

(19)



(11)

EP 3 076 827 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

10.11.2021 Bulletin 2021/45

(51) Int Cl.:

A47B 95/00 (2006.01)

(86) International application number:

PCT/EP2014/003066

(21) Application number: **14799967.6**

(22) Date of filing: **14.11.2014**

(87) International publication number:

WO 2015/082045 (11.06.2015 Gazette 2015/23)

(54) **UNIVERSAL ANTI-DISENGAGEMENT SYSTEM FOR WALL-CUPBOARDS**

UNIVERSELLES AUSHÄNGUNGSSCHUTZSYSTEM FÜR WANDSCHRÄNKE

SYSTÈME ANTI-DÉTACHEMENT UNIVERSEL POUR PLACARDS MURAUX

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(72) Inventor: **CATTANEO, Carlo**

22060 Figino Serenza (CO) (IT)

(30) Priority: **06.12.2013 IT MI20132035**

(74) Representative: **Franco Martegani S.r.l.**

Via Carlo Alberto, 41

20900 Monza (IT)

(43) Date of publication of application:

12.10.2016 Bulletin 2016/41

(56) References cited:

WO-A1-03/068024 WO-A1-2010/121687

JP-A- H0 910 055 JP-U- S5 785 264

JP-U- S5 948 262 JP-U- S57 104 944

(73) Proprietor: **Leonardo S.r.L.**

22060 Figino Serenza (CO) (IT)

• **None**

EP 3 076 827 B1

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

Description

[0001] The present invention relates to a universal anti-disengagement system for wall-cupboards hooked to a fixed wall support, generally a suitably shaped metal bar or plate.

[0002] The term universal refers to an anti-disengagement system which can be indifferently applied to furniture equipped with hanging brackets having any type of configuration and/or regulation mechanism in height and depth, whether they be visible or hidden.

[0003] As is well-known to experts in the field, a system for constraining a wall-cupboard to a wall envisages the use of a hanging-bracket device comprising, for example, a hook which extends at the rear of the same cupboard through the lining (if present), to be freely hooked to the above bar or plate fixed to the wall.

[0004] Hanging brackets of this type (so-called visible brackets) are known for example from patents EP 0033179 B1 and EP 0632979 A1.

[0005] If direct upward forces are applied to the hooked cupboard, the same can become detached from the support and fall, also causing serious damage not only to objects but above all to people.

[0006] This possibility is at present even more probable as it is becoming increasingly customary to assemble wall cupboards at relatively low heights from the floor, which increases the risk indicated above of accidental disengagement, above all on the part of children.

[0007] Furthermore, safety regulations have entered and are entering into force in various countries, which impose the provision of accidental anti-disengagement systems, associated with wall-cupboards.

[0008] Anti-disengagement systems for wall-cupboards of the known type are described, for example in patent applications PCT/EP2010/001601 and PCT/EP2011/006113. Both of these PCT patent applications describe anti-disengagement systems applied to visible hanging brackets. Other anti-disengagement systems are known from JP S57 104944 U and WO2010121687.

[0009] Patent application PCT/EP2011/001593, on the other hand, describes an anti-disengagement system applied to a hanging bracket of the hidden type.

[0010] According to the known art, there is therefore no universal anti-disengagement system, i.e. an anti-disengagement system which is totally independent of the type of hanging bracket used, with all the evident drawbacks deriving therefrom.

[0011] A disadvantage can derive from the fact that a user is compelled to adopt a hanging bracket with an anti-disengagement system incorporated, even when this is not necessary or desired. It should also be noted that the presence of the anti-disengagement system must comprise access slots on the cupboard for the operating tool, with relative covering caps for aesthetical purposes, creating additional production costs of the cupboard.

[0012] In order to adequately satisfy market demands, it would therefore be necessary to avail of two types of hanging brackets: a type without and a type with an anti-disengagement system, with all the relative costs.

[0013] The general objective of the present invention is therefore to provide an anti-disengagement system for wall-cupboards, of the universal type, i.e. that can be used with any type of hanging bracket.

[0014] A further objective of the invention is to provide a universal anti-disengagement system which is constructively simple and does not complicate the assembly of the wall-cupboard.

[0015] Another objective of the invention is to provide an anti-disengagement system which can be easily released, i.e. which allows, if necessary, the cupboard to be easily and rapidly disassembled from the wall.

[0016] The above objectives are achieved, according to the invention, by an anti-disengagement system as defined in the enclosed claims, the main claim and dependent claims.

[0017] The structural and functional characteristics of the invention, as also its advantages with respect to the known art, will appear evident from the following description, referring to the enclosed claims, which show various possible embodiments of anti-disengagement systems for wall-cupboards produced according to the innovative principles of the invention itself.

[0018] In the drawings:

- figures 1 and 2 are a perspective view and a vertical section, respectively, illustrating a wall-cupboard provided with an anti-disengagement system produced according to a first embodiment of the invention, wherein said system is illustrated in an exploded view;
- figures 3 and 4 are two views similar to figures 1 and 2, in which the anti-disengagement system is illustrated assembled in an operative position;
- figures 5 and 6 are two views similar to figures 3 and 4, respectively, but illustrating the invention applied to a wall-cupboard in which the rear edge of the top does not finish against the lining (as in the embodiment of figures 1-4), but the lining is retracted with respect to the rear edge of the same top;
- figures 7-9 are exploded perspective views illustrating the anti-disengagement system of figures 1-6 separated from the wall-cupboard;
- figures 10-32 are views illustrating the single components of the anti-disengagement system of figures 1-9 in detail;
- figures 33-34 are an exploded perspective view and a vertical section, respectively, illustrating the base of the anti-disengagement system of figures 1-32 applied directly to the wall;
- figures 35,36;37,38,39,40;41,42,43,44 are views similar to figures 33, 34 but illustrating bases of the anti-disengagement system applied, not directly to the wall, but to the same bar supporting the wall-

- cupboard;
- figures 45, 46, 47 are exploded perspective views illustrating a second embodiment of an anti-disengagement system according to the invention;
- figures 48-55 are views illustrating the anti-disengagement system of figures 45-47 assembled;
- figures 56, 57, 58 are exploded perspective views illustrating a third embodiment of an anti-disengagement system according to the invention;
- figures 59-65 are views illustrating the anti-disengagement system of figures 56-58, assembled;
- figures 66, 67 are views illustrating the assembly phases of the anti-disengagement system of figures 56-65;
- figures 68, 69, are views illustrating the dismantling phases of the anti-disengagement system of figures 56-65;
- figures 70-81 are various views illustrating the single components of the anti-disengagement system of figures 56-69 in detail;
- figures 82, 83, 84, are exploded perspective views illustrating a fourth embodiment of an anti-disengagement system according to the invention;
- figures 85-90 are views illustrating the anti-disengagement system of figures 82-84 assembled;
- figures 91-102 are various views illustrating the single components of the anti-disengagement system of figures 82-90 in detail;
- figures 103, 104, are exploded perspective views illustrating a fifth embodiment of an anti-disengagement system according to the invention;
- figures 105-110 are views illustrating the anti-disengagement system of figures 103, 104, assembled;
- figures 111-123 are various views illustrating the single components of the anti-disengagement system of figures 103-110 in detail;
- figure 124 is an exploded perspective view illustrating a sixth embodiment of an anti-disengagement system according to the invention;
- figures 125-128 are views illustrating the functioning mode of the anti-disengagement system of figure 124;
- figures 129-133 are various views illustrating the anti-disengagement system of figures 124-128, assembled;
- figures 134-141 are various views illustrating the anti-disengagement system of figures 125-133, in detail.

[0019] With reference first of all to figures 1-4 of the drawings, a wall-cupboard is schematized with 150, comprising: two shoulders 151 interconnected by a bottom 152 and a top 153, and also provided with a possible lining 154.

[0020] A wall-cupboard 150 is suspended to a wall P in any known way, for example by means of hanging brackets 155 of the type object of patent applications PCT/EP2010/001601, PCT/EP2011/006113 and

PCT/EP2011/001593.

[0021] Said hanging bracket 155 is equipped with a hook 156 which is hooked to a plate 157 (or bar) fixed to the wall P, or other similar and/or equivalent support.

5 **[0022]** According to the invention, the uncoupling or disengagement of the wall-cupboard 150 from the plate or bar 157 - caused by a direct upward force, as indicated by the arrow 158 - is prevented by the insertion of an anti-disengagement system 159 between the wall P and the top 153, which is characteristically completely independent of the hanging brackets 155 with which the cupboard 150 is provided.

10 **[0023]** With reference to figures 1-33, said anti-disengagement system 159, according to a first embodiment of the invention, comprises a base 160 and a blocking element, for example in the form of a cursor 161. Said cursor 161 is movably assembled on said base 160, until it is buffered against the top 153 (figures 3 and 4). In this position, the cursor 161 is fixed to the base 160 by releasable fixing means consisting of a bolt 162 (as explained in greater detail hereunder), so as to prevent the disengagement of the wall-cupboard 150 from the plate 157.

20 **[0024]** The configuration of said anti-disengagement system 159 is illustrated in detail in figures 7-32.

25 **[0025]** The base 160 comprises a raised central guide 163 and two side flanges 164 with holes 165 for fixing the base 160 to the wall P by means of dowels 166 (figures 4 and 6). More specifically, and as can be clearly seen from the drawings, the guide 163 also comprises a slit 167, open at the top, and a pair of outer rails 168, for the purposes explained hereunder.

30 **[0026]** The cursor 161 comprises an L-shaped bracket with a horizontal section 169 and a vertical section 170.

35 **[0027]** The horizontal section 169 houses the bolt 162 comprising a screw 171 and a nut 172.

40 **[0028]** As can be clearly seen from the drawings, in particular from figure 15, the screw 171 with the operating head 173, passes through a hole 174 and is screwed onto the nut 172 which is constrained in the guide 163 with the possibility of translating, but not rotating (figures 10-17).

45 **[0029]** The horizontal section 169 cooperates with the top 153 to prevent the upward movement of the cupboard 155 in the direction of the arrow 158 (figures 2 and 4).

[0030] The vertical section 170 of the cursor 161 is constrained and translates on the guide 163 of the base 160, not only thanks to the nut 172, but also due to a pair of side edges 175 engaged with the outer rails 168 of the guide 163.

[0031] The functioning of the anti-disengagement system illustrated in figures 1-34 is evident from what is described above and is briefly the following.

55 **[0032]** After fixing the plate 157 (or bar) and one or more bases 160 to the wall P (figures 33, 34), the bracket 155 is hooked to the plate 157 (figures 1 and 2), and the cursor 161 is then inserted on the base 160 (figure 2) until its horizontal section 169 is brought against the top

153 (figures 4 and 6). At this point, the cursor 161 is firmly blocked in position by tightening the screw 171, which causes the blockage of the cursor 161 itself on the base 160.

[0033] A vertical upward movement of the wall-cupboard 150 is therefore prevented, thus avoiding the disengagement of the hanging bracket 155 from the plate 157.

[0034] In other words, the cursor 161 is assembled on the base 160 so that it can be moved between two positions, a first non-operative position far (separated) from said top 153 and an operative position buffered, or substantially buffered against said top 153.

[0035] It should be pointed out that when the lining 154 is not buffered against the rear edge of the top 153, but retracted with respect to the same, figures 5 and 6, a seat S (opening) must be produced in the top 153 (figures 5 and 6) to allow the cursor 161 to be engaged against the top 153 itself.

[0036] Figures 35, 36; 37, 38, 39, 40; 41, 42, 43, 44, illustrate respective bases 160A, 160B and 160C different - but substantially equivalent - with respect to the base 160 illustrated in figures 33, 34.

[0037] The substantial difference is that, whereas the base 160 is fixed directly to the wall P, as it is independent of the plate or bar 157, the bases 160A-C are assembled on the plate or bar 157A-C.

[0038] More specifically, with reference to figures 35, 36, a channel-section 175A extends below from the base 160A, which is coupled with the upper edge 176A of the bar 157A, so as to move horizontally. In this way, after the bar 157A has been fixed to the wall, the base 160A can be positioned in the desired position and subsequently fixed to the wall P itself.

[0039] The perfect reciprocal positioning between the base 160A and the bar 157A is thus ensured.

[0040] In the embodiment illustrated in figures 37-40, a base 160B extends downwardly with an extension 177B, which is shaped so as to embrace the bar 157B with a seat 178B.

[0041] More specifically, the seat 178B is equipped above with a hook 179B which is hooked to the upper edge 176B of the bar 157B (figures 37, 38), and below with a bead 180B which is tightened against the lower edge 181B, so as to push and block the base 160B against the wall P (figure 40).

[0042] Also in the embodiment illustrated in figures 41-44, the base 160C extends downwardly with an extension 177C which is shaped so as to embrace the bar 157C with a seat 178C.

[0043] More specifically, the seat 178C is equipped above with a hook 179C which is hooked to the upper edge 176C of the bar 157C (figures 43, 44), and below with a tooth 182C which is engaged with the lower edge 181C.

[0044] The base 160C is blocked in position by the tightening of a bead 183C.

[0045] Figures 45-55 illustrate a second embodiment

of the invention in which identical and/or equivalent components to those of the first embodiment are indicated with the same reference numbers increased by 100.

[0046] This second embodiment comprises a base 260 and a cursor 261 which can be moved on said base 260. The base 260 is provided below with a flange 284 with holes 285 for fixing it to the wall by means of dowels. The base 260 is shaped with a central section 286 lying on the same plane as the flange 284 and with two side sections 287 protruding from said central section 286 (figures 47 and 51). The upper end of the section 286 is horizontally bent so as to define a head 288 equipped with a threaded hole 289.

[0047] As can be clearly seen from the drawings, guiding grooves 290 are present in the cursor 261, which slide on the side sections 287 of the base 260. The movement of the cursor 261 on the base 260, until its engagement with the top of the wall-cupboard, is driven by a screw 291 which is screwed into the hole 289, and which causes a stable positioning of the cursor 261 on the base 260.

[0048] Figures 56-81 illustrate a third embodiment of the invention in which identical and/or equivalent components to those of the first embodiment are indicated with the same reference numbers increased by 200.

[0049] This third embodiment comprises a base 360 and a cursor 361 which moves on said base 360. The base 360 is substantially a rectangular frame whose lower horizontal side 392 has holes 393 to allow it to be fixed to the wall by means of dowels.

[0050] As can be clearly seen from the drawings, the internal surfaces of the vertical sides of the base 360 are equipped with racks 394. The cursor 361 comprises a collar 395 on which a covering cap 396 is inserted and blocked.

[0051] Two uprights 397 extend downwardly from the rear ends of the collar 395, which are slidingly inserted in respective guides 398 of the base 360 (figures 56, 57, 28, 62).

[0052] Respective blade springs 399 extend from the collar 395, adjacent to the uprights 397, at 90° with respect to the same, which terminate below with teeth d suitable for being elastically snap-engaged with the teeth of the rack 394 (figures 66-69).

[0053] It is evident how the activation of the anti-disengagement system is effected by pressing and moving the cursor 361 downwards (figures 66, 67) until it becomes engaged against the top of the cupboard, said engagement becoming stable by connecting the teeth d onto the racks 394.

[0054] The anti-disengagement system is deactivated by disengaging the teeth d from the racks 394 by side pressure on the collar 395 and pulling the cursor 361 upwards (figures 68, 69).

[0055] Figures 82-102 illustrate a fourth embodiment of the invention in which identical and/or equivalent components to those of the first embodiment are indicated with the same reference numbers increased by 300.

[0056] This fourth embodiment comprises a base 460 and a cursor 461 which moves on said base 460. Said cursor 461 consists of only one horizontal stop 469.

[0057] The base 460 comprises a raised central guide 463, and two side flanges 464 with holes 465 for fixing the base 460 to the wall by means of dowels.

[0058] As can be clearly seen from the drawings, a dovetail connection 449 extends, at the rear, from the cursor 461, which is slidingly coupled with said guide 463. The cursor 461 is blocked in position on the base 460 (against the top of the cupboard) and a screw 471 is screwed into a pass-through hole 474 of the cursor 461 itself to become engaged with its free end directly against the base 460 (figures 87, 90).

[0059] Figures 103-123 illustrate a fifth embodiment of the invention in which identical and/or equivalent components to those of the first embodiment are indicated with the same reference numbers increased by 400.

[0060] The base 560 is a rectangular plaque 548 with holes 547 for fixing it to the wall by means of dowels.

[0061] As can be clearly seen from the drawings, said plaque 548 also has a plurality of holes 546 on which complementary pins 542 of the blocking element 561 are engaged.

[0062] More specifically, the blocking element 561 consists of only one horizontal stop 569 consisting of a collar C with elastically yielding arms 545 which terminate with teeth 544 suitable for being elastically snap-engaged with side guides 543 of the plaque 548.

[0063] As can be clearly seen in figures 103 and 104, the blocking element 561, positioned substantially against the top of the wall-cupboard, is applied to the base 560 by acting with a horizontal movement so as to engage the pins 542 inside the holes 546.

[0064] The stable positioning of the blocking element 561 on the base 560 is therefore ensured by the combined action of the elastic teeth 544 and pins 542.

[0065] Figures 124-141 illustrate a sixth embodiment of the invention comprising a base 600 with holes 601 for its fixing to the wall by means of dowels.

[0066] A blocking element consisting of a lever 602 comprising an arm 603 rotating on a pin 604 of the base 600, is assembled on said base 600. As can be clearly seen in the drawings, the lever 602 is coupled with the base 600 by means of a connection with front teeth 605, 606 positioned on the base 600 and on the lever 602 respectively. A spring 607 keeps the teeth 605, 606 in reciprocal engagement.

[0067] It is evident how, with the lever in the raised position of figure 125, the wall-cupboard can be hooked, or unhooked, with respect to the wall support: whereas, with the lever in the lowered position of figure 126, 127 and 129, the arm 603 is brought into contact with the top 153 of the wall-cupboard, which is thus blocked in position.

[0068] The objectives mentioned in the preamble of the description for producing an anti-disengagement system for wall-cupboards which, in addition to being ex-

tremely economical, can be used with any type of hanging bracket, independently of the same, have therefore been achieved.

[0069] The protection scope of the invention is defined by the following claims.

