw (13D) being positioned parallel to said regulation screw (10D).
7. The group (100D) according to claim 6, **characterized in that** said actuation means comprise tilted planes (15D, 16D) with respect to said first sliding direction and cooperating with each other to cause the movement of said hook in at least said second direction.
8. The group (100D) according to claim 7, **characterized in that** it comprises a plaque (101D) which can be fixed to a wall (M) and a screw (13D) having a conical tip (15D) screwed into a seat (18D) of said slide (5D), and wherein said actuation means comprise said screw having a conical tip (13D) and a seat with a tilted plane (16D) situated on said plaque (101D) cooperating with said screw (13D) having a conical tip (15D), to move said hook in at least said second direction following a rotation of said screw (13D) having a conical tip (15D).
9. The group according to claim 1, **characterized in that** said regulation means are accessible from the outside of said top (C).
10. The group according to claim 9, **characterized in that** said regulation means are substituted by screws (203, 204) for the regulation in vertical and in horizontal respectively of the hanging bracket group, to which respective axial extension bushes (205, 206) are fixed, said bushes having shaped seats (207, 208) at the free end for engagement with a maneuvering tool.

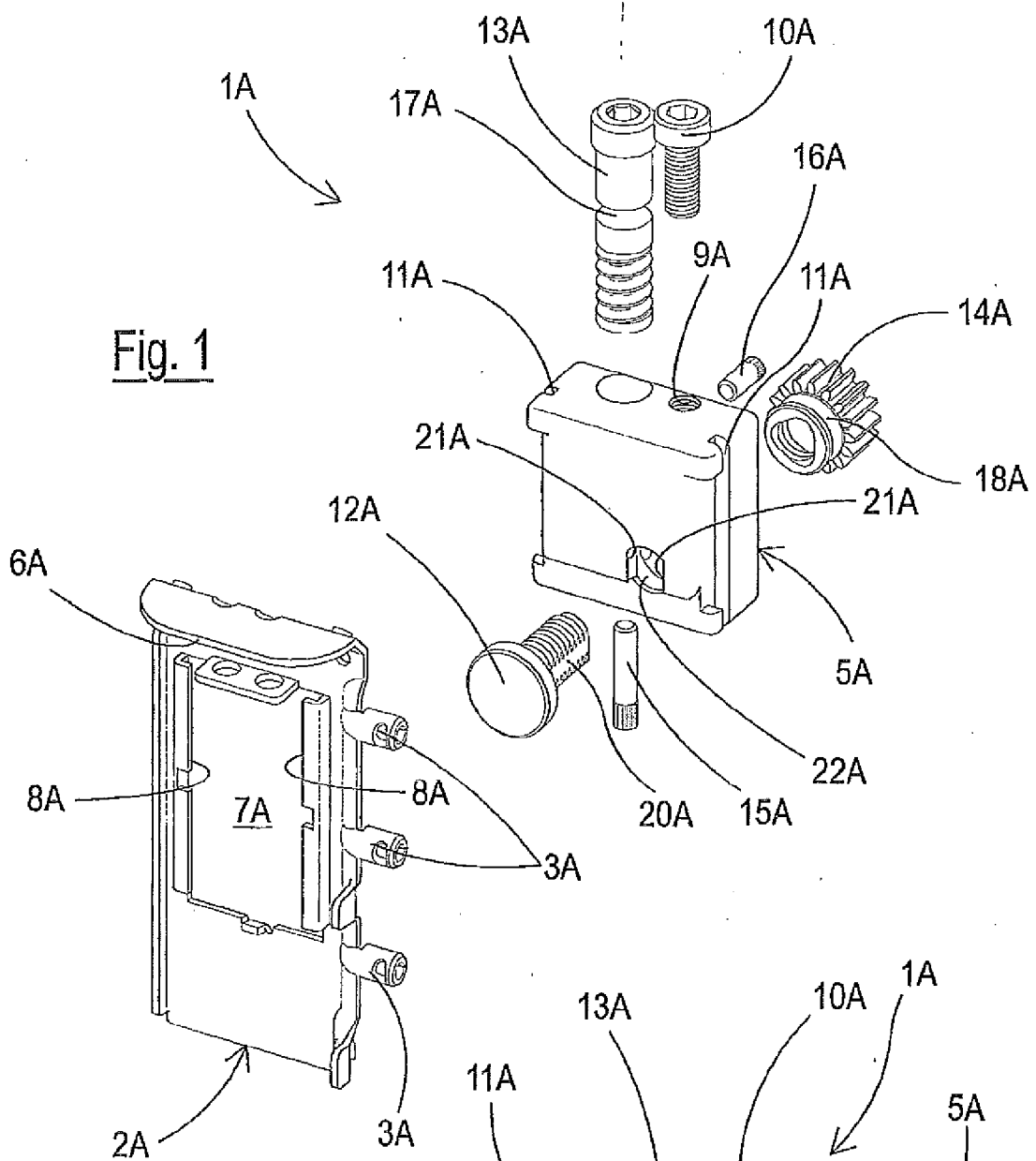


Fig. 1

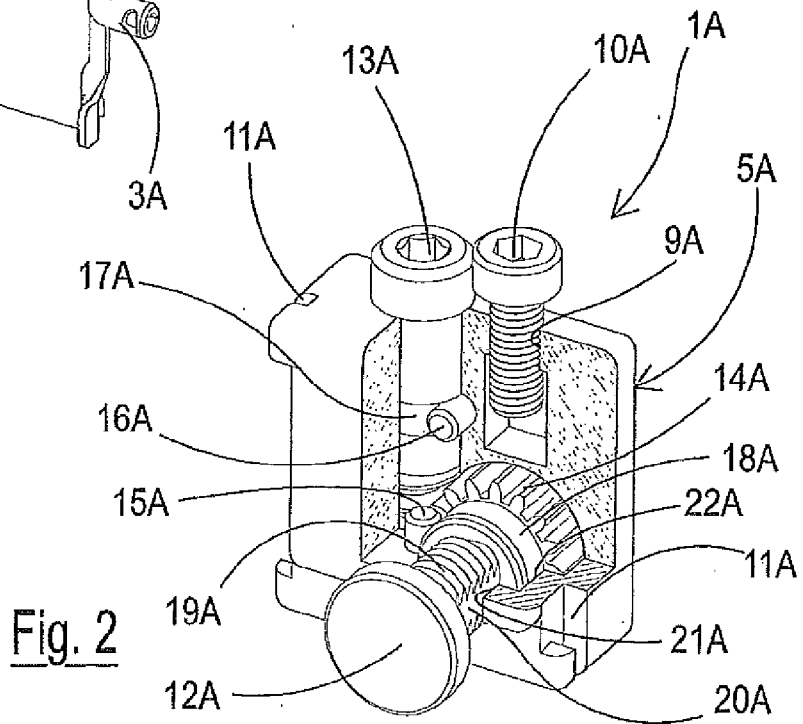


Fig. 2



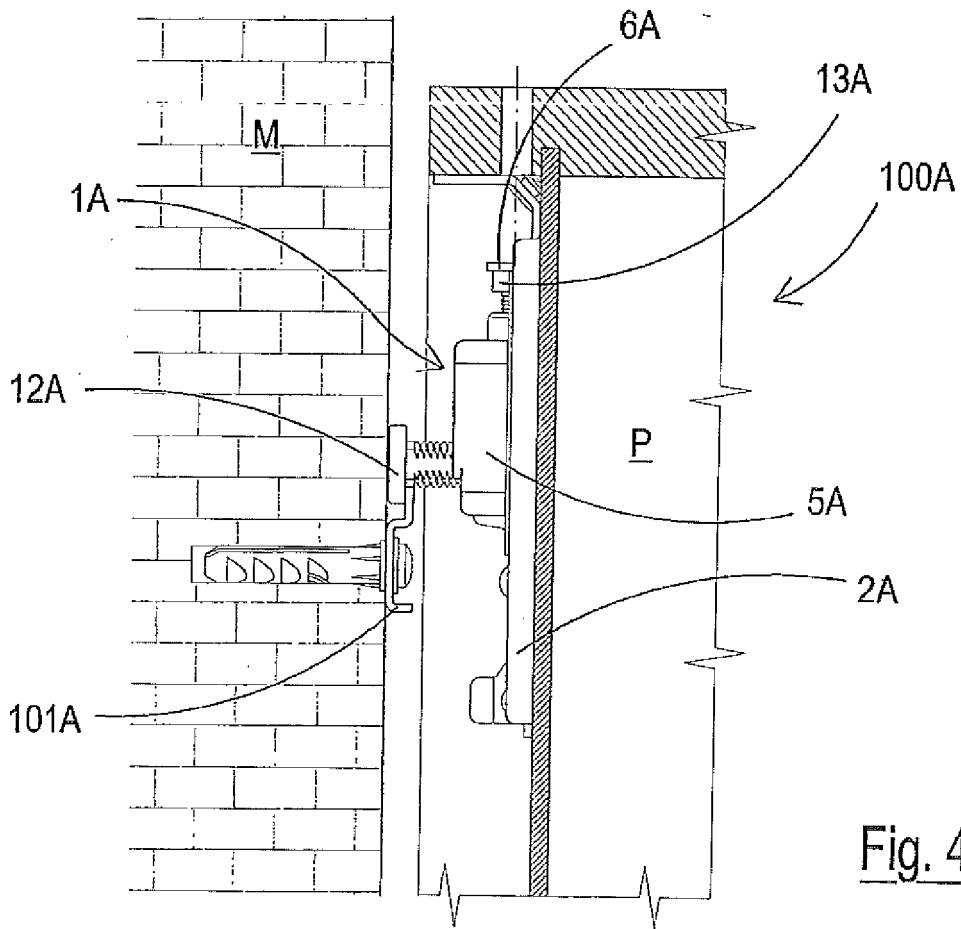
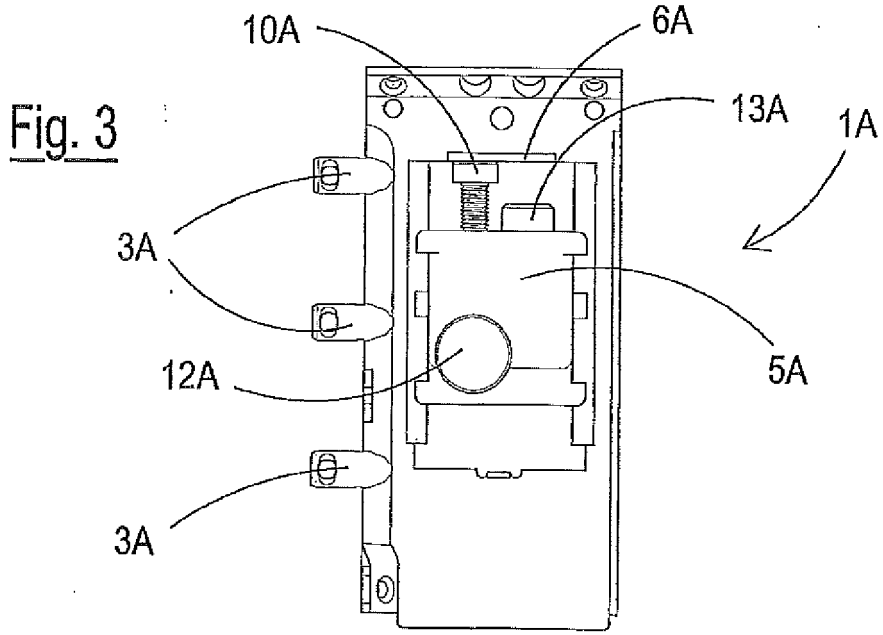


