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(54) **An adjustable handle and a method of mounting such a handle**

(57) An adjustable handle for a window or door is disclosed. The handle comprises at least one base, the or each base being adapted to be fastened to the window or door. The handle further comprises a grip, the grip having a longitudinal axis and being fixable to the or each base. The position of the grip with respect to the or each base is variable along the longitudinal axis. The handle further comprises fixing means adapted to fix the grip to the or each base so as to prevent movement of the grip relative to the or each base along the longitudinal axis. A method of mounting a handle to a window or door is also disclosed. The method comprises the steps of mounting at least one base to a window or door, positioning a grip at an appropriate position with respect to the or each base along a longitudinal axis of the grip and fixing the grip to the or each base.

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Description

[0001] The invention relates to an adjustable handle and, more particularly, to an adjustable handle suitable for use on doors and windows. The invention also relates to a method of mounting such a handle.

[0002] The invention has been devised particularly, though not necessarily solely, for pull handles which facilitate opening and closing of a door or window via a push/pull action.

[0003] Pull handles are commonly provided on doors and window frames, which may be made from a variety of materials including aluminium, wood and PVC, as well as on other forms of closure such as cabinets. Depending on the application, such pull handles are provided in different configurations and sizes, so as to meet various functional requirements, particularly as associated with mounting constraints, as well as legal and aesthetic requirements. To satisfy market requirements, manufacturing companies have thus invested heavily in producing handles having a variety of different designs.

[0004] Moreover, despite the fact that handles are available in a wide variety of sizes and configurations, cases often arise in which a pull handle needs to be of a special size and/or to have non-standard fixing positions, particularly in instances where a door or window frame is provided with mounting holes which are spaced a non-standard distance apart.

[0005] Another problem commonly encountered with pull handles is poor strength, particularly at the positions where they are mounted to a door or window frame. This problem arises frequently in cases where it is necessary to mount a pair of pull handles on both sides of a door or window frame using the same mounting holes. In such cases, each handle may, for example, be fixed to the door or window frame using respective sets of small headless screws which may be relatively weak and often prone to loosening and/or dislodgement.

[0006] According to a first aspect of the invention, there is provided an adjustable handle for a window or door, the handle comprising:

at least one base, the or each base being adapted to be fastened to the window or door;
a grip, the grip having a longitudinal axis and being fixable to the or each base, the position of grip with respect to the or each base being variable along the longitudinal axis; and
fixing means adapted to fix the grip to the or each base so as to prevent movement of the grip relative to the or each base along the longitudinal axis.

[0007] According to a preferred feature of the invention, the grip has a selectable length. In a preferred embodiment of the invention, the grip is adapted to be cut to length.

[0008] In a preferred embodiment of the invention, the adjustable handle further comprises at least one seating member receivable between the or each base and the window or door, the seating member being resiliently flexible to be snugly fit to the base.

[0009] According to a preferred feature of the invention, the or each base is provided with an opening through which a fastener is receivable, the fastener having two ends, the base being engageable with one end of the fastener to be fastened to the window or door and being configured to contain an end of the fastener. According to a further preferred feature of the invention, the or each base is arranged to receive a threaded fastener, the threaded fastener provided with a head at the one end and a nut receivable at the other end, the or each base being provided with at least one face engageable with at least one corresponding face on the nut to prevent rotation of the nut during turning of the head to tighten the fastener.

[0010] In a preferred embodiment of the invention, the grip is receivable by the or each base to be slidable relative thereto parallel to the longitudinal axis.

[0011] According to a preferred feature of the invention, the or each base and the grip are configured such that the fastener is concealed by the grip when the grip is mounted to the base.

[0012] According to a preferred feature of the invention, the grip and a portion of the or each base are provided with interlocking transverse cross-sectional profiles to enable slidable interengagement between the grip and the portion of the or each base. According to a further preferred feature of the invention, the grip contains a longitudinal channel, arranged to receive the portion of the or each base, and comprises a longitudinal opening providing communication with the longitudinal channel, the longitudinal opening having a width less than that of both the longitudinal channel and the portion of the or each base, and the or each base comprises a further portion, the further portion extending between the portion and the remainder of the base and having a width less than that of the portion to be receivable in the longitudinal opening, the interlocking transverse cross-sectional profiles being defined by the longitudinal channel and the portion. In a preferred embodiment of the invention, the grip and the or each base are configured such that the longitudinal opening of the grip of the handle as assembled is arranged to face the window or door.

[0013] The grip, as provided with the longitudinal channel and longitudinal opening, can be of various designs.

[0014] In a preferred embodiment of the invention, the handle further comprises a cover which is engageable with the grip to cover the longitudinal opening. According to a preferred feature of that embodiment, the cover is receivable through the longitudinal opening. According to a further preferred feature of that embodiment, the cover comprises a longitudinal web and opposed flanges extending from the web to be receivable through the longitudinal opening, the flanges having resiliently flexible sections which diverge from the web such that distal ends of the sections occupy a width which is slightly greater

than the width of the longitudinal opening to be engageable with the grip inside the longitudinal channel. According to a further preferred feature of that embodiment, the web has a width similar to that of the longitudinal opening and each flange has a free end which is engageable with a surface of the grip disposed inside the longitudinal channel and opposite the longitudinal opening, the spacing between the free ends and web being such that the cover is receivable in the longitudinal opening to be substantially flush with the grip.

[0015] In a preferred embodiment of the invention, the cover may thus be clipped to the grip, via the exertion of a small force, to be substantially hidden therein.

[0016] According to a preferred feature of the invention, the or each base comprises a projecting portion, the projecting portion arranged to extend in a direction which is parallel to the longitudinal axis of the grip of the handle as assembled and arranged to be spaced from the window or door, the projecting portion being configured to receive the fixing means.

[0017] The projecting portion renders the fixing means accessible when the handle is assembled and mounted.

[0018] In a preferred embodiment of the invention, the or each projecting portion is receivable in the longitudinal channel.

[0019] In a preferred embodiment of the invention, the free end of the projecting portion is arranged to lie closely adjacent to an end of the cover and is provided with a recess which is accessible by a screwdriver to enable engagement of the end of the cover with the screwdriver so as to release the cover.

[0020] According to a preferred feature of the invention, the fixing means is arranged to fix the grip to the base by frictional engagement.