Claims

1. An anti-disengagement system for wall-cupboards wherein a wall-cupboard (150) has a top (153) and is hooked, by means of a hook (156) of a hanging bracket (155), to a support (157, 157A, 157B, 157C) fixed to a wall (P), **characterized in that** it comprises, in combination:
a base (160,260,360,460,560,600) with said wall (P) fixable to the wall (P) and a blocking element (161,261,361,461,561;602,603) assembled on said base (160,160A,160B,160C,260,360,460,560,600), to be positioned above said top (153), releasable means (162,291;d,394,471;542,546,543,544; 605,606) for fixing said blocking element (161,261,361,461,561;602,603) in position being envisaged, for preventing the upward movement of said cupboard (150), and therefore its free disengagement from said support (157,157A,157B,157C), being said anti-disengagement system independent of said hanging bracket (155).
2. The system according to claim 1, **characterized in that** said blocking element consists of a cursor (161,261, 361,461) assembled on said base (160,260,360,460) so that it can move between two positions, a first non-operative position, away (separated) from said top (153) and an operative position substantially buffered against the same top (153).
3. The system according to claim 2, **characterized in that** said cursor (161,261) consists of an L-shaped bracket with a horizontal section (169,269) configured to act on said top (153) and a vertical section (170,270) assembled on said base (160,260).
4. The system according to claim 1, **characterized in that** said blocking element consists of a single horizontal stop (469,569).
5. The system according to claim 1, **characterized in that** said blocking element consists of a lever (602) comprising an arm (603) which can be positioned above said top (153).
6. The system according to claim 2, **characterized in that** said releasable fixing means consist of a bolt (162) buffering said cursor (161) against said base

- (160).
7. The system according to claim 2, **characterized in that** said releasable fixing means consist of a screw (291) for the stable positioning of said cursor (261) with respect to said base (260).
 8. The system according to claim 1, **characterized in that** said releasable fixing means consist of elastically yielding teeth (d) which are elastically snap-engaged on respective racks (394) of said base (360).
 9. The system according to claim 1, **characterized in that** said releasable fixing means consist of a screw (471) acting directly against said base (460).
 10. The system according to claim 1, **characterized in that** said releasable fixing means consist of a combination of teeth (544) on the blocking element (561) which are elastically snap-engaged with respective side guides (543) of the base (560), and pins (542) on the blocking element (561) which are engaged in respective holes (546) on the base (560).
 11. The system according to claim 1, **characterized in that** said releasable fixing means consist of a connection with front teeth (605,606) positioned on said base (600) and on said blocking element (661), respectively.
 12. The system according to claim 1, **characterized in that** said base (160) comprises a raised central guide (163) and two side flanges (164) with holes (165) for fixing the base (160) to the wall (P) by means of dowels (166), said guide (163) also having a slit (167), open at the top, and a pair of outer rails (168).
 13. The system according to claim 1, **characterized in that** said base (260) is equipped below with a flange (284) with holes (285) to be fixed to the wall by means of dowels, and is shaped with a central section (286) lying on the same plane as the flange (284) and with two side sections (287) protruding from said central section (286), the upper end of the section (286) being horizontally bent so as to define a head (288) equipped with a threaded hole (289).
 14. The system according to claim 1, **characterized in that** said base (360) is substantially a rectangular frame with a lower horizontal side (392) having holes (393) for fixing it to the wall by means of dowels, the inner surfaces of the vertical sides of said base (360) being equipped with racks (394).
 15. The system according to claim 1, **characterized in that** said base (460) comprises a raised central guide (463) and two side flanges (464) with holes (465) for fixing the base (460) to the wall (P) by means of dowels.
 16. The system according to claim 1, **characterized in that** said base (560) is a rectangular plaque (548) with holes (547) for fixing it to the wall by means of dowels, said plaque (548) also having a plurality of holes (546) on which complementary pins (542) of the blocking element (561) are engaged.
 17. The system according to claim 1, **characterized in that** a blocking element (661) is assembled on said base (600), consisting of a lever (602) comprising an arm (603) rotating on a pin (604) of the base (600), said lever (602) being coupled with the base (600) by means of a connection with front teeth (605, 606) positioned on the base (600) and on the lever (602) respectively, a spring (607) being envisaged, which keeps the teeth (605, 606) in reciprocal engagement.
 18. The system according to claim 1, **characterized in that** said base (160) is fixed directly to said wall (P).
 19. The system according to claim 1, **characterized in that** said base (160A-C) is assembled on the plate or bar (157A-C).
 20. The system according to claim 19, **characterized in that** a channel-section (175A) extends below from said base (160A), which is coupled with the upper edge (176A) of the bar (157A), so as to move horizontally.
 21. The system according to claim 19, **characterized in that** said base (160B) extends downwards with an extension (177B), which is shaped so as to clasp the bar (157B) with a seat (178B), the seat (178B) being equipped above with a hook (179B) which is hooked to the upper edge (176B) of the bar (157B), and below with a bead (180B) which is tightened against the lower edge (181B), so as to push and block the base (160B) against the wall (P).
 22. The system according to claim 19, **characterized in that** said base (160C) extends downwards with an extension (177C) which is shaped so as to clasp the bar (157C) with a seat (178C), the seat (178C) being equipped above with a hook (179C) which is hooked to the upper edge (176C) of the bar (157C), and below with a tooth (182C) which is engaged with the lower edge (181C), said base (160C) being blocked in position by the tightening of a bead (183C).

Patentansprüche

1. Aushängesperrsystem für Wandschränke, bei dem

- ein Wandschrank (150) ein Oberteil (153) aufweist und mittels eines Hakens (156) eines Aufhängebügels (155) an einer an einer Wand (P) befestigten Halterung (157, 157A, 157B, 157C) eingehängt ist, **dadurch gekennzeichnet, dass** es in Kombination umfasst: eine Basis (160, 260, 360, 460, 560, 600) mit der Wand (P), die an der Wand (P) befestigt werden kann, und ein Blockierelement (161, 261, 361, 461, 561; 602, 603), das an der Basis (160, 160A, 160B, 160C, 260, 360, 460, 560, 600) montiert ist, um über dem Oberteil (153) positioniert zu werden, wobei ein lösbares Mittel (162, 291; d, 394, 471; 542, 546, 543, 544; 605, 606) zur Fixierung des Blockierelements (161, 261, 361, 461, 561; 602, 603) in Position vorgesehen ist, um die Aufwärtsbewegung des Schrankes (150) und damit sein freies Aushängen von der Halterung (157, 157A, 157B, 157C) zu verhindern, wobei das Aushängesperrsystem unabhängig von dem Aufhängebügel (155) ist.
2. System nach Anspruch 1, **dadurch gekennzeichnet, dass** das Blockierelement aus einem Läufer (161, 261, 361, 461) besteht, der auf der Basis (160, 260, 360, 460) so montiert ist, dass er sich zwischen zwei Positionen bewegen kann, einer ersten, nicht-operativen Position, die von dem Oberteil (153) entfernt (getrennt) ist, und einer operativen Position, die im Wesentlichen gegen dasselbe Oberteil (153) gepuffert ist.
 3. System nach Anspruch 2, **dadurch gekennzeichnet, dass** der Läufer (161, 261) aus einem L-förmigen Bügel mit einem horizontalen Abschnitt (169, 269), der so konfiguriert ist, dass er auf das Oberteil (153) wirkt, und einem vertikalen Abschnitt (170, 270), der an der Basis (160, 260) montiert ist, besteht.
 4. System nach Anspruch 1, **dadurch gekennzeichnet, dass** das Blockierelement aus einem einzigen horizontalen Anschlag (469, 569) besteht.
 5. System nach Anspruch 1, **dadurch gekennzeichnet, dass** das Blockierelement aus einem Hebel (602) besteht, der einen Arm (603) aufweist, der oberhalb des Oberteils (153) positioniert werden kann.
 6. System nach Anspruch 2, **dadurch gekennzeichnet, dass** das lösbare Befestigungsmittel aus einem Bolzen (162) besteht, der den Läufer (161) gegen die Basis (160) puffert.
 7. System nach Anspruch 2, **dadurch gekennzeichnet, dass** das lösbare Befestigungsmittel aus einer Schraube (291) für die stabile Positionierung des Läufers (261) in Bezug auf die Basis (260) besteht.
 8. System nach Anspruch 1, **dadurch gekennzeichnet, dass** das lösbare Befestigungsmittel aus elastisch nachgebenden Zähnen (d) besteht, die elastisch mit entsprechenden Zahnstangen (394) der Basis (360) in Schnappeingriff stehen.
 9. System nach Anspruch 1, **dadurch gekennzeichnet, dass** das lösbare Befestigungsmittel aus einer Schraube (471) besteht, die direkt gegen die Basis (460) wirkt.
 10. System nach Anspruch 1, **dadurch gekennzeichnet, dass** das lösbare Befestigungsmittel aus einer Kombination von Zähnen (544) an dem Blockierelement (561), die elastisch mit entsprechenden Seitenführungen (543) der Basis (560) in Schnappeingriff stehen, und Stiften (542) an dem Blockierelement (561), die in entsprechende Löcher (546) an der Basis (560) eingreifen, besteht.
 11. System nach Anspruch 1, **dadurch gekennzeichnet, dass** das lösbare Befestigungsmittel aus einer Verbindung mit vorderen Zähnen (605, 606) besteht, die an der Basis (600) bzw. an dem Blockierelement (661) positioniert sind.
 12. System nach Anspruch 1, **dadurch gekennzeichnet, dass** die Basis (160) eine erhöhte zentrale Führung (163) und zwei Seitenflansche (164) mit Löchern (165) zur Befestigung der Basis (160) an der Wand (P) mittels Dübeln (166) aufweist, wobei die Führung (163) auch einen oben offenen Schlitz (167) und ein Paar von Außenschienen (168) aufweist.
 13. System nach Anspruch 1, **dadurch gekennzeichnet, dass** die Basis (260) unten mit einem Flansch (284) mit Löchern (285) zur Befestigung an der Wand mittels Dübeln ausgestattet ist und mit einem zentralen Abschnitt (286), der auf derselben Ebene wie der Flansch (284) liegt, und mit zwei seitlichen Abschnitten (287) geformt ist, die von dem zentralen Abschnitt (286) vorstehen, wobei das obere Ende des Abschnitts (286) horizontal gebogen ist, um einen Kopf (288) zu definieren, der mit einem Gewindeloch (289) ausgestattet ist.
 14. System nach Anspruch 1, **dadurch gekennzeichnet, dass** die Basis (360) im Wesentlichen ein rechteckiger Rahmen mit einer unteren horizontalen Seite (392) ist, die Löcher (393) zur Befestigung desselben an der Wand mittels Dübeln aufweist, wobei die Innenflächen der vertikalen Seiten der Basis (360) mit Zahnstangen (394) ausgestattet sind.
 15. System nach Anspruch 1, **dadurch gekennzeichnet, dass** die Basis (460) eine erhöhte zentrale Führung (463) und zwei Seitenflansche (464) mit Löchern (465) zur Befestigung der Basis (460) an der

Wand (P) mittels Dübeln aufweist.

16. System nach Anspruch 1, **dadurch gekennzeichnet, dass** die Basis (560) eine rechteckige Platte (548) mit Löchern (547) zur Befestigung an der Wand mittels Dübeln ist, wobei die Platte (548) auch eine Vielzahl von Löchern (546) aufweist, in die komplementäre Stifte (542) des Blockierelements (561) eingreifen. 5
17. System nach Anspruch 1, **dadurch gekennzeichnet, dass** ein Blockierelement (661) an der Basis (600) montiert ist, das aus einem Hebel (602) besteht, der einen Arm (603) aufweist, der sich auf einem Stift (604) der Basis (600) dreht, wobei der Hebel (602) mit der Basis (600) durch eine Verbindung mit vorderen Zähnen (605, 606) gekoppelt ist, die an der Basis (600) bzw. am Hebel (602) positioniert sind, wobei eine Feder (607) vorgesehen ist, die die Zähne (605, 606) in gegenseitigem Eingriff hält. 10 15 20
18. System nach Anspruch 1, **dadurch gekennzeichnet, dass** die Basis (160) direkt an der Wand (P) befestigt ist. 25
19. System nach Anspruch 1, **dadurch gekennzeichnet, dass** die Basis (160A-C) auf der Platte oder Stange (157A-C) montiert ist. 30
20. System nach Anspruch 19, **dadurch gekennzeichnet, dass** sich ein Kanalabschnitt (175A) von der Basis (160 A) aus nach unten erstreckt, der mit dem oberen Rand (176 A) der Stange (157A) gekoppelt ist, um sich horizontal zu bewegen. 35
21. System nach Anspruch 19, **dadurch gekennzeichnet, dass** die Basis (160B) sich nach unten mit einer Verlängerung (177B) erstreckt, die so geformt ist, dass sie die Stange (157B) mit einem Sitz (178B) umklammert, wobei der Sitz (178B) oben mit einem Haken (179B), der an dem oberen Rand (176B) der Stange (157B) eingehakt wird, und unten mit einem Wulst (180B) ausgestattet ist, der gegen den unteren Rand (181B) festgezogen ist, so dass die Basis (160B) gegen die Wand (P) gedrückt und blockiert wird. 40 45
22. System nach Anspruch 19, **dadurch gekennzeichnet, dass** die Basis (160C) sich nach unten mit einer Verlängerung (177C) erstreckt, die so geformt ist, dass sie die Stange (157C) mit einem Sitz (178C) umklammert, wobei der Sitz (178C) oben mit einem Haken (179C), der an dem oberen Rand (176C) der Stange (157C) eingehakt wird, und unten mit einem Zahn (182C) ausgestattet ist, der mit dem unteren Rand (181C) in Eingriff steht, wobei die Basis (160C) durch das Festziehen eines Wulstes (183C) in ihrer Position blockiert ist. 50 55

Revendications

1. Système anti-détachement pour placards muraux dans lequel un placard mural (150) comporte une partie supérieure (153) et est accroché, à l'aide d'un crochet (156) d'une équerre de suspension (155), à un support (157, 157A, 157B, 157C) fixé à un mur (P), **caractérisé en ce qu'il** comprend, en combinaison: une base (160, 260, 360, 460, 560, 600) avec ledit mur (P) pouvant être fixée au mur (P) et un élément de blocage (161, 261, 361, 461, 561 ; 602, 603) assemblé sur ladite base (160, 160A, 160B, 160C, 260, 360, 460, 560, 600), pour être positionné au-dessus de ladite partie supérieure (153), des moyens libérables (162, 291 ; d, 394, 471 ; 542, 546, 543, 544 ; 605, 606) pour fixer ledit élément de blocage (161, 261, 361, 461, 561 ; 602, 603) en position étant envisagés, pour empêcher le déplacement vers le haut dudit placard (150), et par conséquent son détachement libre dudit support (157, 157A, 157B, 157C), ledit système anti-détachement étant indépendant de ladite équerre de suspension (155). 10
2. Système selon la revendication 1, **caractérisé en ce que** ledit élément de blocage est constitué d'un curseur (161, 261, 361, 461) assemblé sur ladite base (160, 260, 360, 460) de telle sorte qu'il peut se déplacer entre deux positions, une première position de non-fonctionnement, éloignée (séparée) de ladite partie supérieure (153) et une position de fonctionnement sensiblement amortie contre cette même partie supérieure (153). 15 20 25
3. Système selon la revendication 2, **caractérisé en ce que** ledit curseur (161, 261) est constitué d'une équerre en forme de L avec une section horizontale (169, 269) configurée pour agir sur ladite partie supérieure (153) et une section verticale (170, 270) assemblée sur ladite base (160, 260). 30 35
4. Système selon la revendication 1, **caractérisé en ce que** ledit élément de blocage est constitué d'une butée horizontale unique (469, 569). 40
5. Système selon la revendication 1, **caractérisé en ce que** ledit élément de blocage est constitué d'un levier (602) comprenant un bras (603) qui peut être positionné au-dessus de ladite partie supérieure (153). 45
6. Système selon la revendication 2, **caractérisé en ce que** lesdits moyens de fixation libérables sont constitués d'un boulon (162) amortissant ledit curseur (161) contre ladite base (160). 50
7. Système selon la revendication 2, **caractérisé en ce que** lesdits moyens de fixation libérables sont constitués d'une vis (291) pour le positionnement 55

stable dudit curseur (261) par rapport à ladite base (260).

8. Système selon la revendication 1, **caractérisé en ce que** lesdits moyens de fixation libérables sont constitués de dents à déformation élastique (d) qui s'encliquètent élastiquement sur des crémaillères (394) respectives de ladite base (360). 5
9. Système selon la revendication 1, **caractérisé en ce que** lesdits moyens de fixation libérables sont constitués d'une vis (471) agissant directement contre ladite base (460). 10
10. Système selon la revendication 1, **caractérisé en ce que** lesdits moyens de fixation libérables sont constitués d'une combinaison de dents (544) sur l'élément de blocage (561) qui s'encliquètent élastiquement avec des guides latéraux (543) respectifs de la base (560), et des tiges (542) sur l'élément de blocage (561) qui viennent en prise dans des trous (546) respectifs sur la base (560). 15 20
11. Système selon la revendication 1, **caractérisé en ce que** lesdits moyens de fixation libérables sont constitués d'une liaison avec des dents avant (605, 606) positionnées sur ladite base (600) et sur ledit élément de blocage (661), respectivement. 25
12. Système selon la revendication 1, **caractérisé en ce que** ladite base (160) comprend un guide central surélevé (163) et deux brides latérales (164) avec des trous (165) pour fixer la base (160) au mur (P) à l'aide de goujons (166), ledit guide (163) présentant également une fente (167), ouverte au niveau de la partie supérieure, et une paire de rails extérieurs (168). 30 35
13. Système selon la revendication 1, **caractérisé en ce que** ladite base (260) est équipée sur le dessous d'une bride (284) avec des trous (285) pour être fixée au mur à l'aide de goujons, et est façonnée avec une section centrale (286) reposant sur le même plan que la bride (284) et avec deux sections latérales (287) faisant saillie depuis ladite section centrale (286), l'extrémité supérieure de la section (286) étant horizontalement pliée de manière à définir une tête (288) équipée d'un trou fileté (289). 40 45
14. Système selon la revendication 1, **caractérisé en ce que** ladite base (360) est sensiblement un cadre rectangulaire avec un côté horizontal inférieur (392) présentant des trous (393) pour le fixer au mur à l'aide de goujons, les surfaces intérieures des côtés verticaux de ladite base (360) étant équipées de crémaillères (394). 50 55
15. Système selon la revendication 1, **caractérisé en ce que** ladite base (460) comprend un guide central surélevé (463) et deux brides latérales (464) avec des trous (465) pour fixer la base (460) au mur (P) à l'aide de goujons.
16. Système selon la revendication 1, **caractérisé en ce que** ladite base (560) est une plaque rectangulaire (548) avec des trous (547) pour la fixer au mur à l'aide de goujons, ladite plaque (548) présentant également une pluralité de trous (546) sur lesquels des tiges (542) complémentaires de l'élément de blocage (561) viennent en prise.
17. Système selon la revendication 1, **caractérisé en ce qu'un** élément de blocage (661) est assemblé sur ladite base (600), consistant en un levier (602) comprenant un bras (603) tournant sur une tige (604) de la base (600), ledit levier (602) étant couplé à la base (600) à l'aide d'une liaison avec des dents avant (605, 606) positionnées sur la base (600) et sur le levier (602) respectivement, un ressort (607) étant envisagé, lequel maintient les dents (605, 606) en prise réciproque.
18. Système selon la revendication 1, **caractérisé en ce que** ladite base (160) est fixée directement audit mur (P).
19. Système selon la revendication 1, **caractérisé en ce que** ladite base (160A-C) est assemblée sur la plaque ou barre (157A-C).
20. Système selon la revendication 19, **caractérisé en ce qu'une** section canal (175A) s'étend en-dessous depuis ladite base (160A), qui est couplée au bord supérieur (176A) de la barre (157A), de manière à se déplacer horizontalement.
21. Système selon la revendication 19, **caractérisé en ce que** ladite base (160B) s'étend vers le bas avec une extension (177B), laquelle est façonnée de manière à fermer la barre (157B) avec un siège (178B), le siège (178B) étant équipé, au-dessus, d'un crochet (179B) qui est accroché au bord supérieur (176B) de la barre (157B), et au-dessous, d'un bourrelet (180B) qui est serré contre le bord inférieur (181B), de manière à pousser et bloquer la base (160B) contre le mur (P).
22. Système selon la revendication 19, **caractérisé en ce que** ladite base (160C) s'étend vers le bas avec une extension (177C) qui est façonnée de manière à fermer la barre (157C) avec un siège (178C), le siège (178C) étant équipé, au-dessus, d'un crochet (179C) qui est accroché au bord supérieur (176C) de la barre (157C), et au-dessous, d'une dent (182C) qui vient en prise avec le bord inférieur (181C), ladite base (160C) étant bloquée en position par le serrage

d'un bourrelet (183C).

