(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 483 985 B1

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
11.10.2006 Bulletin 2006/41

(21) Application number: **04076613.1**

(22) Date of filing: **01.06.2004**

(51) Int Cl.:
A47B 95/02 *(2006.01)* ***E05B 5/00*** *(2006.01)*

(54) Concealable gripping device for doors, drawers, leaves and the like

Verdeckbarer Handgriff für Türen, Schubladen, Flügel und dergleichen

Poignée escamotable pour portes, tiroirs, vanteaux et similaires

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

(30) Priority: **04.06.2003 IT MI20031119**

(43) Date of publication of application:
08.12.2004 Bulletin 2004/50

(73) Proprietor: **Pamar S.p.A.**
20055 Renate (MI) (IT)

(72) Inventor: **Redaelli, Marco**
Renate (MI) (IT)

(74) Representative: **Raimondi, Margherita**
Dott. Ing. Prof. Alfredo Raimondi S.r.l.,
Piazzale Cadorna, 15
20123 Milano (IT)

(56) References cited:
US-A- 3 234 765 **US-A- 6 113 160**

- **PATENT ABSTRACTS OF JAPAN vol. 2000, no. 14, 5 March 2001 (2001-03-05) -& JP 2000 316653 A (SAWARA TOKUJI), 21 November 2000 (2000-11-21)**

EP 1 483 985 B1

Printed by Jouve, 75001 PARIS (FR)

Description

[0001] The present invention relates to a concealable gripping device for doors, drawers, leaves and the like.

[0002] It is known in the product sector of handles for doors and the like that there exists the need to provide inset devices which can be associated with knobs, handles and the like able to produce opening/closing of a leaf, door, drawer or the like; in greater detail it is required that said knobs should be of the type with a gripping element which is concealed when in the rest condition and extractable in the axial direction, when it needs to be used.

[0003] A concealable gripping device is for instance known from document US-A-6 113 160.

[0004] The technical problem posed, therefore, is that of providing a concealable gripping device able to be inset in the thickness of walls, doors, drawers and the like and provided with a gripping element which may in turn be extracted from/retracted into the thickness of the wall upon operation by the user.

[0005] Within the context of this problem it is also required that said device should have small dimensions, be easy and inexpensive to produce and should be able to be incorporated into conventional furnishing elements.

[0006] These results are obtained according to the present invention by a concealable gripping device comprising a container body able to be inserted in the thickness of a wall, a sliding element which is coaxial with the container body, provided with a head-piece and able to be displaced from a first position with the head-piece outside said container into a second position with the head-piece inside said container body and vice versa, and coaxial resilient means exerting a thrusting action on said sliding element relative to the said body, wherein said container body has at least one longitudinal guide suitable for engagement with a body shaped in the manner of a butterfly, radially projecting from said sliding element and free to rotate about a radial axis of the said sliding element, one end of said guide being provided with means able to cause rotation of said butterfly and means able to interfere with its travel along said guide so as to cause stoppage thereof.

[0007] Further details may be obtained from the following description of a non-limiting example of embodiment of the subject of the present invention provided with reference to the accompanying drawings, in which:

- Figure 1 shows an exploded view of the device according to the present invention;
- Figure 2 shows a side view of the device according to Fig. 1 in the assembled condition;
- Figure 3 shows a cross-section along the plane indicated by III-III in Fig. 2;
- Figure 4 shows a cross-section along the plane indicated by IV-IV in Fig. 3;
- Figure 5 shows a side view of the device without guiding means and in the condition where the gripping element is axially projecting outwards;
- Figure 6 shows a partially sectioned front view of the guiding means of the device according to Fig. 5;
- Figure 7 shows a cross-section along the plane indicated by VII-VII in Fig. 6;
- Figure 8 shows a side view of the device without guiding means and in the condition where the gripping element is axially inserted in a concealed manner;
- Figure 9 is a partially sectioned front view of the guiding means of the device according to Fig. 8;
- Figure 10 is a cross-section along the plane indicated by X-X in Fig. 9;
- Figure 11 is a partially sectioned front view of a further example of embodiment of the device according to the present invention applied to an inset handle;
- Figure 12 is a partially sectioned side view of the handle according to Fig. 11 with the gripping element retracted in a concealed manner;
- Figure 13 is a schematic cross-section along the plane indicated by XIII-XIII in Fig. 12;
- Figure 14 is a schematic cross-section along the plane indicated by XIV-XIV in Fig. 13;
- Figure 15 is a view, similar to that of Fig. 12, with the gripping element rotated for use; and
- Figure 16 is an exploded view of a third example of embodiment of the device according to the present invention.

[0008] As shown, the concealable gripping device according to the present invention is essentially formed by a substantially cylindrical container body 10 having a seat 11 coaxially extending inside it along the whole length of the said body.

[0009] The seat has, coaxially arranged inside it, a pin 12 supporting a spring 13, the length of which is much greater than the height of the body 10 in the longitudinal direction.

[0010] The side surface of the container 10 is cut so as to define two opposite flat surfaces 10a from which two lugs 14 project outwards, being symmetrically arranged with respect to a longitudinal opening 15 (Fig. 5).

[0011] The body 10 has, at its bottom end (with reference to the orientation shown by way of a non-limiting example in the figures) a thread 16 which is interrupted by recesses 16a which are diametrically opposite and in an angular position coinciding with said longitudinal openings.

[0012] On the side axially opposite to the thread 16, the cylindrical body 10 has an end shaped in the manner of annular edge 17 which projects radially outwards and has formed inside it a concentric seat 17a of suitable thickness.

[0013] The said longitudinal seat 11 slidably houses inside it a sliding element 20 essentially consisting of a cylindrical body in which there is coaxially formed a seat 21 able to contain the said spring 13 and the said pin 12, as will emerge more clearly below.

[0014] The sliding element 20 has at one of its end a head-piece 22, the diameter and thickness of which are slightly smaller than the corresponding dimensions of the said seat 17a of the body 10.

[0015] At the opposite end to said head-piece 22, the side surface 20a of the sliding element 20 has two circular-shaped transverse seats 22b which are arranged in a diametrically opposite position and inside which a further radial hole 22a communicating with the coaxial seat 21 is coaxially formed.

[0016] Said seats 22b form the housing for respective shaped bodies 30 consisting of a circular base 31 which has, respectively projecting from its opposite sides, a pin 32 able to be inserted inside the said hole 22a and a butterfly-shaped extension 33 from the centre of which a further pin 34 projects.

[0017] The continuity of the side surface of the container body 10 is restored by means of two shaped flanges 40 which have a flat inner surface, an outer surface 40a with a curvature corresponding to the side surface 10a of the body 10, a bottom end having a tooth 41 able to be inserted inside said recess 16a, and two eyelets 44 suitable for engagement with said lugs 14.

[0018] The inner surface of the flanges 40 has a longitudinal guide seat 43 (Figs. 1 and 6) which, at the end corresponding to the said tooth 41, has an inclined surface 43a which produces a widening 43b of said seat 43; on the opposite side to the said inclined seat 43a the widening 43b has an undercut 43c.

[0019] A longitudinal depression 45 is formed on the bottom of the guide 43 and extends substantially along the whole length of the guide 43.