[0021] According to a preferred feature of the invention, the or each fixing means comprises an element which is threadingly receivable by the or each base to be engageable with the grip.

[0022] According to a preferred feature of the invention, the or each base is configured to contain an end of the fixing means.

[0023] In a preferred embodiment of the invention, the handle comprises at least one closure element configured to be received in the longitudinal channel. According to a preferred feature of that embodiment, the or each closure element comprises further fixing means, the further fixing means being arranged to fix the or each closure element to the grip by frictional engagement, the or each closure element being configured to contain an end of the fixing means.

[0024] According to a preferred feature of the invention, the at least one base is constituted by two bases adapted to be arranged along an axis which is to be parallel to the longitudinal axis of the grip of the handle as assembled.

[0025] Preferred embodiments of the invention allow a fitter to cut the grip to the required size, as well as to adjust the position of the bases to meet installation constraints, while achieving a high strength mounting.

[0026] Owing to the simplicity of the invention in terms of design, construction and assembly, production costs and investment may be reduced.

[0027] According to a second aspect of the invention, there is provided a handle assembly for a window or door, the assembly comprising:

two adjustable handles, each handle according to the first aspect of the invention, the handles arranged to be mounted at opposite sides of the window or door; and

at least one fastener adapted to pass through the window or door,

wherein at least one base of one of the handles and a base on the other of the handles are arranged to be mounted to the window or door with the same fastener.

[0028] According to a third aspect of the invention, there is provided a method of mounting a handle to a window or door, comprising the steps of:

mounting at least one base to the window or door;

positioning a grip at an appropriate position with respect to the or each base along a longitudinal axis of the grip; and

fixing the grip to the or each base.

[0029] According to a preferred feature of the invention, the method further comprises setting the length of the grip.

[0030] According to a preferred feature of the invention, the step of mounting the or each base to the window or door comprises providing a fastener through the or each base such that an end of the fastener is contained therein.

[0031] According to a preferred feature of the invention, the step of positioning the grip comprises the steps of interlockingly engaging the grip and a portion of the or each base, to prevent separation of the grip and the or each base in a plane transverse to the longitudinal axis, and slidably adjusting the position of the grip relative to the portion of the or each base.

[0032] According to a preferred feature of the invention, the step of fixing the grip to the or each base comprises screwing a fixing element though the or each base to effect frictional engagement between an end of the fixing element and the grip. According to a further preferred feature of the invention, the step of screwing a fixing element though the or each base comprises screwing the fixing element through a projecting portion of the base, the projecting portion arranged to extend in a direction which is parallel to the longitudinal axis of the grip of the handle as assembled and arranged to be spaced from the window or door.

[0033] According to a preferred feature of the invention, the step of mounting at least one base to the window or door is constituted by mounting two bases to the win-

dow or door along an axis which is to be parallel to the longitudinal axis of the grip of the handle as assembled.

[0034] According to a fourth aspect of the invention, there is provided a method of mounting two handles at opposite sides of a window or door, comprising mounting each handle by a method according to the third aspect of the invention, wherein the step of mounting bases of the handles to the window or door comprises mounting at least one base of one of the handles and a base of the other of the handles on a common fastener received through the window or door.

[0035] Examples of the invention will now be described with reference to the accompanying drawings, in which:

Figures 1A - 1F are top, bottom, rear, side, cross-sectional (along line A-A), and cross-sectional (along line B-B) views, respectively, of a base of the handle according to an example of the invention;

Figures 2A - 2D are top, bottom, side and cross-sectional (along line A-A) views, respectively, of a seat for the base depicted in Figures 1A-1F;

Figures 3A - 3E are top, bottom, side, cross-sectional and projected views, respectively, of a grip of the handle;

Figures 4A - 4E are top, bottom, side, cross-sectional and projected views, respectively, of a cover for the grip depicted in Figures 3A-3E;

Figures 5A - 5F are top, bottom, rear side, side, cross-sectional (along line A-A) and cross-sectional (along line B-B) views, respectively, of a closure element receivable at the end of the grip depicted in Figures 3A-3E;

Figures 6A - 6C are projected, cross-sectional (along line A-A) and cross-sectional (along line B-B) views, respectively, of the handle in an assembly configuration;

Figures 7A and 7B are projected and cross-sectional (along line A-A) views, respectively, of part of the handle in an assembly configuration;

Figure 8 is a cross-sectional view showing a plurality of bases, each of the type depicted in Figures 1A - 1F, mounted on opposite sides of a door/window frame;

Figure 9 is a cross-sectional view showing bases, each of the type depicted in Figures 1A - 1F, mounted on one side of a door/window frame.

[0036] The handle according to the examples, which is depicted in Figures 6A, 6B, 7A and 7B, comprises at least one base 1, the or each base being adapted to be fastened to the window frame or door 8, a grip 3, the grip 3 having a longitudinal axis and being fixable to the or each base 1. The handle further comprises fixing means 7 adapted to fix the grip 3 to the or each base 1 so as to prevent movement of the grip 3 relative to the or each base along the longitudinal axis. The handle is also provided with a cover 4 which is adapted to cover an opening in the grip 3.

[0037] Figures 1A - 1F show a series of views of the base 1. In this example, the base 1 is in the form of an inverted L-shape, though different configurations are possible.

[0038] As can be seen in Figure 1C, the base 1 has a main body 24 having a generally oblong structure, which affords it strength and robustness. As can be seen in Figure 1A, the main body 24 comprises a polygonal socket 21 which, in this example, is hexagonal and defines a cavity having an opening at the top of the base 1. A step is formed at the bottom of the socket 21, leading to an opening 23. The opening 23 is arranged to receive a threaded fastener therethrough to fasten the base 1 to the door or window frame 8, the socket 21 being adapted to accommodate a head of the fastener. As can be seen at Figure 6B, the cavity is of sufficient depth to contain fully the end of the fastener when the base 1 is mounted.

[0039] The main body 24 comprises a socket 29 which, in this example, has a square outer configuration, the socket 29 being arranged to receive snugly a similarly profiled seat 2, as depicted in Figures 2A-2D.