5

10

15

20

25

30

35

40

45

50

55

Fig. 1

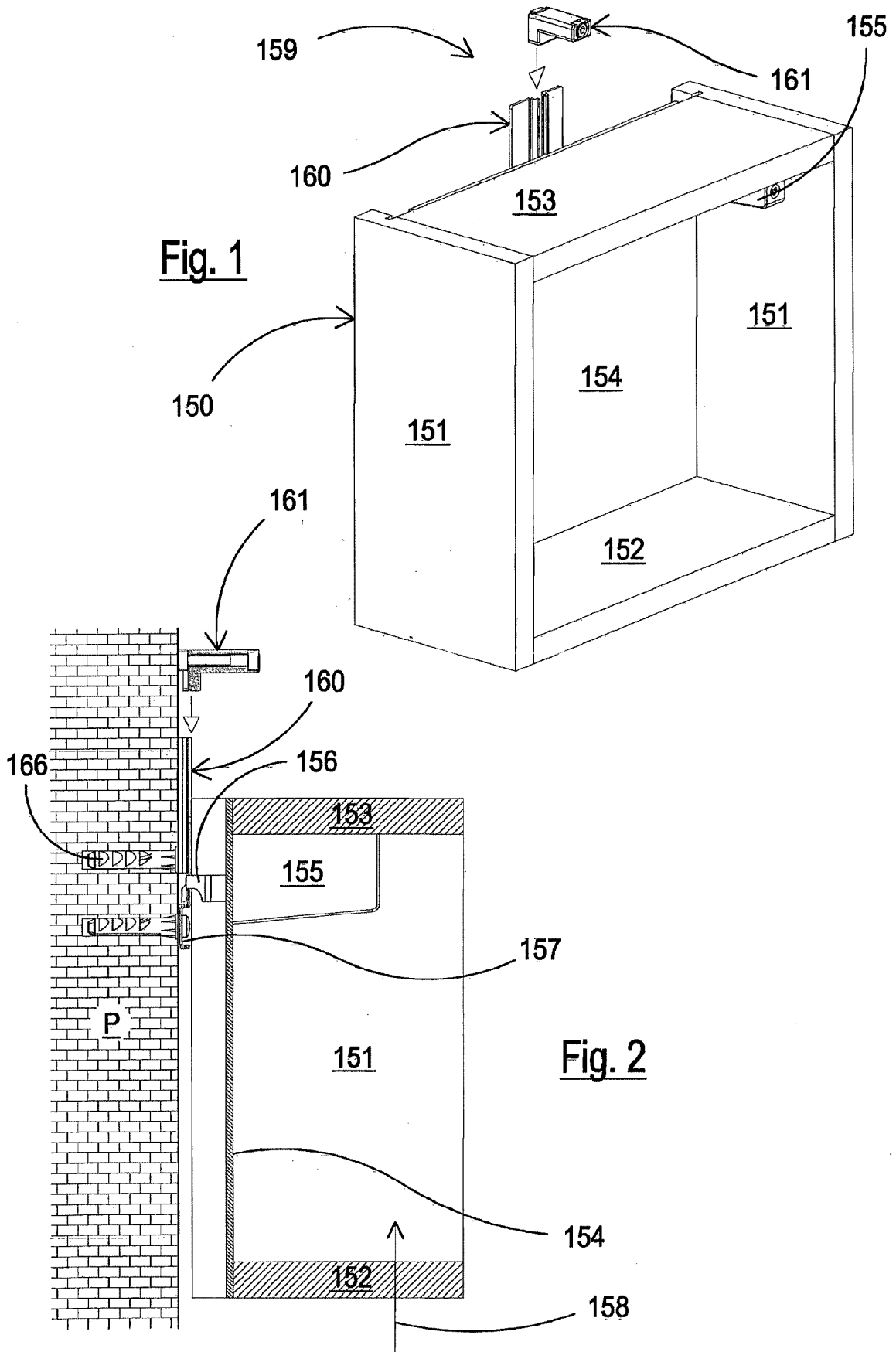


Fig. 3

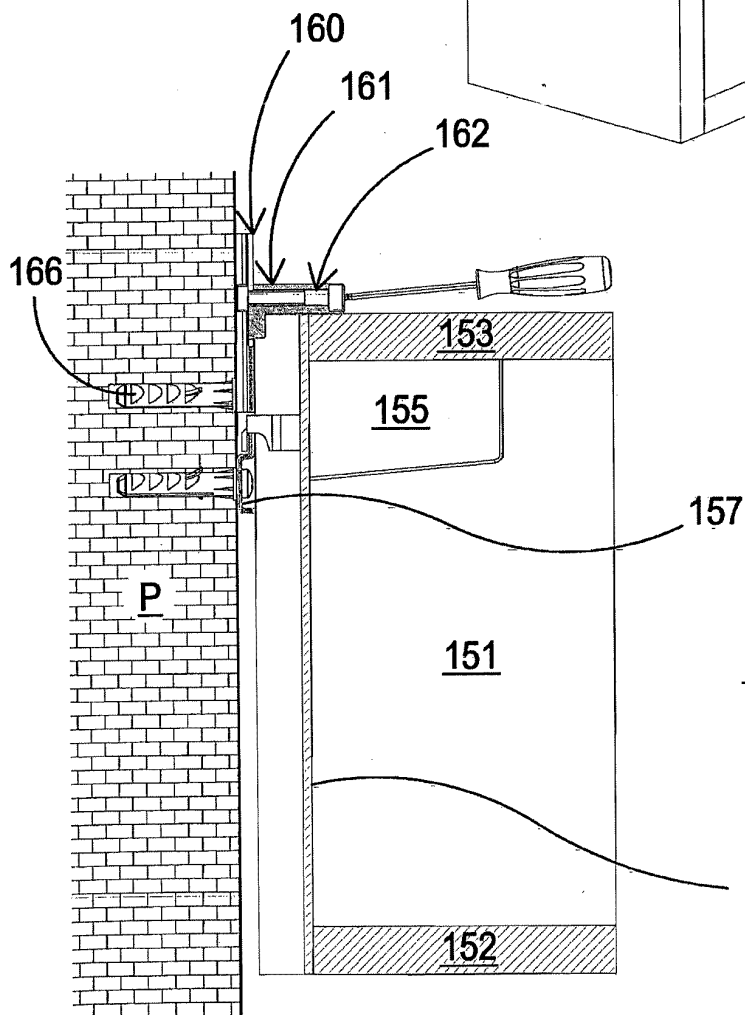
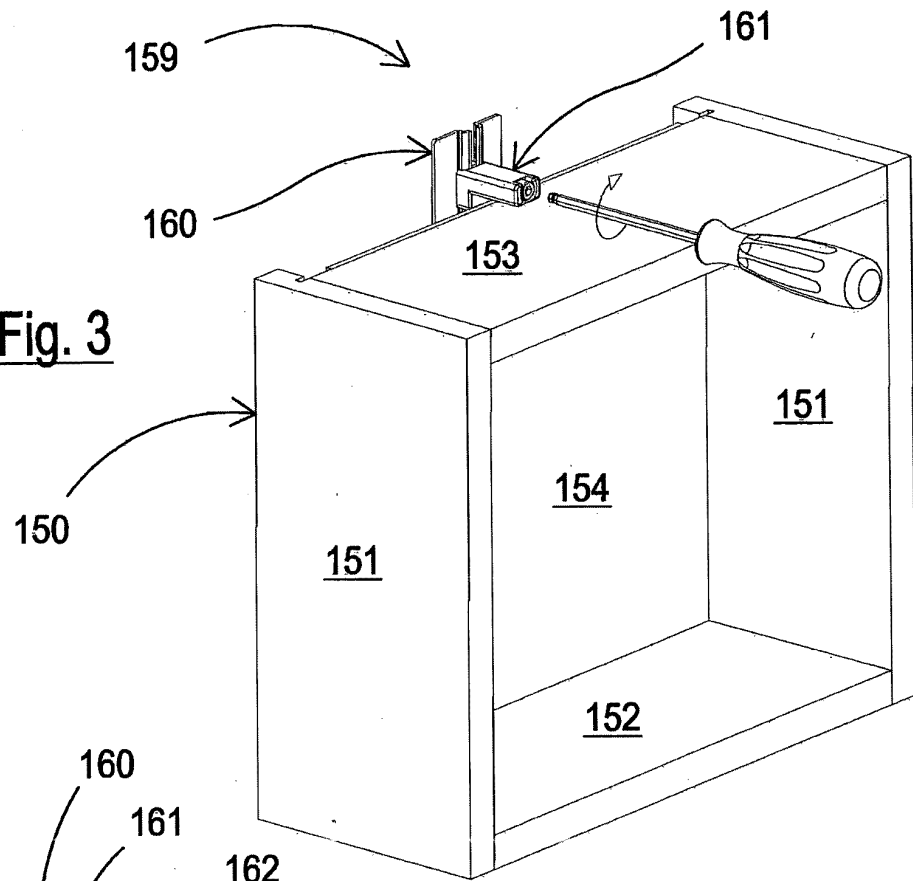
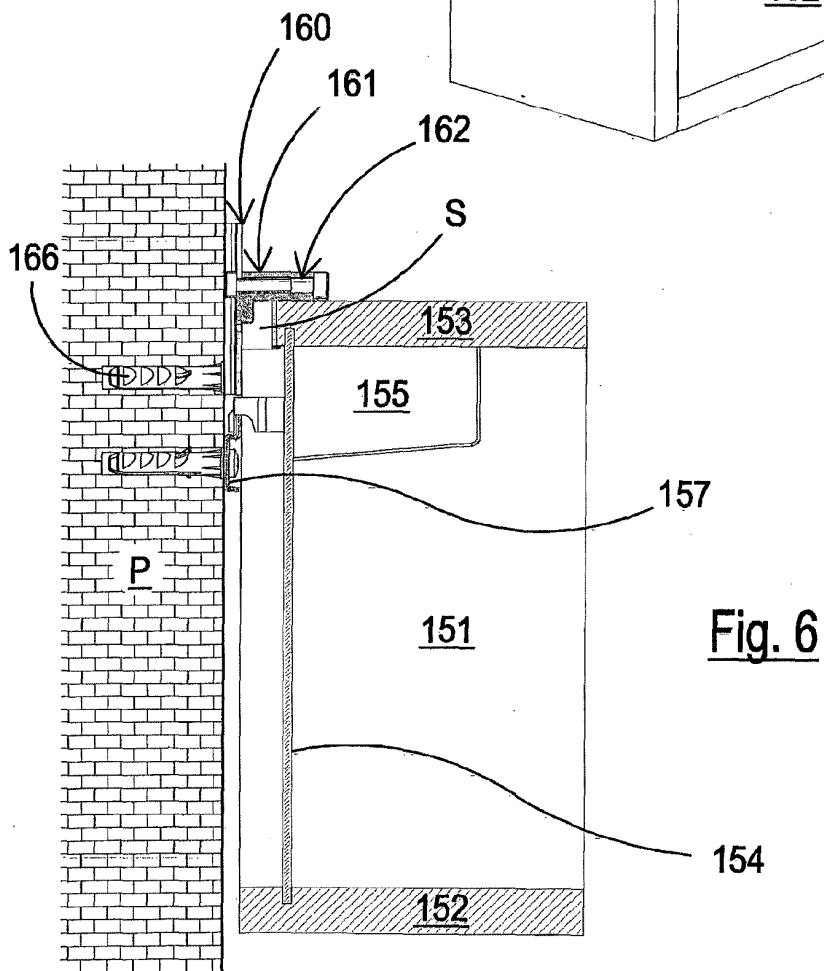
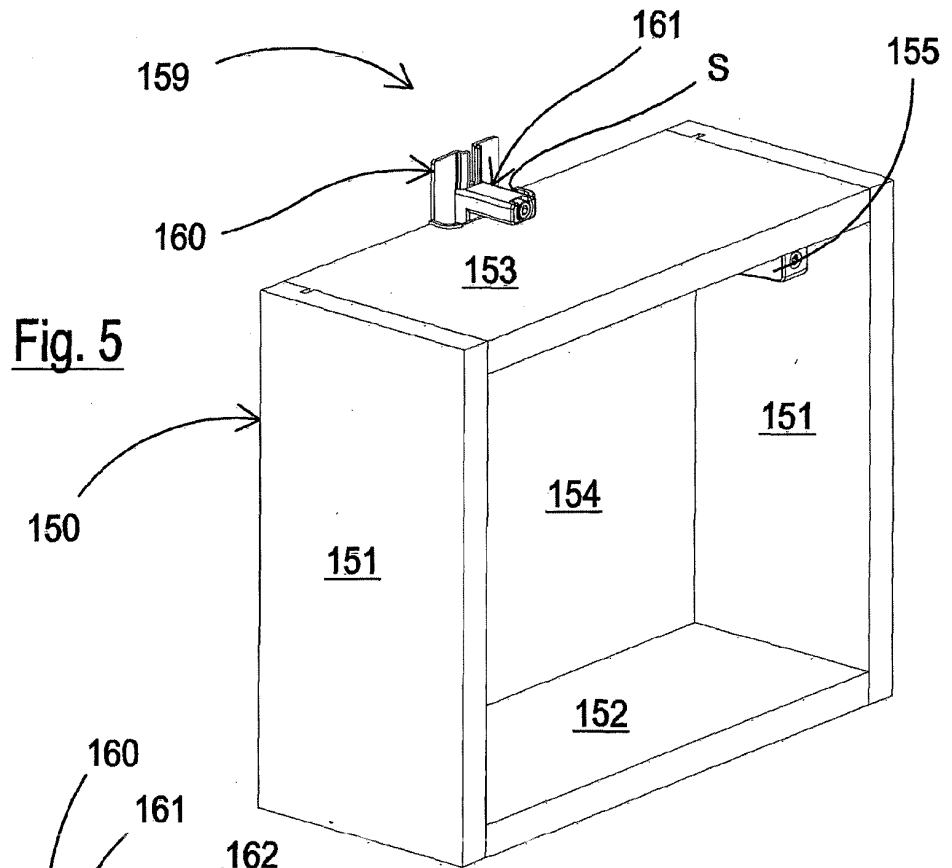


Fig. 4



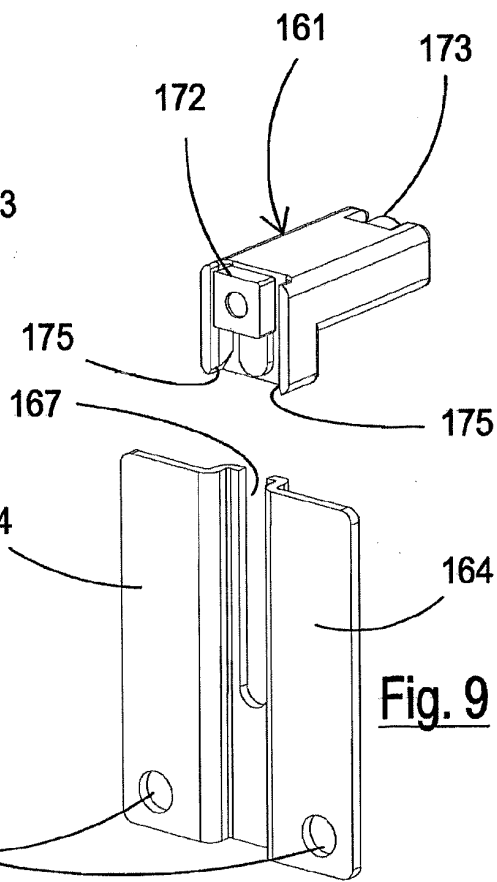
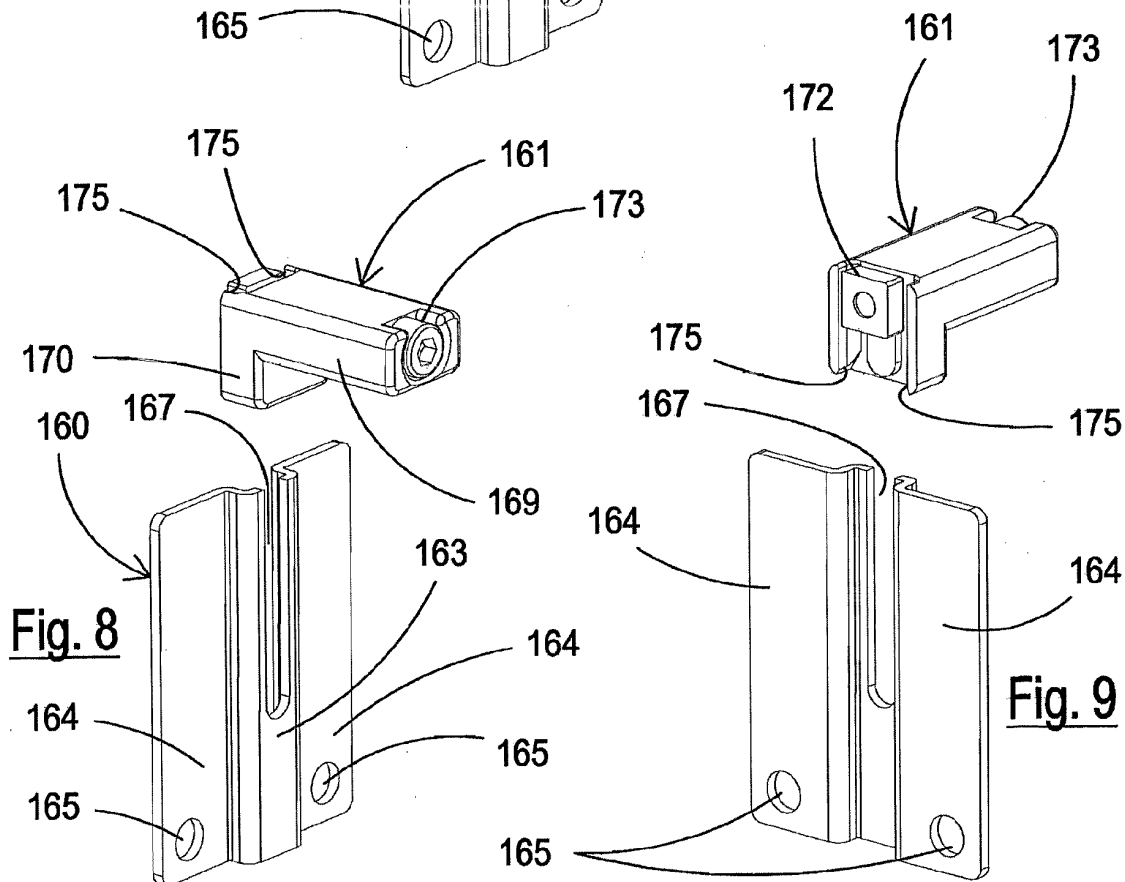
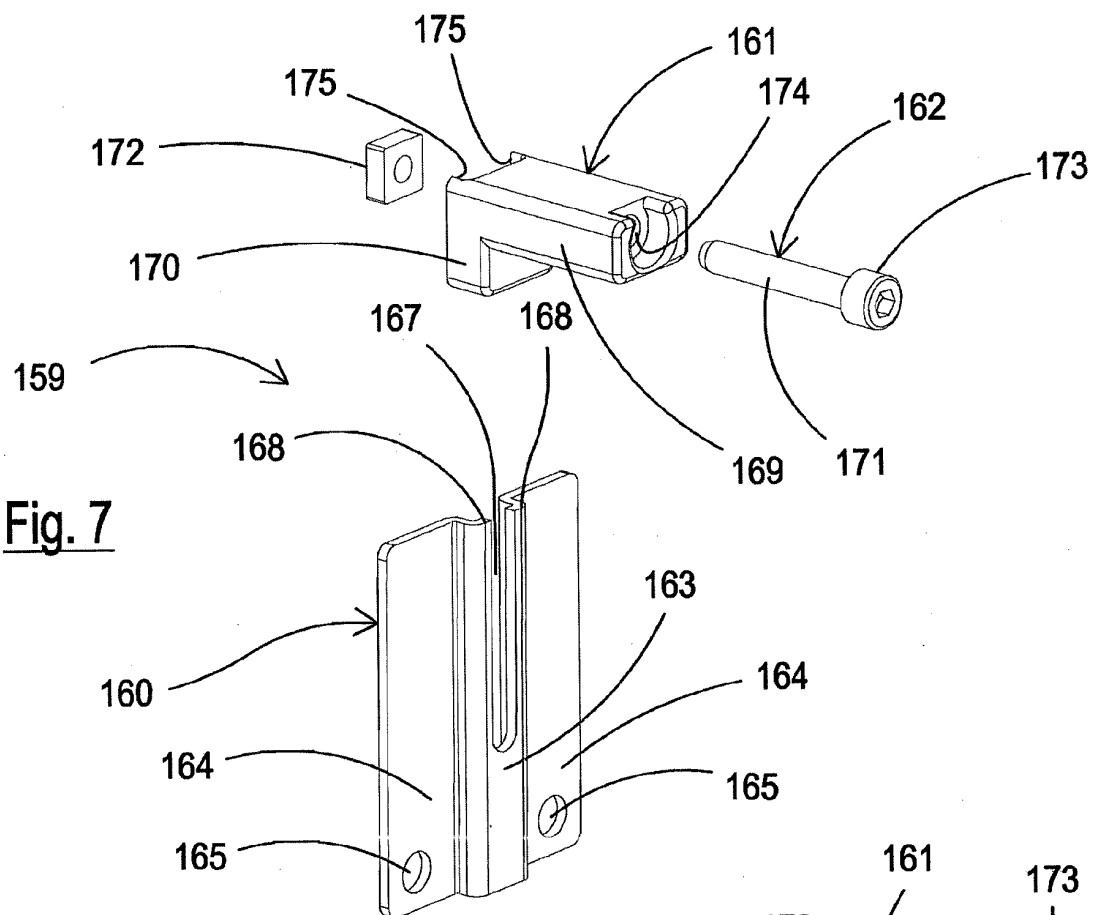