Fig. 5

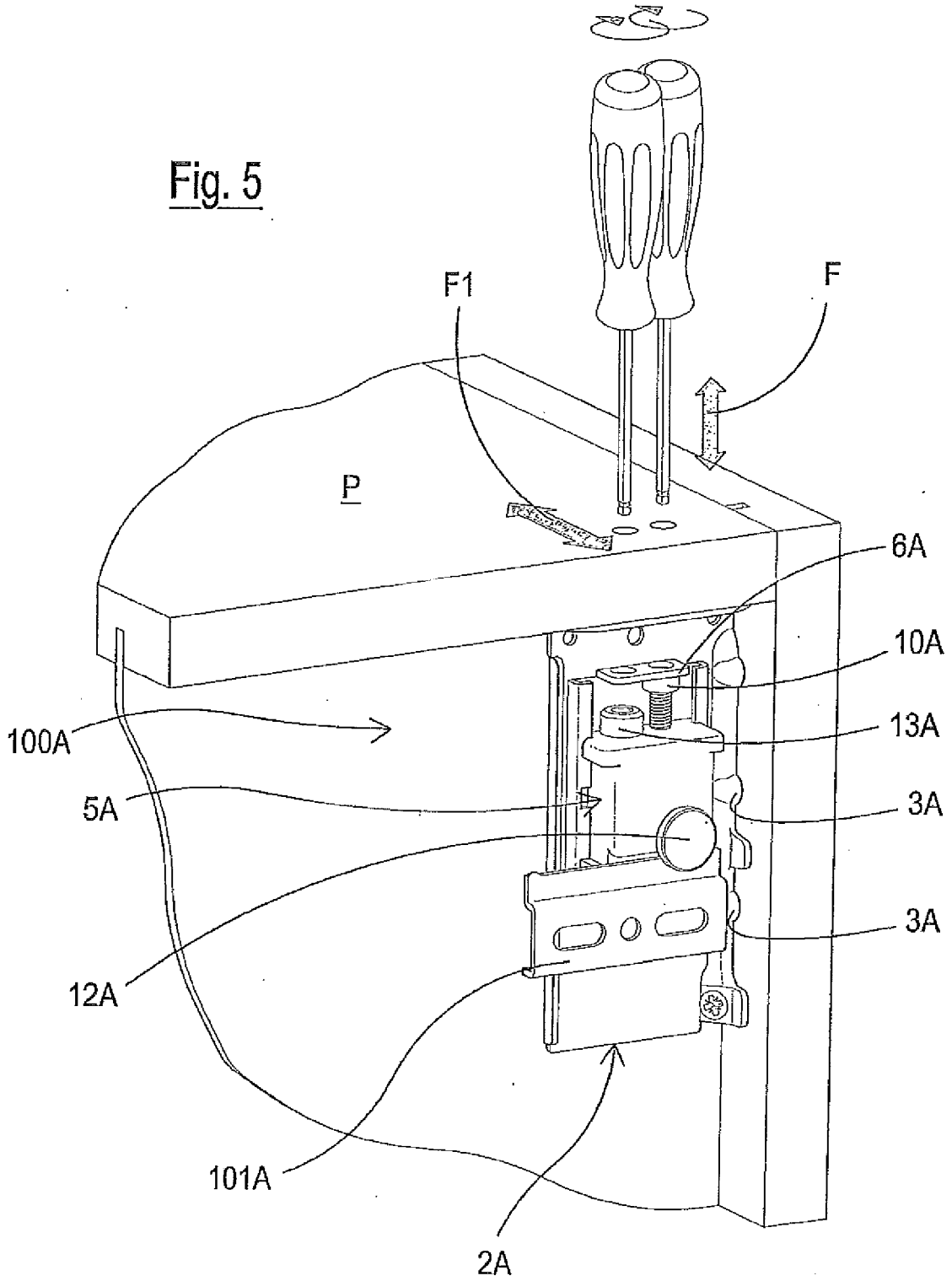


Fig. 6

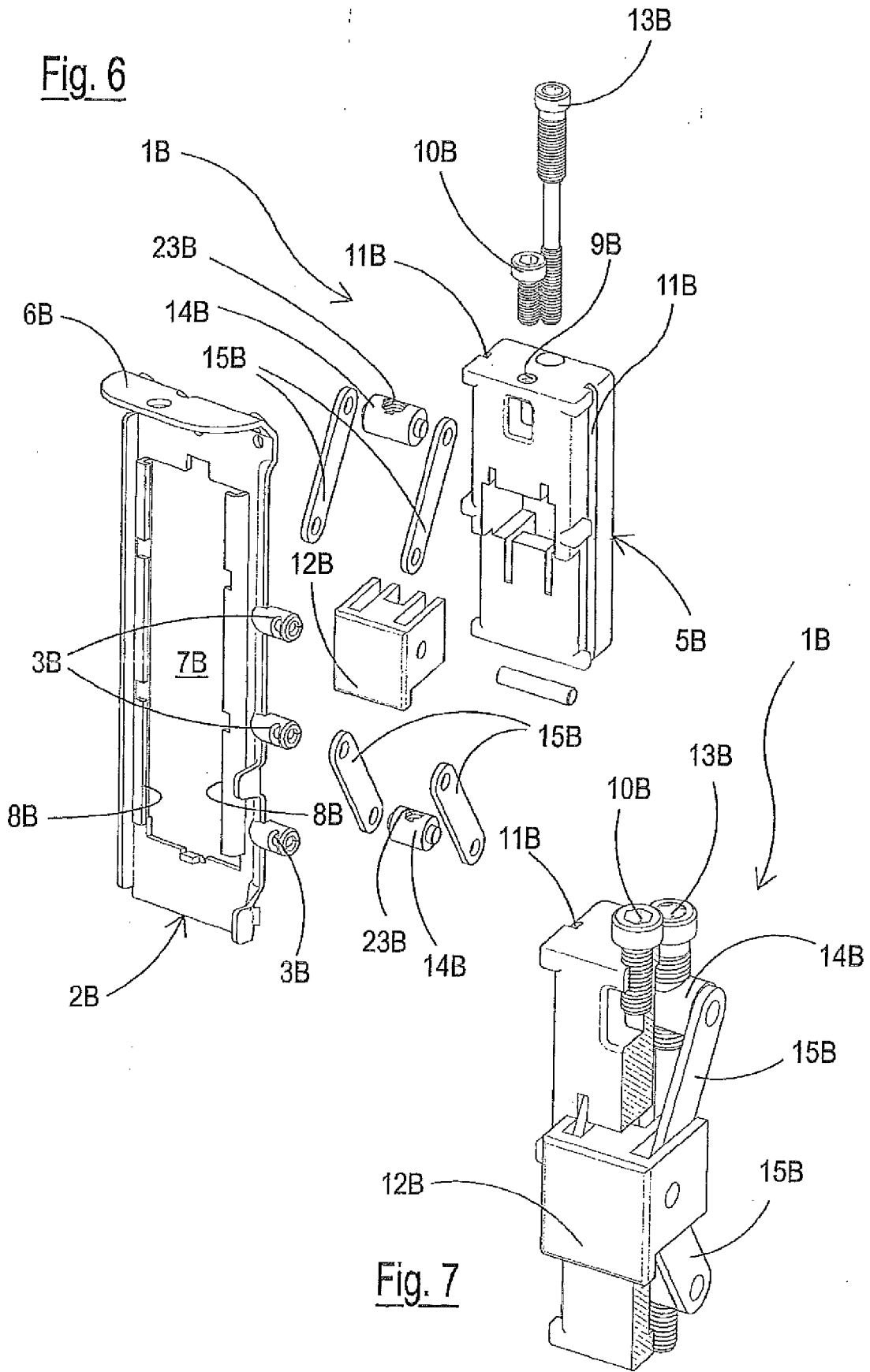