[0040] The base 1 is provided at its top end with a head 25, having a rectangular transverse cross-sectional profile as shown in Figure 1C, the head being connected to the main body 24 by a neck which is defined by a pair of grooves 26. The head 25 and the neck constitute a portion and a further portion, respectively, which afford the top end of the base 1 a generally T-shaped transverse cross-sectional profile.

[0041] The head 25 and neck of the base 1 are elongated to define a projecting portion 27 which is arranged to extend parallel to a longitudinal axis of the grip of the handle as assembled and arranged to be spaced from the window or door 8.

[0042] The projecting portion 27 comprises a polygonal socket 20 which, in this example, is hexagonal. A step is formed at the bottom of the socket 20, leading to an opening 22. The opening 23 is arranged to receive a threaded fixing element therethrough, the socket 20 being adapted to accommodate a threaded nut through which the fixing element is also received and offering a hexagonal arrangement of faces engageable with corresponding faces on the hexagonal nut to prevent rotation of the nut. The socket 20 is sufficiently deep to contain the nut therein.

[0043] The projecting portion has a free end which is provided with a wedge-shaped slot 28 or recess to allow insertion of an object, such as a screwdriver, to release a cover from the grip.

[0044] Figures 2A-2D show a series of views of the

seat 2. The seat 2 is preferably made out of a resiliently flexible and sufficiently soft material, such as rubber or another polymer, as will be appreciated by a person skilled in the art.

[0045] As can be seen from Figure 2C, the seat 2 comprises a top section 31, which in this example has a square-shaped outer configuration, the top section being integrally formed with a flat base section 30 which also has a square-shaped outer configuration. The base section 30 has a larger footprint than the top section 31 so as to form a step around the perimeter of the seat 2.

[0046] As can be seen in Figure 2D, the top section 31 comprises a recess 32, the recess being in communication with an opening 33 provided in the base section 30.

[0047] The top section 31 is sized and configured so as to be snugly receivable in the socket 29 such that the step lies against the underside of the outer periphery of the main body 24 so that, when the base 1 is mounted to the door or window frame 8, it is seated against the seat 2 rather being in direct engagement with the door or window frame 8. When the top section 31 is received in the socket 29, the opening 33 is aligned with the opening 23 in the main body 24 so as to be able to receive the fastener therethrough.

[0048] Figures 3A-3E show a series of views of the grip 3. The grip 3 is formed of a length of channel section 35 having a web and two parallel flanges, inwardly directed toes 36 being provided at the free ends of the flanges. The channel section thus has a generally C-shaped transverse cross-sectional profile which defines a hollow longitudinal channel 34 and a longitudinal opening 18 providing communication between the longitudinal channel 34 and the outside of the grip 3. In this example, the channel section 35 is symmetrical such that the longitudinal channel 34 is centrally disposed in the grip 3. The longitudinal channel 34 and the opening 18 have a profile which is complementary to that of the head 25 and neck and are thus able to receive the head 25 and neck slidably and interlockingly.

[0049] The grip 3 may be cut to length according to the required length of the handle.

[0050] Figures 4A-4E show a series of views of the cover 4 which is provided to cover the longitudinal opening 18. The cover 4 is formed of a section 37 of flexibly resilient material having a web and two flanges which form a generally U-shaped cross-sectional profile, as can be seen in Figures 4D and 4E. The flanges are arranged to be received through the longitudinal opening 18 and into the longitudinal channel 34 (see Figure 6C).

[0051] The flanges comprise, at their ends adjacent the web, sections which diverge from the web, those sections terminating at elbows 38. The flanges further comprise convergent sections, extending from the elbows 38, and parallel sections at their free ends which are spaced by an amount approximately equal to the width of the web and which extend substantially perpendicular to the web.

[0052] The spacing between the elbows 38 is slightly greater than the width of the longitudinal opening 18 so that, upon insertion of the cover 4 into the longitudinal channel (as will be described further below), the divergent sections of the flanges will engage the toes 36 to hold the cover 4 inside the grip 3, as can be seen at Figure 6C.

[0053] Figures 5A-5F show a series of views of a terminal block 39, which is receivable in the longitudinal channel 34 and longitudinal opening 18 of the grip 3 and is used to close an end of the grip 3 in instances where a base 1 is not provided at that end, as depicted in Figure 7B. The terminal block 39 is of the same transverse cross-sectional profile as the projecting portion 27 of the base 1, so as to be slidably and interlockingly engageable with the grip 3, and, like the projecting portion 27, comprises a hexagonal socket 40 which with a step formed at the bottom thereof, the step leading to an opening 41. The opening 41 is arranged to receive a threaded fixing element therethrough, the socket 40 being adapted to accommodate a threaded nut through which the fixing element is also received and offering a hexagonal arrangement of faces engageable with corresponding faces on the hexagonal nut to prevent rotation of the nut. The socket 40 is sufficiently deep to contain the nut therein.

[0054] Figures 6A-6C provide an illustration of the pull handle assembly ready to be mounted on the door or window frame 8, the assembly comprising grip 3, cover 4 and two bases 1, each base being provided with a respective screw 5 (fastener) and comprising a respective seat 2, nut 6 and screw 7 (fixing element). In this example, the screws 7 are headless allen screws which are short enough in length to be fully contained in the projecting portions 27 and thus will not project from the grip 3. When each base 1 is mounted, the clearance between the door or window frame 8 and the projecting portion 27 allows access to the hexagonal recess of the alien screw with an allen key.

[0055] Installation of the handle is carried out by first fixing the base(s) 1 on the door or window frame 8 as shown in Figures 8 and 9. The fixing is carried out by inserting a screw 5 inside the or each base 1, so that it is received through the openings 23 and 33, in the base 1 and respective seat 2 respectively, and through a mounting hole 42 through the door or window frame 8, the head of the screw 5 being received in the socket 21, then screwing a nut 9 onto the end of the screw 5. The screw 5 is preferably a hexagon socket head cap screw, having a circular head which is small enough in diameter to permit rotation of the screw 5 by means of an allen key.

[0056] Because the handle is mounted to the door or window frame 8 using a through fastener, it is possible to utilise the same fastener to secure an identical handle/base to the other side of the door or window frame 8, as shown in Figure 8. In such an application, the nut 9, which for this application is preferably hexagonal, is received in the socket 21 of the handle/base on the other side, instead of being received against the door or window frame 8. The socket 21 into which the nut 9 is received

offers a hexagonal arrangement of faces engageable with corresponding hexagonal arrangement of faces on the hexagonal nut 9 to prevent rotation of the nut 9 during screwing of the screw 5 with an allen key to mount the two bases to the door or window frame. The use of a common fastener which extends through the door or window frame 8 to engage the bases on either side of the door or window frame 8 ensures a relatively robust and strong mounting.