Fig. 10

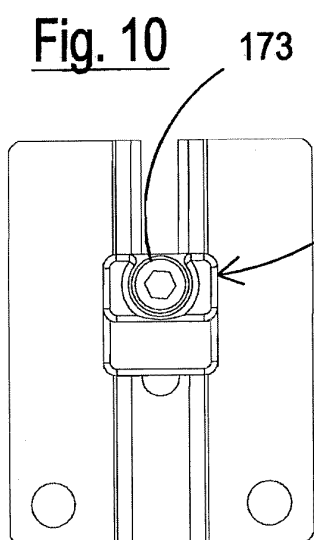


Fig. 11

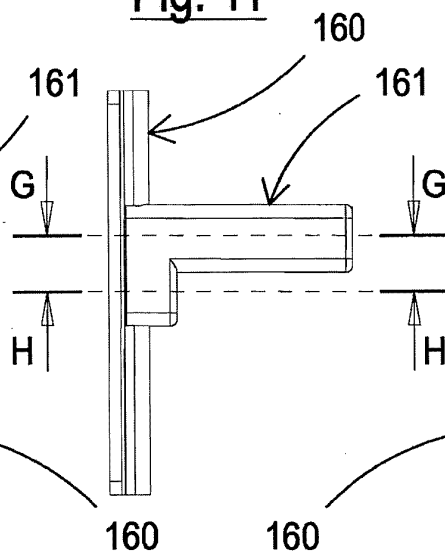


Fig. 12

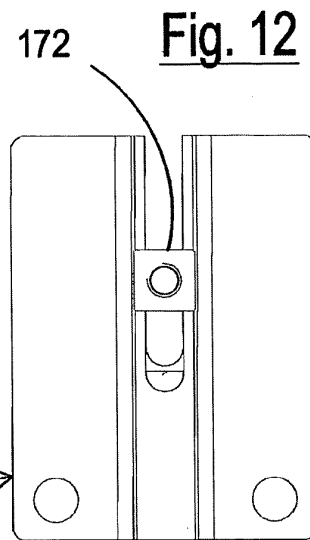


Fig. 13

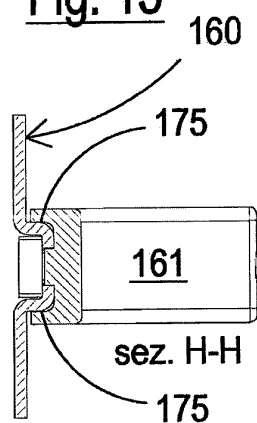


Fig. 14

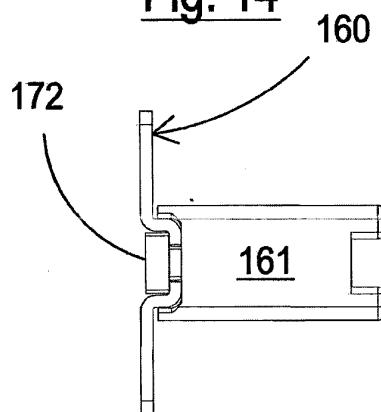


Fig. 15

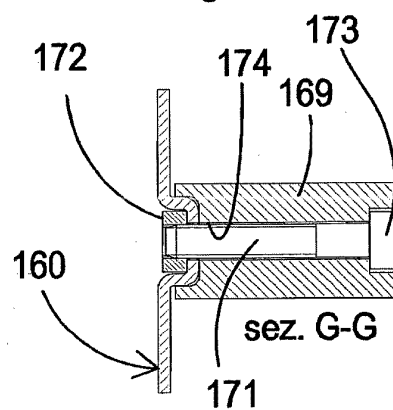


Fig. 16

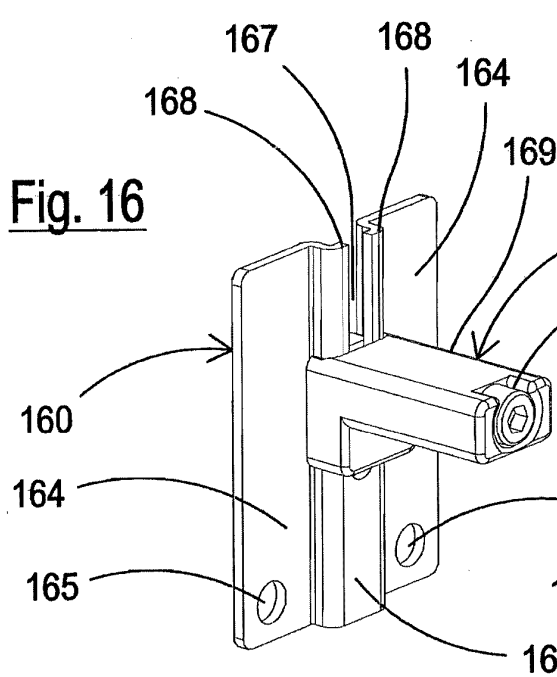


Fig. 17

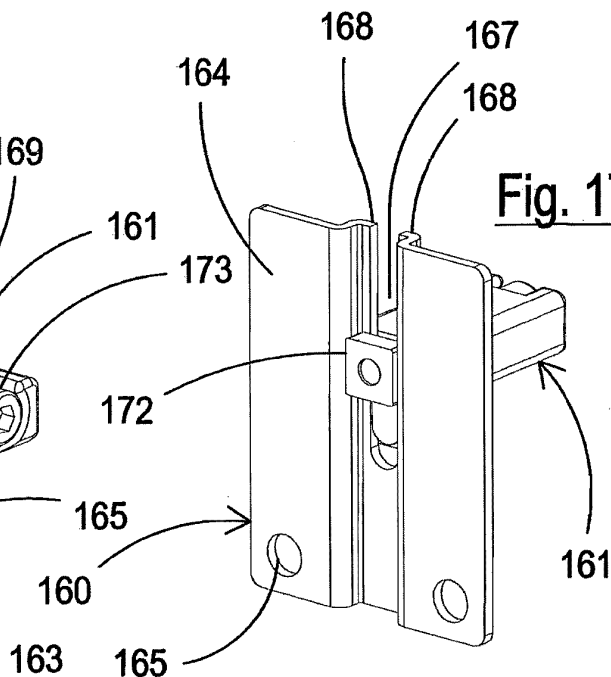


Fig. 18

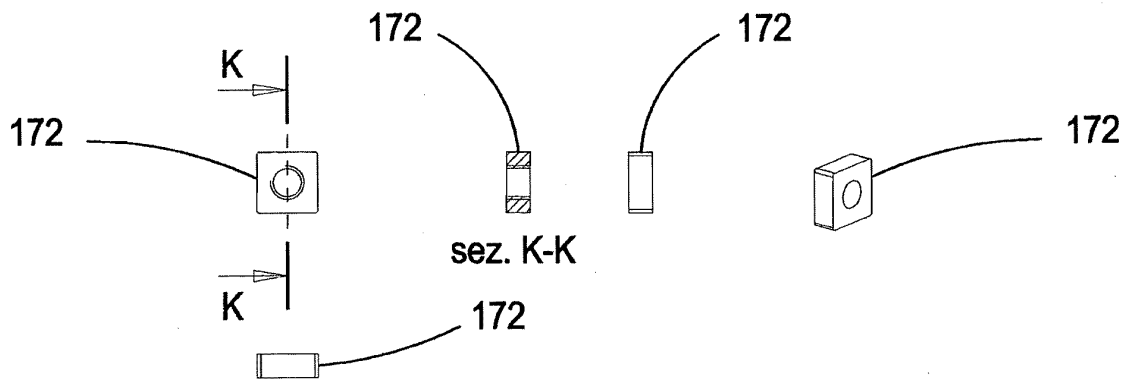


Fig. 19

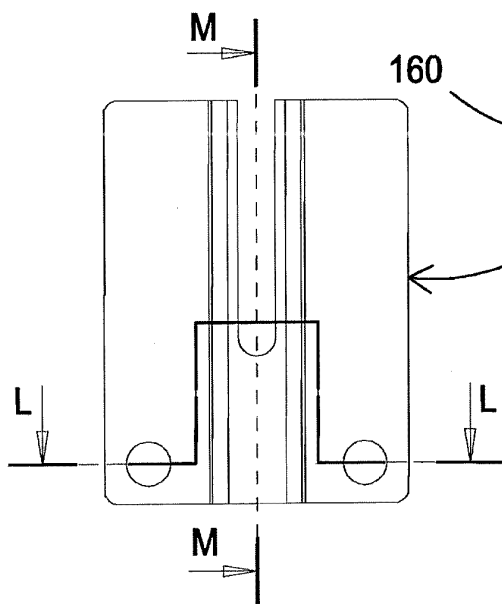


Fig. 20

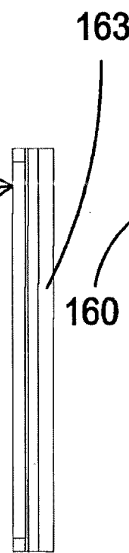


Fig. 21

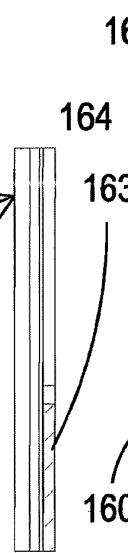


Fig. 22

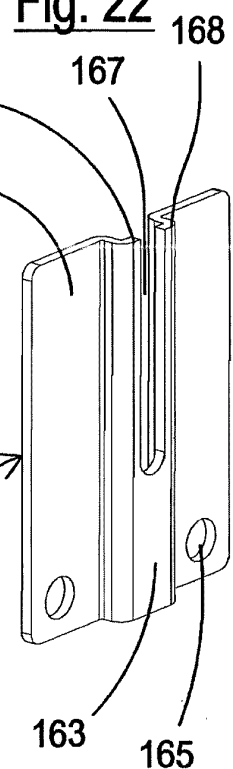


Fig. 23

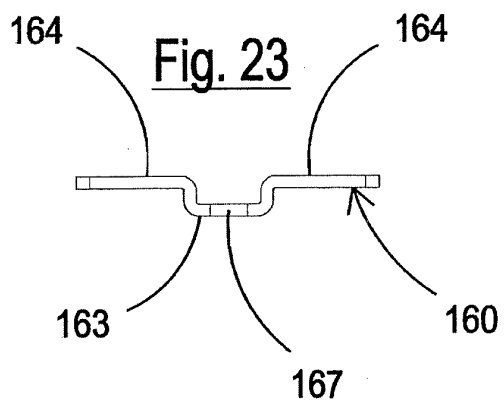


Fig. 24

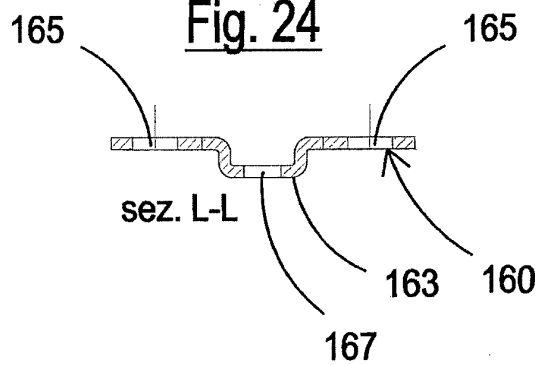


Fig. 25

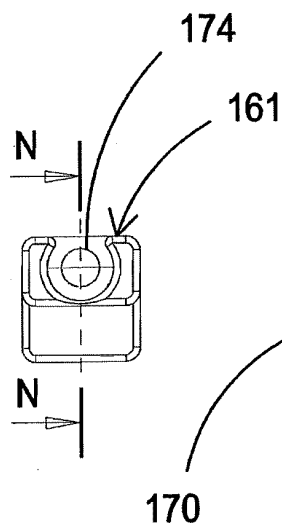


Fig. 26

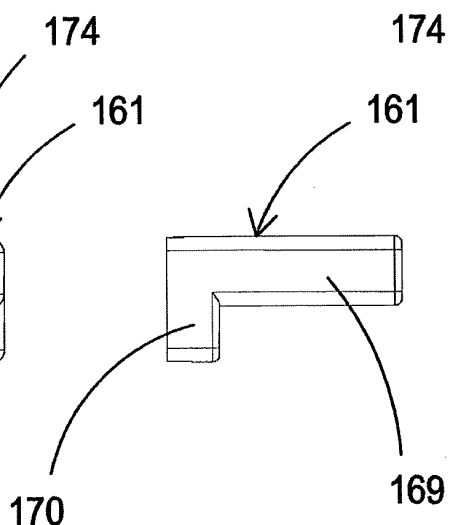


Fig. 27

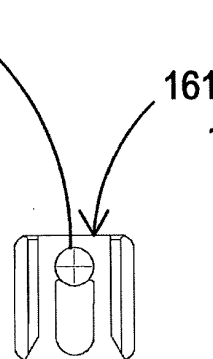


Fig. 28

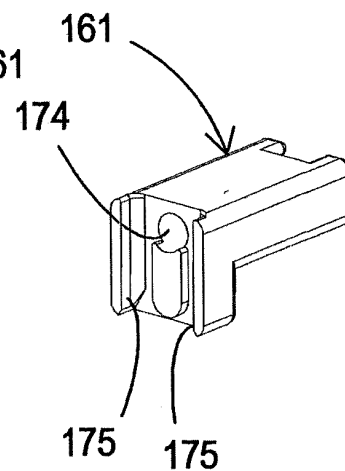


Fig. 29

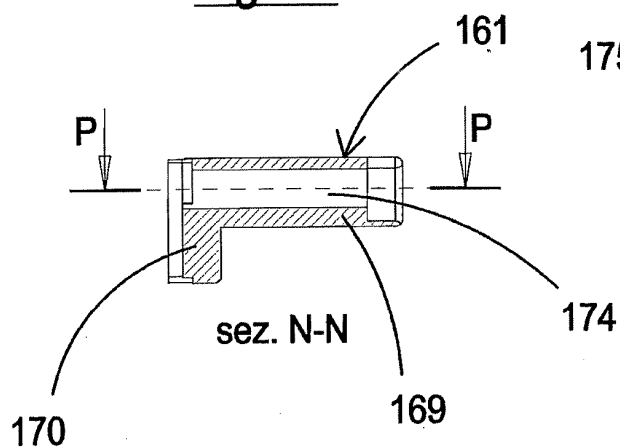


Fig. 30

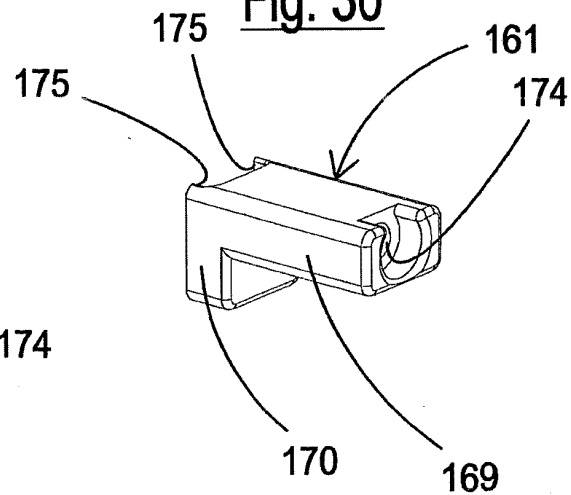


Fig. 31

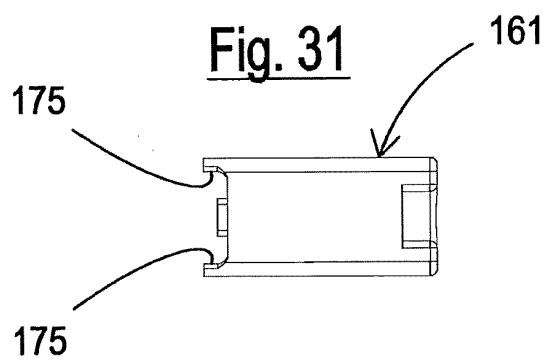
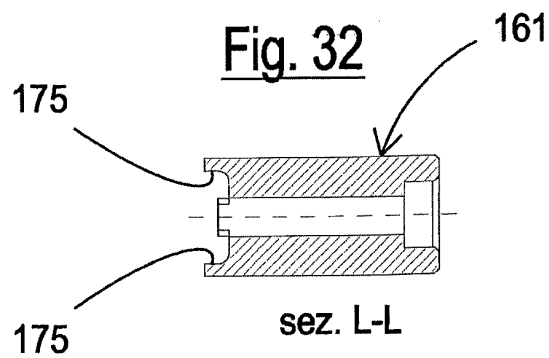


Fig. 32



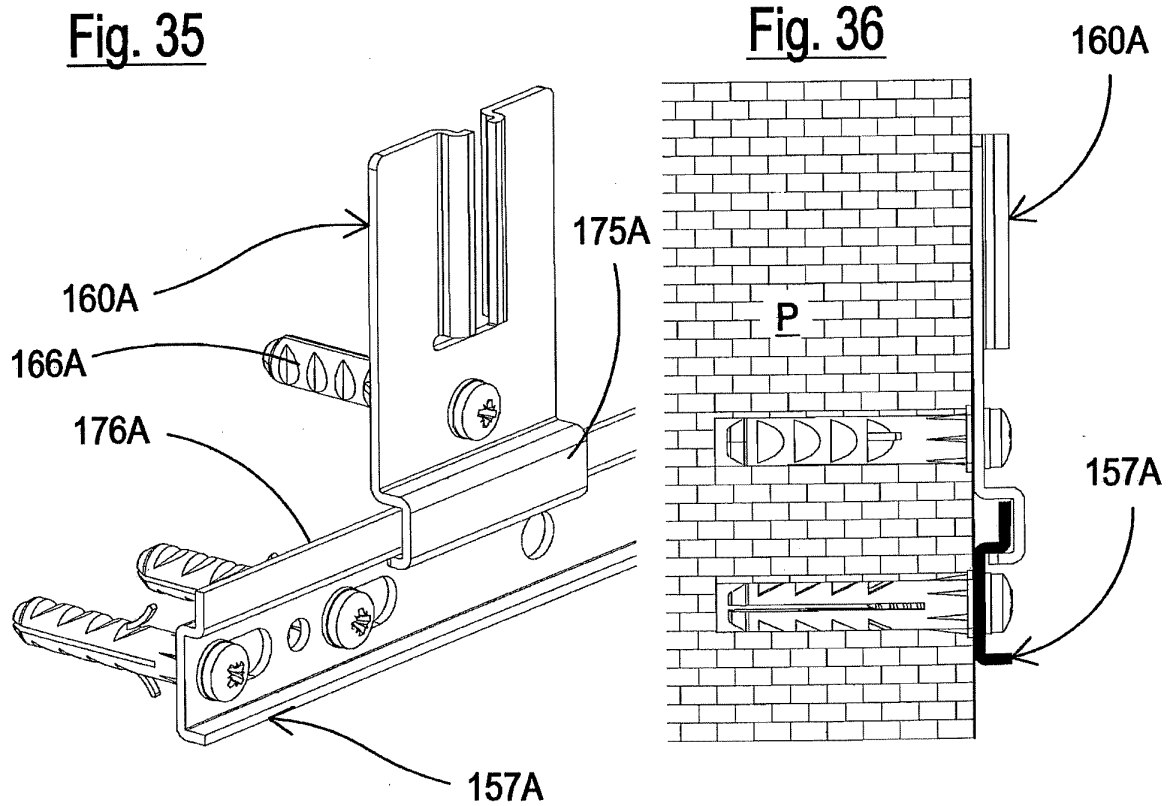
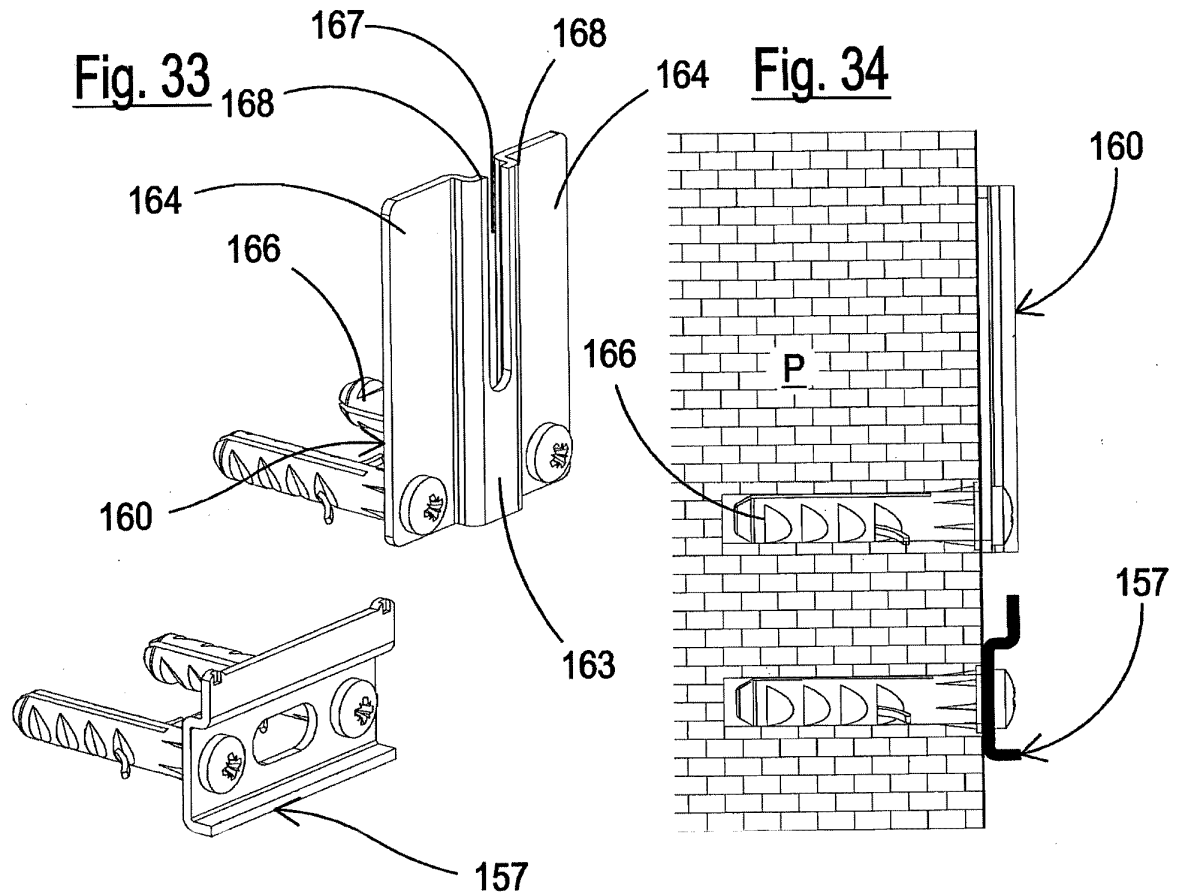


