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(54) **Supporting apparatus for a furniture**

(57) A supporting device (50, 50A, 50B, 50C, 50D) for cantilever furniture (M) comprising, in combination: a hook (55, 55A, 55B, 55C, 55D) situated at the free end of an arm (56, 56A, 56B, 56C, 56D) extending externally from said device (50, 50A, 50B, 50C, 50D), mechanisms (57, 57A, 57B, 57C, 57D; 58, 58A, 58B, 58C, 58D) for the regulation of the positions in depth (horizontal) and height (vertical) of said hook (55, 55A, 55B, 55C, 55D) being associated with said arm (56, 56A, 56B, 56C, 56D). According to the invention, said device comprises assembly means (62, 62A, 62B, 62C, 62D) of said arm (56, 56A, 56B, 56C, 56D) and of said regulation mechanisms (57, 57A, 57B, 57C, 57D; 58, 58A, 58B, 58C, 58D) suitable for being received inside a corresponding seat (cavity) (66, 66A, 66B, 66C, 66D) specifically situated in the shoulder (51, 51A, 51B, 51C, 51D) of the piece of furniture (M), and fixing means (64, 64A, 64B, 64C, 64D) of the supporting device (50, 50A, 50B, 50C, 50D) on the surface (67, 67A, 67B, 67C, 67D) of said shoulder (51, 51A, 51B, 51C, 51D), outside said seat (cavity) (66, 66A, 66B, 66C, 66D).

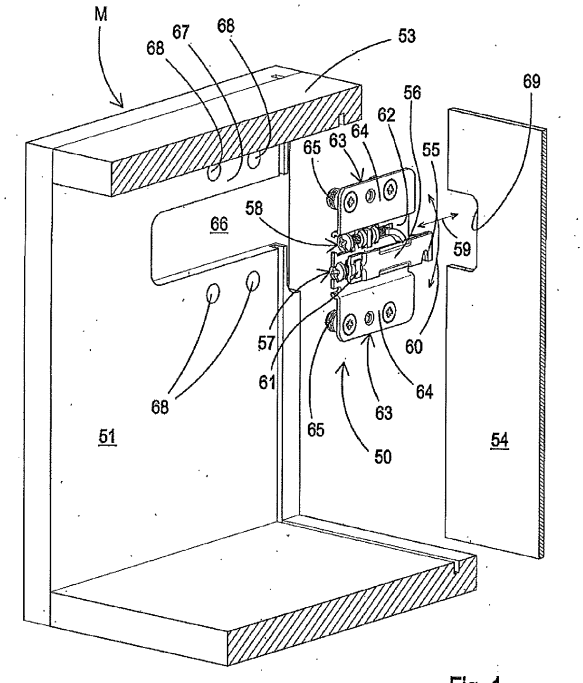

Fig. 1

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Description

[0001] The present invention relates to a supporting device for cantilever furniture, i.e. furniture extending from a wall at a certain height from the floor.

[0002] These supporting devices are usually called wall-brackets or base-brackets in the field, depending on what they are to be used for.

[0003] Supporting devices of this type are described for example in the following patents: EP0033179, EP2303068, in European Patent Application EP-A-11 184 671.3 filed on 11/10/2011 in the name of the same Applicant, and in Italian Utility Model patent nr. 226972, to which reference should be made for any necessary clarifications, and which should be considered an integral part of the present description.

[0004] The invention particularly, but not exclusively, relates to a base-bracket wherein the base comprises one or more drawers sliding on guides positioned between the shoulder of the piece of furniture and the edge of the drawer.

[0005] One of the main technical problems to be solved in producing base-brackets of this type, is the encumbrance in thickness and depth (length) of the device, which inconveniently limits the length of the drawer and therefore its capacity.

[0006] The base-bracket, in fact, is fixed to the shoulder of the piece of furniture, protruding from the surface of the shoulder itself and consequently it interferes - due to its encumbrance in depth - with the free sliding of the drawer, in its run-end section.

[0007] Another drawback of wall-brackets/base-brackets of the known type, whose configuration protrudes with a certain depth from the shoulder of the piece of furniture to which they are fixed, is of an aesthetical nature: their appearance may in fact be undesired and difficult to hide with aesthetically valid and economical means.

[0008] A general objective of the present invention is to overcome the above drawbacks, by providing a supporting device for cantilever furniture, in particular base-brackets, constructed specifically so as not to protrude from the surface of the shoulder to which the same device is fixed.

[0009] In this way, the whole depth of the piece of furniture can be used for containing drawers, for example, which can have an adequate capacity.

[0010] In addition, a supporting device whose configuration is not protruding from the surface of the shoulder of the piece of furniture, can be easily and economically covered by means of an aesthetical cover.

[0011] Another objective of the invention is to provide a supporting device for wall cupboards which, thanks to its assembly mode, is capable of supporting extremely heavy loads.

[0012] The above objectives are achieved by a supporting device having the characteristics specified in claim 1 enclosed and in the dependent claims.

[0013] The structural and functional characteristics of the invention and its advantages with respect to the known art will appear more evident from the following description, referring to the enclosed drawings, which illustrate embodiments of the invention itself.

[0014] In the drawings:

- figure 1 is an exploded perspective view illustrating a supporting device produced according to a first embodiment of the invention, associated with a wall cupboard (partially illustrated):
- figure 2 is a view like figure 1, illustrating the assembled parts;
- figure 3 is a vertical section;
- figure 4 is a section taken according to the traced plane IV-IV of figure 3;
- figure 5 is a section taken according to the traced plane V-V of figure 3;
- figure 6 is a section taken according to the traced plane VI-VI of figure 3;
- figures 7-12 illustrate, according to different views, the device of figure 1-6;
- figures 13, 14 are views like figures 1, 2 illustrating a second embodiment of the invention;
- figures 15, 16 are views like figures 1, 2 illustrating a third embodiment of the invention;
- figure 17 is a vertical section of the device of figures 15, 16;
- figure 18 is a section taken according to the traced plane XVIII-XVIII of figure 17;
- figure 19 is a section taken according to the traced plane XIX-XIX of figure 17;
- figure 20 is a section taken according to the traced plane XX-XX of figure 17;
- figures 21-26 illustrate, according to different views, the device of figures 15-20;
- figures 27 and 28 are two exploded views of the device of figures 21-26;
- figures 29, 30 are two views like figures 15, 16 illustrating a fourth embodiment of the device according to the invention;
- figures 31, 32 are two perspective views illustrating a fifth embodiment of the device according to the invention; and
- figures 33, 34 are two perspective views of the device of figures 31, 32 fixed to the shoulder of the wall cupboard.

[0015] With reference to figures 1-6 of the drawings, a supporting device according to the invention is indicated as a whole with 50 and is destined for being fixed to a wall cupboard M (a base, for example), comprising a pair of side shoulders 51 (only one shown), a bottom 52, a top 53, and a possible lining 54.

[0016] As can be clearly seen from the drawings, said device is fixed in correspondence with the rear upper edge of the piece of furniture, defined by the shoulder 51, the top 53 and the lining 54.

[0017] The device 50 (base-bracket) according to the invention is of the type comprising a hook 55 situated at the free end of an arm 56.

[0018] The arm 56, through mechanisms 57, 58, can be moved according to the directions of the arrows 59, 60.

[0019] The mechanism 57 serves for the horizontal regulation (depth) of the position of the arm 56, whereas the mechanism 58 serves for the vertical regulation (height).

[0020] As mentioned above, for the horizontal regulation, the arm 56 moves in the directions of the arrow 59, whereas for the vertical regulation, it rotates - around a hinge 61 - in the directions of the arrow 60.

[0021] Said regulation mechanisms are not described herein in greater detail as they can be of the known type, such as those, for example, described in the above-mentioned patents.

[0022] According to the invention, said arm 56 and regulation mechanisms 57, 58 are assembled on assembly means consisting of a central seat 62 of a shaped base 63.

[0023] Fixing means of the device 50 to the shoulder 51 of the furniture, extend from said seat 62, on a different plane, said fixing means consisting of a pair of flanges 64, with which respective fixing means cooperate.

[0024] In the embodiment illustrated in figures 1-12 of the drawings, said fixing means consist of pegs, for example interference and/or expansion pegs 65, socalled doubel pegs.

[0025] As clearly illustrated in figures 1-6 of the drawings, according to the invention, the base-bracket 50 is fixed to the shoulder 51 of the piece of furniture M thanks to the fact that its central seat 62 is housed inside a corresponding seat (cavity) 66 situated in the same shoulder 51.

[0026] The flanges 64, on the contrary, are fixed on the surface 67 of the shoulder 51, externally with respect to said seat 66, by means of fixing means 65 which are inserted inside corresponding holes 68 already existing.

[0027] In this way, as can be clearly seen in figures 4-6 of the drawings, the only portion of the base-bracket 50 which protrudes from the shoulder 51 consists of the flat flanges 64 which in no way interfere with the sliding of a possible drawer 45.

[0028] As is known to experts in the field, in fact, between the shoulder 51 of the piece of furniture and the edge S of the drawer, there is always an air space A which is much larger than the thickness of the flanges 64 (figure 4).

[0029] The arrangement according to the invention described above also creates a very stable base-bracket, capable of resisting extremely heavy loads: this is thanks to the combined presence of the seat 66 inside which the central seat 62 is housed, and forced, and the four fixing elements 65.

[0030] The assembly of the piece of furniture M to a wall P is effected traditionally by means of the protruding hook 55 passing through an opening 69 of the lining 55 and is hooked to a window 70 of a shaped plate 71, fixed to the same wall P by normal pegs.

[0031] As can be seen in figures 2-5 of the drawings, the length of the seat 66 is longer than that of the device 50, leaving an empty area Z (figure 2), through which it is possible to have access to the regulation mechanisms 57, 58, by means of a screwdriver C.

[0032] Figures 13 and 14 illustrate a second embodiment of the invention, in which components identical and/or equivalent to those of the first embodiment have the same reference numbers, with the addition of the letter A.

[0033] On examining the drawings, it immediately appears evident that the only difference between the first and second embodiment is that in the latter, the base-bracket device 50A is fixed to the shoulder 51A of the piece of furniture M by means of self-threading screws 65A, instead of a doubel peg 65.

[0034] For this purpose, the flanges 64A of the shaped base 63A are equipped with pass-through holes.

[0035] Figures 15-28 illustrate a third embodiment of the invention, in which components identical and/or equivalent to those of the first embodiment have the same reference numbers with the addition of the letter B.

[0036] According to this third embodiment of the invention, the base-bracket device 50B is structurally composed of a box-shaped body 62B integral with a base or flange 64B.

[0037] The box-shaped body 62B forms the assembly means of the arm 56B and regulation mechanisms 57B and 58B.

[0038] The flange or base 64B, on the contrary, forms the fixing means of the base-bracket 50B to the shoulder 51B.

[0039] In this third embodiment, the regulation mechanisms 57B and 58B can be those described and illustrated in the above-mentioned European Patent Application EP-A-11 184 671.3 filed on 11-10-2011 in the name of the same Applicant.

[0040] As can be clearly seen in figure 16, the above-mentioned mechanisms 57B and 58B can be controlled perpendicularly with respect to the base 64B (at the side).

[0041] For this purpose, the base 64B is equipped with pass-through holes, through which the tips of manoeuvring tools C are introduced.

[0042] The base 64B is also equipped with doubel pegs 65B, which are introduced and blocked by means of expansion and/or interference inside holes 68B of the shoulder 51B.

[0043] The fourth embodiment of the invention shown in figures 29, 30 is identical to that of figures 15-28 with the exception of the self-threading screws 65C instead of the doubel pegs 65B.

[0044] Figures 31-34 illustrate a fifth embodiment of the invention, wherein the shaped base of the supporting device comprises longitudinal tightening ribs N and anchoring means 49 extending from a side of the base itself.

[0045] As can be clearly seen from the figures, the ribs are housed inside the seat 66D, whereas the anchoring means are in the form of flaps which are inserted inside millings 48 of the shoulder of the piece of furniture.

[0046] The objectives mentioned in the preamble of the description have thus been achieved.

[0047] The protection scope of the invention is defined by the enclosed claims.