[0057] In the example assembly depicted in Figure 9, a handle is instead mounted to only one side of the door or window frame, the nuts 9 in that assembly engaging the door or window frame.

[0058] As can be seen in both of Figures 8 and 9, where a given handle comprises a plurality of bases, those bases are orientated such that their projecting portions 27 are aligned along a common axis, thus enabling those portions to become slidably engageable with the grip 3 (see Figure 6A).

[0059] After mounting of the base(s) 1 on the door or window frame 8, the grip 3 is cut to the required length.

[0060] A nut 6 is placed in the socket 20 of the projecting portion 27 of the or each base 1. The threaded fixing element, which in this example comprises a headless hexagonal screw 7, is then screwed inside nut 6 (see Figures 8 and 9).

[0061] Next, an end of the grip 3 is introduced over the head 25 of one/the base 1 in the direction of the longitudinal axis of the grip 3 such that the head 25 and neck are received in the longitudinal channel 34 and longitudinal opening 18 respectively, the base 1 thus becoming slidably interengaged with the grip 3. The grip 3 is then slid with respect to the base 1 until in its desired position. Where two bases 1 are used for the handle (see Figure 9), this will normally be when the grip 3 has been received over the head 25 and neck of the other base 1, the grip 3 in that instance having been cut to a length which is the same as the spacing of the longitudinally outermost portions of the heads 25. It can be seen that the cavity in the or each base 1 is arranged to be covered by the grip 3 such that the screw 5 is concealed by the grip 3.

[0062] Following mounting of the grip 3 to the base(s) 1, the grip 3 is fixed to the or each base 1. To this end, the headless hexagonal screw 7 of the or each base 1 is screwed, by means of an allen key, further into the nut 6 such that its end is forced against the web of the grip 3 to give rise to a frictional engagement, between the screw 7 and the web, sufficient to prevent sliding of the grip 3 relative to the base(s) 1.

[0063] Since the bases 1 are essentially disjoined from the grip 3, it is possible to use a large size grip 3. The grip 3 can be cut to the required size at the place of installation. In addition, where there are two bases 1 used for a given handle, those bases 1 can be mounted at any positions on the door or window frame, as long as they are aligned along the axis which they define.

[0064] Where an end of the handle is not provided with a base 1, such as when the handle comprises only a single base 1 from which the grip 3 is to be cantilevered (see Figure 7B), longitudinal channel 34 and longitudinal opening 18 of the grip 3 at that end can be closed using the terminal block 39 (see Figure 7B). The terminal block 39 (being of the same profile as the head 25 and neck of the base), with a nut 6 complete with hexagonal screw 11 placed in its socket 40, is introduced into the longitudinal channel 34 and longitudinal opening 18 in the direction of the longitudinal axis of the grip 3 such that the terminal block 39 is received in the grip 3 to be slidably interengaged therewith. The terminal block 39 is then fixed to the grip 3 in exactly the same manner as the base (s) 1, i.e. by means of screwing, with an allen key, a headless hexagonal screw 11 further into the nut 6 such that its end is forced against the web of the grip 3 to give rise to a frictional engagement, between the screw 11 and the web, sufficient to prevent sliding of the terminal block 39 in the grip 3.

[0065] The assembly process is completed with the insertion of the cover 4 inside the grip 3, as depicted in Figures 6B, 6C and 7B.

[0066] The cover 4 is first cut to the appropriate length, i.e. the length of longitudinal channel 34 and longitudinal opening 18 which is not occupied by bases 1 or a base 1 and terminal block 39.

[0067] The cover 4 is inserted into the grip 3 by first positioning the free ends of its flanges into the longitudinal opening 18, so that the convergent sections of their flanges engage the toes 36, then pushing the web towards the grip 3 such that the toes force the convergent sections together and, in so doing, cause the flanges to flex inwards until the elbows 38 are sufficiently close together to pass through the longitudinal opening 18. The flanges, after the elbows 38 pass through that opening, spring back outwards to their relaxed positions, at which point their divergent sections engage the toes 38 and their free ends engage the web of the grip 3 such that the outer face of the web of the cover 4 is substantially flush with the outer faces of the toes 38 to render the handle substantially flat and smooth in the region of the longitudinal opening 18.

[0068] In the case of it becoming necessary to remove the cover 4 from the grip 3, an object, such as a small screwdriver can be inserted through the wedge-shaped slot 28 to engage the web of the cover 4 and, in so doing, lever cover 4 away from the grip 3, so that the divergent sections of the flanges are forced together by the toes 36 until the elbows 38 are sufficiently close together to pass through the longitudinal opening 18.

[0069] It will be appreciated that the components of the handle may be made from any of a range of suitable materials. For example, the seats 2 may be made from rubber or another polymer, as already stated above, and the other components may be made from metal, such as mild steel or aluminium, or plastic, depending on the specific application.

Claims

1. An adjustable handle for a window or door, the handle comprising:

   at least one base, the or each base being adapted to be fastened to the window or door;
   a grip, the grip having a longitudinal axis and being fixable to the or each base, the position of grip with respect to the or each base being variable along the longitudinal axis; and
   fixing means adapted to fix the grip to the or each base so as to prevent movement of the grip relative to the or each base along the longitudinal axis.

2. An adjustable handle according to claim 1, wherein the grip has a selectable length.

3. An adjustable handle according to claim 1 or claim 2, wherein the or each base is provided with an opening through which a fastener is receivable, the fastener having two ends, the base being engageable with one end of the fastener to be fastened to the window or door and being configured to contain an end of the fastener.

4. An adjustable handle according to claim 3, wherein the or each base is arranged to receive a threaded fastener, the threaded fastener provided with a head at the one end and a nut receivable at the other end, and wherein the or each base is provided with at least one face engageable with at least one corresponding face on the nut to prevent rotation of the nut during turning of the head to tighten the fastener.