Fig. 37

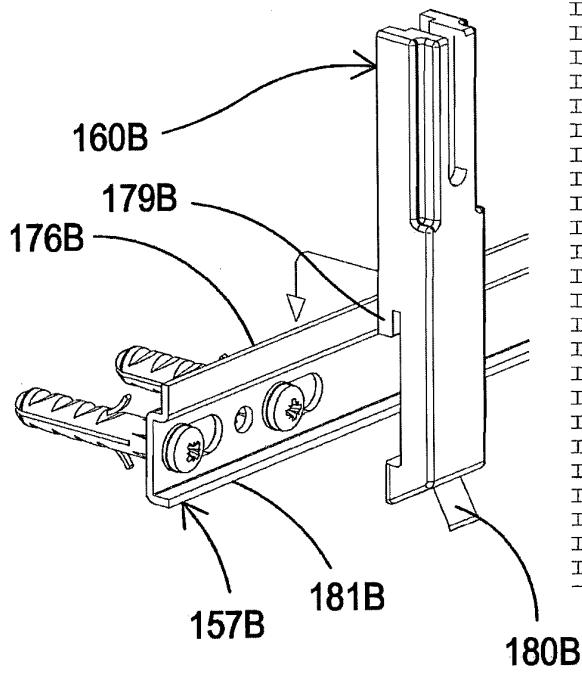


Fig. 38

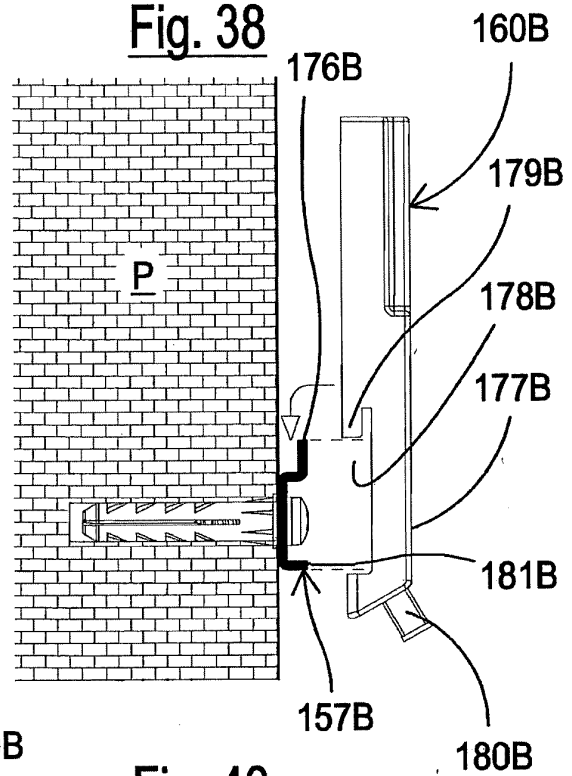


Fig. 39

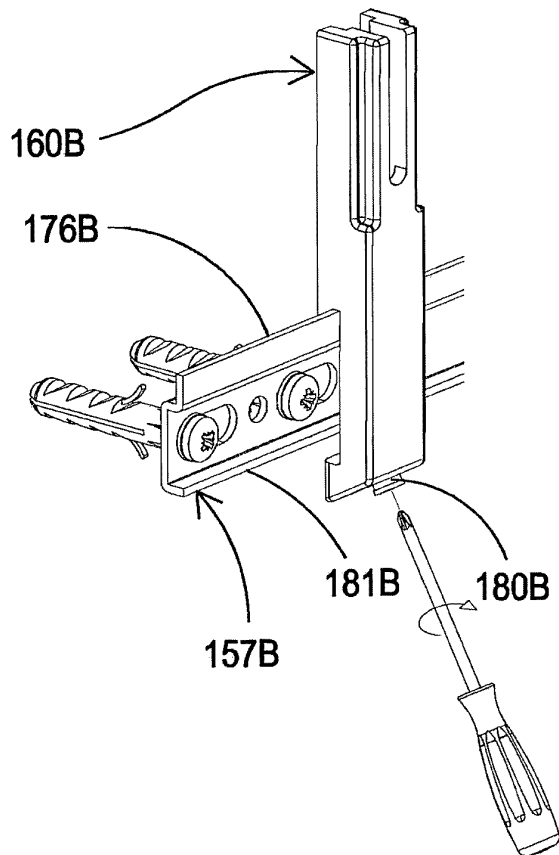


Fig. 40

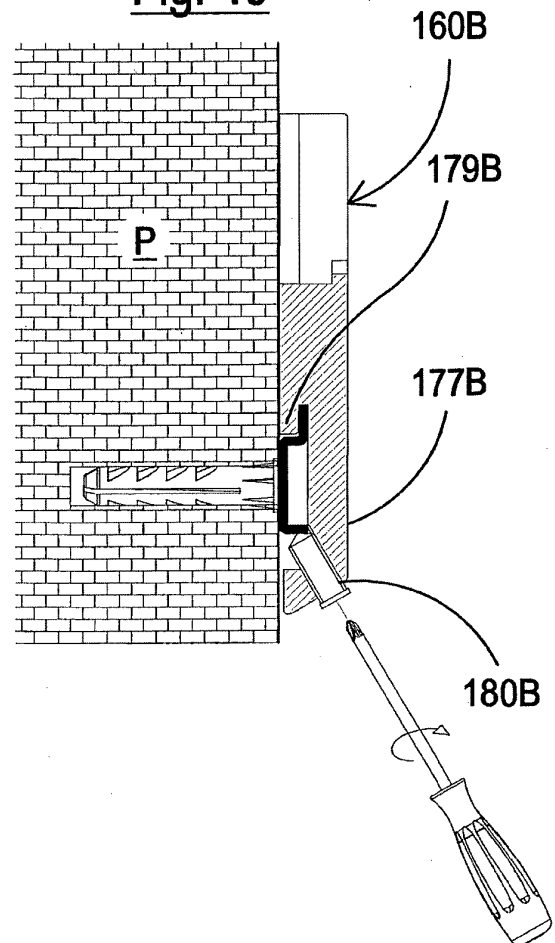


Fig. 41

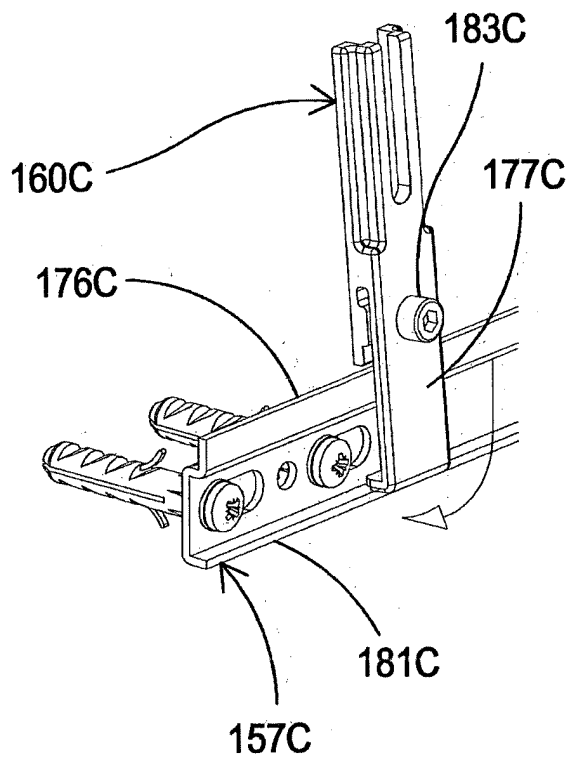


Fig. 42

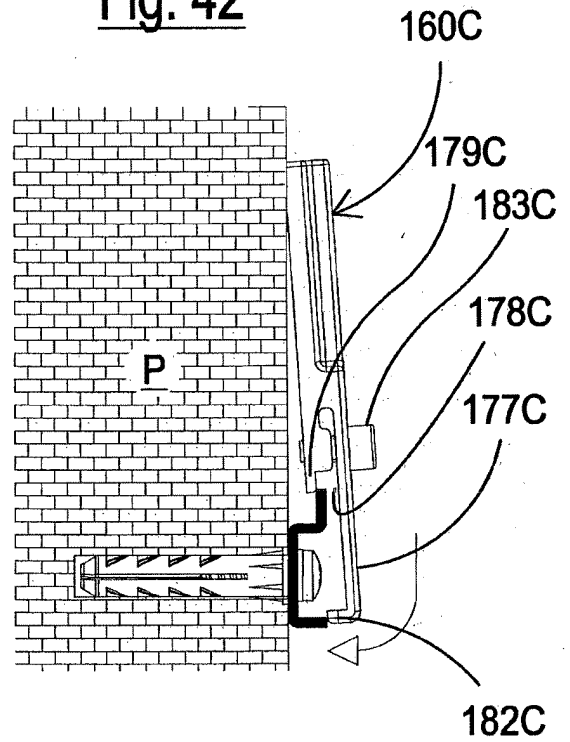


Fig. 43

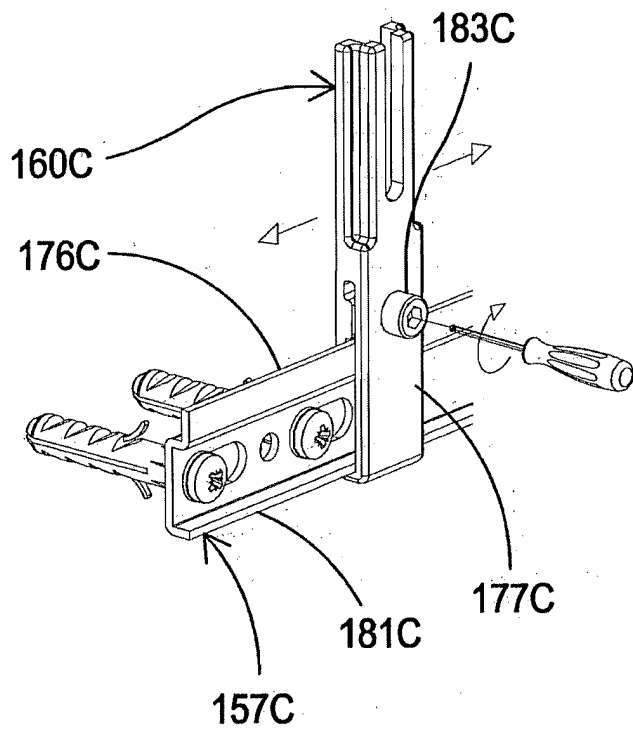


Fig. 44

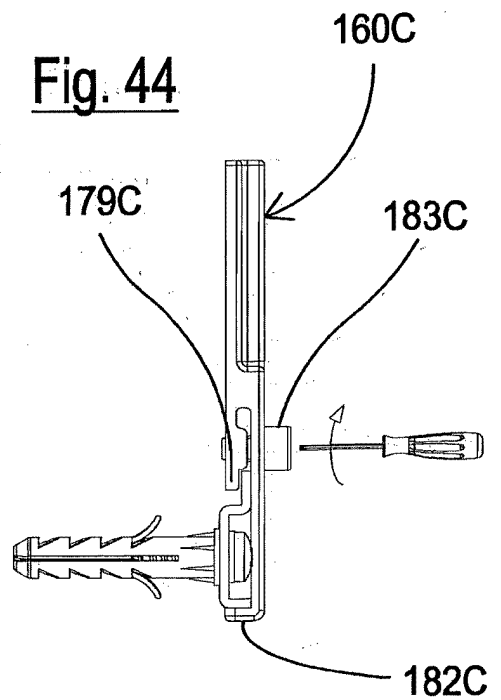


Fig. 45

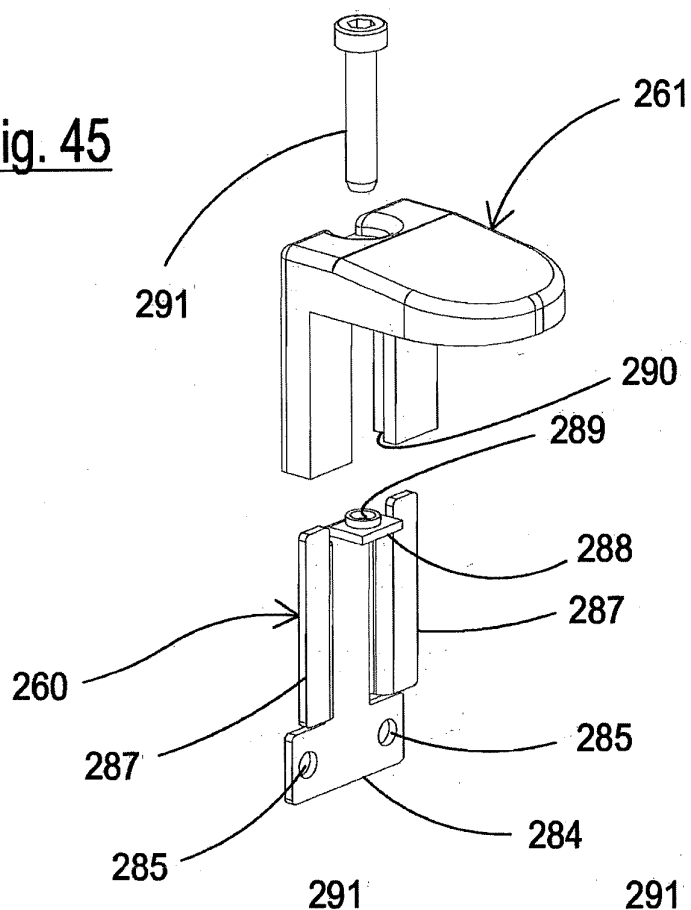


Fig. 46

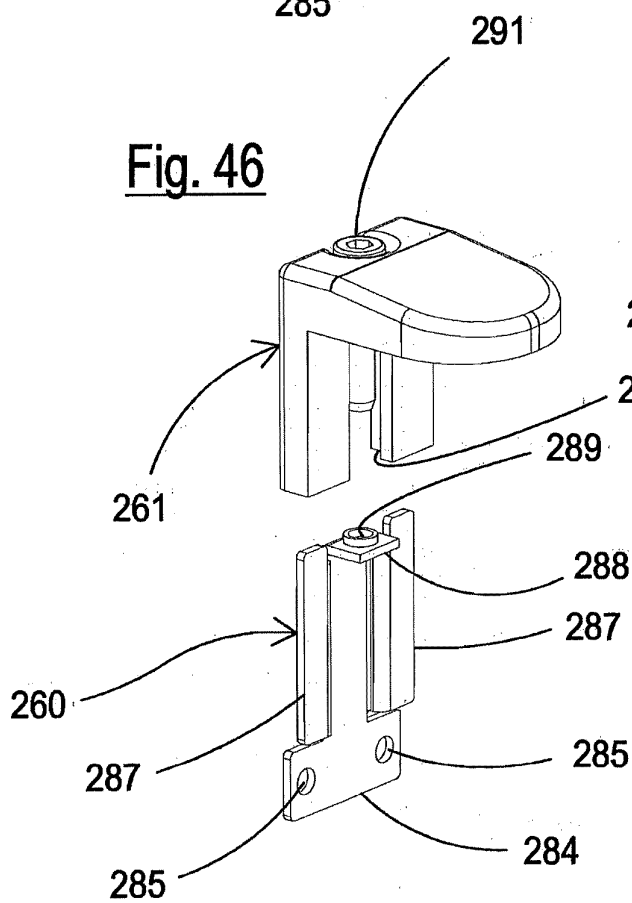


Fig. 47

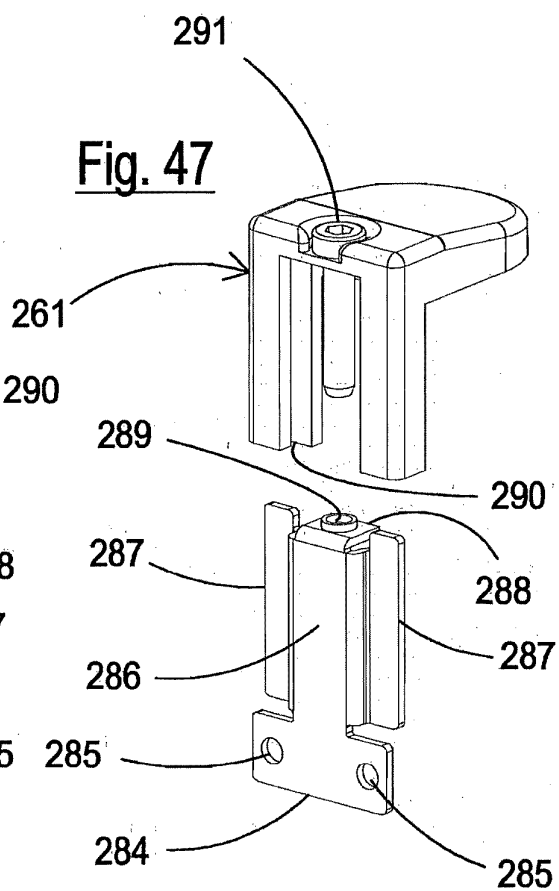


Fig. 48

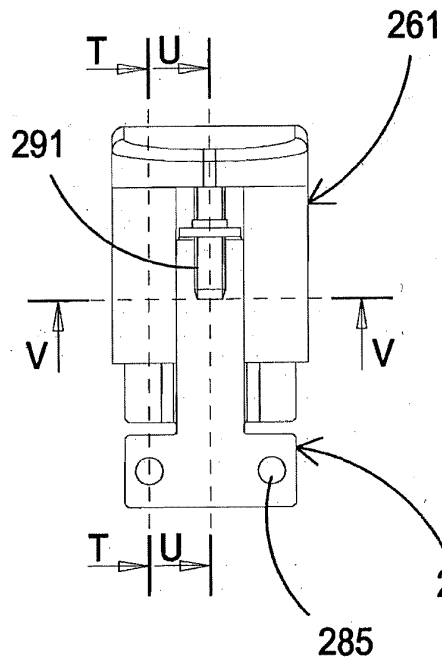


Fig. 49

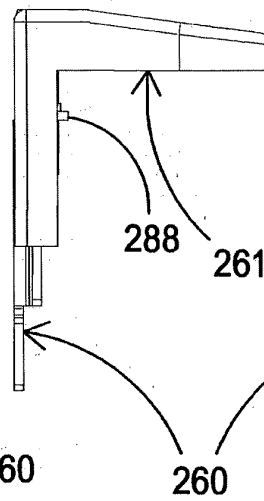
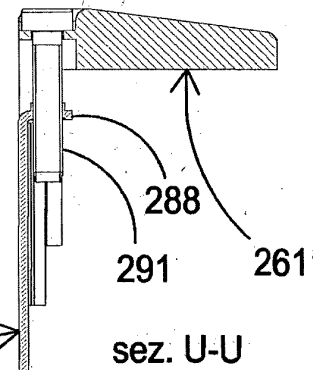