Fig. 7

Fig. 8

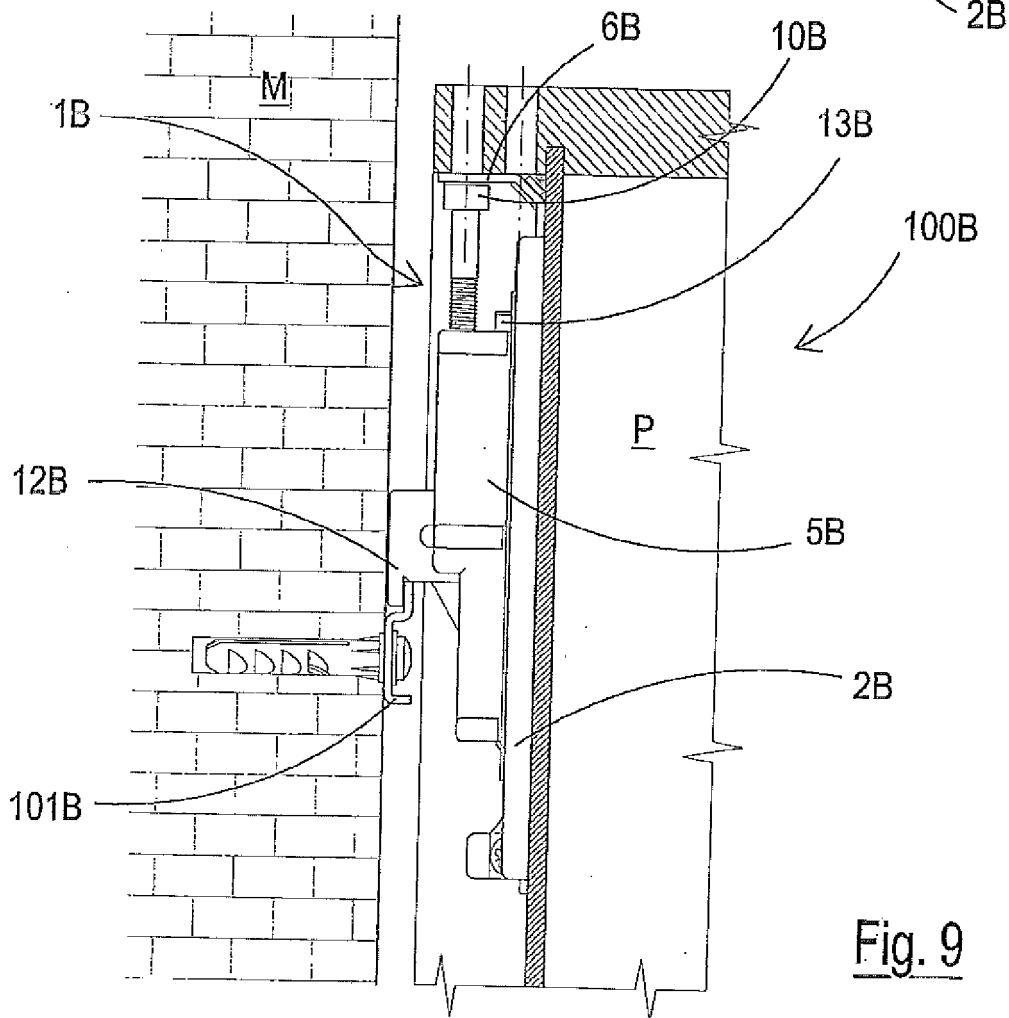
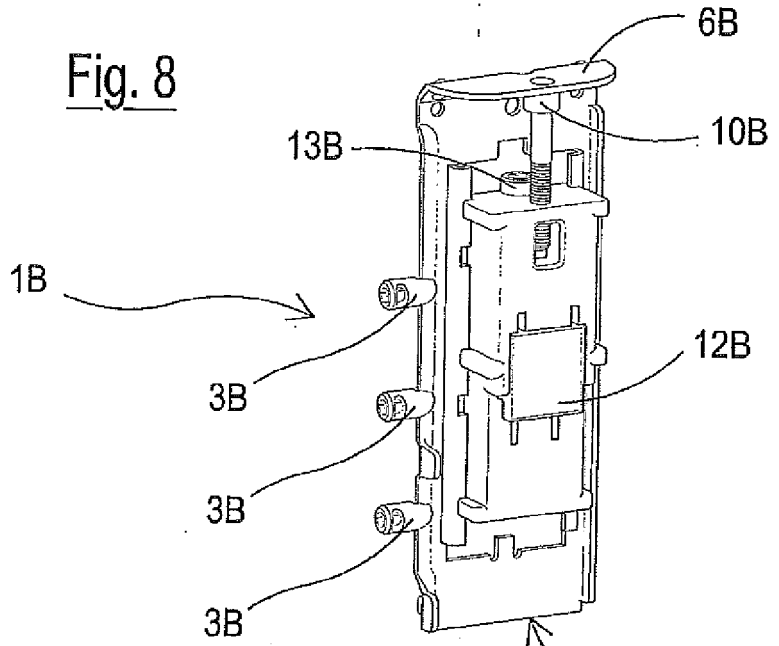