5. An adjustable handle according to any of the preceding claims, wherein the grip is receivable by the or each base to be slidable relative thereto parallel to the longitudinal axis.

6. An adjustable handle according to any of the preceding claims, wherein the or each base and the grip are configured such that the fastener is concealed by the grip when the grip is mounted to the base.

7. An adjustable handle according to claim 6, wherein the grip and a portion of the or each base are provided with interlocking transverse cross-sectional profiles to enable slidable interengagement between the grip and the portion of the or each base.

8. An adjustable handle according to claim 7, wherein the grip contains a longitudinal channel, arranged to receive the portion of the or each base, and comprises a longitudinal opening providing communication with the longitudinal channel, the longitudinal opening having a width less than that of both the longitudinal channel and the portion of the or each base, and
   wherein the or each base comprises a further portion, the further portion extending between the portion and the remainder of the base and having a width less than that of the portion to be receivable in the longitudinal opening, the interlocking transverse cross-sectional profiles being defined by the longitudinal channel and the portion.

9. An adjustable handle according claim 8, further comprising a cover which is receivable through the longitudinal opening and engageable with the grip to cover the longitudinal opening, the cover having a selectable length.

10. An adjustable handle according claim 9, wherein the cover comprises a longitudinal web and opposed flanges extending from the web to be receivable through the longitudinal opening, the flanges having resiliently flexible sections which diverge from the web such that distal ends of the sections occupy a width which is slightly greater than the width of the longitudinal opening to be engageable with the grip inside the longitudinal channel.

11. An adjustable handle according to claim 10, wherein the web has a width similar to that of the longitudinal opening and wherein each flange has a free end which is engageable with a surface of the grip disposed inside the longitudinal channel and opposite the longitudinal opening, the spacing between the free ends and web being such that the web is receivable in the longitudinal opening to be substantially flush with the grip.

12. An adjustable handle according to any of the preceding claims, wherein the or each base comprises a projecting portion, the projecting portion arranged to extend in a direction which is parallel to the longitudinal axis of the grip of the handle as assembled and arranged to be spaced from the window or door, the projecting portion being configured to receive the fixing means.

13. An adjustable handle according to claim 12 as appended to claim 7, wherein the or each projecting portion is receivable in the longitudinal channel.

14. An adjustable handle according to claim 13 as appended to claim 9 or 10, wherein the free end of the projecting portion is arranged to lie closely adjacent to an end of the cover and is provided with a recess which is accessible by a screwdriver to enable engagement of the end of the cover with the screwdriver so as to release the cover.

15. An adjustable handle according to any of the pre-

ceding claims, wherein the fixing means is arranged to fix the grip to the base by frictional engagement.

16. An adjustable handle according to any of the preceding claims, wherein the or each fixing means comprises an element which is threadingly receivable by the or each base to be engageable with the grip.

17. An adjustable handle according to any of the preceding claims, wherein the or each base is configured to contain an end of the fixing means.

18. An adjustable handle according to claim 8 or any of claims 9 to 17 as appended thereto, further comprising at least one closure element configured to be received in the longitudinal channel.

19. An adjustable handle according to claim 18, wherein the or each closure element comprises further fixing means, the further fixing means being arranged to fix the or each closure element to the grip by frictional engagement, the or each closure element being configured to contain an end of the fixing means.

20. An adjustable handle according to any of the preceding claims, wherein the at least one base is constituted by two bases adapted to be aligned along an axis which is to be parallel to the longitudinal axis of the grip of the handle as assembled.

21. A handle assembly for a window or door, the assembly comprising:

two adjustable handles, each handle according to any of the preceding claims, the handles arranged to be mounted at opposite sides of the window or door; and
at least one fastener adapted to pass through the window or door,

wherein at least one base of one of the handles and a base on the other of the handles are arranged to be mounted to the window or door with the same fastener.

22. A method of mounting a handle to a window or door, comprising the steps of:

mounting at least one base to the window or door;
positioning a grip at an appropriate position with respect to the or each base along a longitudinal axis of the grip; and
fixing the grip to the or each base.

23. A method according to claim 22, further comprising setting the length of the grip.

24. A method according to claim 22 or 23, wherein the step of mounting the or each base to the window or door comprises providing a fastener through the or each base such that an end of the fastener is contained therein.

25. A method according to any of claims 22 to 24, wherein the step of positioning the grip comprises the steps of interlockingly engaging the grip and a portion of the or each base, to prevent separation of the grip and the or each base in a plane transverse to the longitudinal axis, and slidably adjusting the position of the grip relative to the portion of the or each base.

26. A method according to any of claims 22 to 25, wherein the step of fixing the grip to the or each base comprises screwing a fixing element though the or each base to effect frictional engagement between an end of the fixing element and the grip.

27. A method according to claim 26, wherein the step of screwing a fixing element though the or each base comprises screwing the fixing element through a projecting portion of the base, the projecting portion arranged to extend in a direction which is parallel to the longitudinal axis of the grip of the handle as assembled and arranged to be spaced from the window or door.

28. A method according to any of claims 22 to 27, wherein the step of mounting at least one base to the window or door is constituted by mounting two bases to the window or door along an axis which is to be parallel to the longitudinal axis of the grip of the handle as assembled.

29. A method of mounting two handles at opposite sides of a window or door, comprising mounting each handle by a method according to any of claims 22 to 28, wherein the step of mounting bases of the handles to the window or door comprises mounting at least one base of one of the handles and a base of the other of the handles on a common fastener received through the window or door.