Fig. 50



sez. U-U

Fig. 51

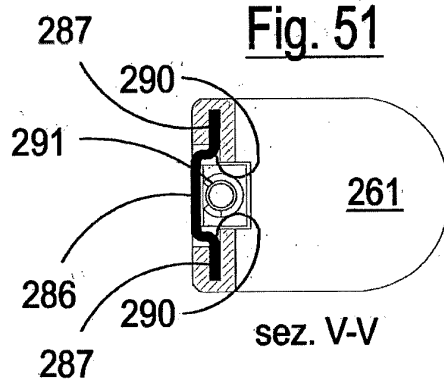


Fig. 52

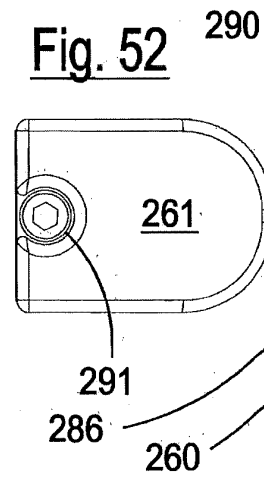
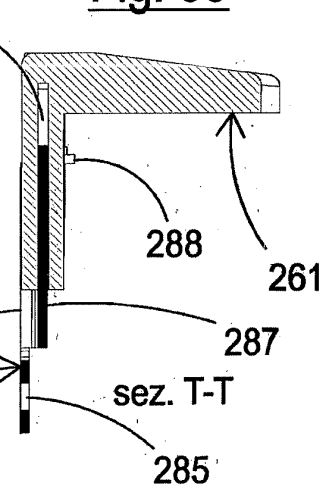


Fig. 53



sez. T-T

Fig. 54

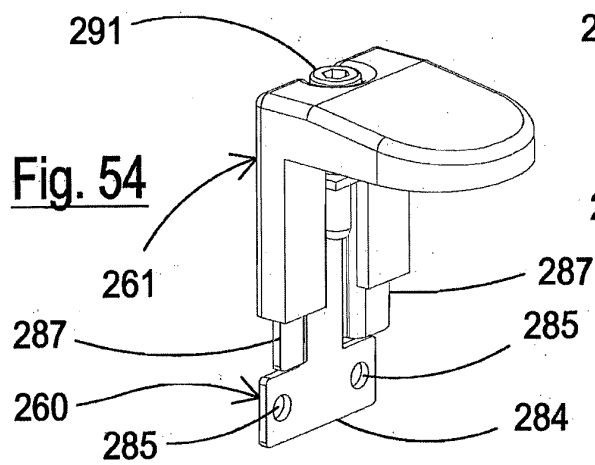


Fig. 55

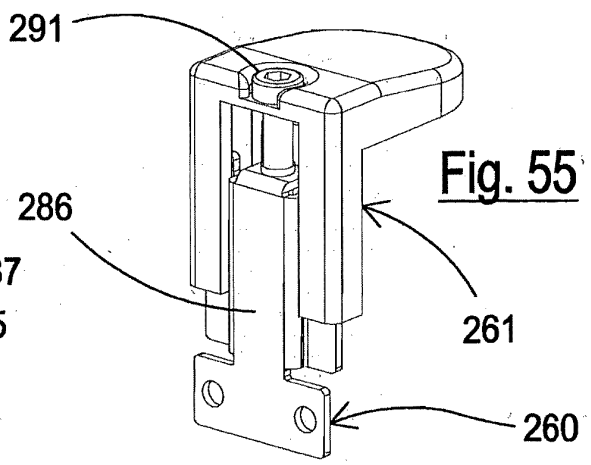


Fig. 56

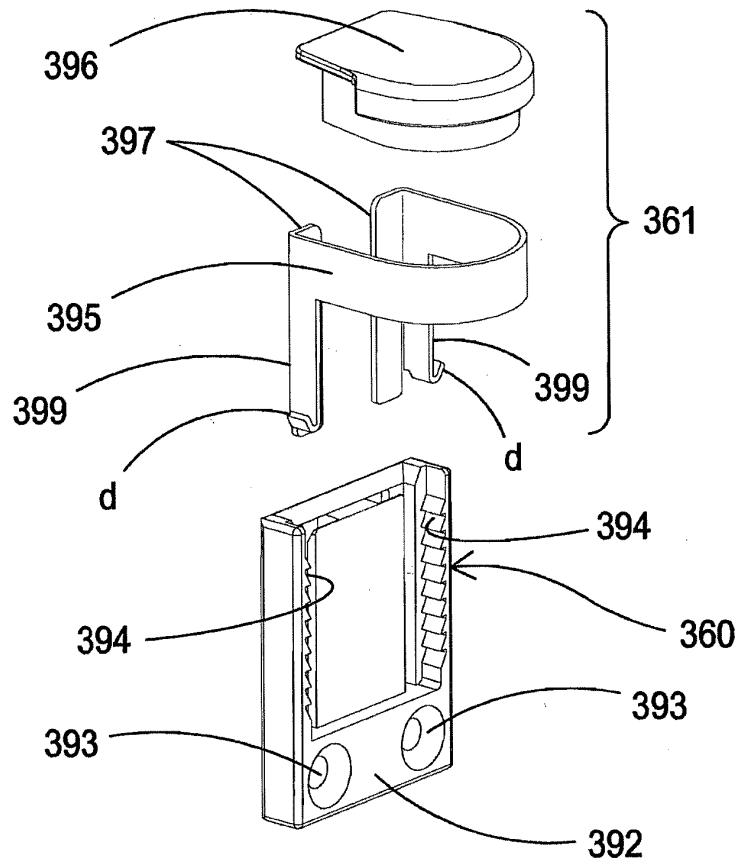


Fig. 57

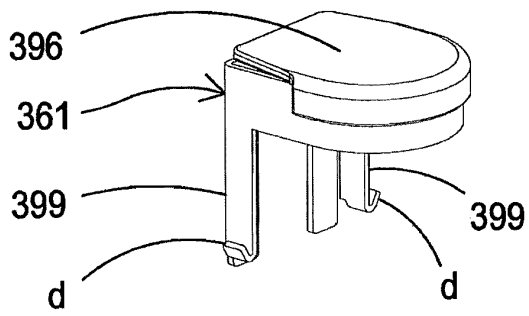


Fig. 58

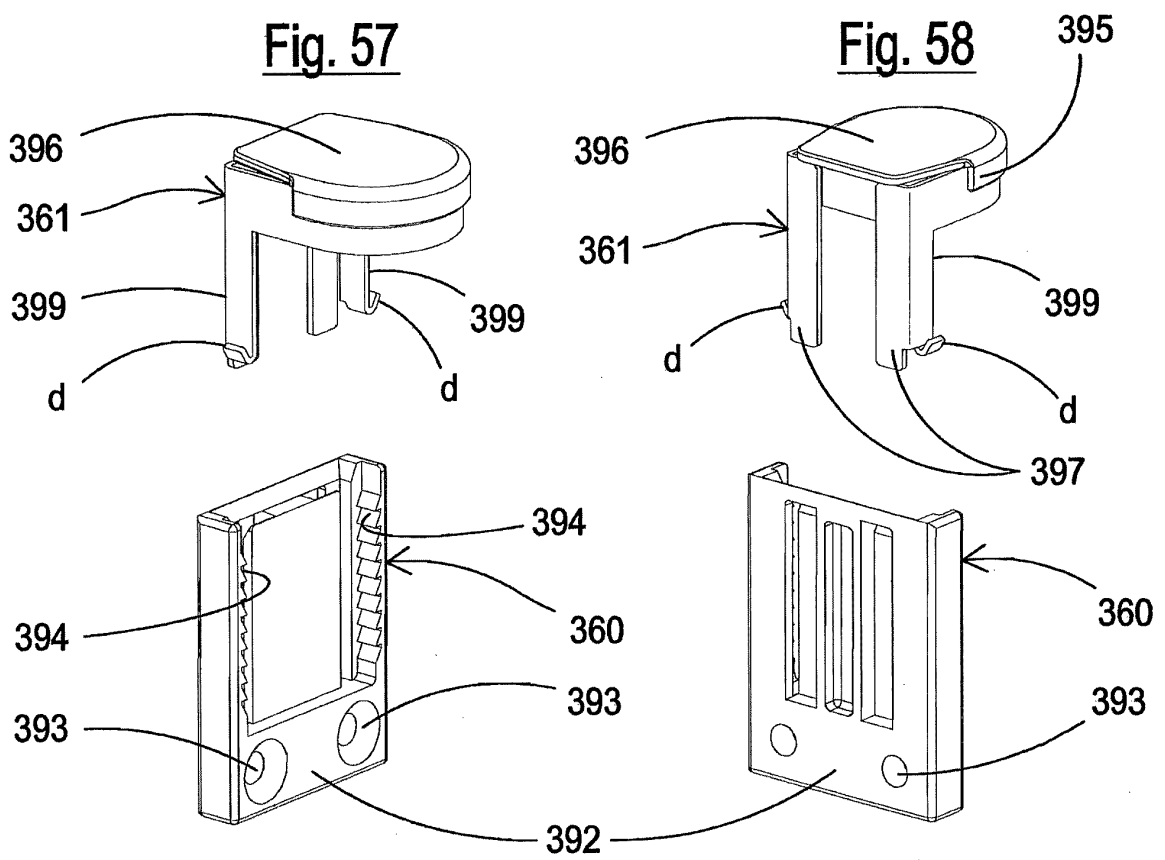


Fig. 59

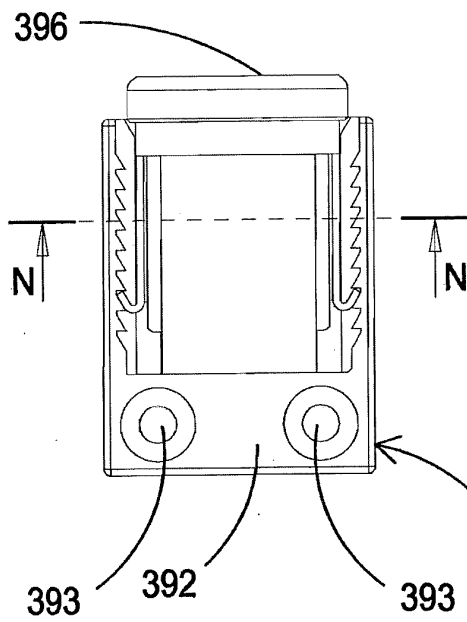


Fig. 60

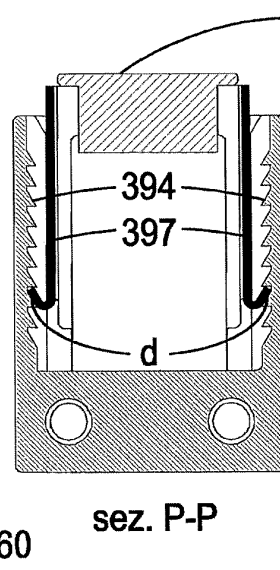


Fig. 61

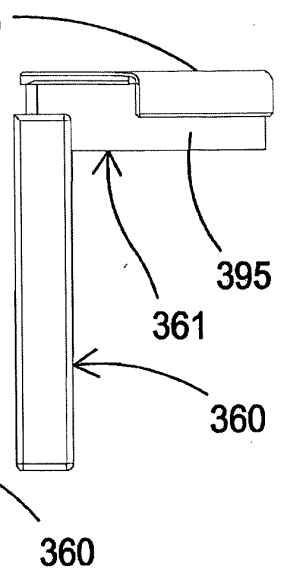


Fig. 62

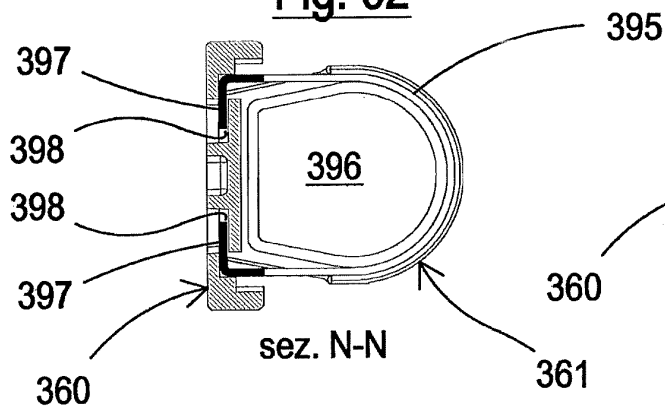


Fig. 63

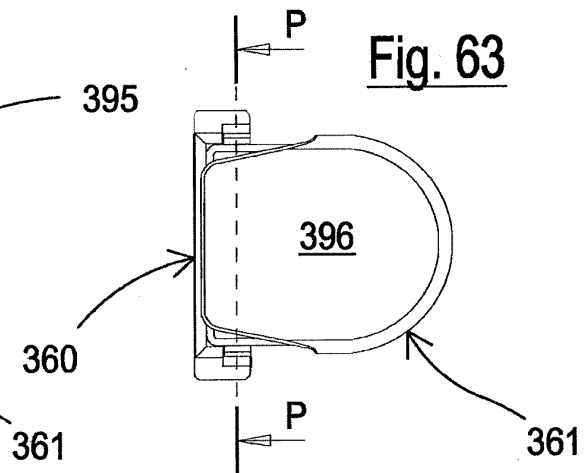


Fig. 64

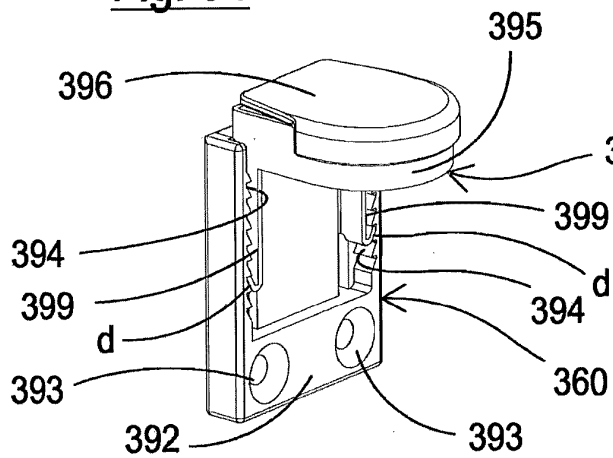


Fig. 65

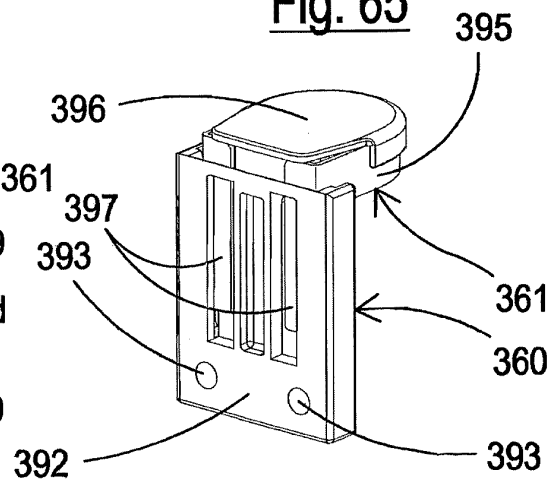


Fig. 66

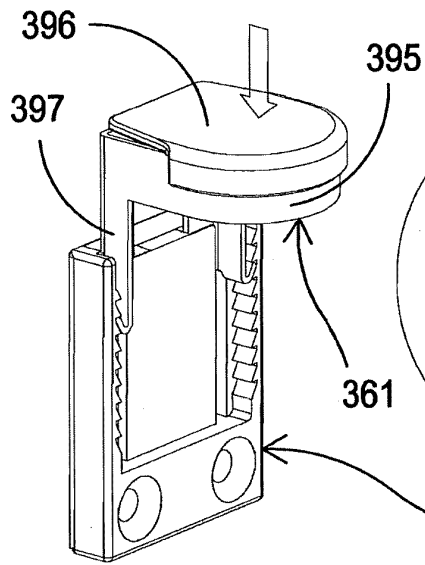


Fig. 67

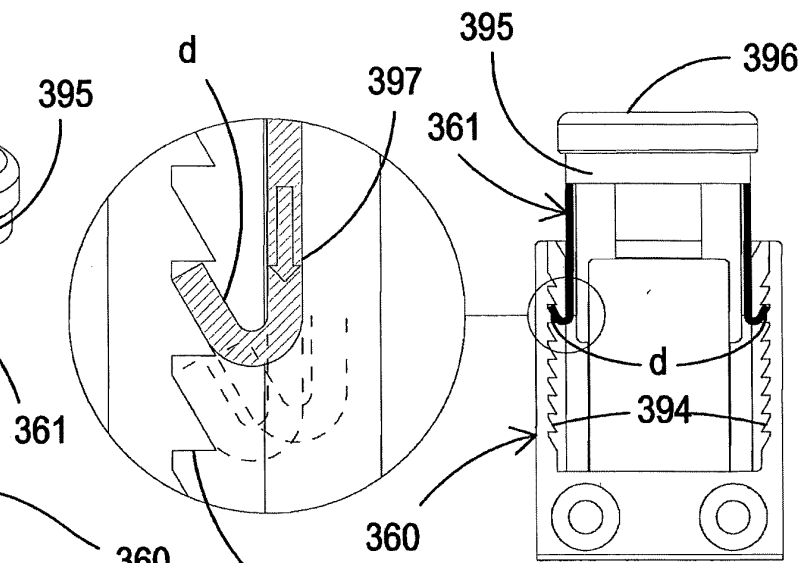


Fig. 69

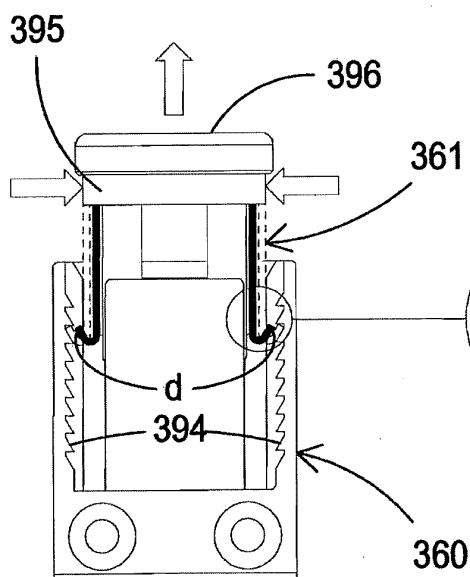
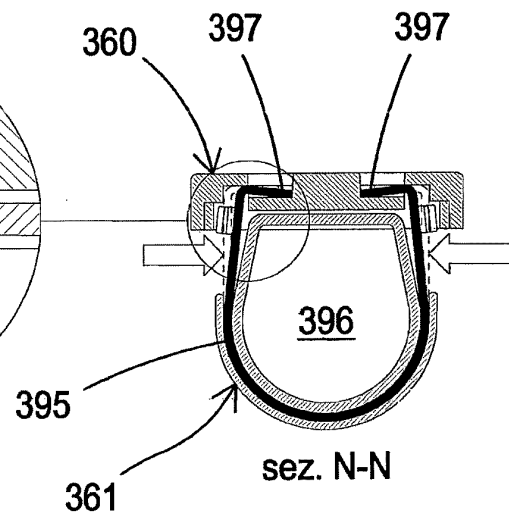
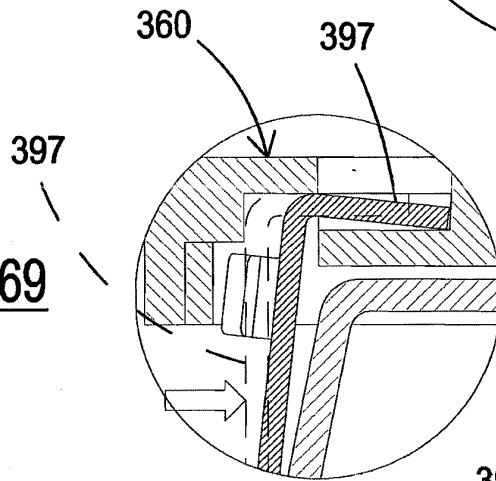