Fig. 9

Fig. 10

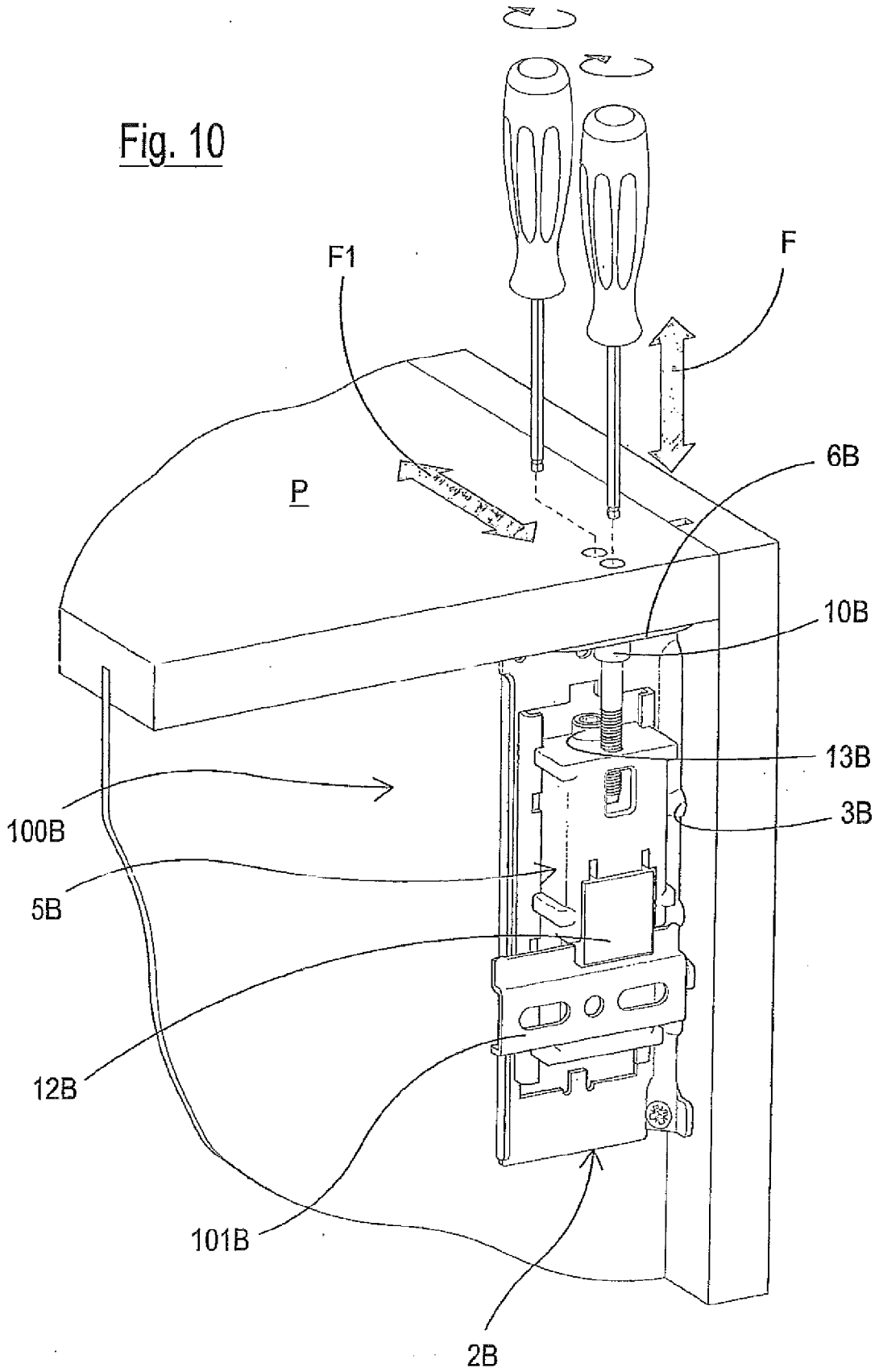


Fig. 11

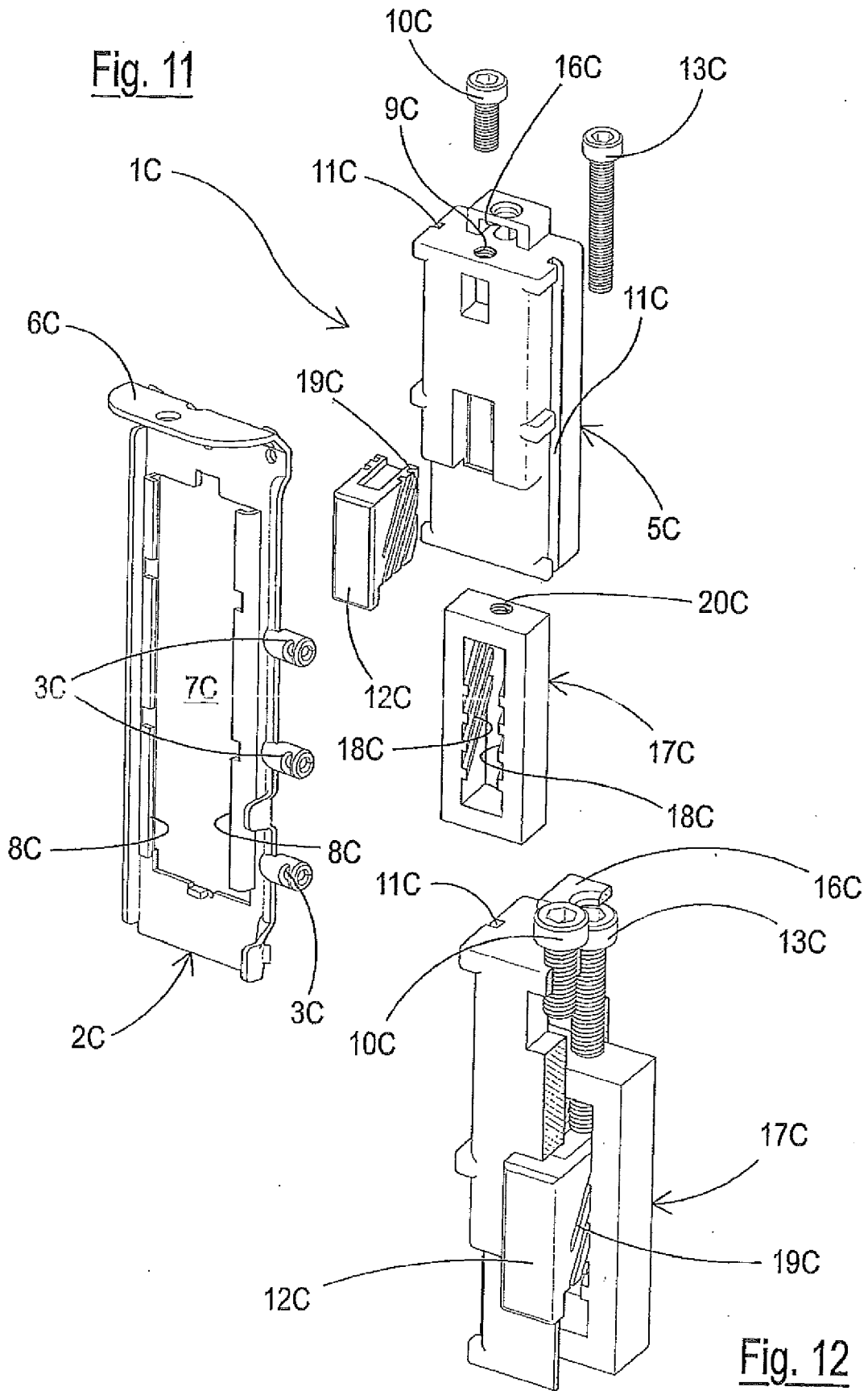


Fig. 12

Fig. 13