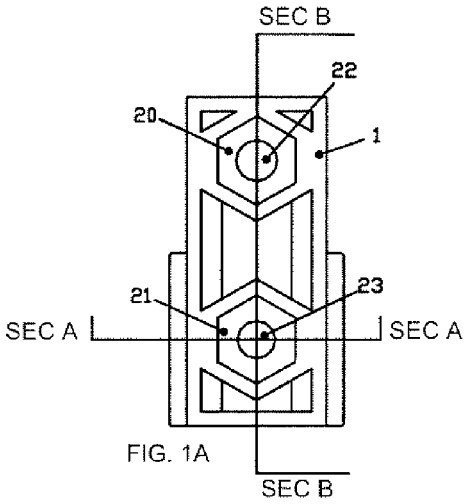

FIG. 1A

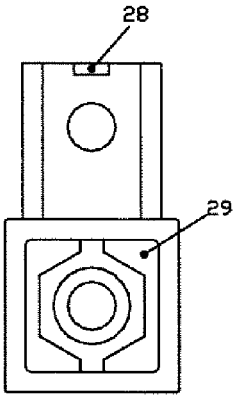

FIG. 1B

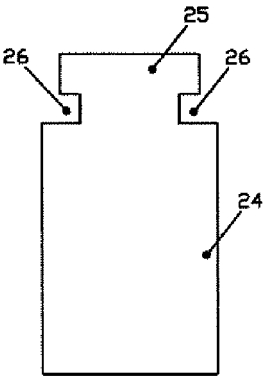

FIG. 1C

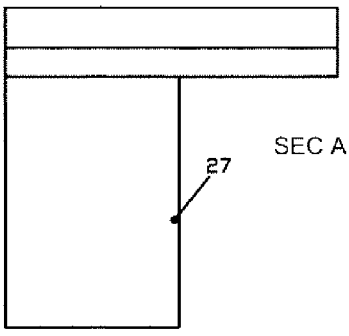

FIG. 1D

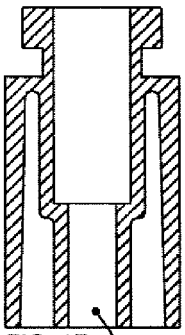

FIG. 1E

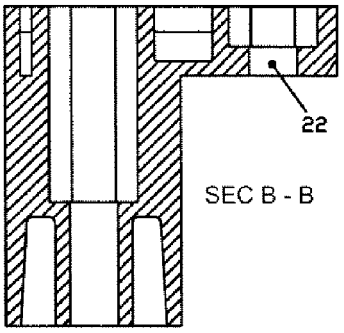

FIG. 1F

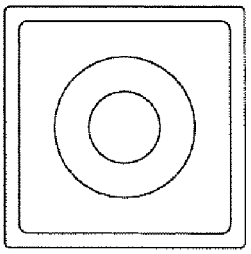

FIG. 2A

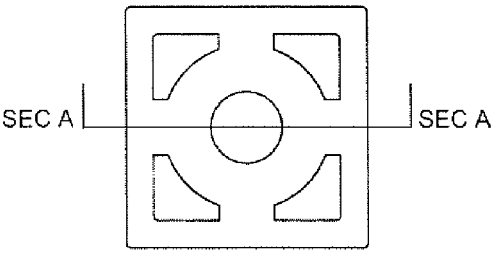

FIG. 2B

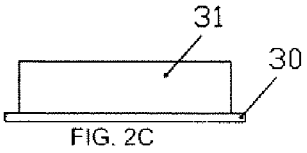

FIG. 2C

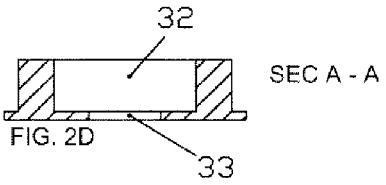