Fig. 68

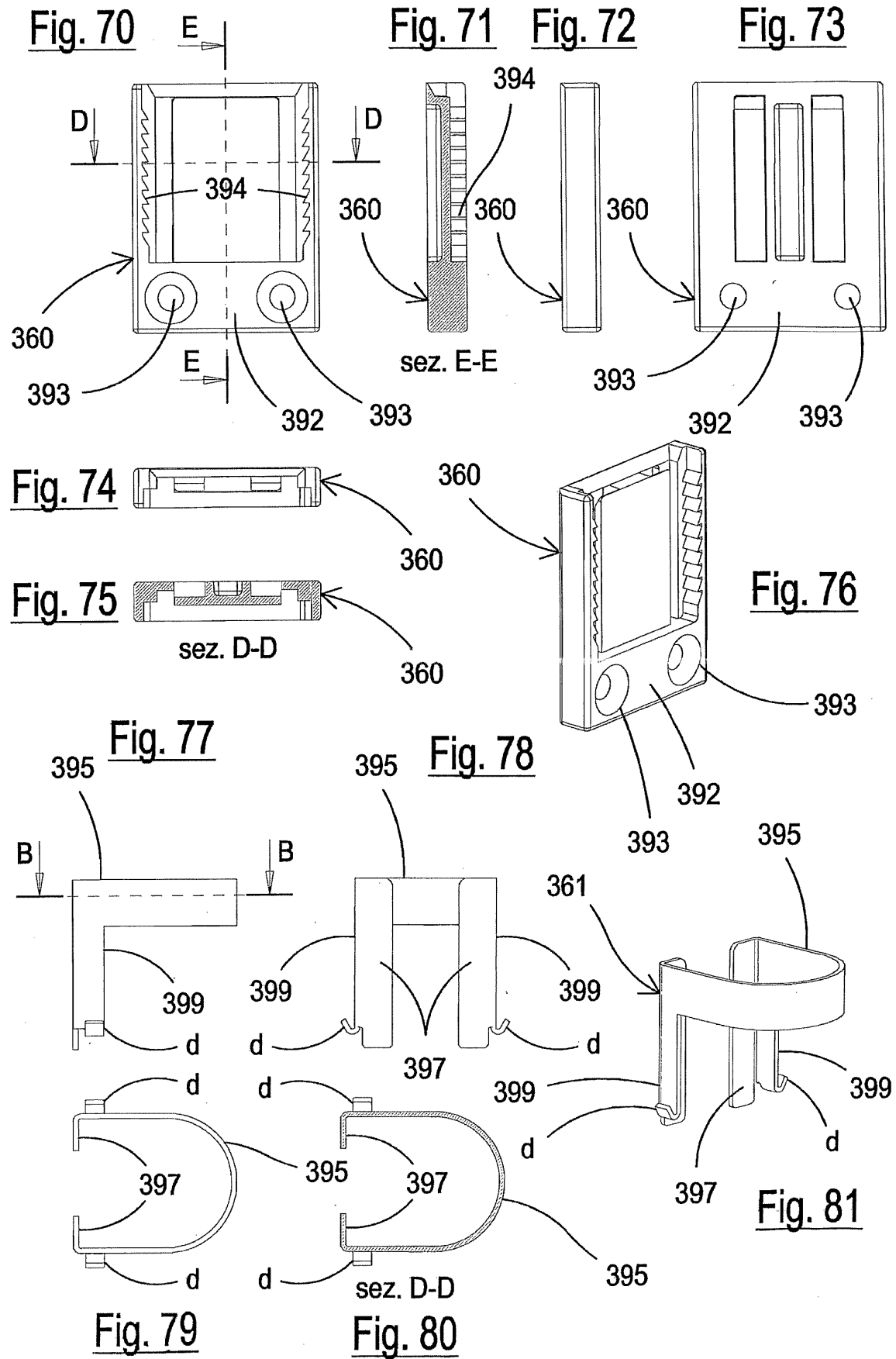


Fig. 82

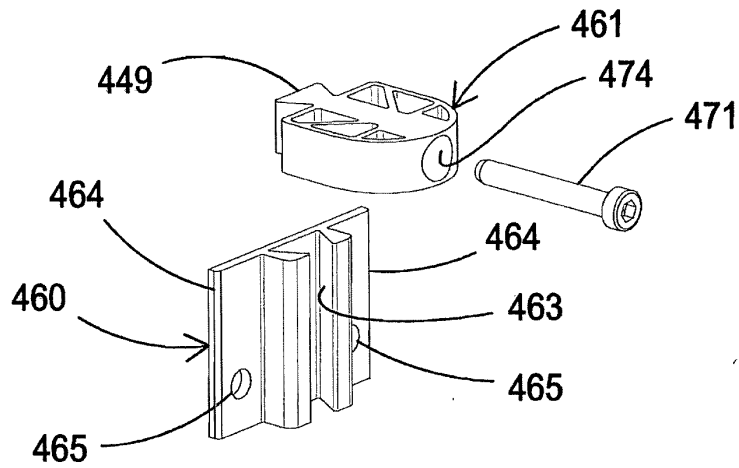


Fig. 83

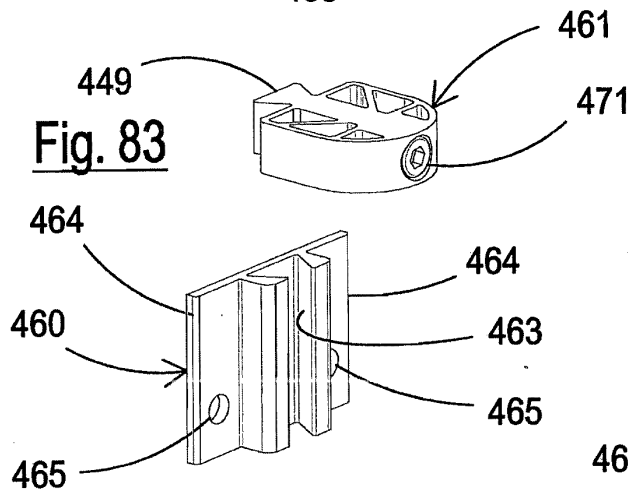


Fig. 84

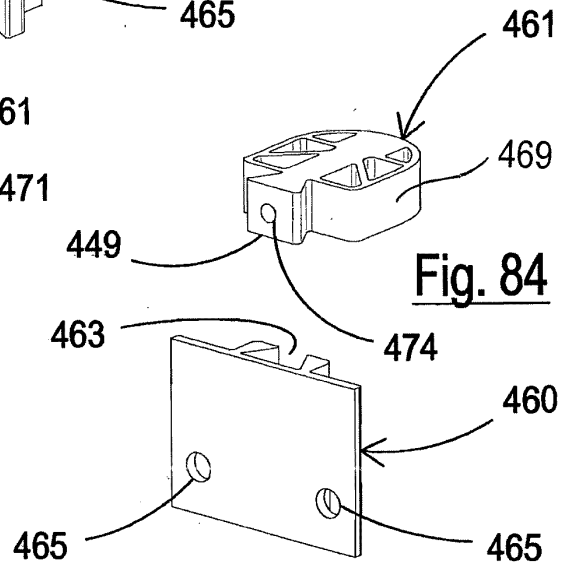


Fig. 85

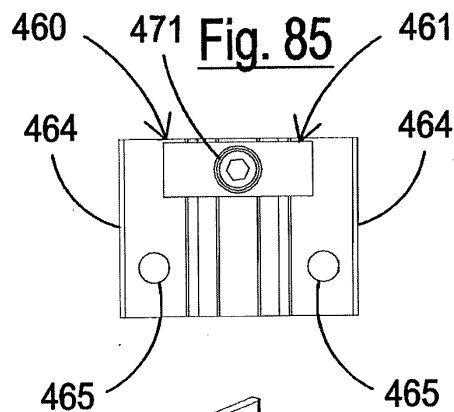


Fig. 86

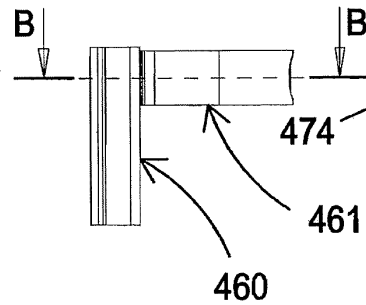


Fig. 87

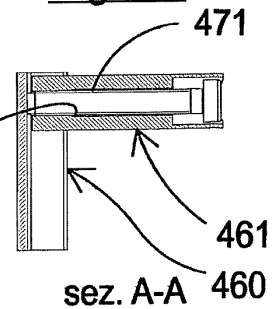


Fig. 88

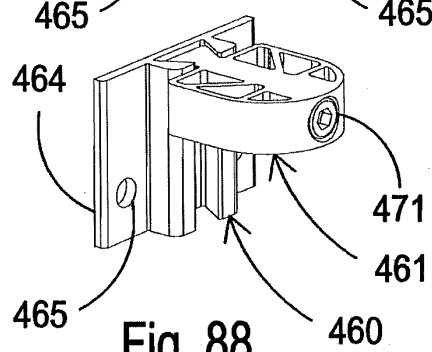


Fig. 89

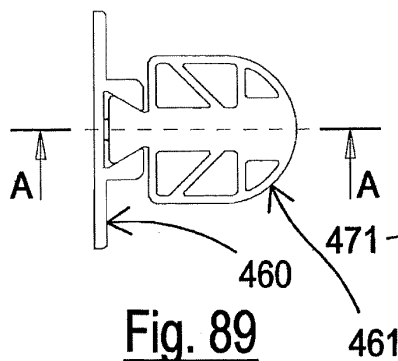


Fig. 90

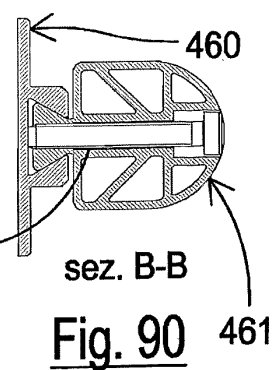


Fig. 91

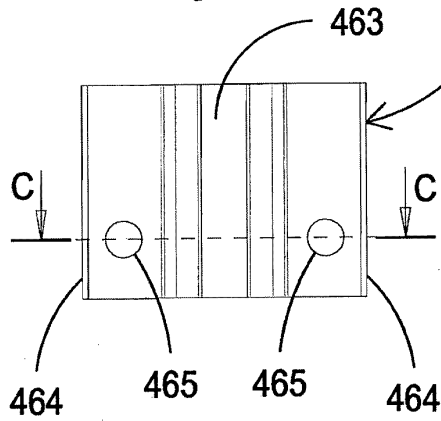


Fig. 92

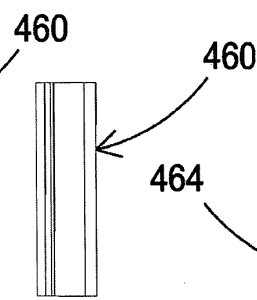


Fig. 93

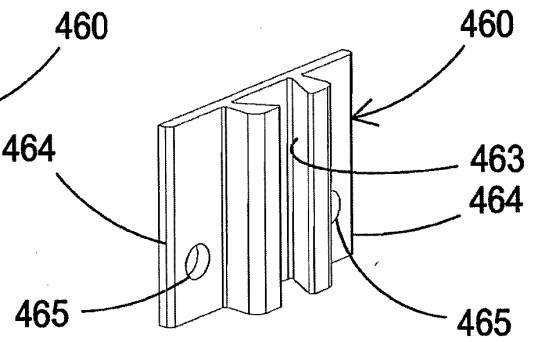


Fig. 94

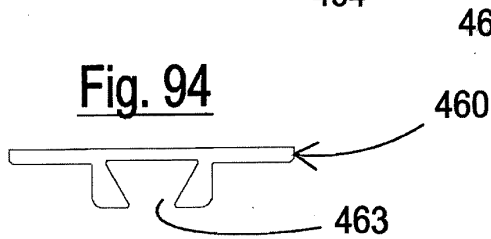


Fig. 95

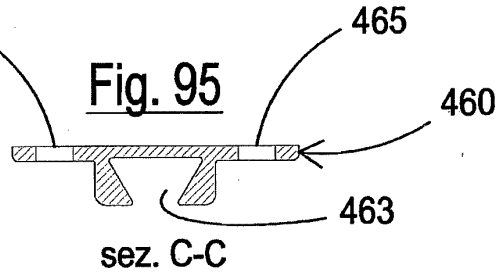


Fig. 96

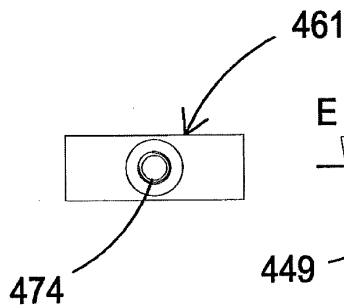


Fig. 97

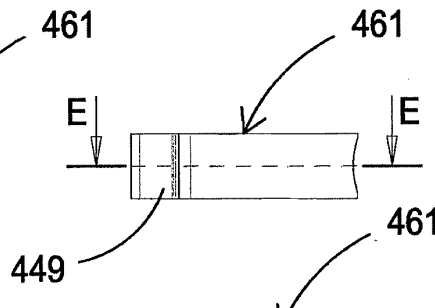


Fig. 98

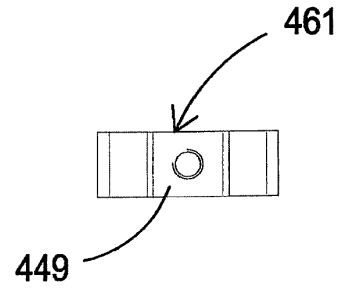


Fig. 99

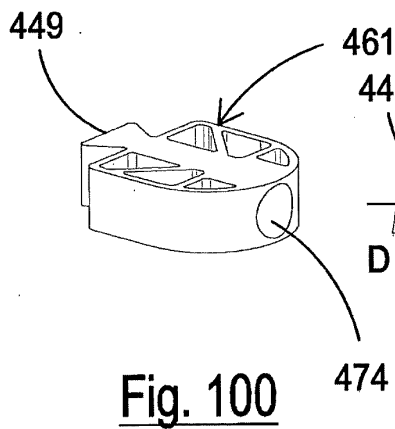
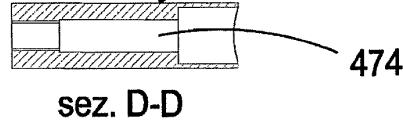


Fig. 101

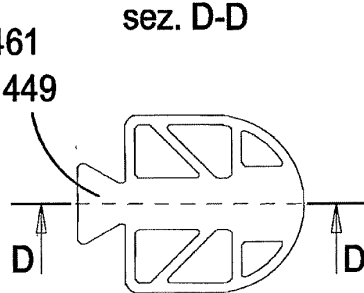


Fig. 102

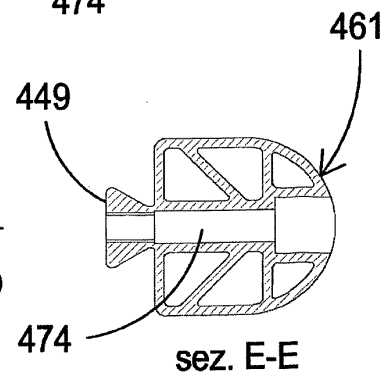


Fig. 103

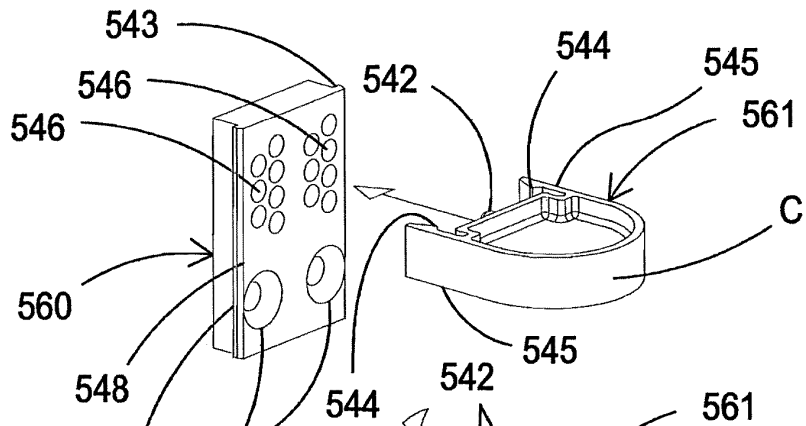


Fig. 104

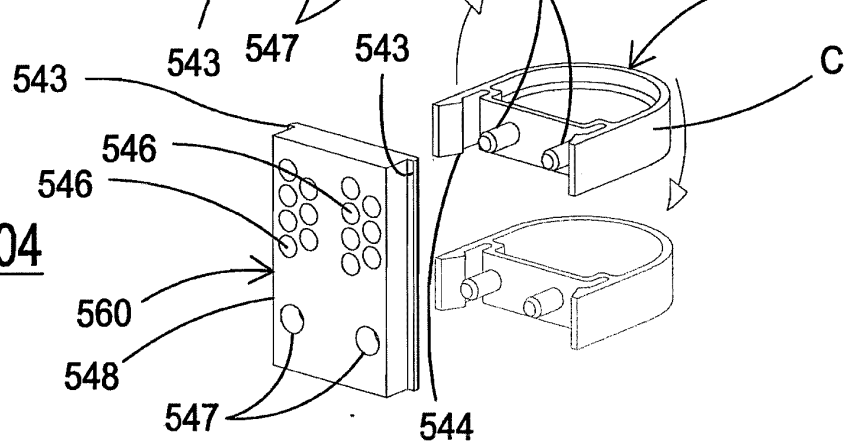


Fig. 105

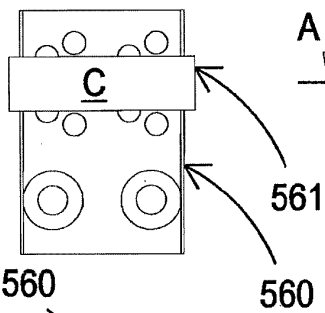


Fig. 106

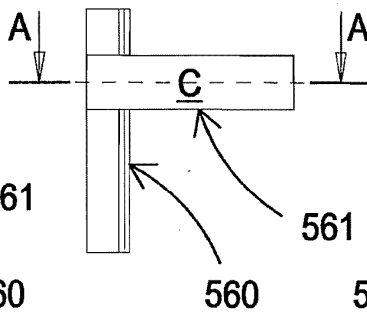


Fig. 107

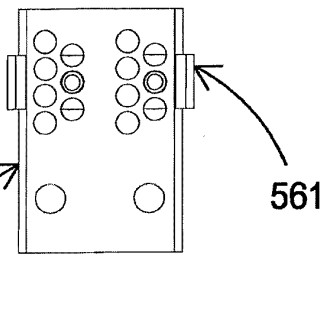


Fig. 108

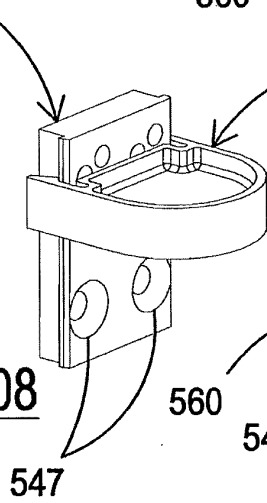


Fig. 109

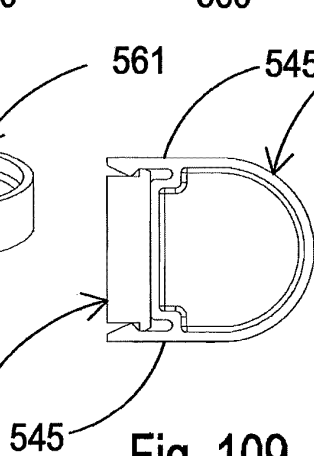
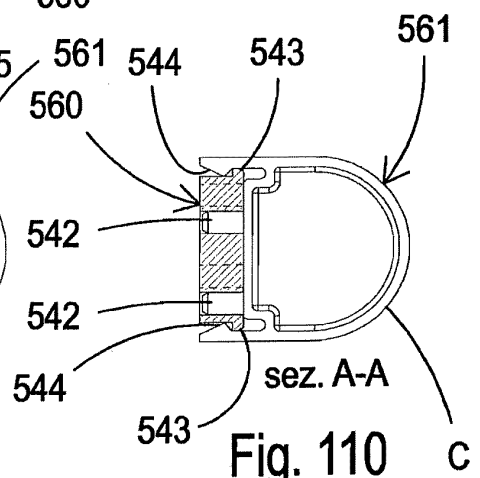