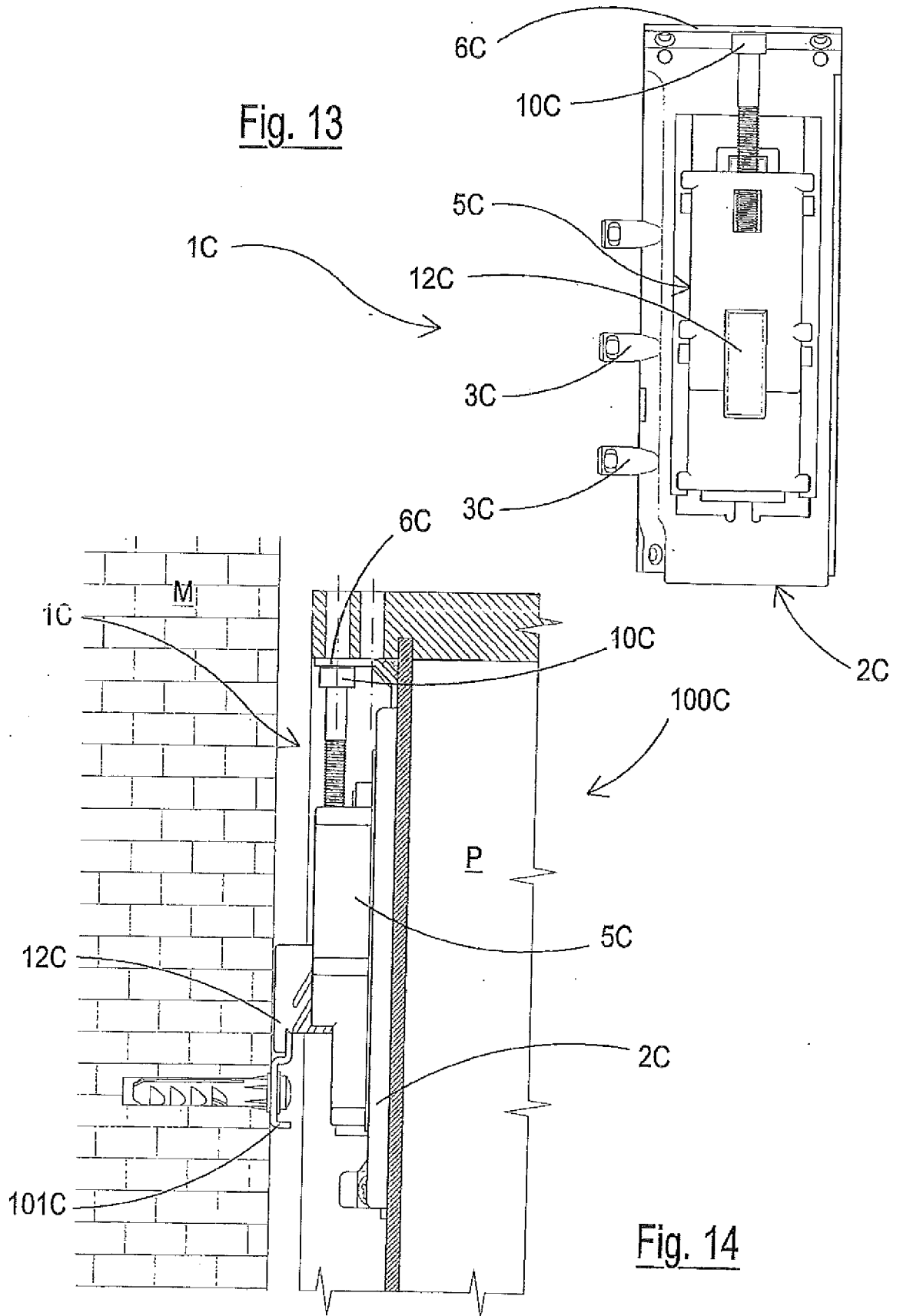


Fig. 14

Fig. 15

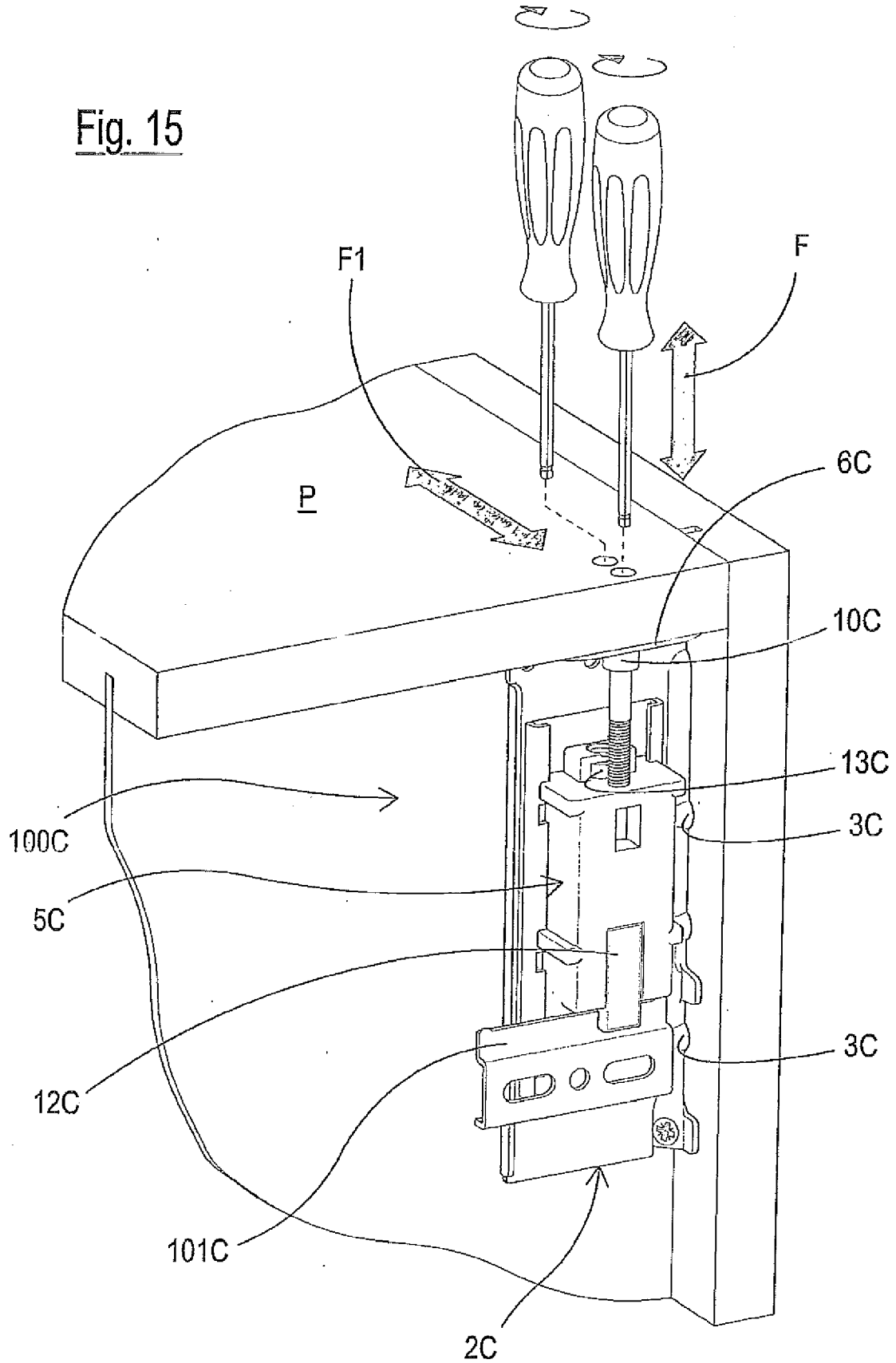




Fig. 16

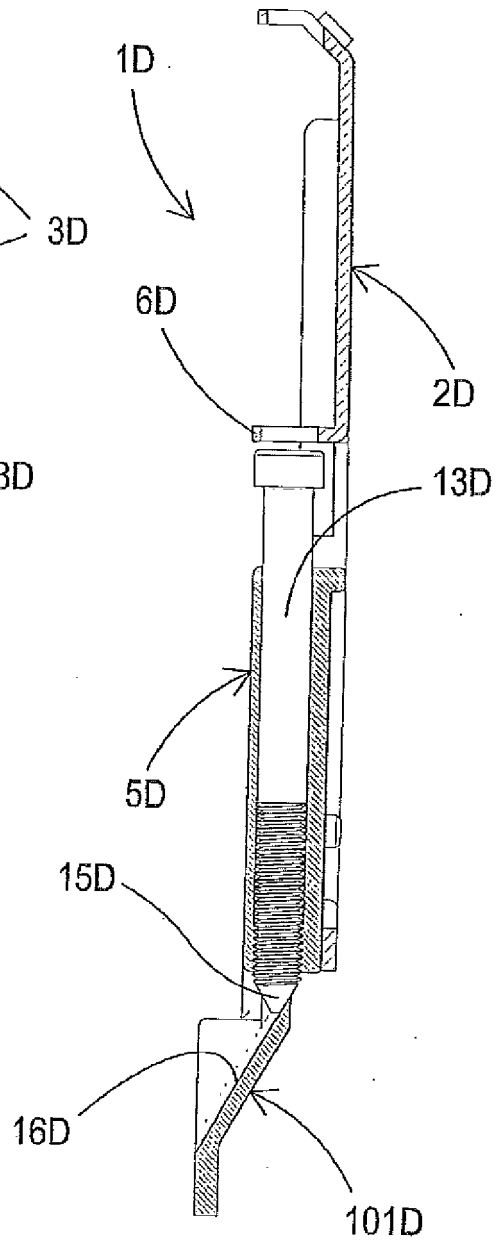