FIG. 2D

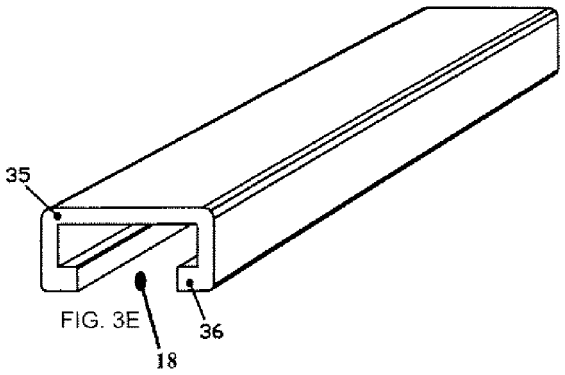

FIG. 3E

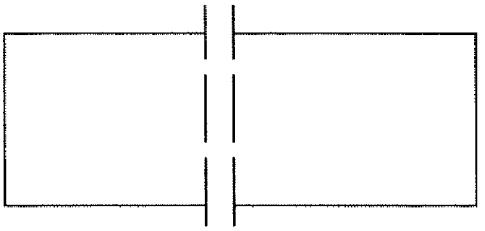

FIG. 3A

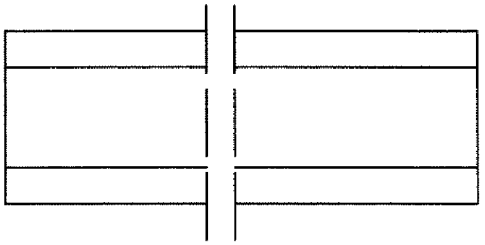

FIG. 3B

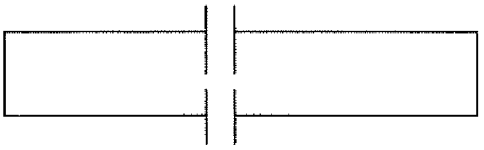

FIG. 3C

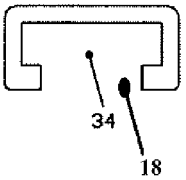

FIG. 3D

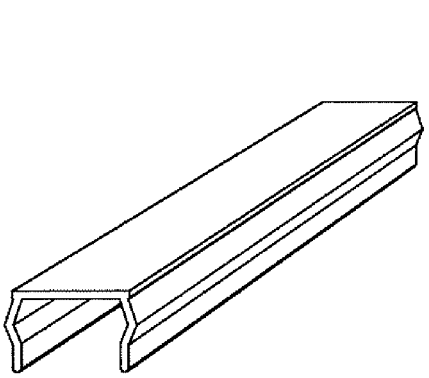

FIG. 4E

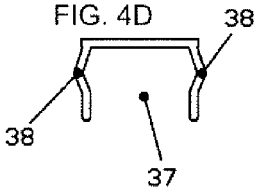

FIG. 4D

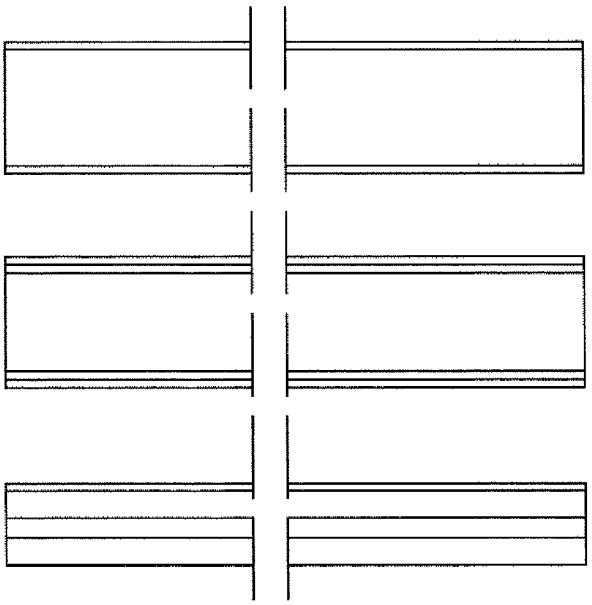

FIG. 4A

FIG. 4B

FIG. 4C

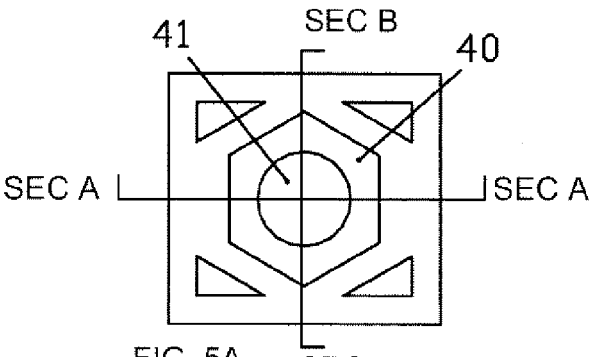