Fig. 110



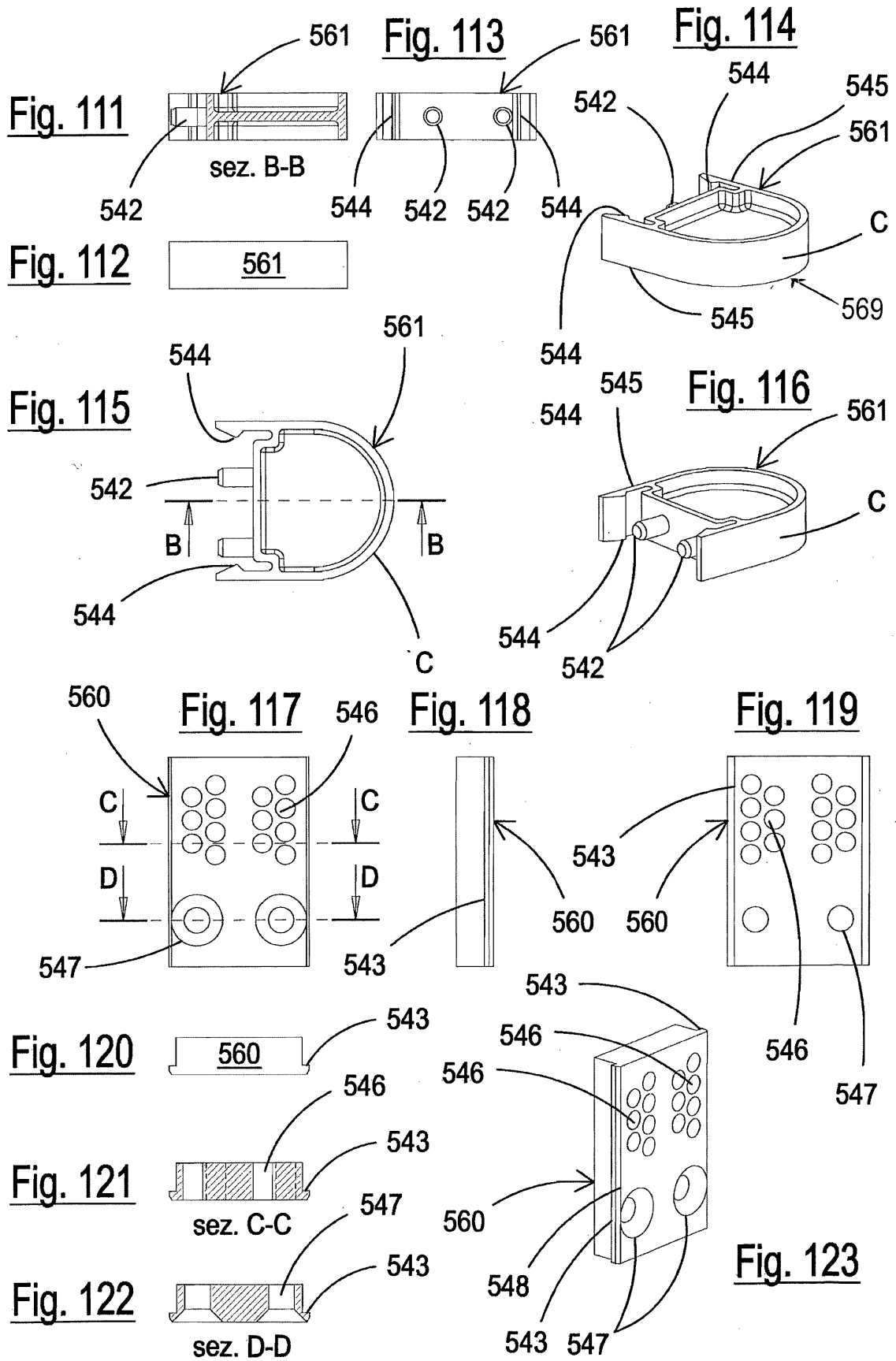


Fig. 124

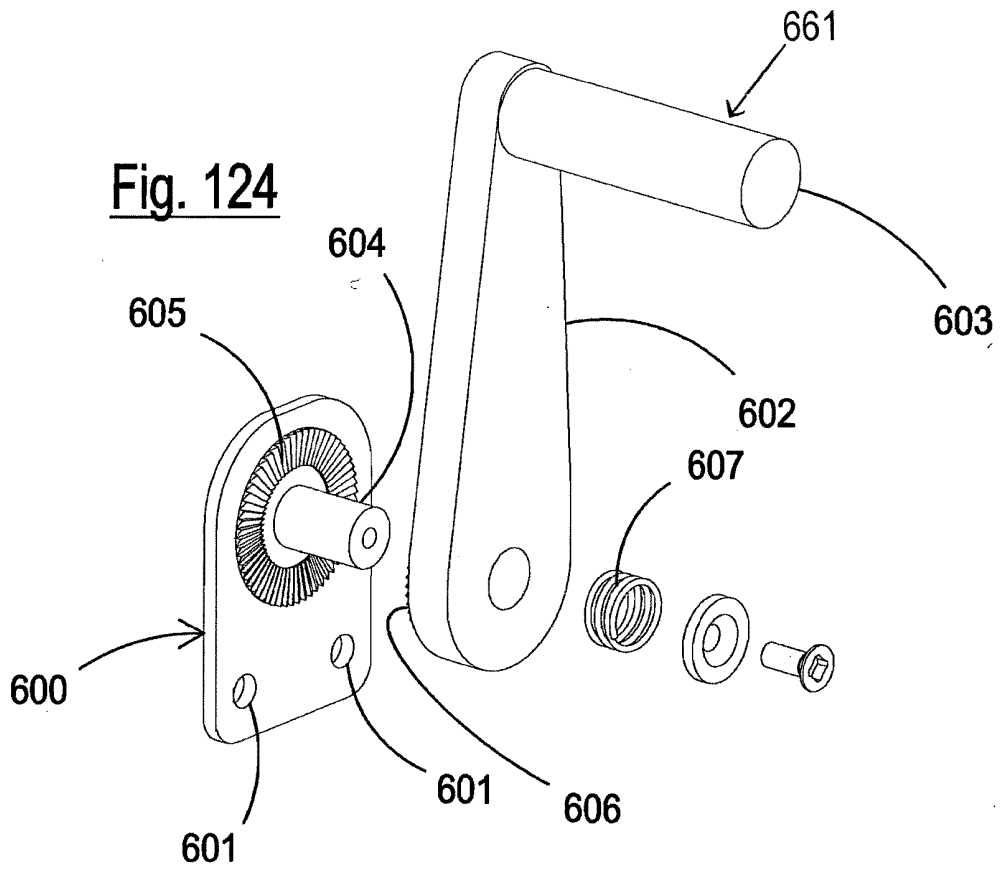


Fig. 125

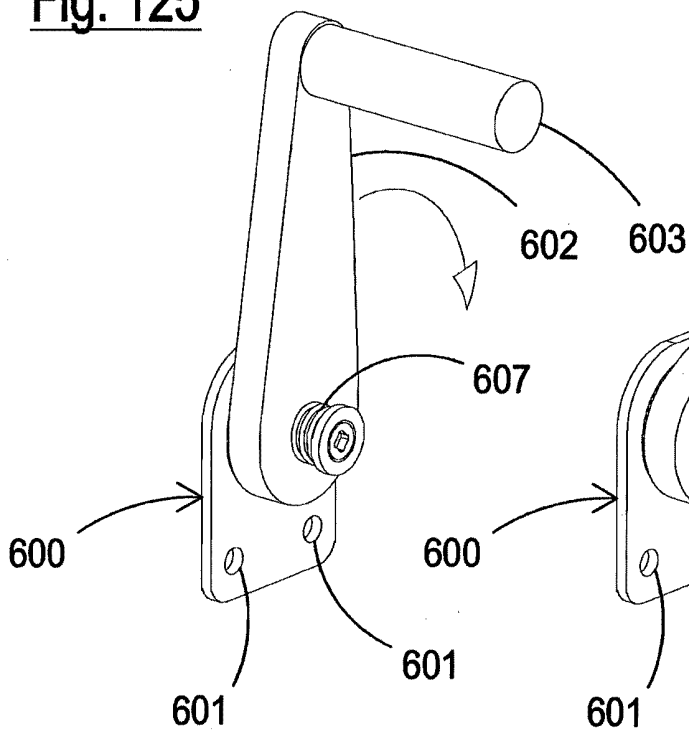


Fig. 126

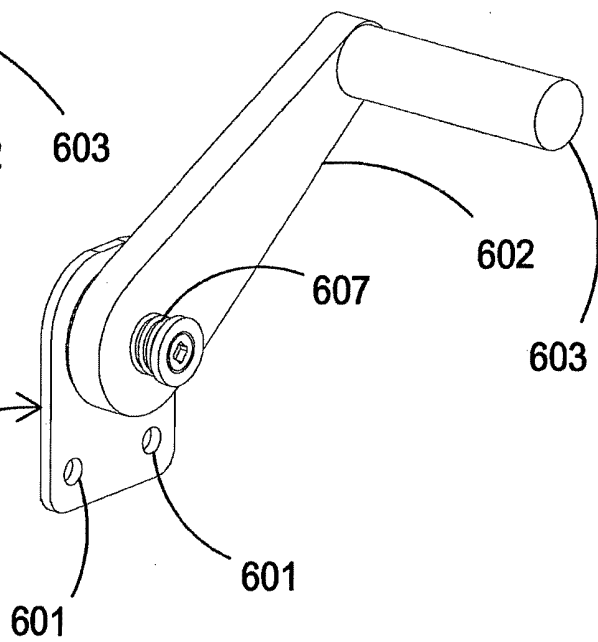


Fig. 127

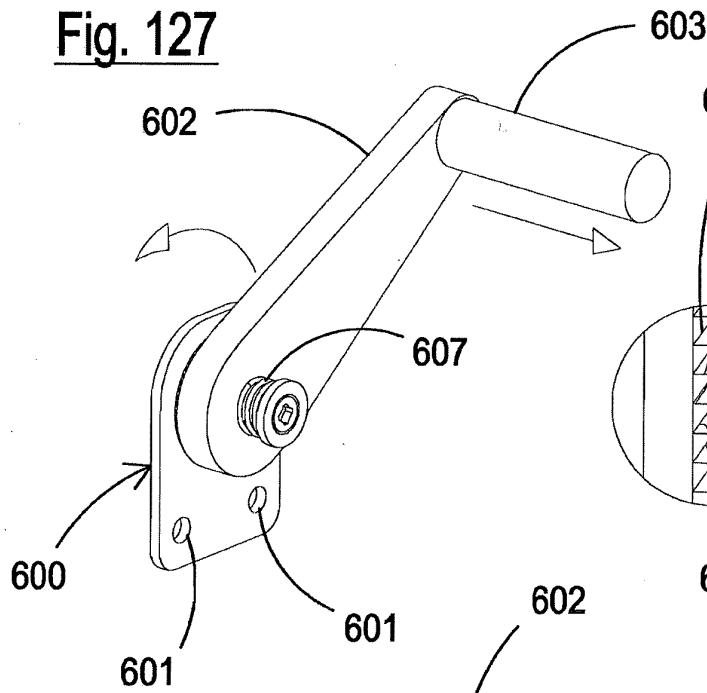


Fig. 128

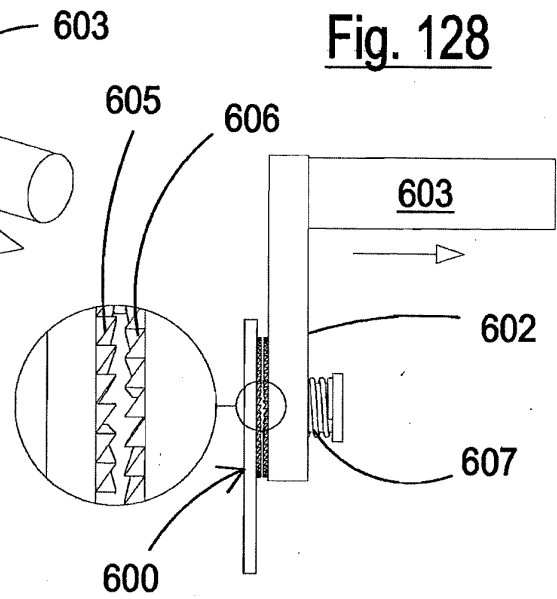


Fig. 129

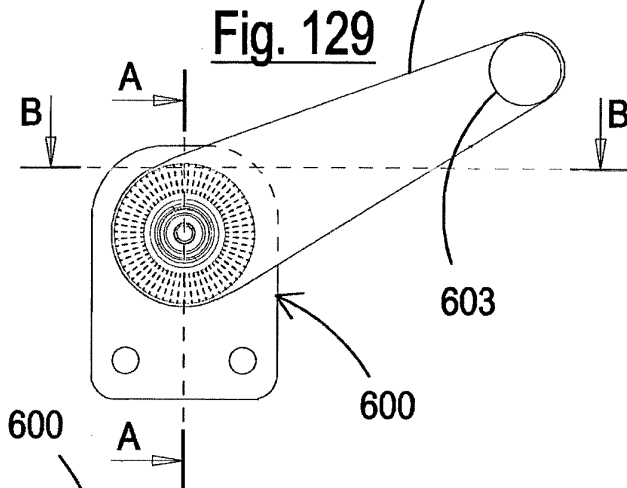


Fig. 130

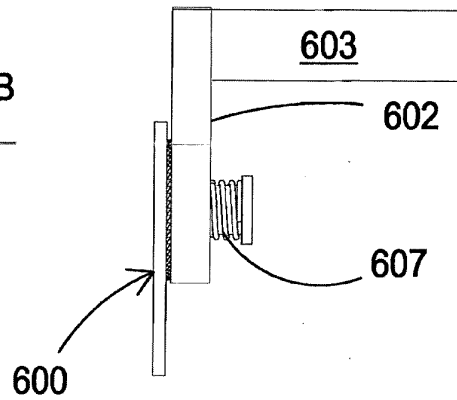


Fig. 131

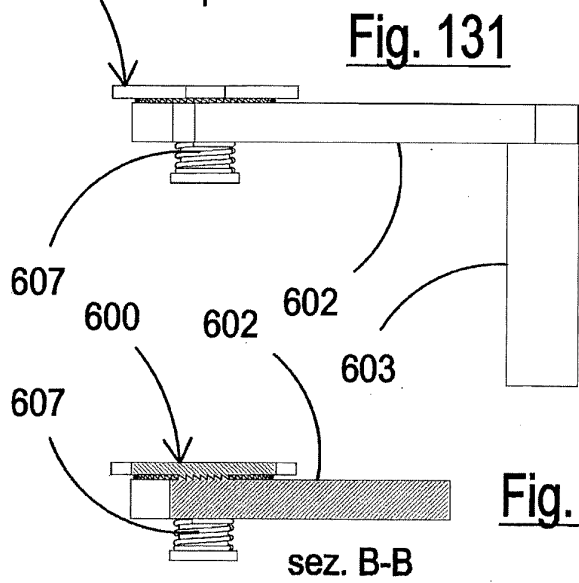


Fig. 132

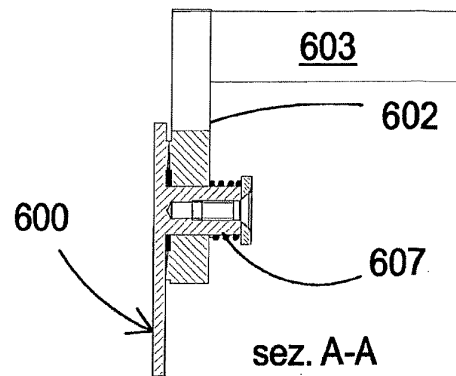
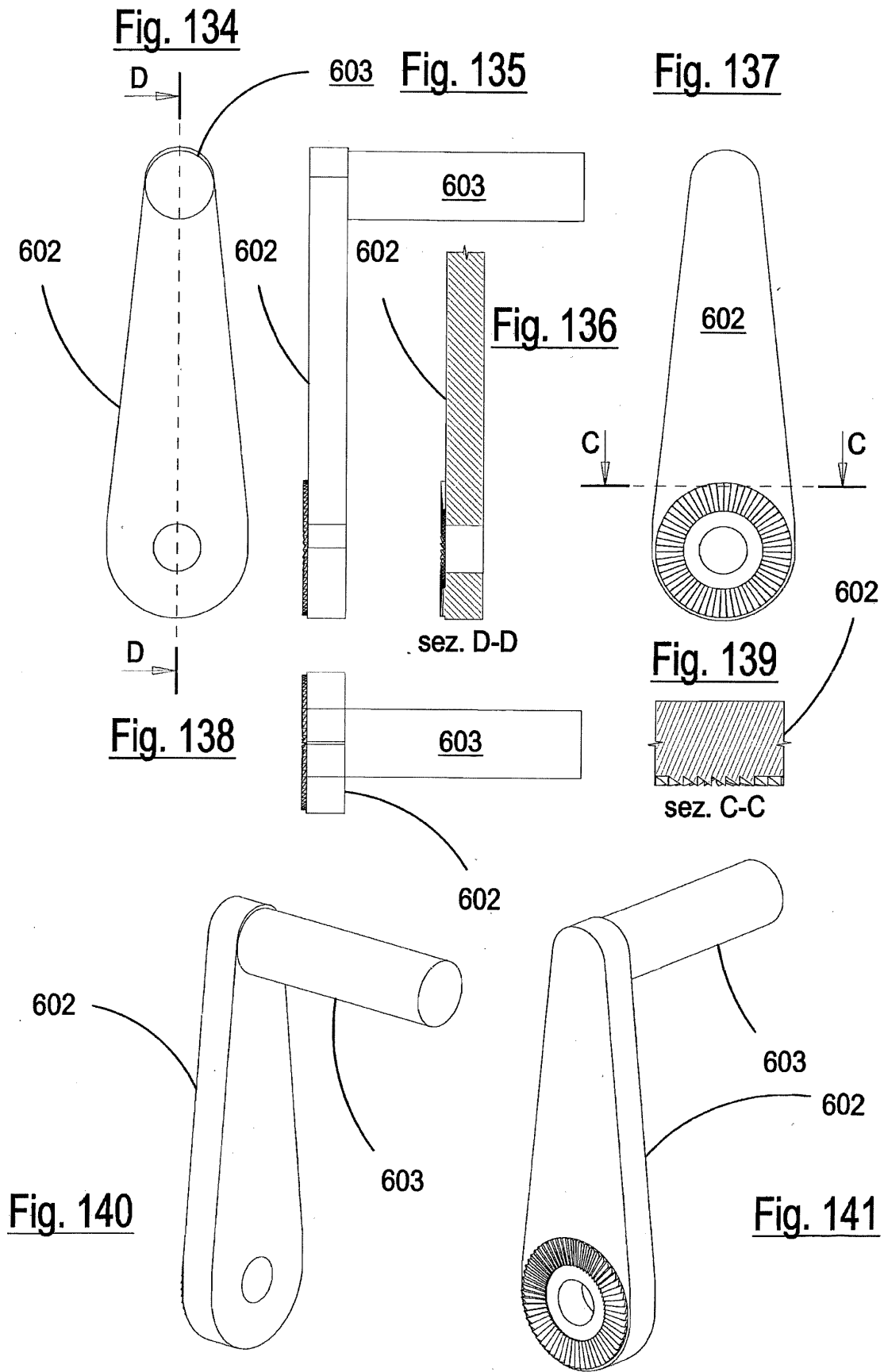


Fig. 133

sez. B-B



REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- EP 0033179 B1 [0004]
- EP 0632979 A1 [0004]
- EP 2010001601 W [0008] [0020]
- EP 2011006113 W [0008] [0020]
- JP S57104944 U [0008]
- WO 2010121687 A [0008]
- EP 2011001593 W [0009] [0020]