Claims

1. A supporting device (50, 50A, 50B, 50C, 50D) for cantilever furniture (M) of the type comprising, in combination: a hook (55, 55A, 55B, 55C, 55D) situated at the free end of an arm (56, 56A, 56B, 56C, 56D) extending externally from said device (50, 50A, 50B, 50C, 50D), mechanisms (57, 57A, 57B, 57C, 57D; 58, 58A, 58B, 58C, 58D) for the regulation of the positions in depth (horizontal) and height (vertical) of said hook (55, 55A, 55B, 55C, 55D) being associated with said arm (56, 56A, 56B, 56C, 56D), **characterized in that** it comprises assembly means (62, 62A, 62B, 62C, 62D) of said arm (56, 56A, 56B, 56C, 56D) and of said regulation mechanisms (57, 57A, 57B, 57C, 57D; 58, 58A, 58B, 58C, 58D) suitable for being received inside a corresponding seat (cavity) (66, 66A, 66B, 66C, 66D) specifically situated in the shoulder (51, 51A, 51B, 51C, 51D) of the piece of furniture (M), and fixing means (64, 64A, 64B, 64C, 64D) of the supporting device (50, 50A, 50B, 50C, 50D) on the surface (67, 67A, 67B, 67C, 67D) of said shoulder (51, 51A, 51B, 51C, 51D), outside said seat (cavity) (66, 66A, 66B, 66C, 66D).

2. The device according to claim 1, **characterized in that** said assembly means consist of a shaped base (63, 63D).

3. The device according to claim 1, **characterized in that** said assembly means consist of a box-shaped body (62B).

4. The device according to claim 1, **characterized in that** said assembly means (62) and said fixing means (64) comprise a shaped base produced in a single metallic piece.

5. The device according to claim 1, **characterized in that** said assembly means and said fixing means respectively comprise a box-shaped body (62B) and a flat base (64B), said box-shaped body (62B) protruding from a side of said base (64B).

6. The device according to claim 1, **characterized in that** said fixing means comprise socalled doubel pegs (65, 65B).

7. The device according to claim 1, **characterized in that** said fixing means comprise screws (65C).

8. The device according to claim 2, **characterized in that** said shaped base (63D) comprises longitudinal tightening ribs (N) suitable for being received within corresponding millings of said seat (66D) situated in the shoulder (51D) of the piece of furniture (M).

9. The device according to claim 2, **characterized in that** anchoring means (49) suitable for being received inside a corresponding milling (48) of said seat (66D), extend transversally from one side of said shaped base (63D).

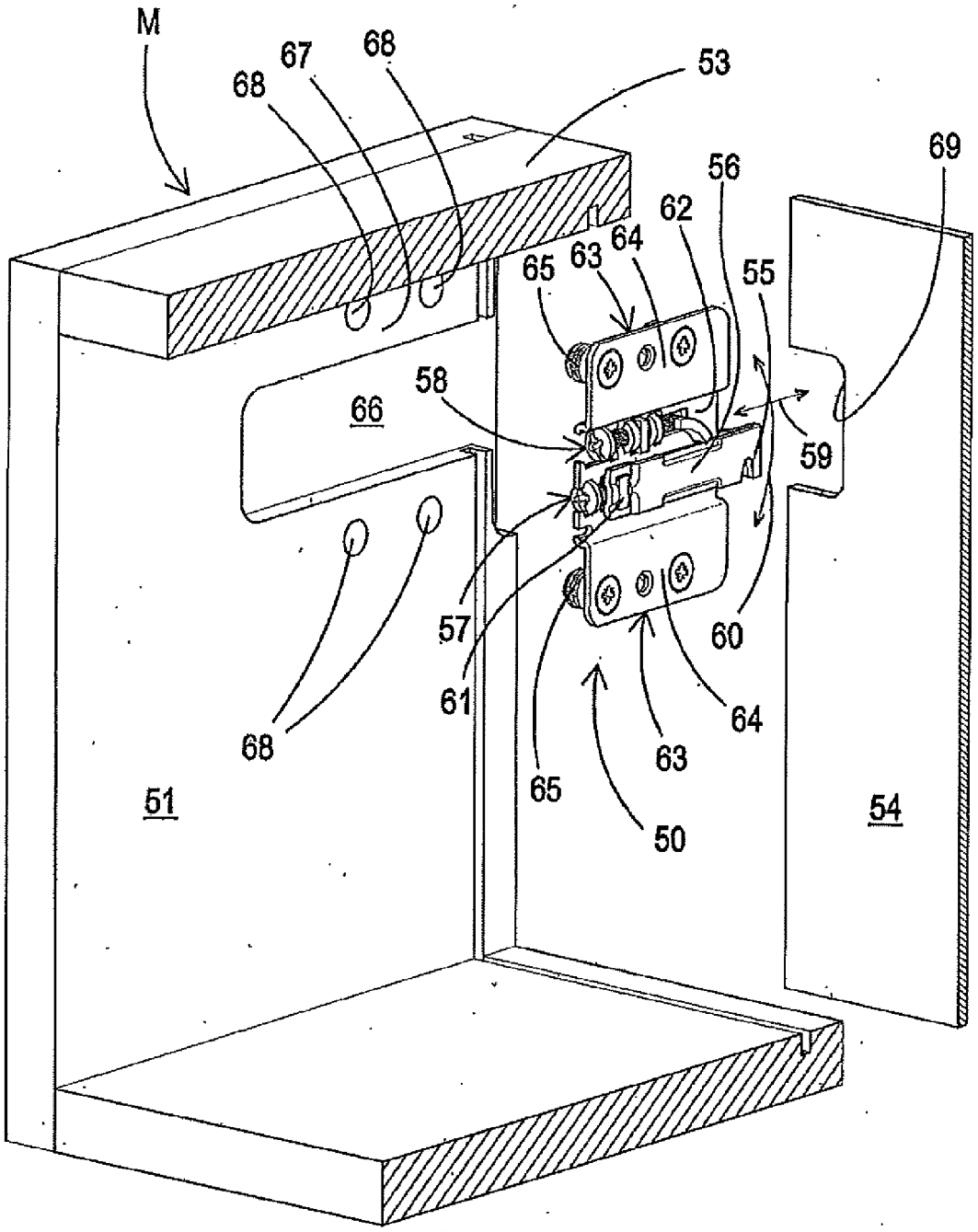


Fig. 1

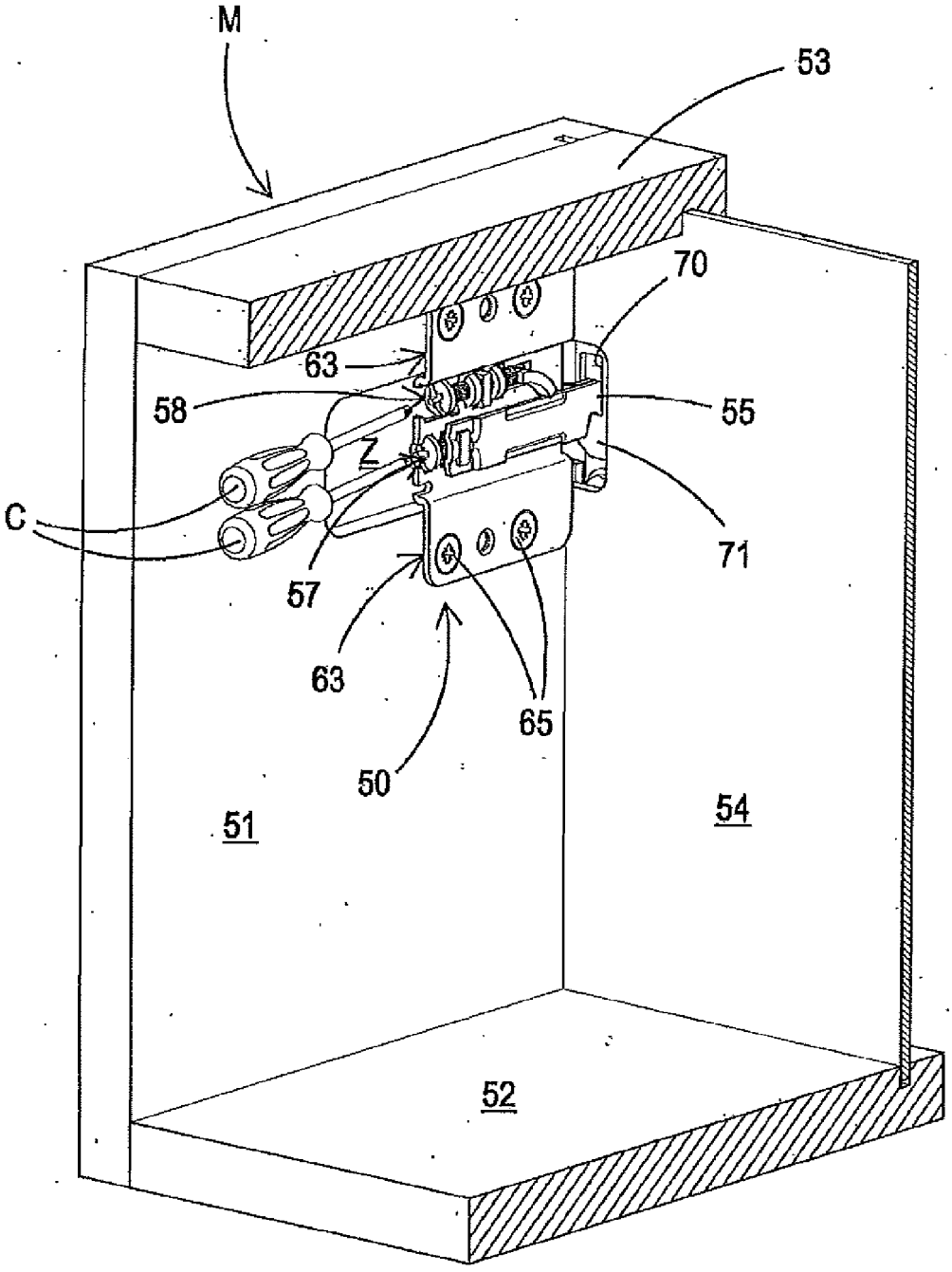
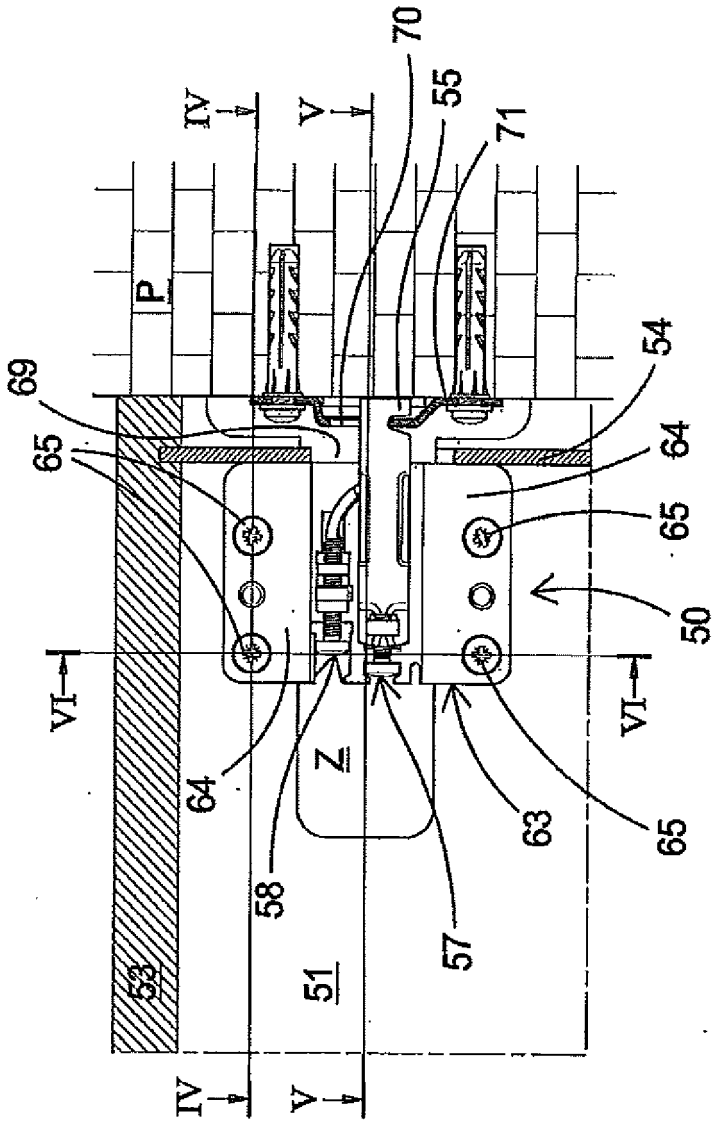