[0020] The device is completed by a cover 50 with a female thread 51 suitable for mating with the thread 16 of the body 10 so as to prevent separation of said flanges 40. The length, in the axial direction, of the guide 43 and the seat 11 of the body 10 are greater than the length of the sliding element 20.

[0021] Once the device is assembled (Figs. 2, 3 and 4) such that:

- the spring 13 is mounted on the support 12;
- the sliding element 20 is inserted inside the seat 11, contains inside it the spring part 13 coaxially extending towards the outside of the body 10 and the seats 22b are open and accessible opposite the opening 15;
- each shaped body 30 is inserted with the respective base 31 inside the associated seat 22b;
- and the butterfly 33 is arranged aligned in the longitudinal direction and inserted inside the respective guide 43 of the flange 40;
- the flange 40 is mounted in its seat with the tooth 41 inserted inside the recess 16a and eyelets 44 engaged with the lugs 14;
- the cover 50 is screwed onto the thread 16; the device is ready to operate in the following sequence:
  - the sliding element 20 is initially pushed outwards (Fig. 5) by the thrusting action of the spring 13, making the head-piece 22 available as a gripping element;
  - in this condition (Fig. 5, 6 and 7) the butterfly 33 is aligned in the longitudinal direction and arranged so as to bear against the top edge 17 of the body 10, therefore preventing the separation of the sliding element 20 from the latter;
  - by exerting an axial thrusting force on the head-piece 22 (Figs. 8, 9 and 10) so as to overcome the opposing action of the spring 13, insertion of the sliding element 20 into the seat 11 is performed;
  - during this inserting movement, the butterfly 33 moves downwards inside the guide 43 until it encounters the inclined surface 43a which causes a partial rotation thereof, following which the ends of the butterfly 33 are arranged underneath the undercut 43c which prevents the return upward movement thereof;
  - the travel path is such as to bring the head-piece 22 inside the said seat 17a so as to form a continuous surface;
  - a further pushing force on the head-piece 22, against the opposing action of the spring 13, causes a further displacement, to the end of its path, of the butterfly 33 which is forced to perform a further rotation so as to be positioned in longitudinal alignment and free from the obstacle of the undercut 43c; in this way the sliding element 20 is free to slide outwards under the thrusting action of the spring 13 so as to make available again the gripping element formed by the head-piece of the sliding element 20 (Fig. 5).

[0022] As shown in Figs. 11 to 15 it is also possible to design the device so that it is applicable to inset handles 100 with a gripping element 122 rotatable from a first - rest - position concealed inside the handle into a second - working - position rotated outwards.

[0023] In this configuration the container body of the device consists of the side 100a of a handle 100 which is to be inset for example in a door schematically indicated by 1 and is formed by a box 102 with a bearing edge 100b and closed at the front by a cover 122 forming the gripping element of the handle.

[0024] In greater detail the side/container 100a has an eyelet 111 extending in the longitudinal direction over a suitable distance; a sliding element 120 is arranged inside the eyelet 111 and is provided at its bottom end (with the orientation shown in the figures by way of a non-limiting example) with a transverse seat 22b,22a having a circular shape inside which the shaped body 30 with a butterfly extension 33 is housed.

[0025] The opposite end of the sliding element 120 has a hole 121a seating a pin 121 on which a first end of a rod 104 is pivotably mounted, the other end thereof being in turn pivotably mounted on the gripping element 122 by means of an associated pin 104a.

[0026] The side/container 100a of the handle is also provided with two transverse extensions 14 directed outwards and suitable for engagement with the corresponding seats 44 of a shaped flange 40 entirely similar to that already described above and retained against the side 100a by screw means 150 which keep the device stably assembled. In a suitable position, transversely opposite to that of the lever 104, the gripping element 122 is integral with one end of a spring 113 which is arranged in an associated seat 113a with an orientation substantially at right angles to the sliding element 120 and the other end of which is constrained to the container 102 so as to form the element actuating the gripping element 22 and therefore the entire device.

[0027] It is obvious from the figures how operation of the device in the configuration for an inset handle is entirely similar to that described in connection with the device according to Figs. 1-10; the substantially semi-cylindrical form of the device allows it to be mounted on the side of an inset handle 100 and with a rotational instead of a translational movement of the gripping element 122.

[0028] Moreover, the external arrangement of the spring 113 allows the depth-wise dimensions of the assembly to be further reduced, allowing the inset mounting of the handle also in the thinnest doors of furniture which is currently produced.

[0029] Fig. 16 shows a further example of embodiment of the concealable gripping device according to the present invention for inset handles 200 having a gripping element movable with a translational movement.

[0030] In this case the body 210 is duplicated and has two parallel seats 211 for housing respective springs 13 partially inserted also in associated seats 221 of the gripping element 220 with a head-piece 222 which extends in the transverse direction, for covering the whole device.

[0031] The transverse seat 22b containing the shaped element 30 with butterfly 33 is formed in the section joining together the two parallel seats 221.

[0032] The body 210 has the already described extensions 214 for engagement with at least one shaped flange 40 entirely similar to that already described above.

[0033] The body 210 can then be engaged with an end closing cover 250 able to interfere and retain the shaped flange 40 so as to keep the device stably assembled; the cover 250 also has outwardly extending pins 212 able to penetrate coaxially inside the seat 211 so as to form the guide of the spring 13.

[0034] Said cover 250 also has force-fitting means 251 for engagement with associated seats 216 in the container body 220.

Claims

1. Concealable gripping device comprising at least one container body (10;110;210), a sliding element (20; 120;220) associated with the container body (10; 110;210), connected to a gripping element (22;122; 222) and able to move from a first position with gripping element (22;122;222) projecting from said container (10;110;210) into a second position with gripping element (22;122;222) in contact with the container body (10;110;220) and vice versa, and resilient means (13;113) exerting a thrusting force on said sliding element relative to the said container body (10,110,210), **characterized in that** said container body (10;110,210) is associated with at least one longitudinal guide (43) suitable for engagement with a body (30) shaped in the manner of a butterfly (33); projecting from said sliding element (20;120; 220) in a direction transverse thereto and free to rotate about said transverse direction, one end of said guide (43) being provided with means (43a) able to cause rotation of said butterfly (33) and means (43c) able to interfere with its travel along said guide (43) so as to cause the stoppage thereof, in the said first or second position.

2. Device according to Claim 1, **characterized in that** said container body (1;110;210) is provided internally with a longitudinal seat (11;111;211) extending along the length of the container body (10;110;210).

3. Device according to Claim 1, **characterized in that** the side surface of the container body (10;110;210) is cut so as to define at least one flat surface (10a; 110a;210a) on which a respective longitudinal opening (15) communicating with said longitudinal seat (11) is formed.

4. Device according to Claim 3, **characterized in that** at least one lug (14) projects outwards from said at least one side surface (10a; 110a; 210a).

5. Device according to Claim 4, **characterized in that** said lugs (14) are symmetrically arranged with respect to said longitudinal opening (15).

6. Device according to Claim 1, **characterized in that** the side surface (20a;120a;220a) of the said sliding element (20;120;220) has at least one circular seat (22b) having, coaxially formed inside it, a further radial hole (22a) communicating with the coaxial seat (21).