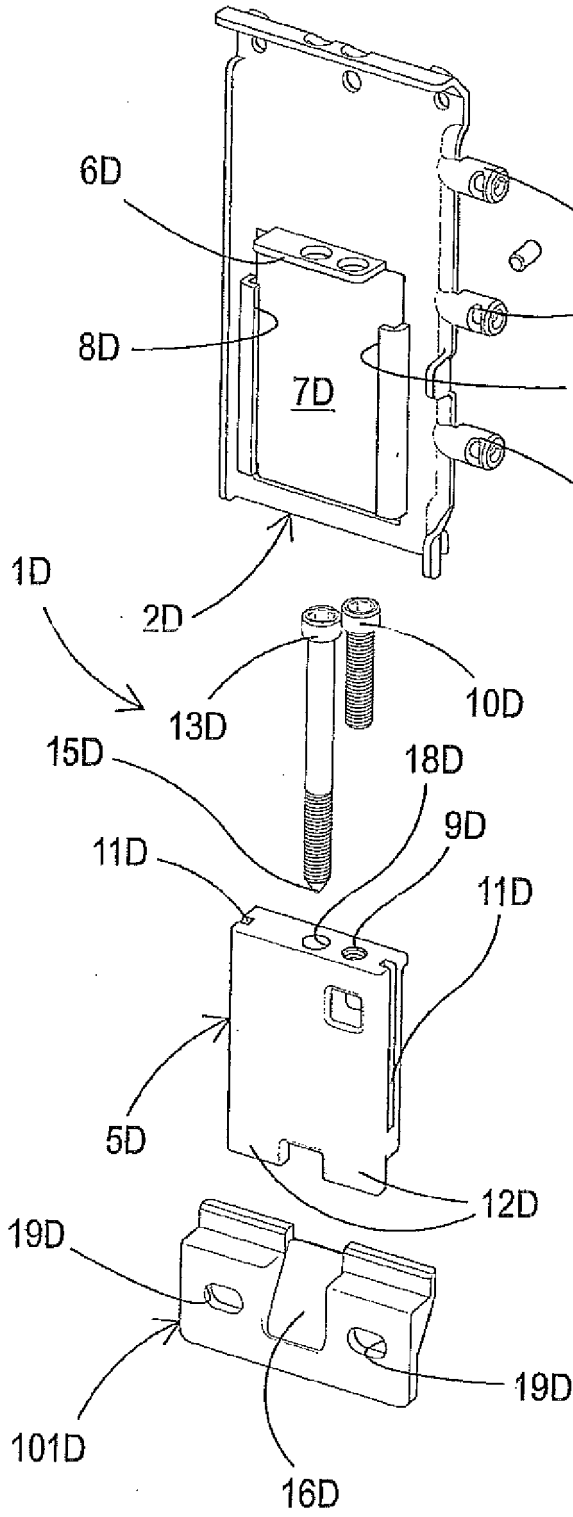


Fig. 17

Fig. 18

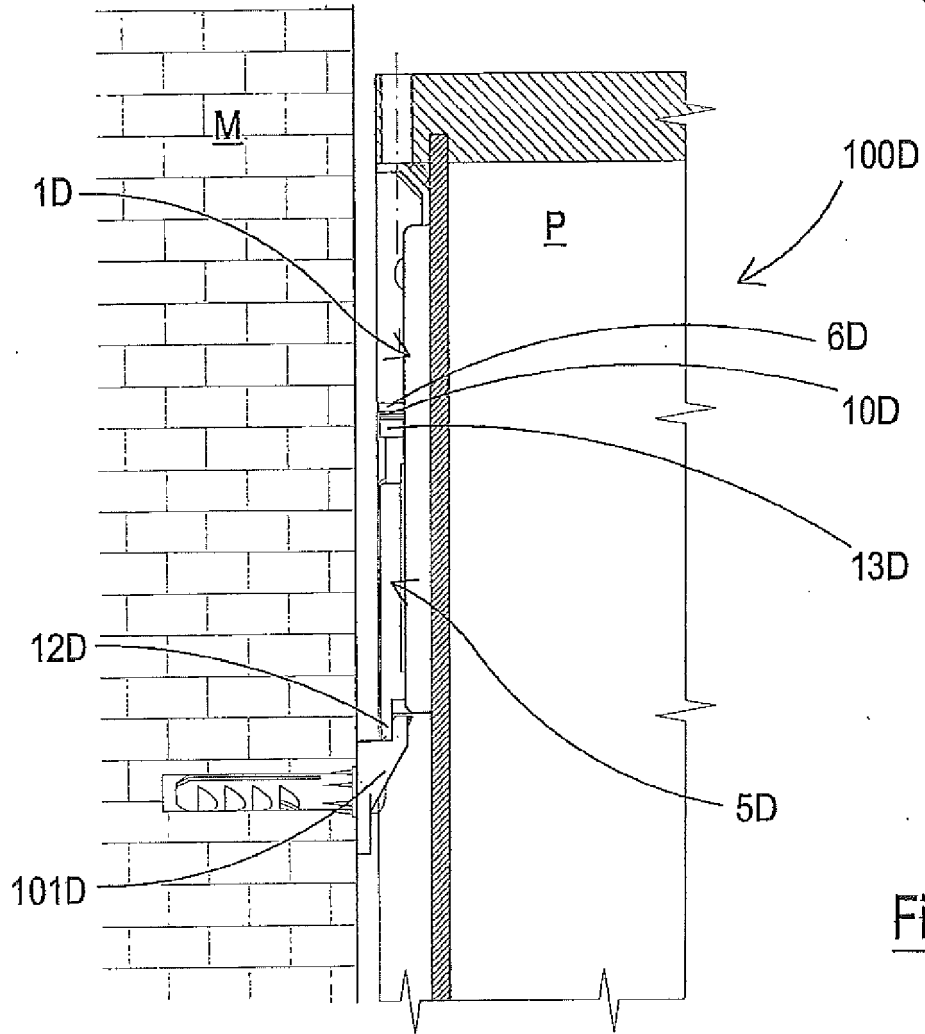
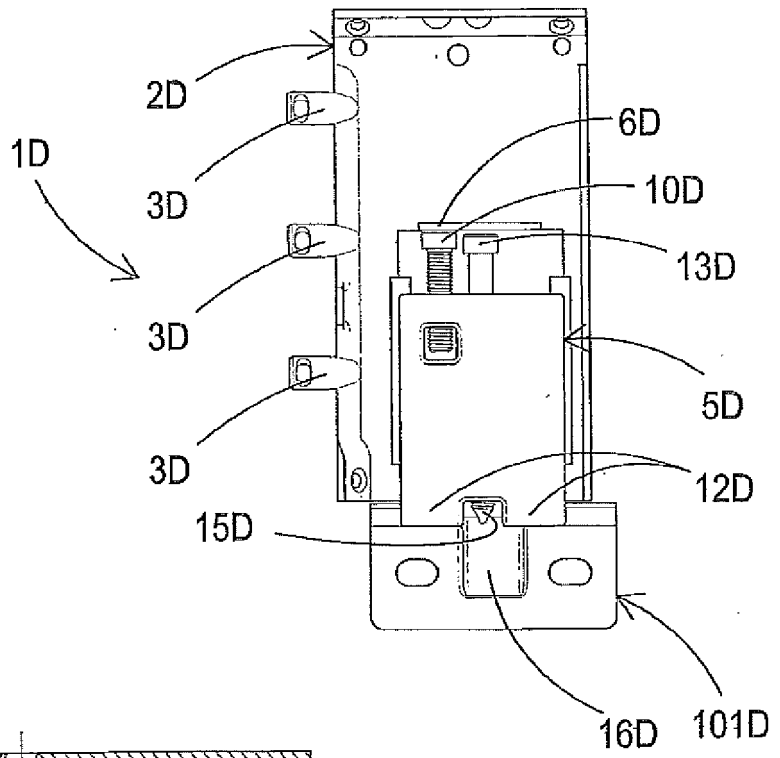