Fig. 2



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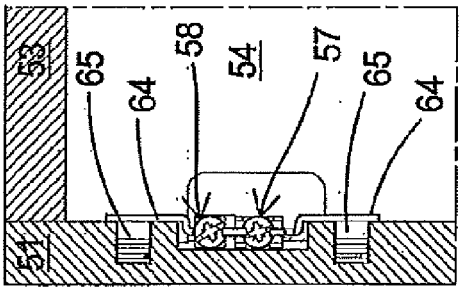


Fig. 6

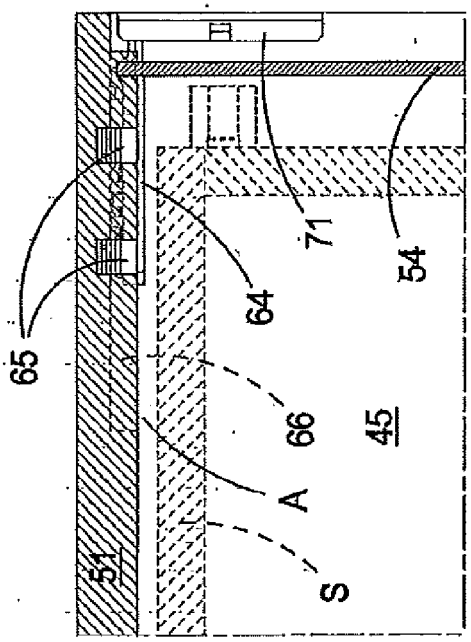


Fig. 4

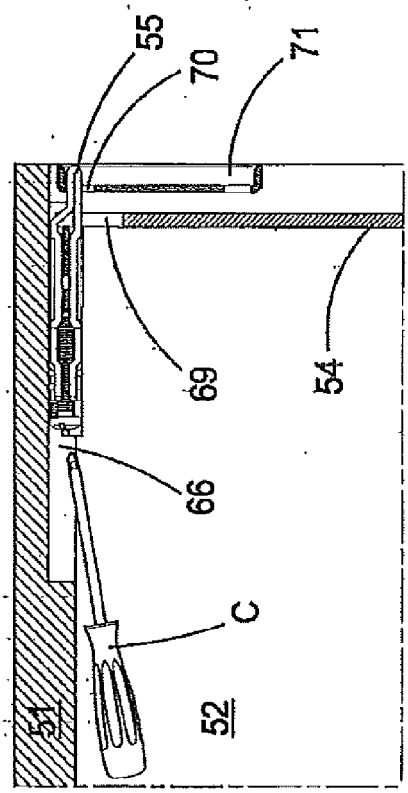


Fig. 5

Fig. 9

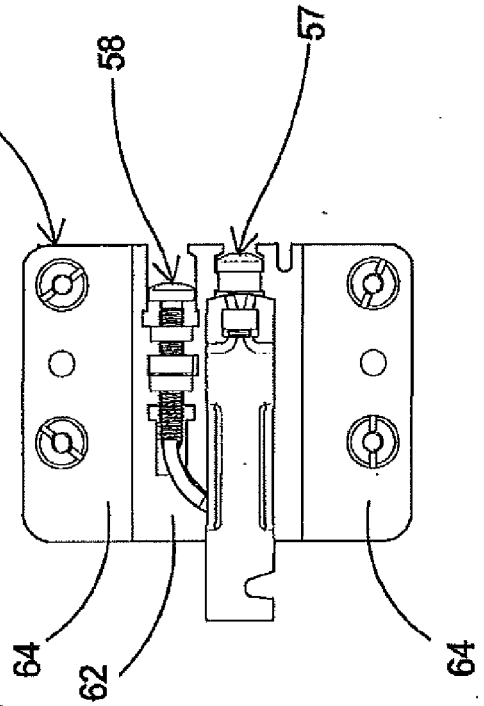


Fig. 8

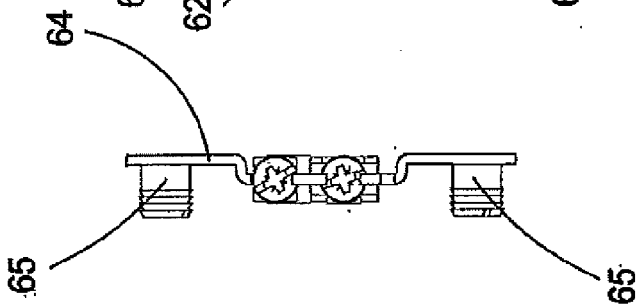
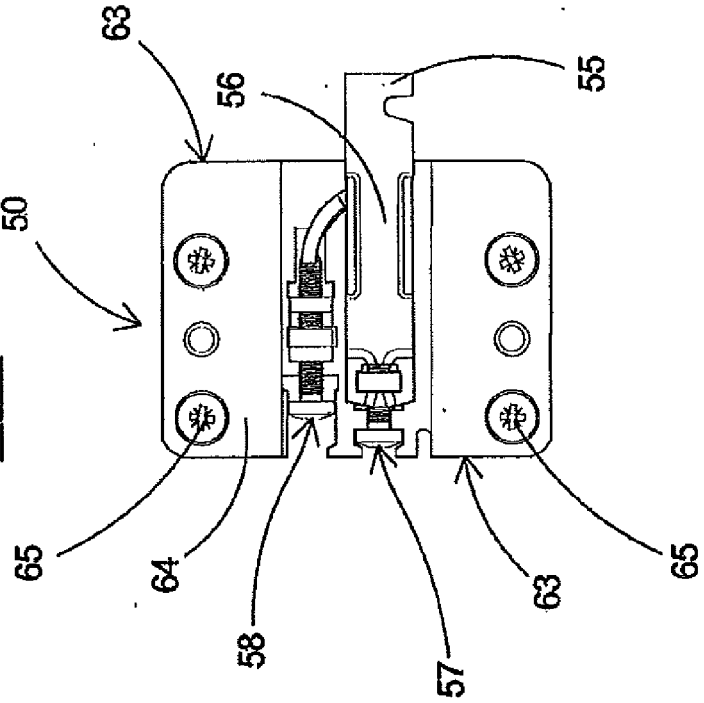


Fig. 7



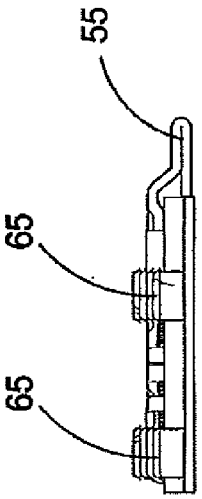
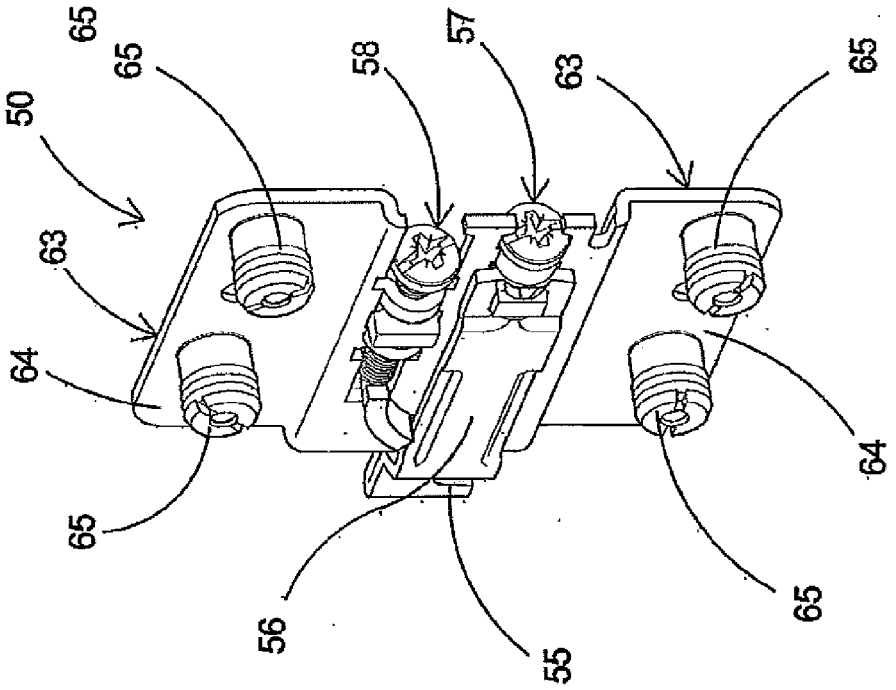


Fig. 10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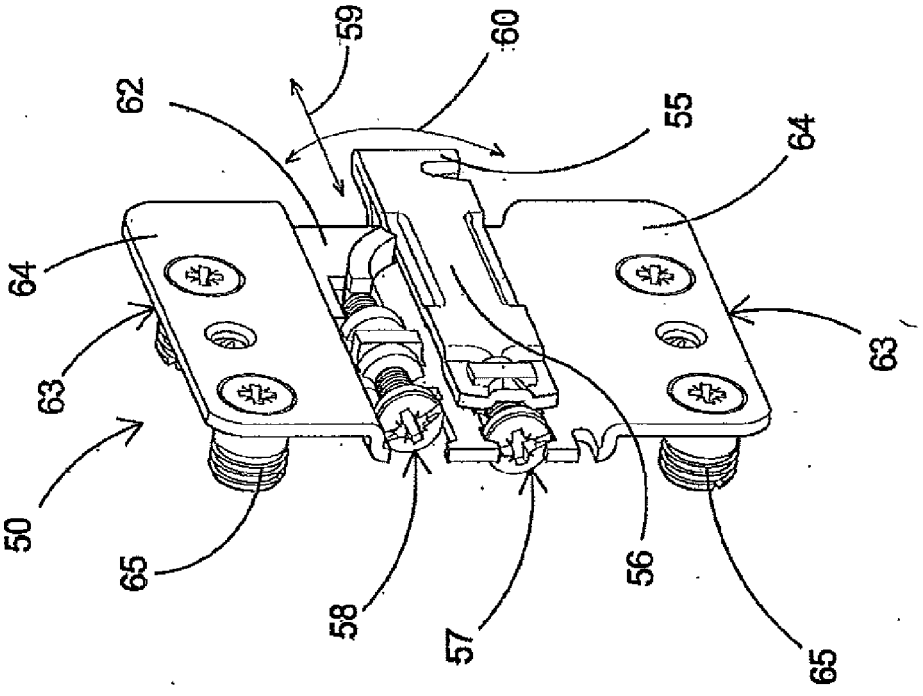
57
63
65
50
63
64
65
64
65
56
55