7. Device according to Claim 6, **characterized in that** said at least one seat (22b) is arranged at the end of the sliding element (20;120;220) opposite to said gripping element (22;122;222).

8. Device according to Claim 1, **characterized in that** said butterfly element (33) forms an integral part of a body (30) comprising a circular base (31) from the opposite sides of which a pin (32) able to be inserted inside said hole (22a) and said butterfly extension (33) project respectively.

9. Device according to Claim 1, **characterized in that** a further pin (34) projects from the centre of said butterfly extension (33).

10. Device according to Claim 1, **characterized in that** at least one removable shaped flange (40), which has a flat inner surface, is associated with the side surface of the container body (10;110;210).

11. Device according to Claim 10; **characterized in that** said shaped flange (40) has at least one eyelet (44) suitable for engagement with a corresponding lug (14) of the container body (10).

12. Device according to Claim 10, **characterized in that** said guiding means consist of a longitudinal seat (43) formed on the inner surface of each flange (40).

13. Device according to Claim 12, **characterized in that said** longitudinal guide (43) has, at one of its ends, an inclined surface (43a) which produces a widening (43b) of said seat (43).

14. Device according to Claim 13, **characterized in that** said guide (43) has an undercut (43c) facing said inclined surface (43b).

15. Device according to Claim 1, **characterized in that** said resilient means (13;113) consist of a spiral spring.

16. Device according to Claim 1, **characterized in that** said resilient means (13) are coaxial with the sliding element (20;220).

17. Device according to Claim 1, **characterized in that** said resilient means (113) are at right angles to the sliding element (120).

18. Device according to Claim 1, **characterized in that** said container body (10) is a cylinder.

19. Device according to Claim 18, **characterized in that** a pin (12; 212) supporting said spring (13) is arranged coaxially inside said seat (11;211).

20. Device according to Claim 18, **characterized in that** said spring (13) has a length much greater than the height of the container body (10;210) in the axial direction.

21. Device according to Claim 18, **characterized in that** said cylindrical body (10) has one end shaped in the manner of an annular edge (17) which projects radially outwards and inside which a concentric seat (17a) of suitable thickness is formed.

22. Device according to Claim 18, **characterized in that** said sliding element (20;220) essentially consists of a cylindrical body inside which a coaxial seat (21; 221) is formed.

23. Device according to Claim 18, **characterized in that** said sliding element (20) has at one of its ends a head-piece (22), the diameter and thickness of which are slightly smaller than the corresponding dimensions of a corresponding seat (17a) of the body (10).

24. Device according to Claim 1, **characterized in that** it has a cover (50;250) associated with the end of the container body opposite to that of the gripping element.

25. Device according to Claim 24, **characterized in that** said cover (50) has a female thread (51) suitable for mating with a corresponding thread (16) of the body (10).

26. Device according to Claim 25, **characterized in that** said body (10) has, at one of its ends, a thread (16) interrupted by recesses (16a) which are diametrically opposite and in an angular position coinciding with that of longitudinal openings (15).

27. Device according to Claim 26, **characterized in that** the bottom end of said flanges (40) is provided with a tooth (41) able to be inserted in a corresponding recess (16a) in the container body (10).

28. Device according to Claim 1, **characterized in that** said container body (200) comprises two cylinders (210) having parallel axes and connected together by a substantially flat surface (210a).

29. Device according to Claim 28, **characterized in that** said gripping element (222) is integral with said sliding elements (220) and has a surface greater than the container body (210).

30. Device according to Claim 24, **characterized in that** said cover (250) has force-fitting means (251) for engagement with associated seats (216) in the container body (210) and longitudinal pins (212) able to be inserted inside the said seat (211) of the container body.

31. Device according to Claim 1, **characterized in that** said gripping element (122) is able to rotate from a first rest position, concealed inside the container body (110), into a second working position, rotated outwards.

32. Device according to Claim 31, **characterized in that** the container body (110) of the sliding element (120) is formed by the side (100a) of a box (102) with a bearing edge (100b).

33. Device according to Claim 32, **characterized in that** said container body (110) forms an inset handle (100).

34. Device according to Claim 31, **characterized in that** said gripping element (122) forms the cover of said box (100).

35. Device according to Claim 31, **characterized in that** the side/container (100a) has an eyelet (111) extending in the longitudinal direction over a suitable distance.

36. Device according to Claim 35, **characterized in that** a sliding element (120) is arranged inside the eyelet (111).

37. Device according to Claim 36, **characterized in that** the end of the sliding element (120) opposite to that of the transverse seat (22b,22a) housing the shaped body (30) with a butterfly extension (33) has a hole (121a) seating a pin (121) on which a first end of a rod (104) is pivotably mounted, the other end thereof being in turn pivotably mounted on the gripping element (122) by means of an associated pin (104a).

38. Device according to Claim 35, **characterized in that** two transverse extensions (14) are formed on the side/container (100a) of the handle, said extensions being directed outwards and being able to be engaged with the associated seats (44) of a shaped flange (40).

39. Device according to Claim 38, **characterized in that** said shaped flange (40) is retained against the side (100a) by screw means (150).

40. Device according to Claim 38, **characterized in that** in a suitable position, transversely opposite to that of the lever (104), the gripping element (122) is integral with one end of a spring (113) which is arranged in an associated seat (113a) with an orientation substantially at right angles to the sliding element (120) and the other end of which is constrained to the container (102).

Patentansprüche

1. Verbergbare Greifvorrichtung mit mindestens einem Aufnehmerkörper (10;110;210), einem dem Aufnehmerkörper (10;110,210) zugeordneten Gleitelement (20;120;220), das mit einem Greifelement (22;122;222) verbunden ist und sich von einer ersten Position, in der das Greifelement (22;122;222) von dem Aufnehmer (10; 110;210) absteht, in eine zweite Position, in der das Greifelement (22;122;222) mit dem Aufnehmerkörper (10;110;220) in Berührung steht, bewegen kann und umgekehrt, und mit elastischen Mitteln (13;113), die eine Schubkraft auf das Gleitelement im Verhältnis zu dem Aufnehmerkörper (10,110,210) ausüben, **dadurch gekennzeichnet, dass** der Aufnehmerkörper (10;110,210) mindestens einer Längsführung (43) zugeordnet ist, die zum Eingreifen mit einem in der Art eines Schmetterlings (33) geformten Körper (30) geeignet ist, der von dem Gleitelement (20;120;220) in eine Richtung quer dazu ragt und frei um die Querrichtung drehen kann, wobei ein Ende der Führung (43) mit einem Mittel (43a), das eine Drehung des Schmetterlings (33) bewirken kann, und mit einem Mittel (43c), das dessen Verfahrweg entlang der Führung (43) zum Bewirken des Anhaltens desselben in der ersten oder zweiten Position beeinträchtigen kann, versehen ist.

2. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** der Aufnehmerkörper (10;110;210) innen mit einem sich entlang der Länge des Aufnehmerkörpers (10;110;210) erstreckenden Längssitz (11;111;211) versehen ist.

3. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Seitenfläche des Aufnehmerkörpers (10;110;210) so geschnitten ist, dass sie mindestens eine flache Oberfläche (10a;110a;210a) bildet, auf welcher eine mit dem Längssitz (11) in Verbindung stehende jeweilige Längsöffnung (15) ausgebildet ist.

4. Vorrichtung nach Anspruch 3, **dadurch gekennzeichnet, dass** mindestens eine Nase (14) von der mindestens einen Seitenfläche (10a;110a;210a) nach außen ragt.

5. Vorrichtung nach Anspruch 4, **dadurch gekennzeichnet, dass** die Nasen (14) bezüglich der Längsöffnung (15) symmetrisch angeordnet sind.

6. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Seitenfläche (20a;120a;220a) des Gleitelements (20;120;220) mindestens einen kreisförmigen Sitz (22b) aufweist, der darin koaxial ausgebildet eine mit dem koaxialen Sitz (21) in Verbindung stehende weitere radiale Öffnung (22a) aufweist.

7. Vorrichtung nach Anspruch 6, **dadurch gekennzeichnet, dass** der mindestens eine Sitz (22b) am Ende des Gleitelements (20;120;220) gegenüber dem Greifelement (22;122;222) angeordnet ist.

8. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** das Schmetterlingselement (33) einen festen Teil eines Körpers (30) bildet, der einen kreisförmigen Grundteil (31) umfasst, von dessen

gegenüberliegenden Seiten ein in die Öffnung (22a) einführbarer Stift (32) und die Schmetterlingsverlängerung (33) jeweils abstehen.

9. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** ein weiterer Stift (34) von der Mitte der Schmetterlingsverlängerung (33) absteht.

10. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** mindestens ein abnehmbarer geformter Flansch (40), der eine flache Innenfläche aufweist, der Seitenfläche des Aufnehmerkörpers (10;110;210) zugeordnet ist.

11. Vorrichtung nach Anspruch 10, **dadurch gekennzeichnet, dass** der geformte Flansch (40) mindestens eine Öse (44) aufweist, die zum Eingreifen mit einer entsprechenden Nase (14) des Aufnehmerkörpers (10) geeignet ist.

12. Vorrichtung nach Anspruch 10, **dadurch gekennzeichnet, dass** die Führungsmittel aus einem an der Innenfläche jedes Flansches (40) gebildeten Längssitz (43) bestehen.

13. Vorrichtung nach Anspruch 12, **dadurch gekennzeichnet, dass** die Längsführung (43) an einem ihrer Enden eine geneigte Fläche (43a) aufweist, die eine Verbreiterung (43b) des Sitzes (43) erzeugt.

14. Vorrichtung nach Anspruch 13, **dadurch gekennzeichnet, dass** die Führung (43) eine der geneigten Fläche (43b) zugewandte Hinterschneidung (43c) aufweist.

15. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die elastischen Mittel (13;113) aus einer Spiralfeder bestehen.

16. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die elastischen Mittel (13) koaxial zu dem Gleitelement (20;220) sind.

17. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** die elastischen Mittel (113) rechtwinklig zu dem Gleitelement (120) sind.

18. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** der Aufnehmerkörper (10) ein Zylinder ist.

19. Vorrichtung nach Anspruch 18, **dadurch gekennzeichnet, dass** ein die Feder (13) lagernder Stift (12;212) koaxial in dem Sitz (11;211) angeordnet ist.

20. Vorrichtung nach Anspruch 18, **dadurch gekennzeichnet, dass** die Feder (13) eine Länge aufweist, die viel größer als die Höhe des Aufnehmerkörpers (10;210) in axialer Richtung ist.

21. Vorrichtung nach Anspruch 18, **dadurch gekennzeichnet, dass** der zylindrische Körper (10) ein in der Art einer ringförmigen Kante (17) geformtes Ende aufweist, das radial nach außen ragt und in dem ein konzentrischer Sitz (17a) geeigneter Dicke ausgebildet ist.

22. Vorrichtung nach Anspruch 18, **dadurch gekennzeichnet, dass** das Gleitelement (20;220) im Wesentlichen aus einem zylindrischen Körper besteht, in dem ein koaxialer Sitz (21;221) ausgebildet ist.

23. Vorrichtung nach Anspruch 18, **dadurch gekennzeichnet, dass** das Gleitelement (20) an einem seiner Enden ein Kopfstück (22) aufweist, dessen Durchmesser und Dicke etwas kleiner als die entsprechenden Maße eines entsprechenden Sitzes (17a) des Körpers (10) sind.

24. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** sie eine dem Ende des Aufnehmerkörpers zugeordnete Abdeckung (50;250) gegenüber dem des Greifelements aufweist.

25. Vorrichtung nach Anspruch 24, **dadurch gekennzeichnet, dass** die Abdeckung (50) ein Innengewinde (51) aufweist, das zum Greifen mit einem entsprechenden Gewinde (16) des Körpers (10) geeignet ist.

26. Vorrichtung nach Anspruch 25, **dadurch gekennzeichnet, dass** der Körper (10) an einem seiner Enden ein Gewinde (16) aufweist, das durch Aussparungen (16a) unterbrochen ist, die diametral gegenüberliegend und in einer mit der der Längsöffnungen (15) übereinstimmenden Winkellage sind.

27. Vorrichtung nach Anspruch 26, **dadurch gekennzeichnet, dass** das untere Ende der Flansche (40) mit einem Zahn (41) versehen ist, der in eine entsprechende Aussparung (16a) in dem Aufnehmerkörper (10) eingeführt werden kann.

28. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** der Aufnehmerkörper (200) zwei Zylinder (210) umfasst, die parallele Achsen aufweisen und durch eine im Wesentlichen flache Oberfläche (210a) miteinander verbunden sind.

29. Vorrichtung nach Anspruch 28, **dadurch gekennzeichnet, dass** das Greifelement (222) einstückig zu den Gleitelementen (220) ist und eine Oberfläche aufweist, die größer als der Aufnehmerkörper (210) ist.

30. Vorrichtung nach Anspruch 24, **dadurch gekenn-**

zeichnet, dass die Abdeckung (250) ein Preßpassmittel (251) zum Eingreifen mit zugeordneten Sitzen (216) in dem Aufnehmerkörper (210) sowie Längsstifte (212), die in den Sitz (211) des Aufnehmerkörpers einführbar sind, aufweist.

31. Vorrichtung nach Anspruch 1, **dadurch gekennzeichnet, dass** das Greifelement (122) von ersten Ruheposition, verborgen im Aufnehmerkörper (110), in eine nach außen gedrehte zweite Arbeitsposition drehen kann.

32. Vorrichtung nach Anspruch 31, **dadurch gekennzeichnet, dass** der Aufnehmerkörper (110) des Gleitelements (120) durch die Seite (100a) eines Kastens (102) mit einer Lagerkante (100b) gebildet ist.

33. Vorrichtung nach Anspruch 32, **dadurch gekennzeichnet, dass** der Aufnehmerkörper (110) einen eingelassenen Griff (100) bildet.

34. Vorrichtung nach Anspruch 31, **dadurch gekennzeichnet, dass** das Griffelement (122) die Abdekkung des Kastens (102) bildet.