Fig. 19

Fig. 20

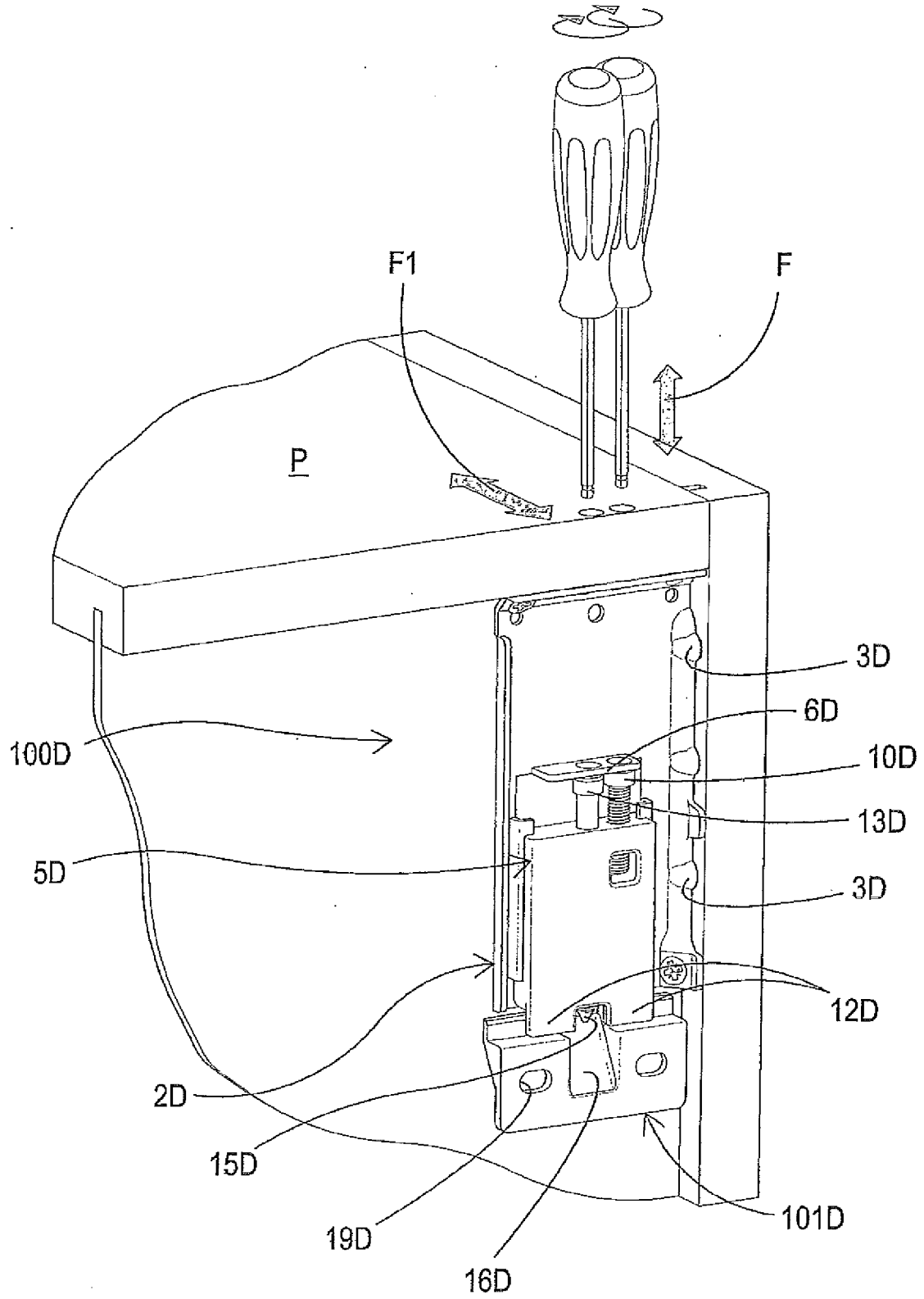


Fig. 22

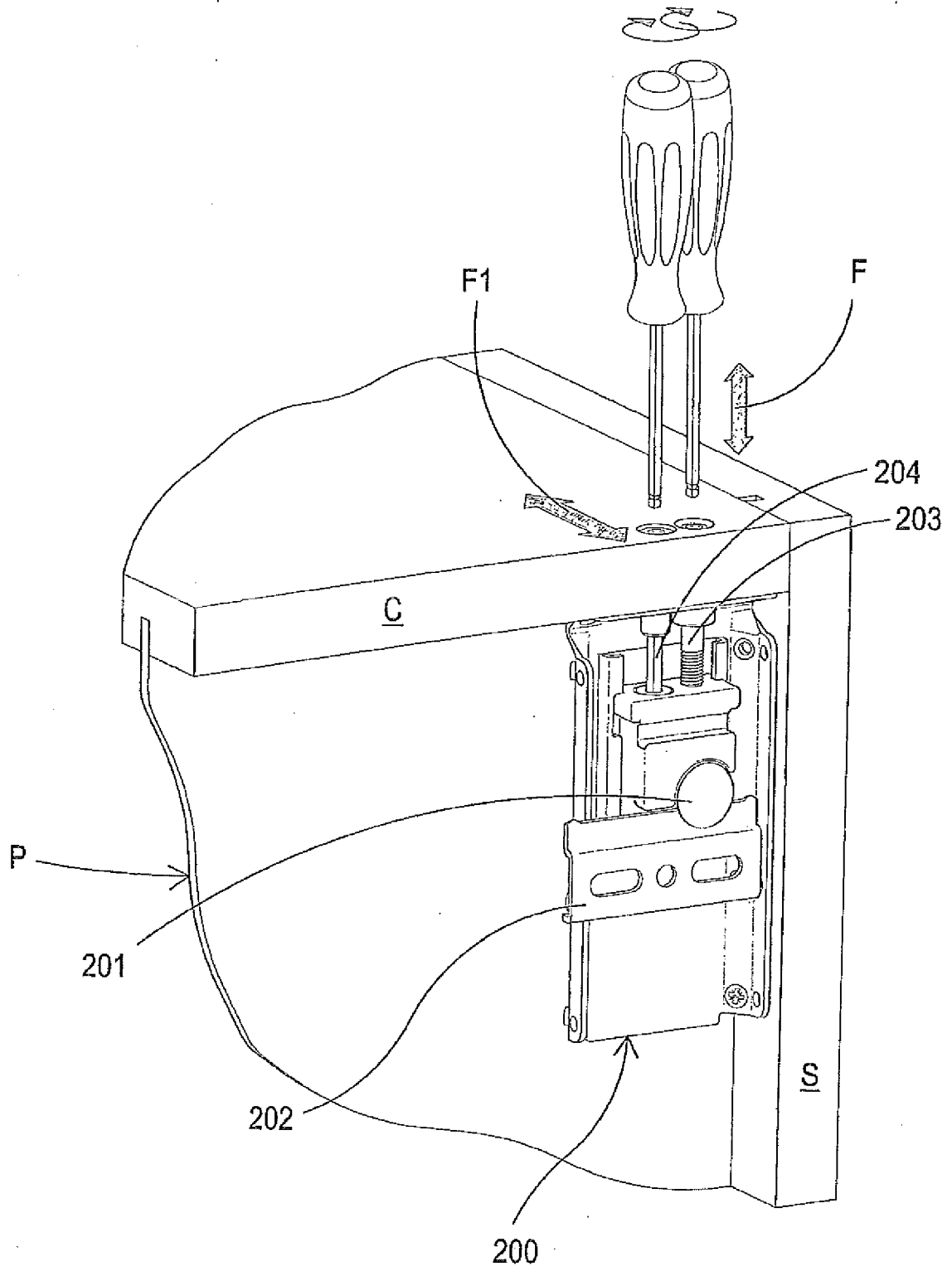


Fig. 23

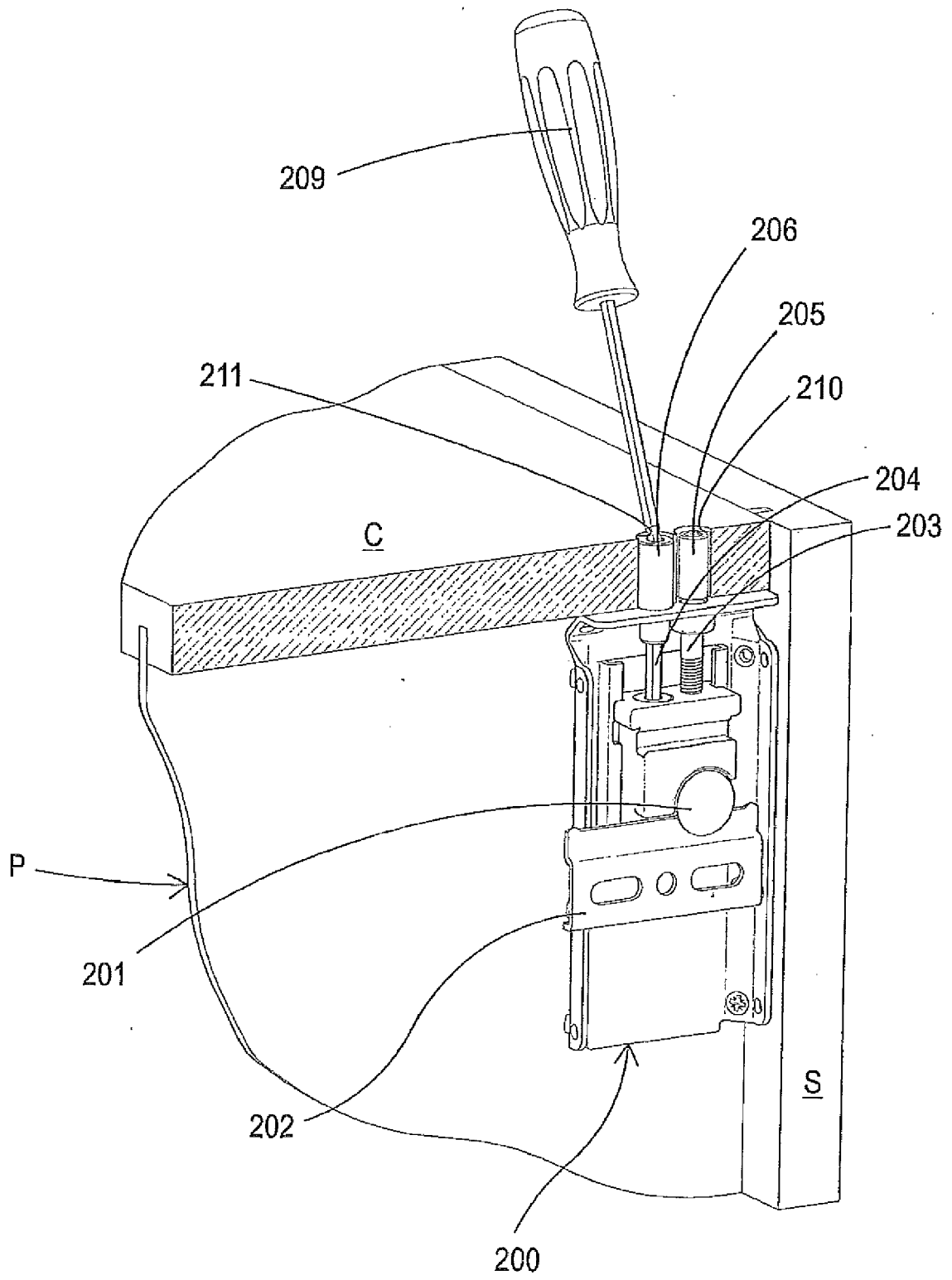