Fig. 12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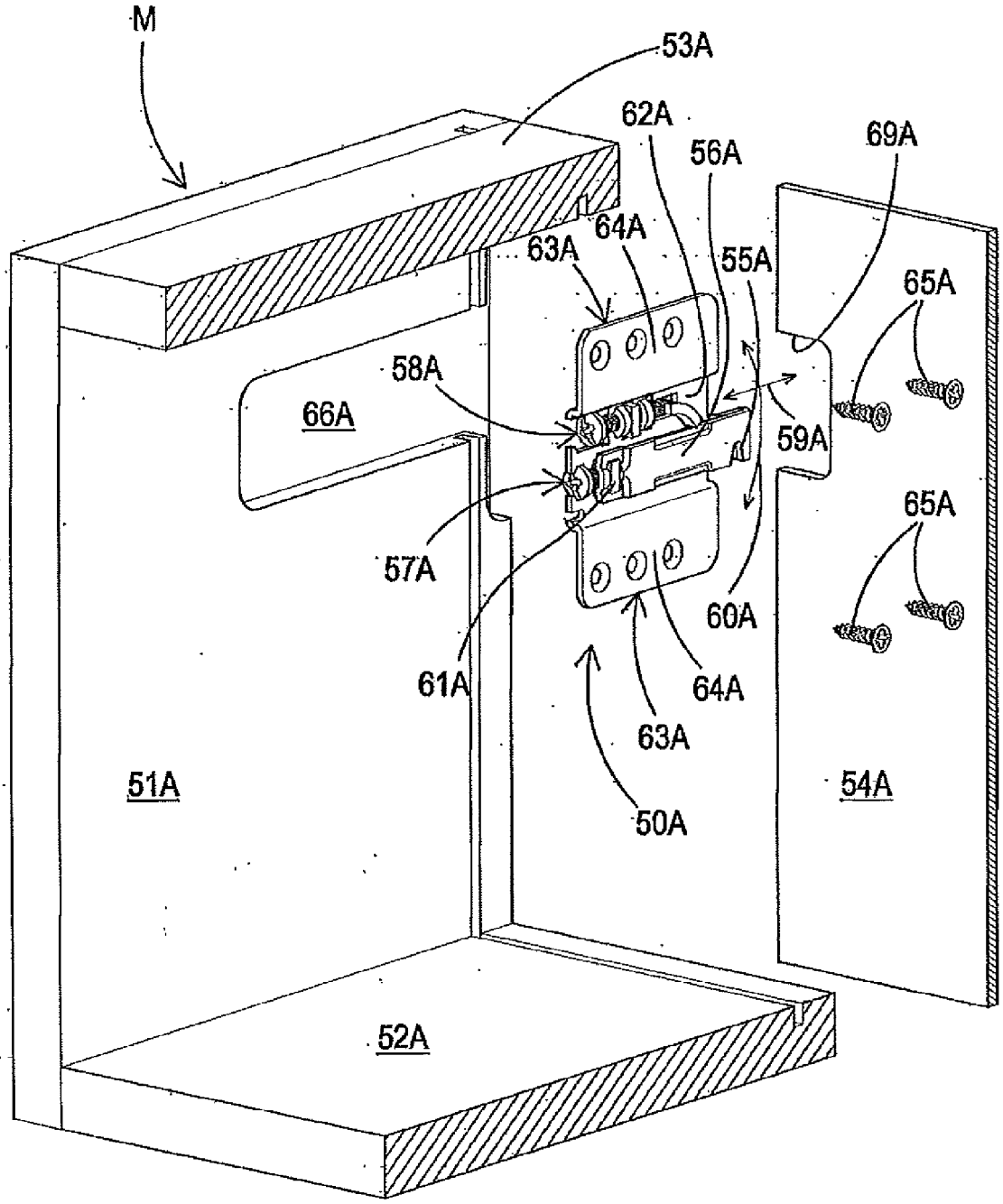
60
62
55
64
64
63
63
50
65
58
57
56
65

Fig. 11


M
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62A
56A
69A
64A
63A
55A
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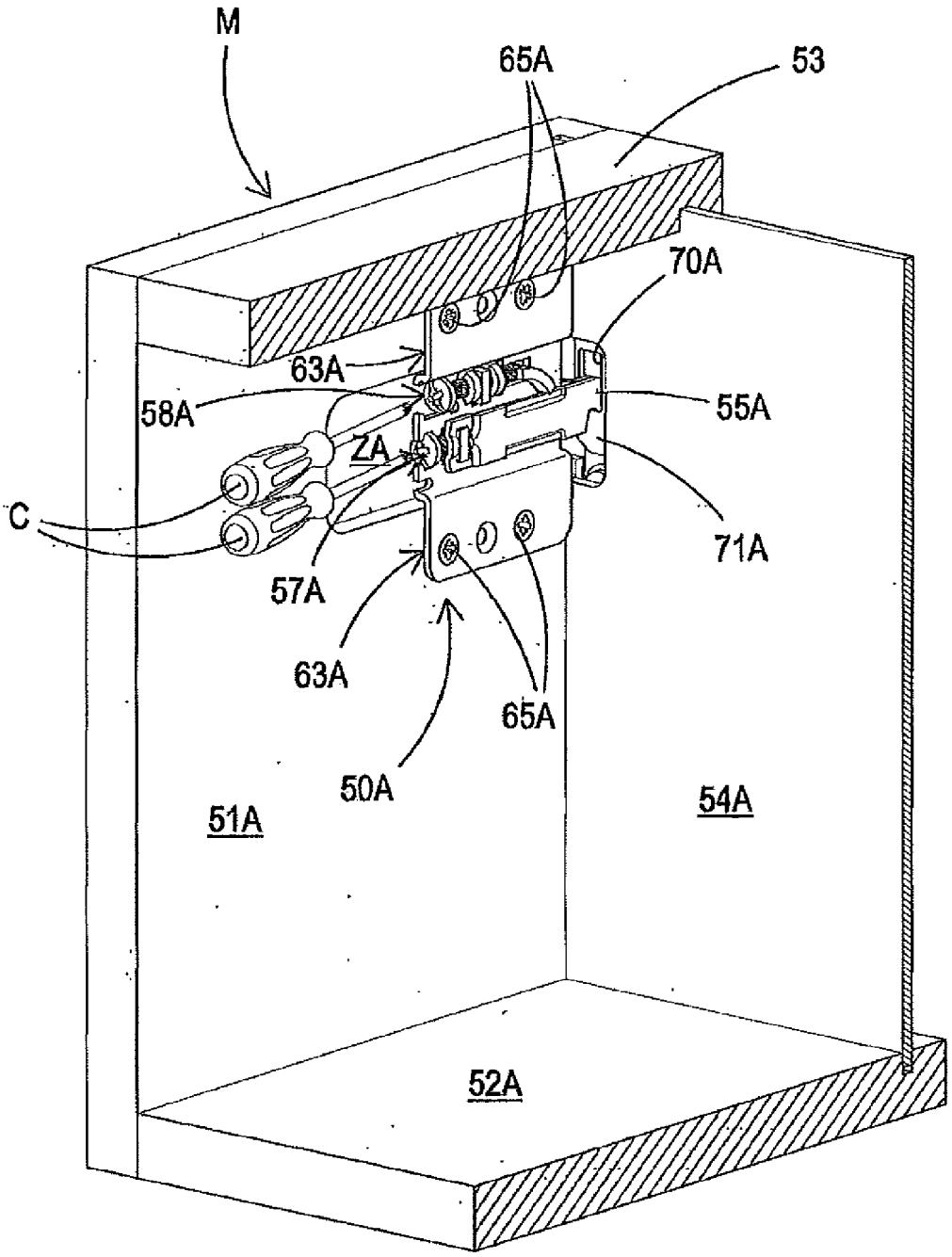
63A
51A
54A
50A
52A

Fig. 13



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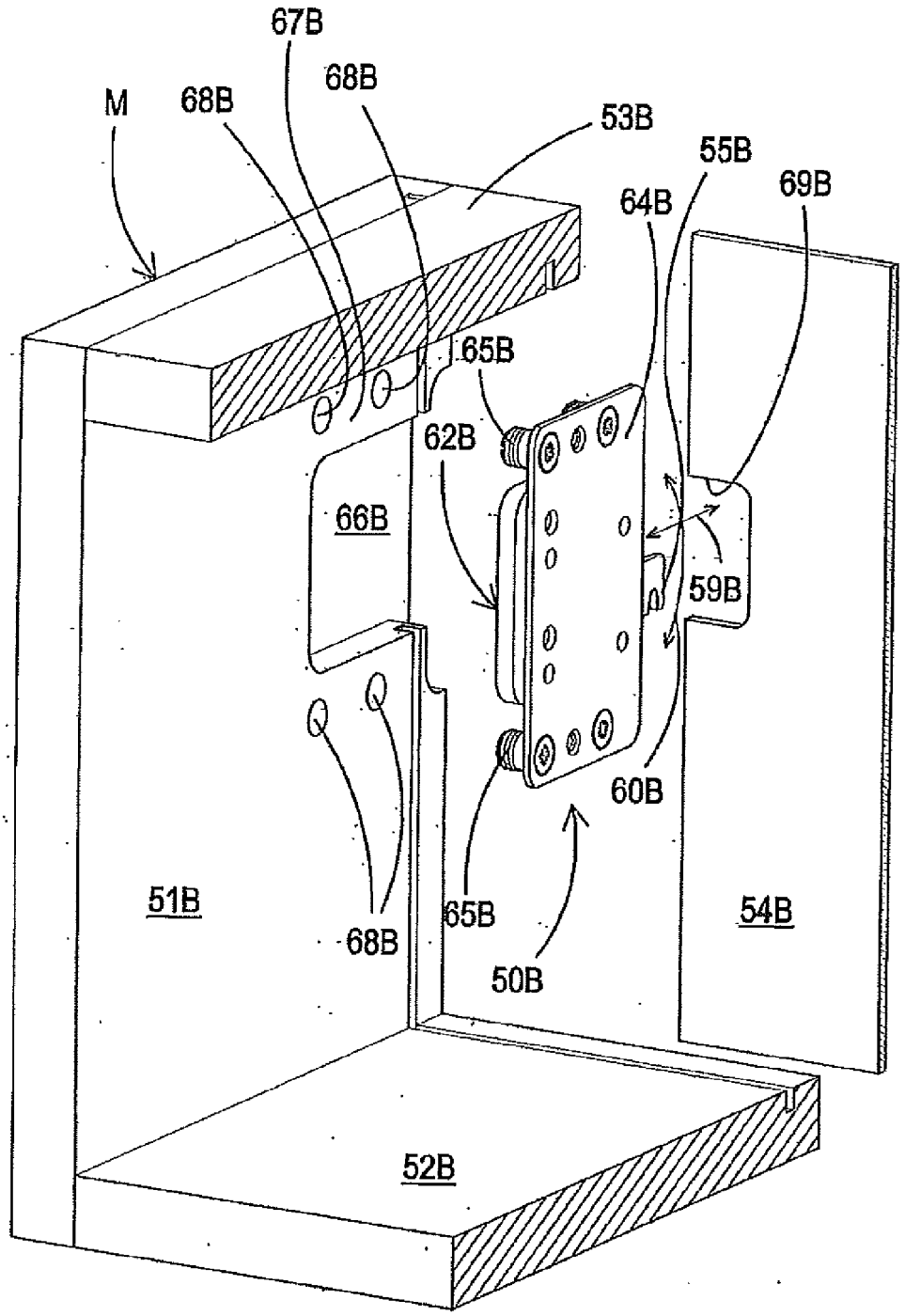
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68B
65B
54B
50B
52B