35. Vorrichtung nach Anspruch 31, **dadurch gekennzeichnet, dass** die Seite/der Aufnehmer (100a) eine sich in Längsrichtung über eine geeignete Strecke erstreckende Öse (111) aufweist.

36. Vorrichtung nach Anspruch 35, **dadurch gekennzeichnet, dass** ein Gleitelement (120) in der Öse (111) angeordnet ist.

37. Vorrichtung nach Anspruch 36, **dadurch gekennzeichnet, dass** das Ende des Gleitelements (120) gegenüber dem des Quersitzes (22b,22a), das den geformten Körper (30) mit einer Schmetterlingsverlängerung (33) aufnimmt, eine Öffnung (121 a) aufweist, die einen Stift (121) aufnimmt, auf dem ein erstes Ende einer Stange (104) schwenkbar angebracht ist, deren anderes Ende mittels eines zugeordneten Stifts (1 04a) wiederum schwenkbar an dem Greifelement (122) angebracht ist.

38. Vorrichtung nach Anspruch 35, **dadurch gekennzeichnet, dass** zwei quer verlaufende Verlängerungen (14) an der Seite/dem Aufnehmer (100a) des Griffes ausgebildet sind, wobei die Verlängerungen nach außen gerichtet sind und mit den zugeordneten Sitzen (44) eines geformten Flansches (40) eingerückt werden können.

39. Vorrichtung nach Anspruch 38, **dadurch gekennzeichnet, dass** der geformte Flansch (40) durch Schraubenmittel (150) an der Seite (100a) gehalten wird.

40. Vorrichtung nach Anspruch 38, **dadurch gekennzeichnet, dass** in einer geeigneten Position quer gegenüber der des Hebels (104) das Greifelement (122) einstückig mit einem Ende einer Feder (113) ist, die in einem zugeordneten Sitz (113a) mit einer im Wesentlichen rechtwinkligen Ausrichtung zu dem Gleitelement (120) angeordnet ist, und deren anderes Ende an dem Aufnehmer (102) eingespannt ist.

Revendications

1. Dispositif de poignée escamotable comprenant au moins un corps réceptacle (10 ; 110 ; 210), un élément coulissant (20 ; 120 ; 220) associé au corps réceptacle (10 ; 110 ; 210), raccordé à un élément de poignée (22 ; 122 ; 222) et capable de passer d'une première position avec l'élément de poignée (22 ; 122 ; 222) faisant saillie dudit réceptacle (10 ; 110 ; 210) à une deuxième position avec l'élément de poignée (22 ; 122 ; 222) en contact avec le corps réceptacle (10 ; 110 ; 210), et vice versa, et des moyens élastiques (13 ; 113) exerçant une force de poussée sur ledit élément coulissant par rapport audit corps réceptacle (10 ; 110 ; 210), ***caractérisé en ce que*** ledit corps réceptacle (10 ; 110 ; 210) est associé au moins à un guide longitudinal (43) apte à un engagement avec un corps (30) en forme de papillon (33), faisant saillie dudit élément coulissant (20 ; 120 ; 220) dans une direction transversale à celui-ci et libre de tourner autour de ladite direction transversale, une extrémité dudit guide (43) étant munie de moyens (43a) aptes à provoquer la rotation dudit papillon (33) et des moyens (43c) aptes à interférer avec sa course le long du guide (43) de façon à provoquer son arrêt, dans lesdites première ou deuxième position.

2. Dispositif selon la revendication 1, ***caractérisé en ce que*** ledit corps réceptacle (10 ; 110 ; 210) est muni intérieurement d'un siège longitudinal (11 ; 111 ; 211) s'étendant sur la longueur du corps réceptacle (10 ; 110 ; 210).

3. Dispositif selon la revendication 1, ***caractérisé en ce que*** la surface latérale du corps réceptacle (10 ; 110 ; 210) est découpée de façon à définir au moins une surface plane (10a ; 110a ; 210a) sur laquelle une ouverture longitudinale respective (15) communiquant avec ledit siège longitudinal (11) est formée.

4. Dispositif selon la revendication 3, ***caractérisé en ce qu'au*** moins une oreille (14) fait saillie vers l'extérieur depuis ladite au moins une surface latérale (10a ; 110a ; 210a).

5. Dispositif selon la revendication 4, ***caractérisé en ce que*** lesdites oreilles (14) sont agencées de façon

symétrique par rapport à ladite ouverture longitudinale (15).

6. Dispositif selon la revendication 1, ***caractérisé en ce que*** la surface latérale (20a ; 120a ; 220a) dudit élément coulissant (20 ; 120 ; 220) comporte au moins un siège circulaire (22b) ayant, formé coaxialement à l'intérieur de celui-ci, un autre orifice radial (22a) communiquant avec le siège coaxial (21).

7. Dispositif selon la revendication 6, ***caractérisé en ce que*** ledit au moins un siège (22b) est agencé à l'extrémité de l'élément coulissant (20 ; 120 ; 220) opposé audit élément de poignée (22 ; 122 ; 222).

8. Dispositif selon la revendication 1, ***caractérisé en ce que*** ledit élément papillon (33) fait partie intégrante d'un corps (30) comprenant une base circulaire (31) des faces opposées de laquelle font saillie respectivement une broche (32) apte à être insérée à l'intérieur dudit orifice (22a) et ladite extension papillon (33).

9. Dispositif selon la revendication 1, ***caractérisé en ce qu'***une autre broche (34) fait saillie depuis le centre de ladite extension papillon (33).

10. Dispositif selon la revendication 1, ***caractérisé en ce qu'***au moins une bride profilée amovible (40), qui présente une surface intérieure plane, est associée à la surface latérale du corps réceptacle (10 ; 110 ; 210).

11. Dispositif selon la revendication 10, ***caractérisé en ce que*** ladite bride profilée (40) comporte au moins un oeillet (44) apte à un engagement avec une oreille correspondante (14) du corps réceptacle (10).

12. Dispositif selon la revendication 10, ***caractérisé en ce que*** lesdits moyens de guidage consistent en un siège longitudinal (43) formé sur la surface intérieure de chaque bride (40).

13. Dispositif selon la revendication 12, ***caractérisé en ce que*** ledit guide longitudinal (43) comporte, à une de ses extrémités, une surface inclinée (43a) qui produit un élargissement (43b) dudit siège (43).

14. Dispositif selon la revendication 13, ***caractérisé en ce que*** ledit guide (43) comporte un évidement (43c) faisant face à ladite surface inclinée (43b).

15. Dispositif selon la revendication 1, ***caractérisé en ce que*** lesdits moyens élastiques (13 ; 113) consistent en un ressort spiral.

16. Dispositif selon la revendication 1, ***caractérisé en ce que*** lesdits moyens élastiques (13) sont coaxiaux avec l'élément coulissant (20 ; 220).

17. Dispositif selon la revendication 1, ***caractérisé en ce que*** lesdits moyens élastiques (113) sont à angle droit par rapport à l'élément coulissant (120).