Fig. 21

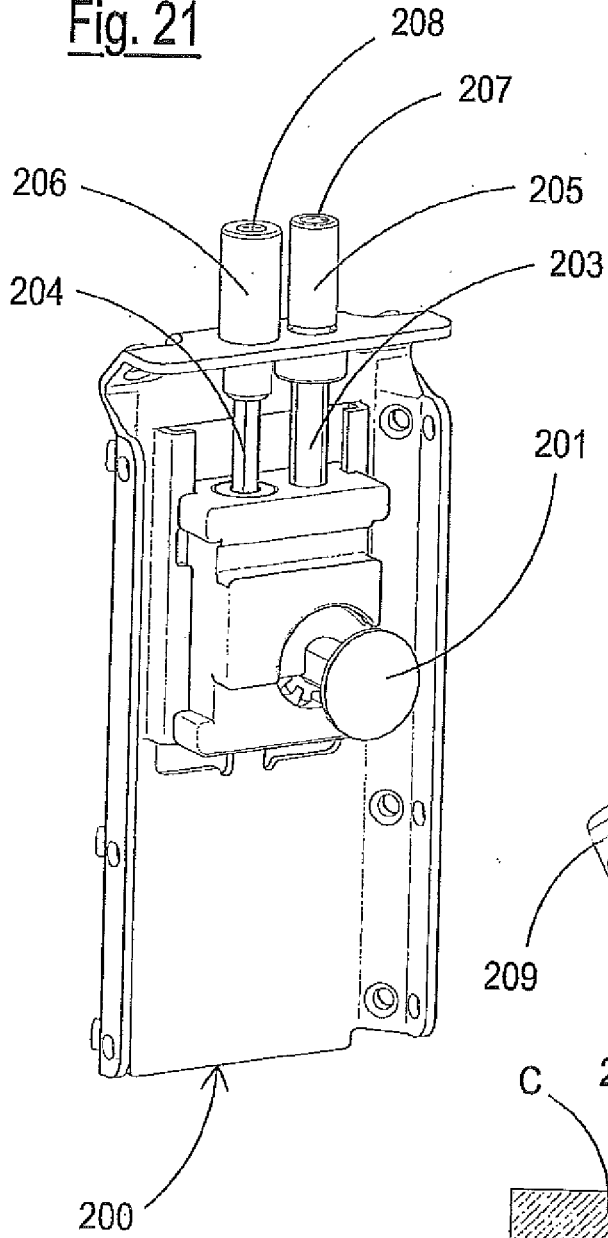
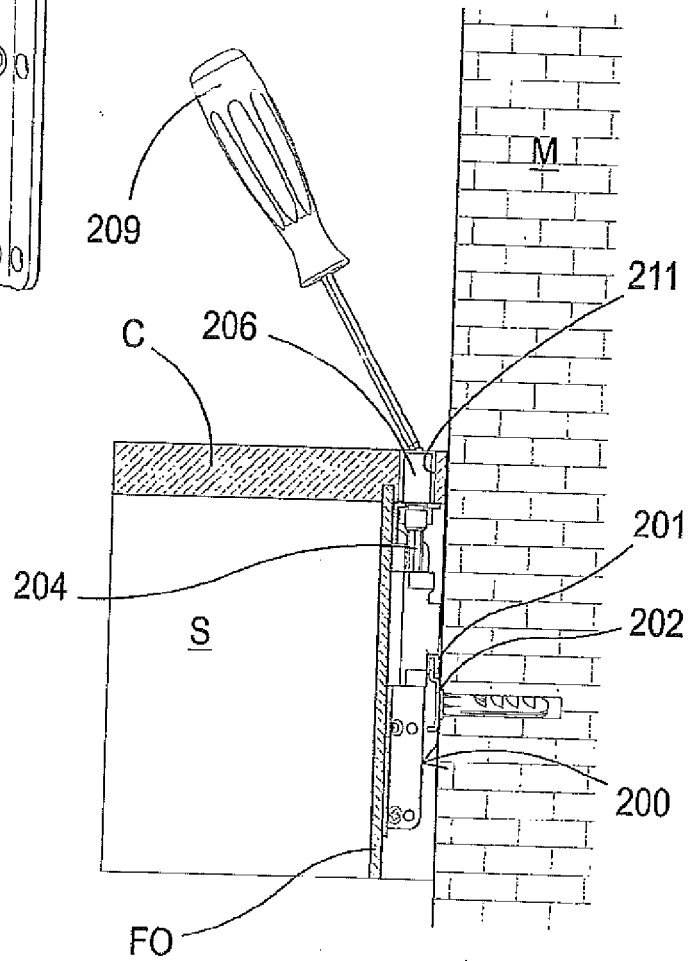


Fig. 24





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