Fig. 15

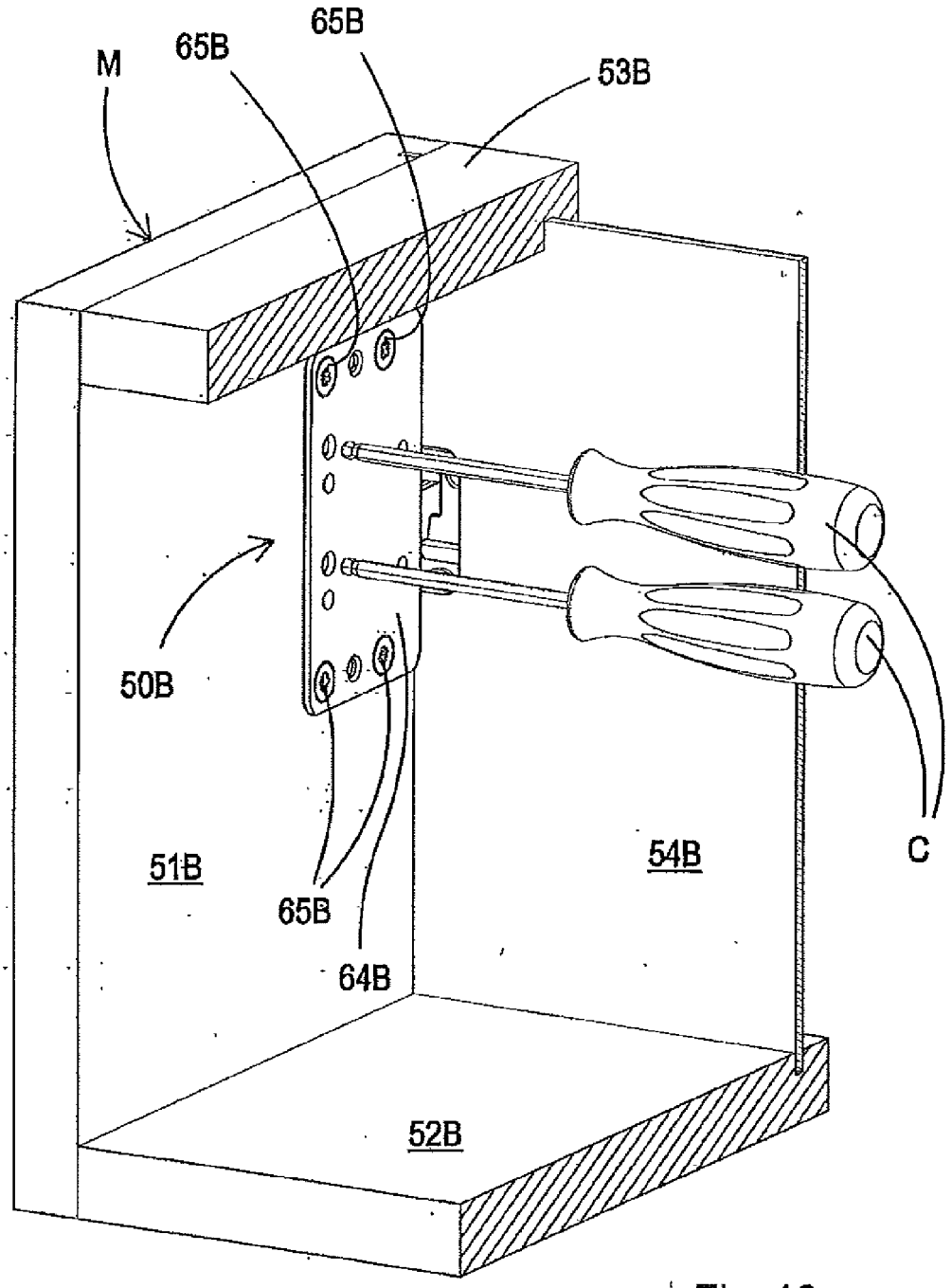
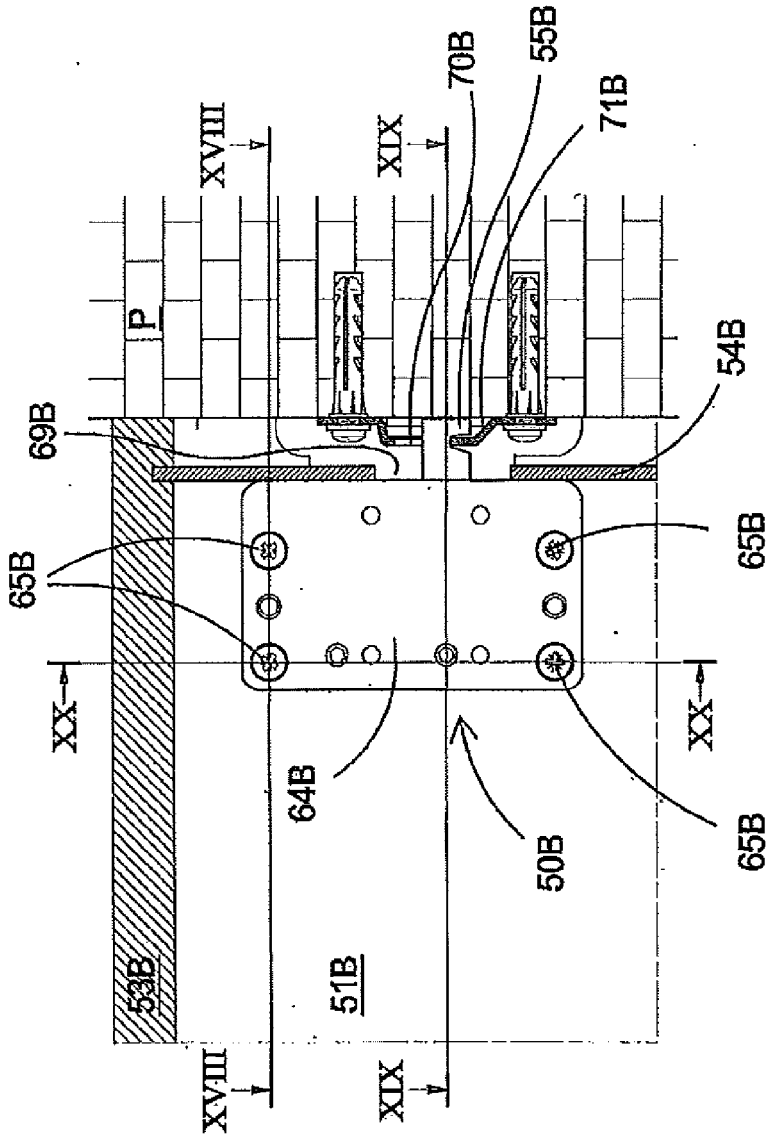