18. Dispositif selon la revendication 1, ***caractérisé en ce que*** ledit corps réceptacle (10) est un cylindre.

19. Dispositif selon la revendication 18, ***caractérisé en ce qu'***une broche (12 ; 212) supportant ledit ressort (13) est agencée coaxialement à l'intérieur dudit siège (11 ; 211).

20. Dispositif selon la revendication 18, ***caractérisé en ce que*** ledit ressort (13) a une longueur bien supérieure à la hauteur du corps réceptacle (10 ; 210) dans la direction axiale.

21. Dispositif selon la revendication 18, ***caractérisé en ce que*** ledit corps cylindrique (10) a une extrémité conformée en bord annulaire (17) qui fait saillie radialement vers l'extérieur et à l'intérieur de laquelle un siège concentrique (17a) d'épaisseur appropriée est formé.

22. Dispositif selon la revendication 18, ***caractérisé en ce que*** ledit élément coulissant (20 ; 220) consiste essentiellement en un corps cylindrique à l'intérieur duquel un siège coaxial (21 ; 221) est formé.

23. Dispositif selon la revendication 18, ***caractérisé en ce que*** ledit élément coulissant (20) comprend à l'une de ses extrémités une pièce de tête (22), dont le diamètre et l'épaisseur sont légèrement inférieurs aux dimensions correspondantes d'un siège correspondant (17a) du corps (10).

24. Dispositif selon la revendication 1, ***caractérisé en ce qu'***il possède un couvercle (50 ; 250) associé à l'extrémité du corps réceptacle opposée à celle de l'élément de poignée.

25. Dispositif selon la revendication 24, ***caractérisé en ce que*** ledit couvercle (50) possède un filetage femelle (51) apte à se conjuguer avec un filetage correspondant (16) du corps (10).

26. Dispositif selon la revendication 25, ***caractérisé en ce que*** ledit corps (10) possède, à l'une de ses extrémités, un filetage (16) interrompu par des cavités (16a) qui sont diamétralement opposées et dans une position angulaire coïncidant avec celle des ouvertures longitudinales (15).

27. Dispositif selon la revendication 26, ***caractérisé en ce que*** l'extrémité inférieure desdites brides (40) est munie d'une dent (41) apte à être insérée dans une

cavité correspondante (16a) dans le corps réceptacle (10).

28. Dispositif selon la revendication 1, ***caractérisé en ce que*** ledit corps réceptacle (200) comprend deux cylindres (210) ayant des axes parallèles et raccordés ensemble par une surface sensiblement plane (210a).

29. Dispositif selon la revendication 28, ***caractérisé en ce que*** ledit élément de poignée (222) est solidaire desdits éléments coulissants (220) et a une surface supérieure au corps réceptacle (210).

30. Dispositif selon la revendication 24, ***caractérisé en ce que*** ledit couvercle (250) a des moyens d'ajustement serré (251) pour un engagement avec des sièges associés (216) dans le corps réceptacle (210) et des broches longitudinales (212) aptes à être insérées à l'intérieur dudit siège (211) du corps réceptacle.

31. Dispositif selon la revendication 1, ***caractérisé en ce que*** ledit élément de poignée (122) peut tourner d'une première position de repos, où il est dissimulé à l'intérieur du corps réceptacle (110), à une deuxième position de travail, où il est tourné vers l'extérieur.

32. Dispositif selon la revendication 31, ***caractérisé en ce que*** le corps réceptacle (110) de l'élément coulissant (120) est formé par le côté (100a) d'une boîte (102) avec un bord d'appui (100b).

33. Dispositif selon la revendication 32, ***caractérisé en ce que*** ledit corps réceptacle (110) forme une poignée incrustée (100).

34. Dispositif selon la revendication 31, ***caractérisé en ce que*** ledit élément de poignée (122) forme le couvercle de ladite boîte (102).

35. Dispositif selon la revendication 31, ***caractérisé en ce que*** le côté/réceptacle (100a) comporte un oeillet (111) s'étendant dans la direction longitudinale sur une distance appropriée.

36. Dispositif selon la revendication 35, ***caractérisé en ce qu'***un élément coulissant (120) est agencé à l'intérieur de l'oeillet (111).

37. Dispositif selon la revendication 36, ***caractérisé en ce que*** l'extrémité de l'élément coulissant (120) opposée à celle du siège transversal (22b, 22a) recevant le corps profilé (30) avec une extension papillon (33) possède un orifice (121a) recevant une broche (121) sur laquelle une première extrémité d'une tige (104) est montée de façon pivotante, l'autre extrémité de celle-ci étant à son tour montée pivotante sur l'élément de poignée (122) au moyen d'une broche associée (104a).

38. Dispositif selon la revendication 35, ***caractérisé en ce que*** deux extensions transversales (14) sont formées sur le côté/réceptacle (100a) de la poignée, lesdites extensions étant dirigées vers l'extérieur et étant aptes à s'engager avec les sièges associés (44) d'une bride profilée (40).

39. Dispositif selon la revendication 38, ***caractérisé en ce que*** ladite bride profilée (40) est retenue contre le côté (100a) par des moyens de vis (150).

40. Dispositif selon la revendication 38, ***caractérisé en ce que*** dans une position appropriée, opposée transversalement à celle du levier (104), l'élément de poignée (122) est solidaire d'une extrémité d'un ressort (113) qui est agencé dans un siège associé (113a) avec une orientation sensiblement à angle droit par rapport à l'élément coulissant (120) et dont l'autre extrémité est retenue par la boîte (102).

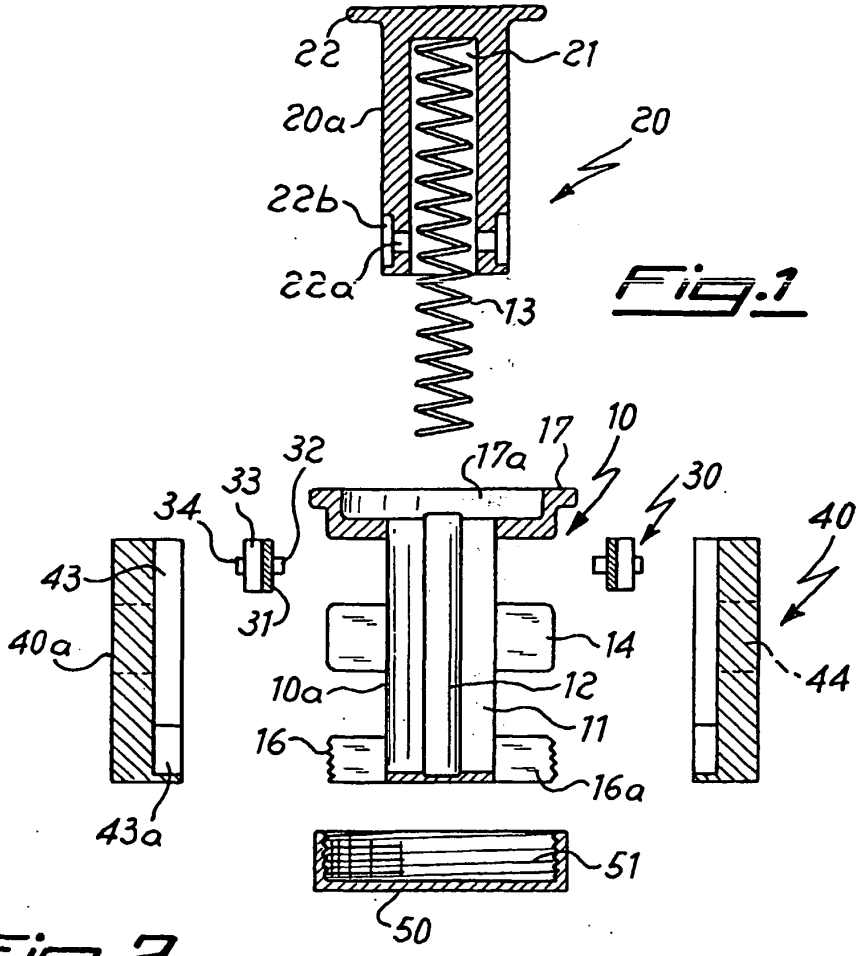


Fig.1

Fig.2

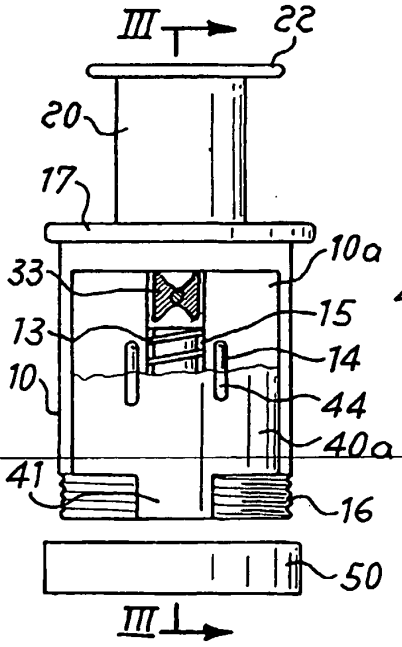


Fig.4

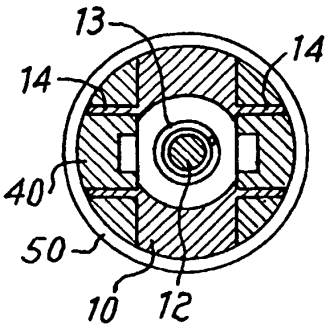


Fig.3

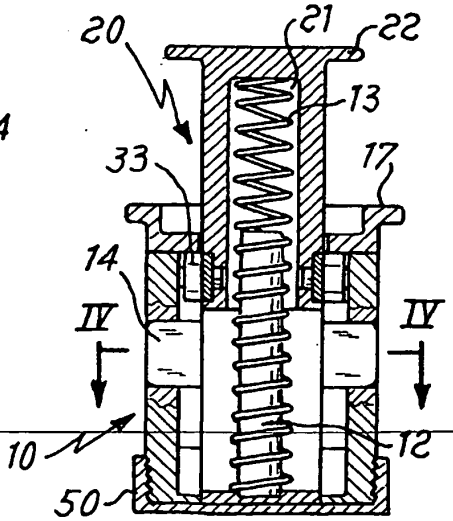


Fig.5

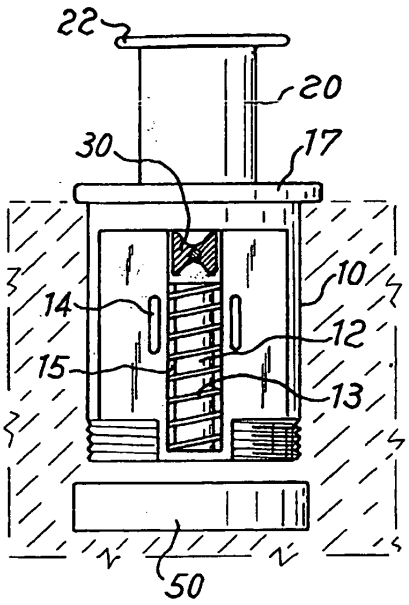


Fig.6

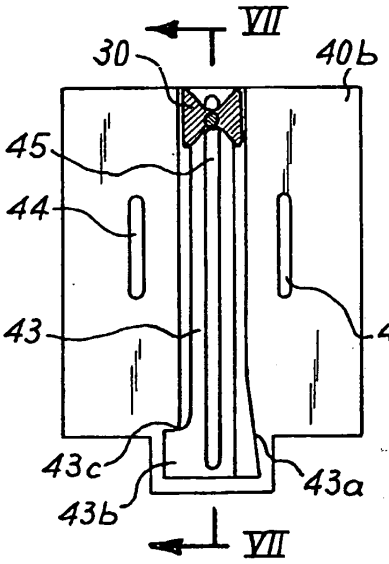


Fig.7

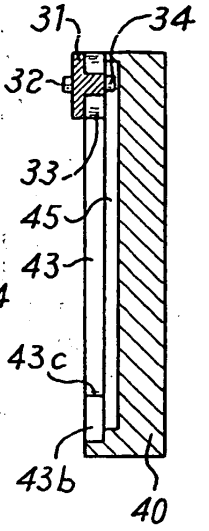


Fig.8

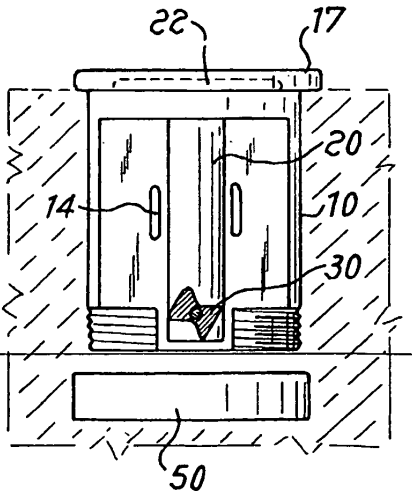


Fig.9

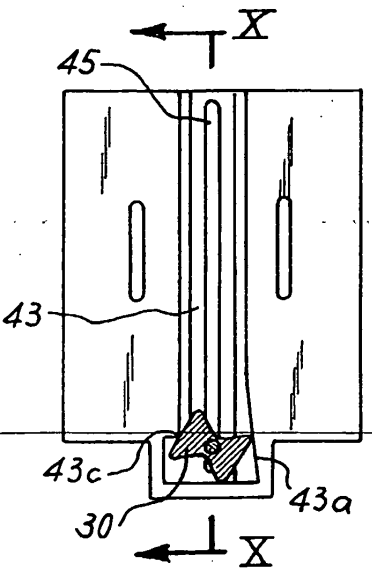