Fig. 16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XVIII
XIX

Fig. 17

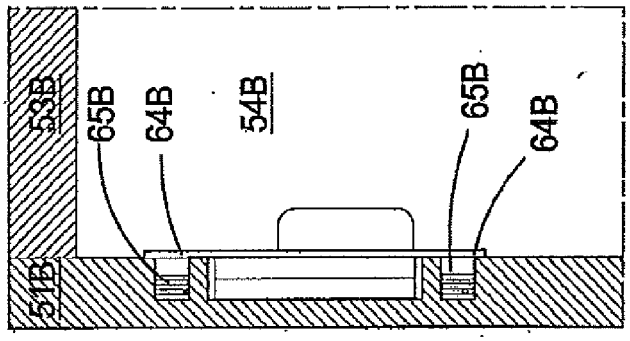

Fig. 20

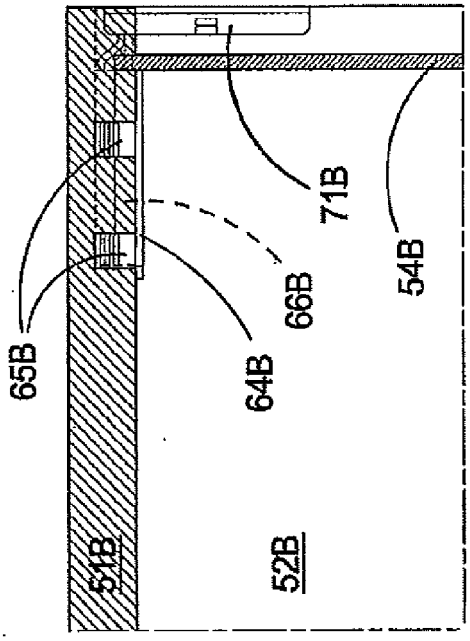

Fig. 18

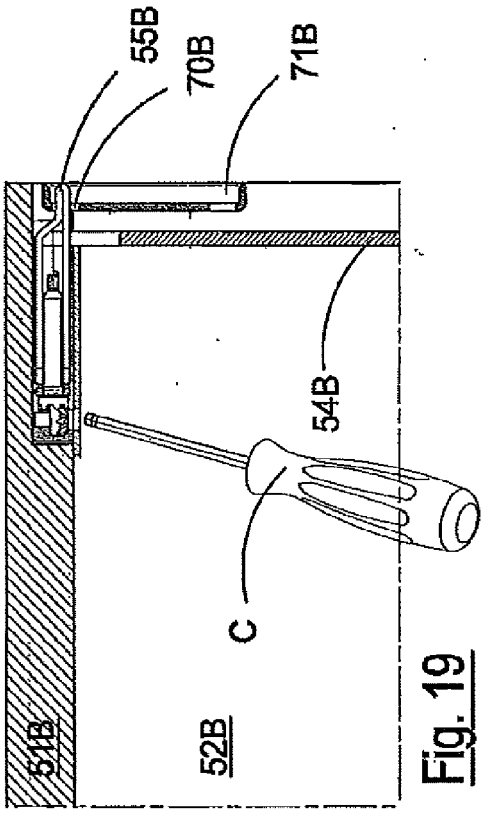

Fig. 19

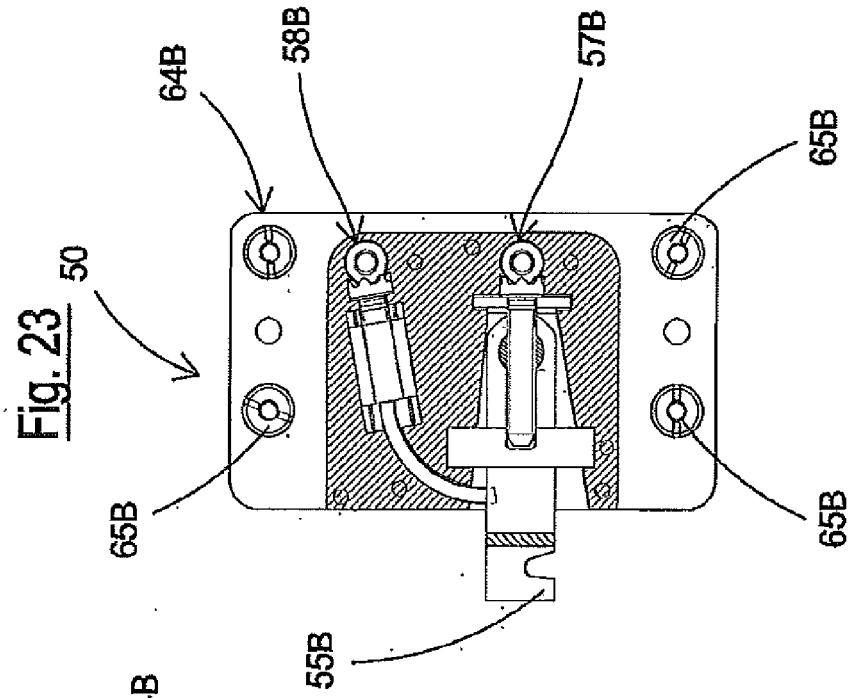

Fig. 23

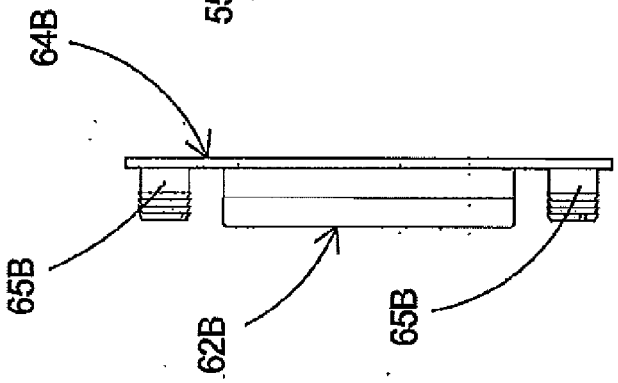

Fig. 22

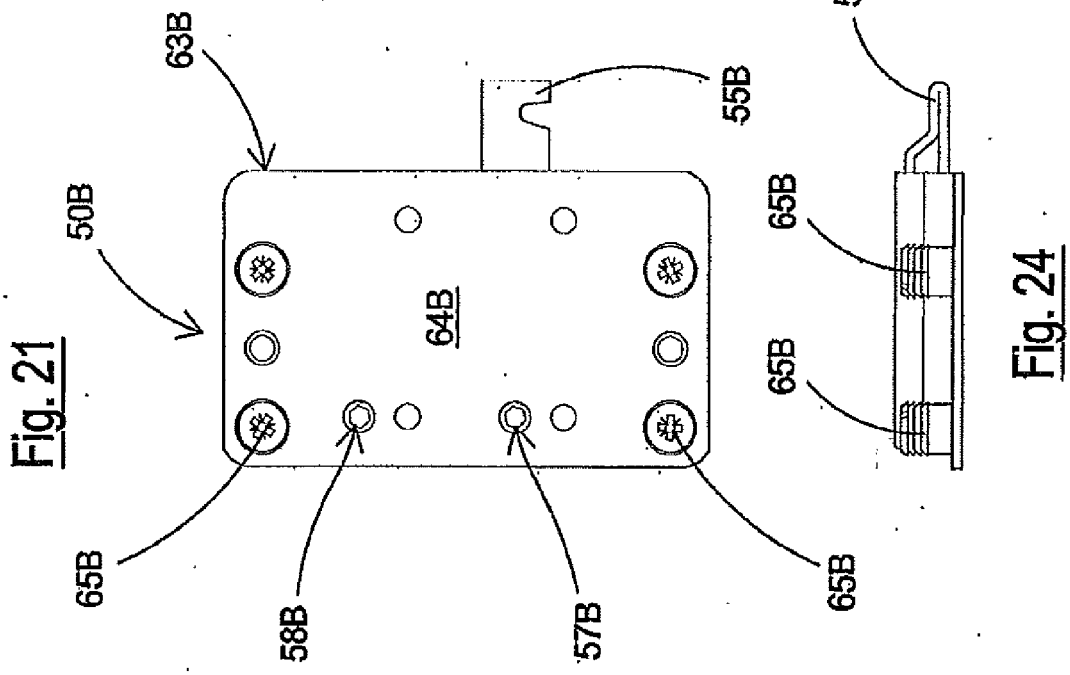

Fig. 21

Fig. 24

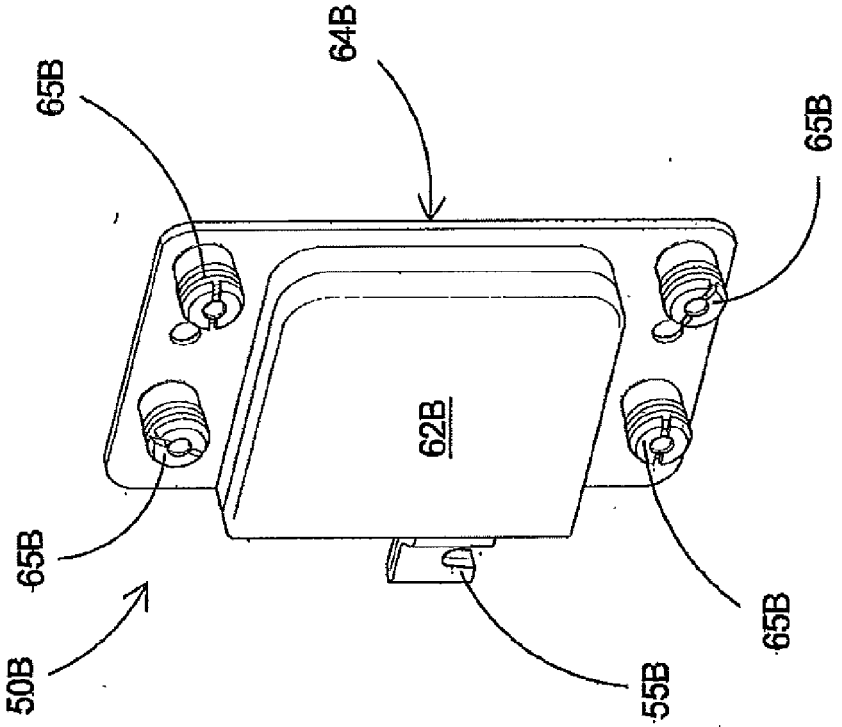

Fig. 26

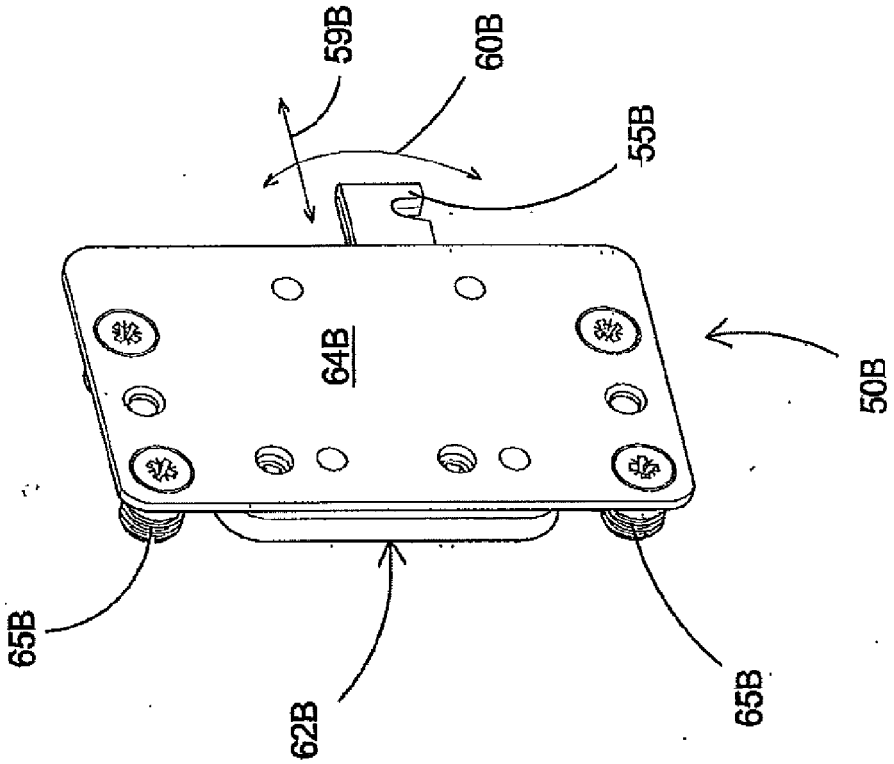

Fig. 25

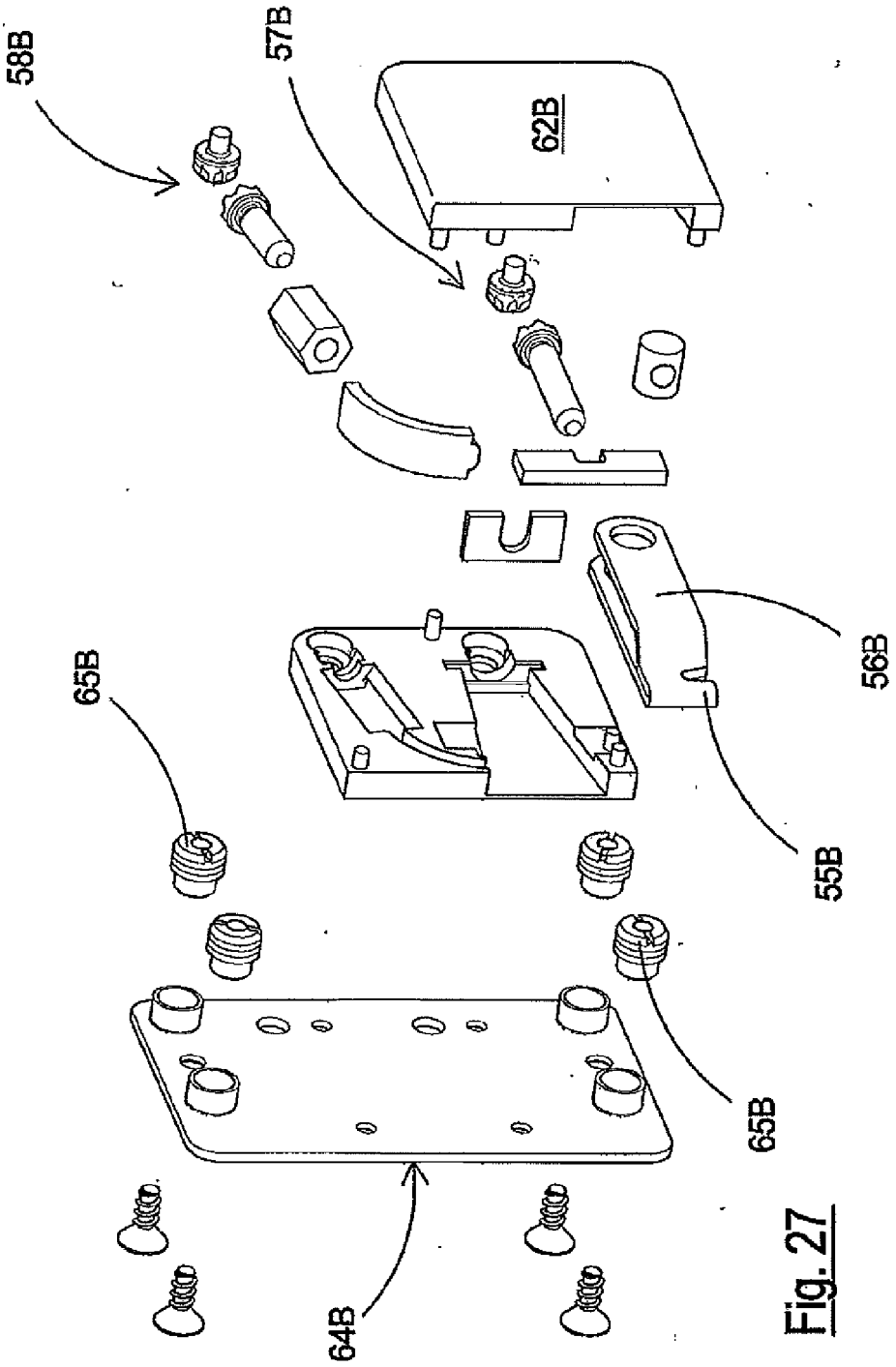

Fig. 27

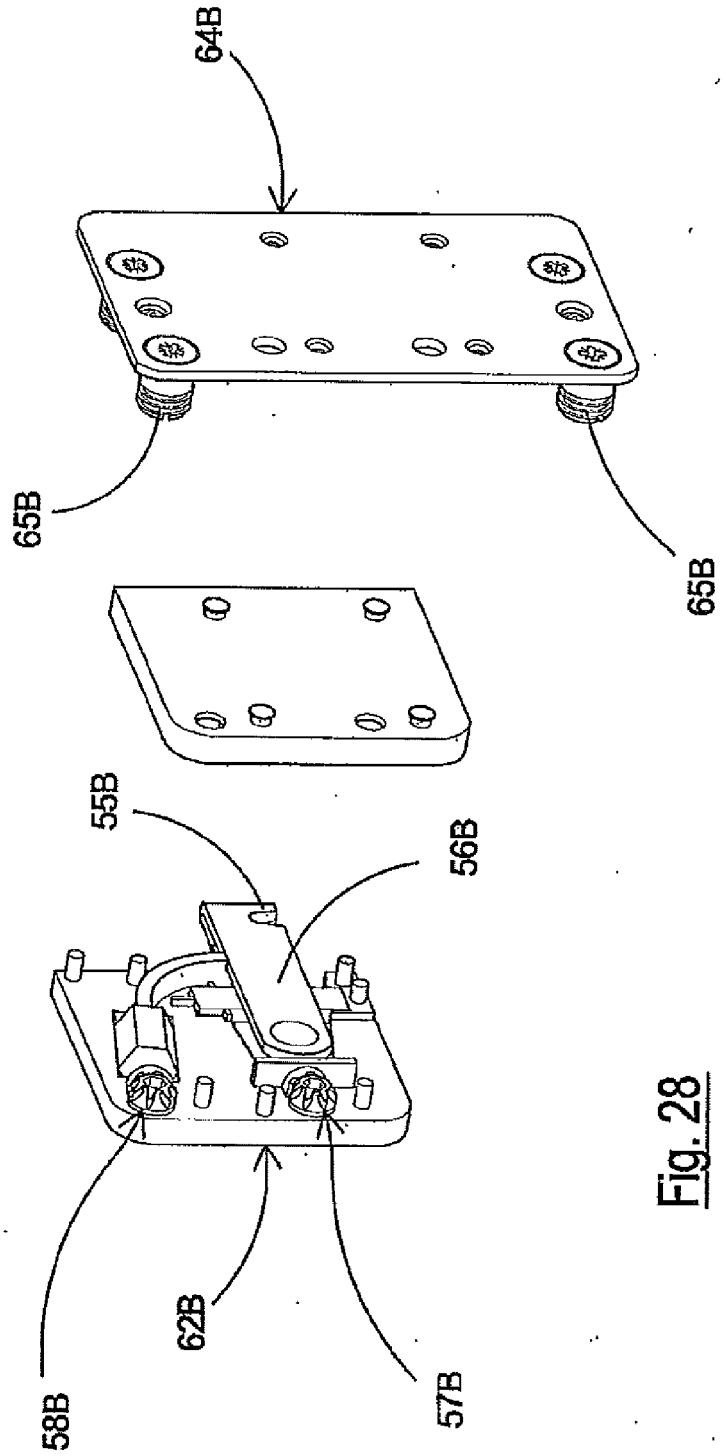

Fig. 28

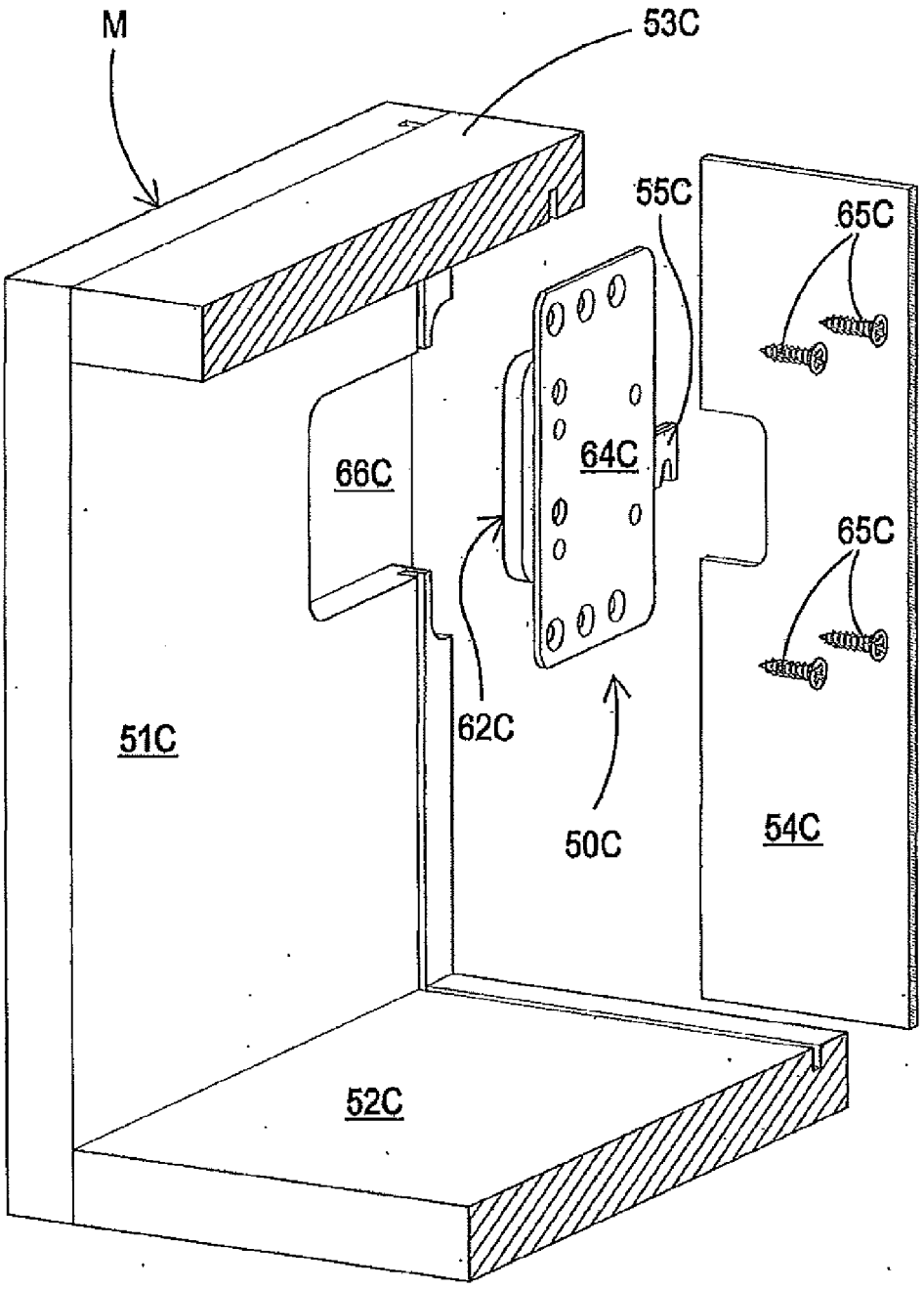

Fig. 29

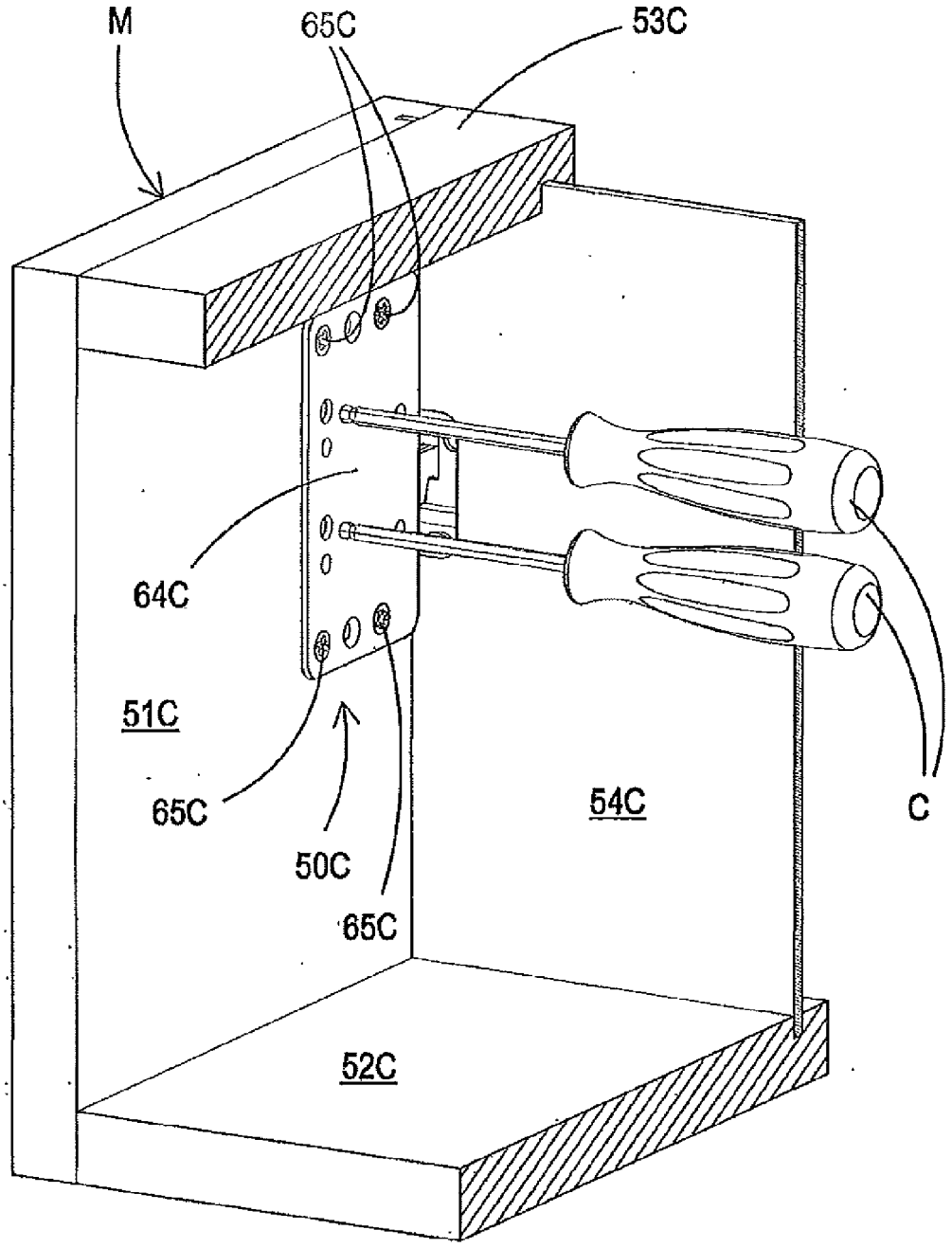

Fig. 30

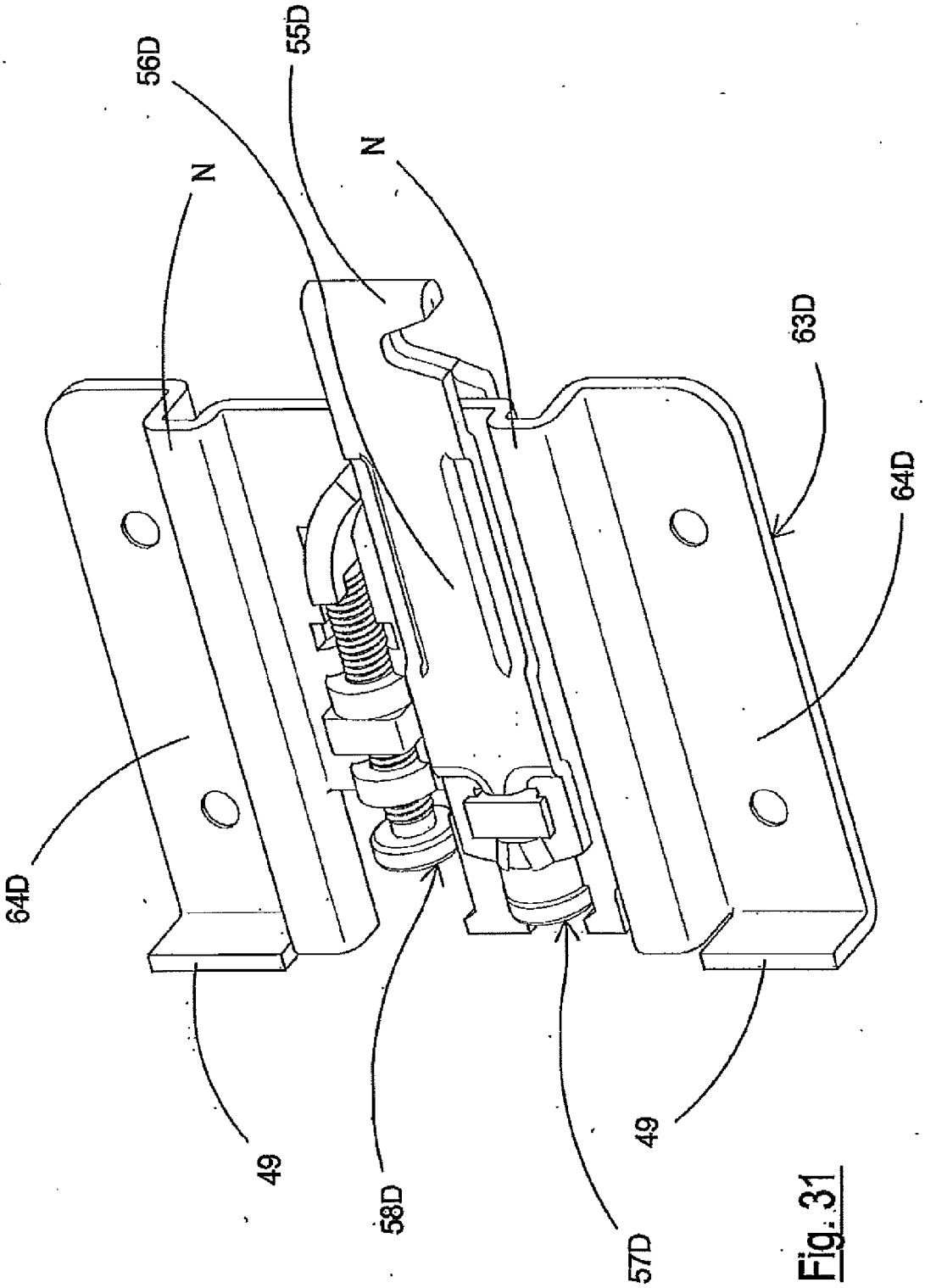

Fig. 31

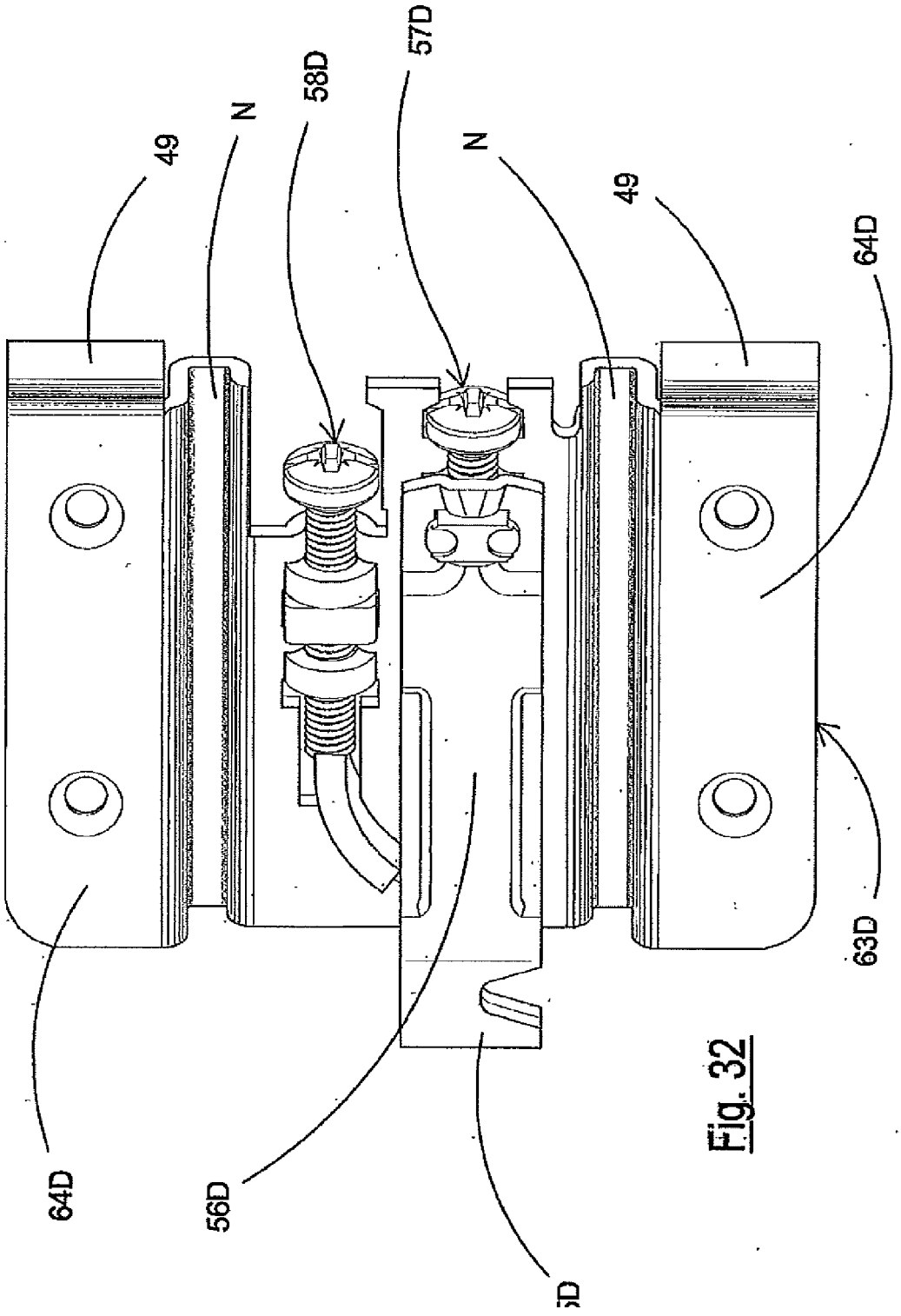

Fig. 32

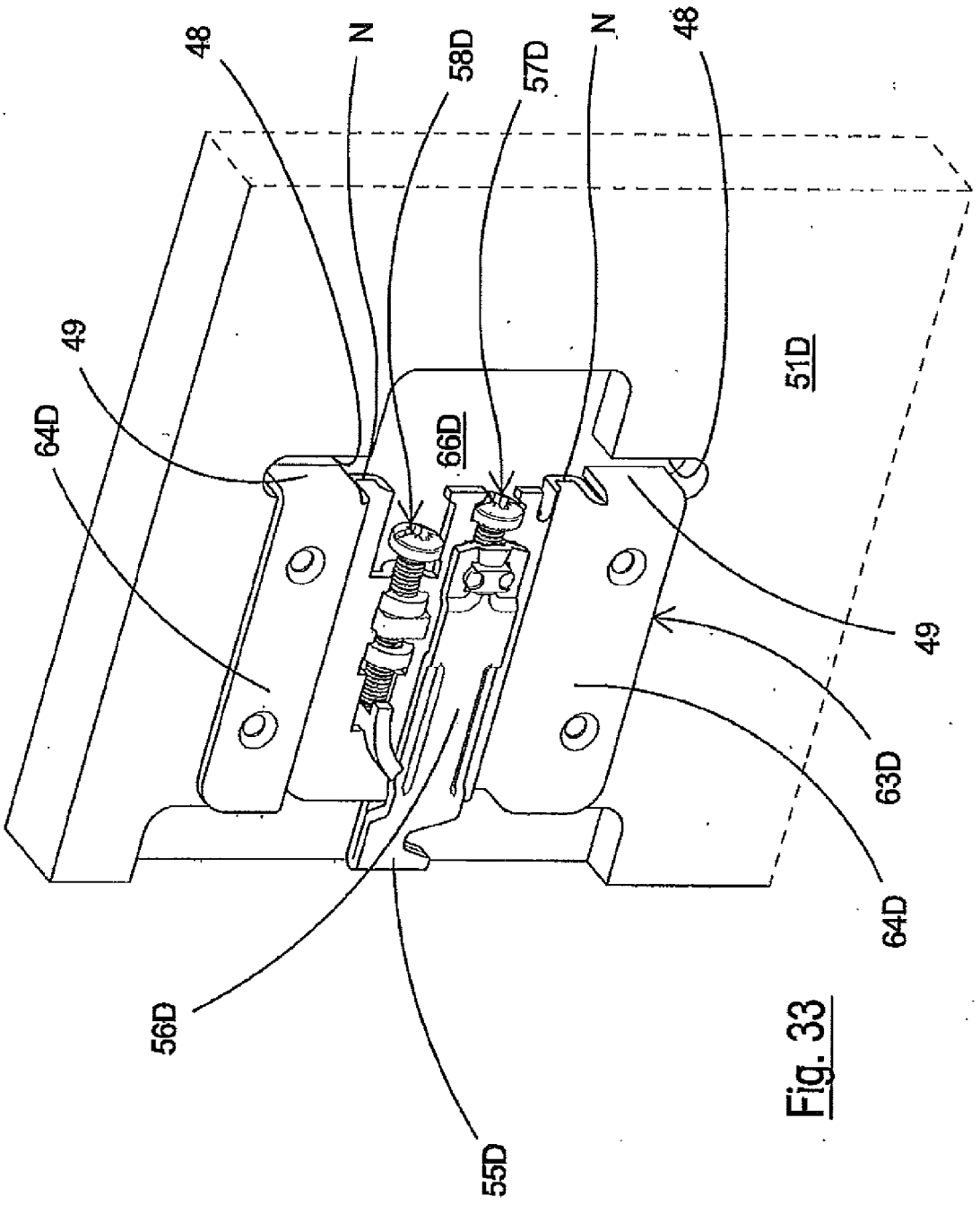