Fig.10

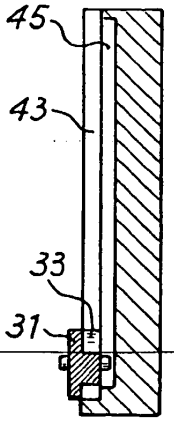


Fig.11

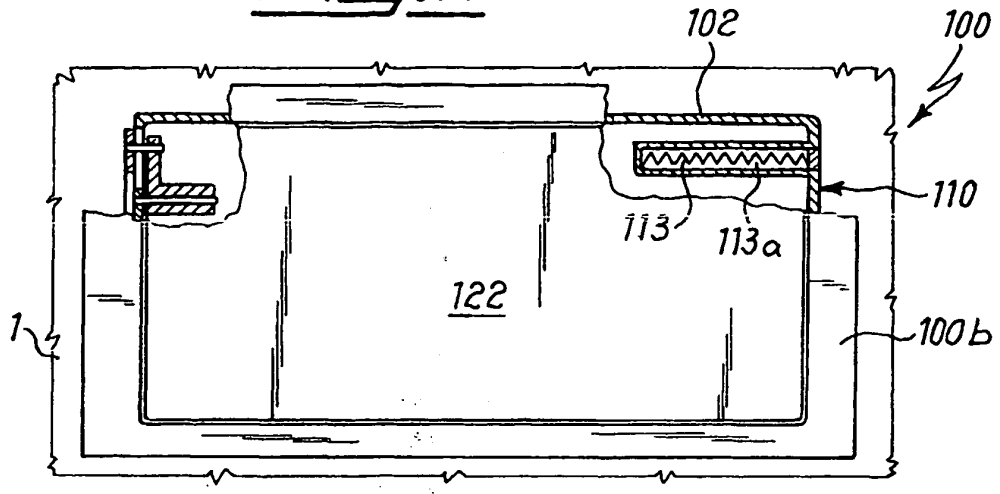


Fig.12

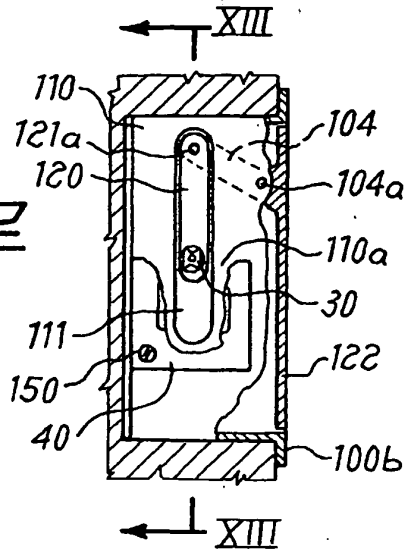


Fig.13

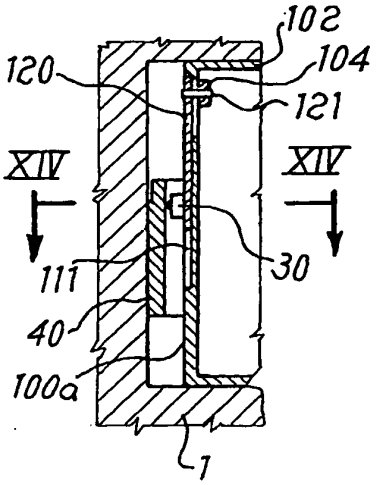


Fig.15

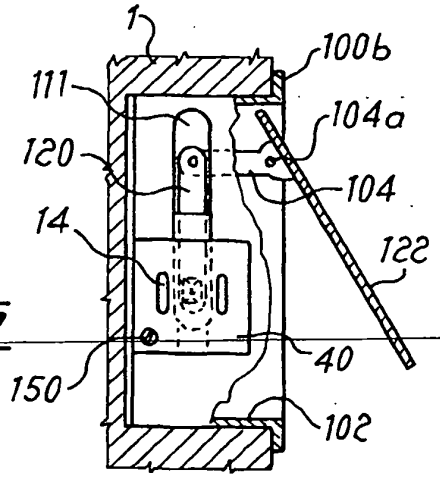


Fig.14

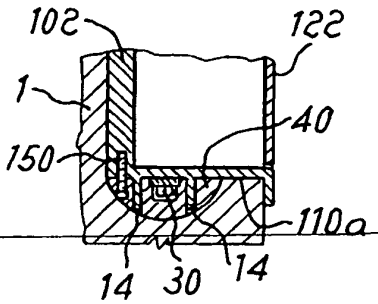
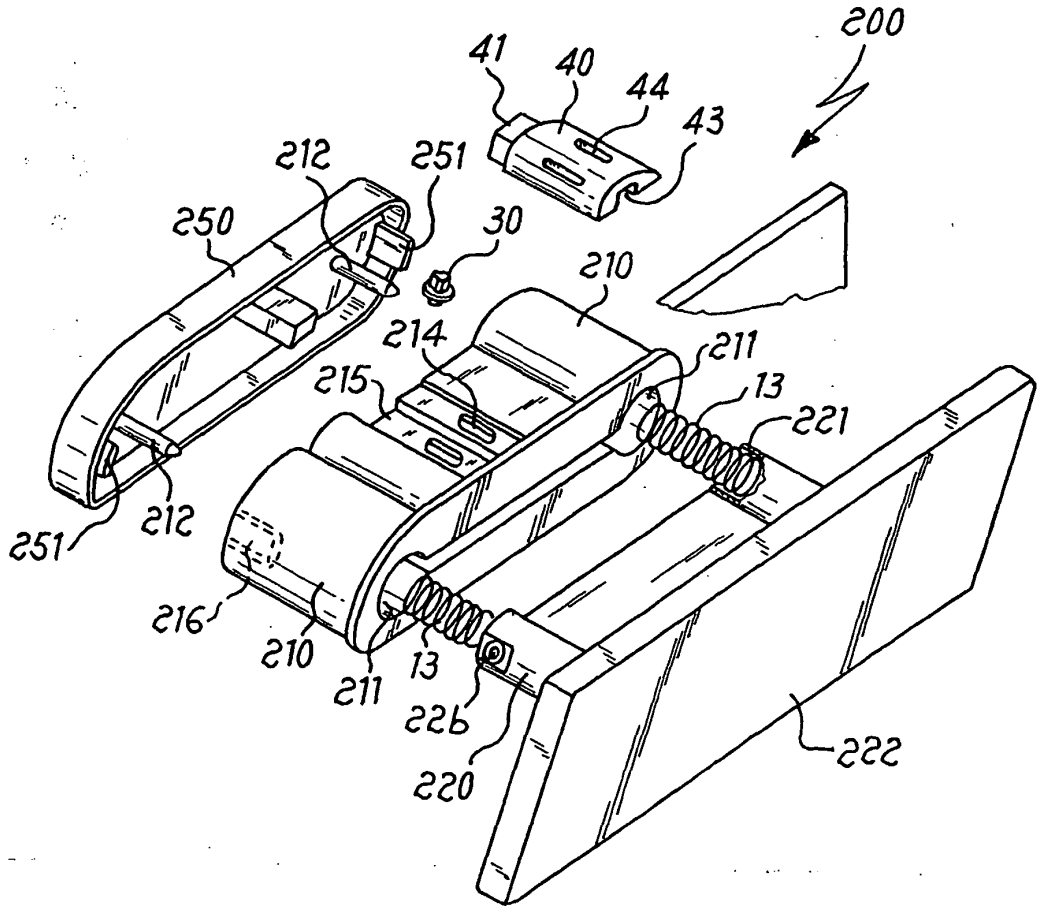


Fig.16


200
41
40
44
43
212
251
250
30
210
214
211
215
13
221
251
212
216
210
211
13
226
220
222