Fig. 33

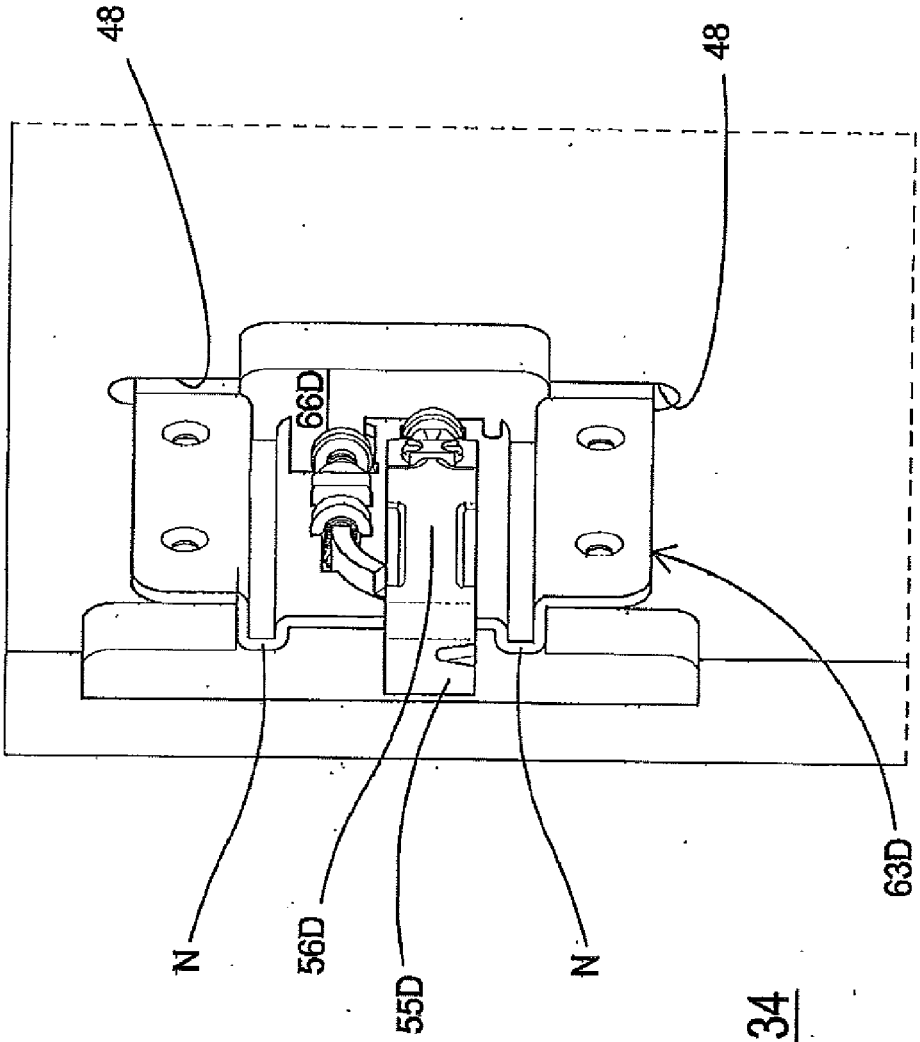

Fig. 34

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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2010/006803 A1 (LEONARDO SRL [IT]; CATTANEO CARLO [IT]) 21 January 2010 (2010-01-21) * the whole document *	1-9	INV. A47B95/00
X	WO 2010/012503 A1 (LEONARDO SRL [IT]; CATTANEO CARLO [IT]) 4 February 2010 (2010-02-04) * the whole document *	1-9	
X	WO 2010/012504 A1 (LEONARDO SRL [IT]; CATTANEO CARLO [IT]) 4 February 2010 (2010-02-04) * the whole document *	1-9	
X	EP 0 632 979 A1 (CAMAR SPA [IT]) 11 January 1995 (1995-01-11) * the whole document *	1-9	
			TECHNICAL FIELDS SEARCHED (IPC) A47B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	14 November 2012	Behammer, Frank

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14-11-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2010006803 A1	21-01-2010	EP 2299873 A1	30-03-2011
		WO 2010006803 A1	21-01-2010
WO 2010012503 A1	04-02-2010	CA 2711106 A1	04-02-2010
		EP 2303068 A1	06-04-2011
		JP 2011529354 A	08-12-2011
		RU 2010130697 A	20-06-2012
		US 2010282934 A1	11-11-2010
		WO 2010012503 A1	04-02-2010
WO 2010012504 A1	04-02-2010	CA 2725517 A1	04-02-2010
		EP 2303069 A1	06-04-2011
		JP 2011529558 A	08-12-2011
		RU 2011102017 A	10-09-2012
		US 2011062297 A1	17-03-2011
		WO 2010012504 A1	04-02-2010
EP 0632979 A1	11-01-1995	EP 0632979 A1	11-01-1995
		IT 1265125 B1	31-10-1996

EPO FORM P0459

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Patent documents cited in the description

- EP 0033179 A **[0003]**
- EP 2303068 A **[0003]**
- EP 11184671 A **[0003] [0039]**
- IT 226972 **[0003]**