FIG. 5A

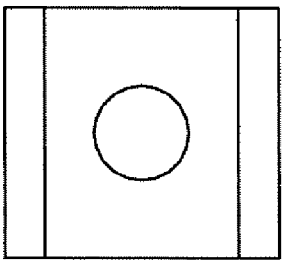

FIG. 5B

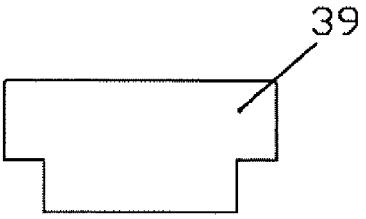

FIG. 5C

FIG. 5D

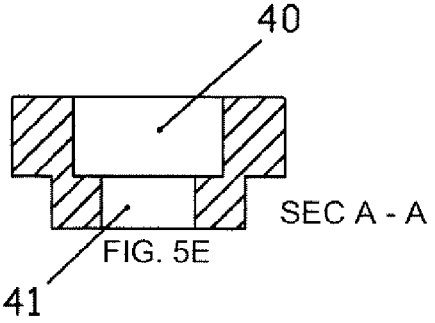

FIG. 5E

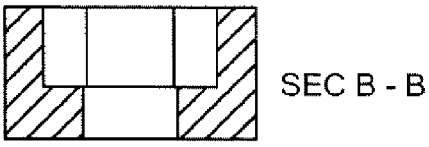

FIG. 5F

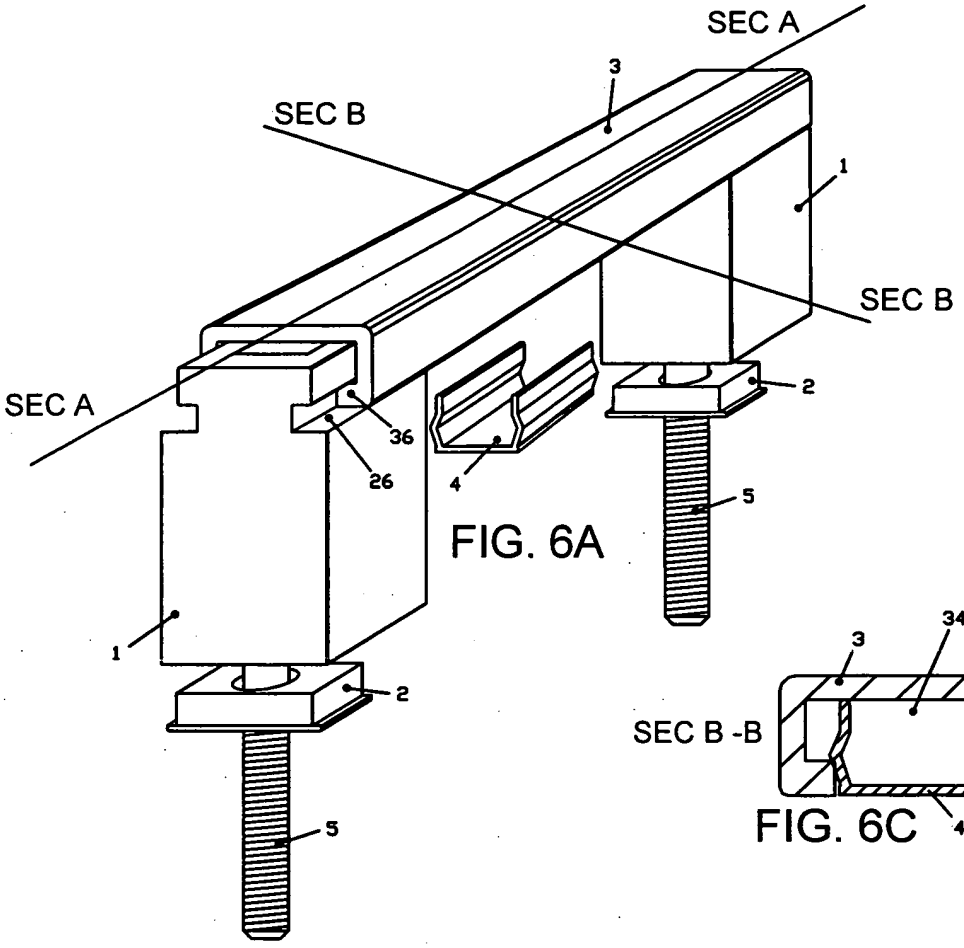

FIG. 6A

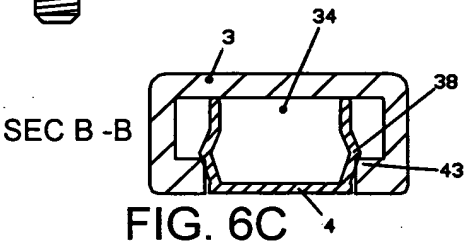

FIG. 6C

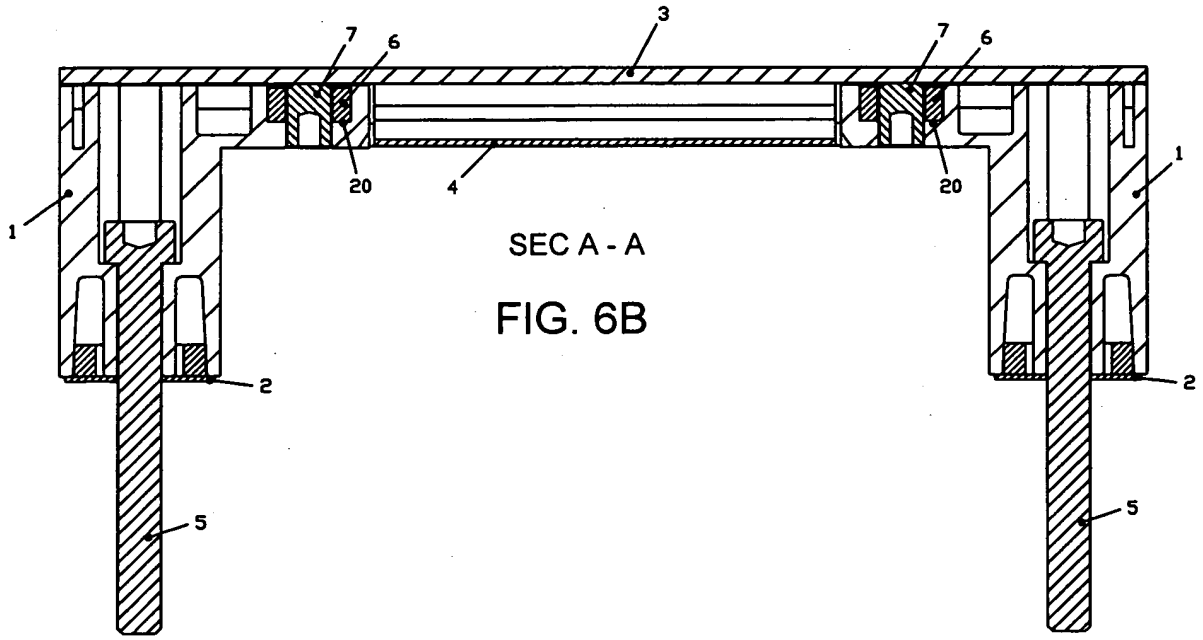

FIG. 6B

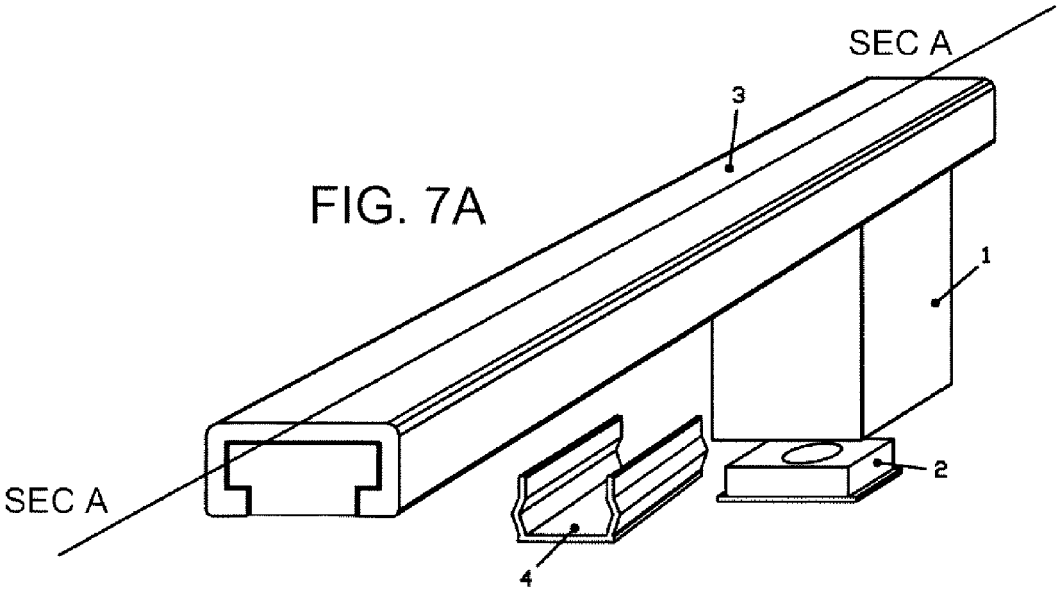

FIG. 7A

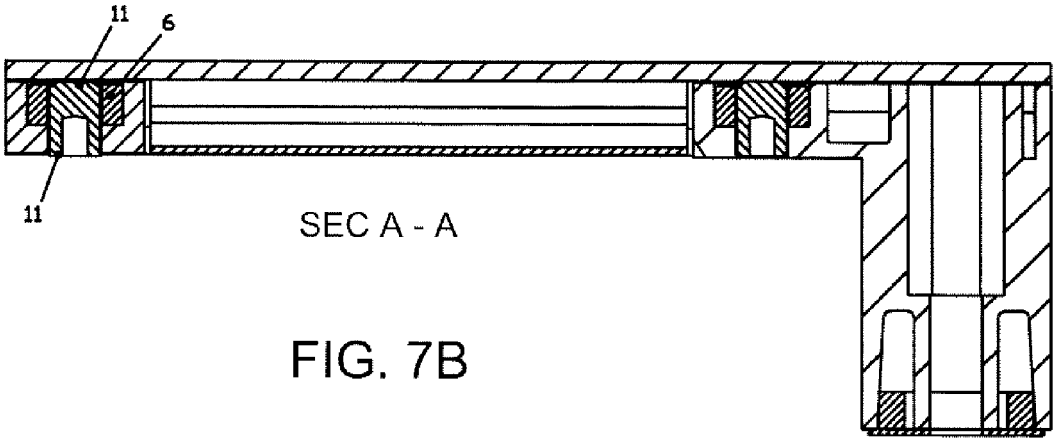

FIG. 7B

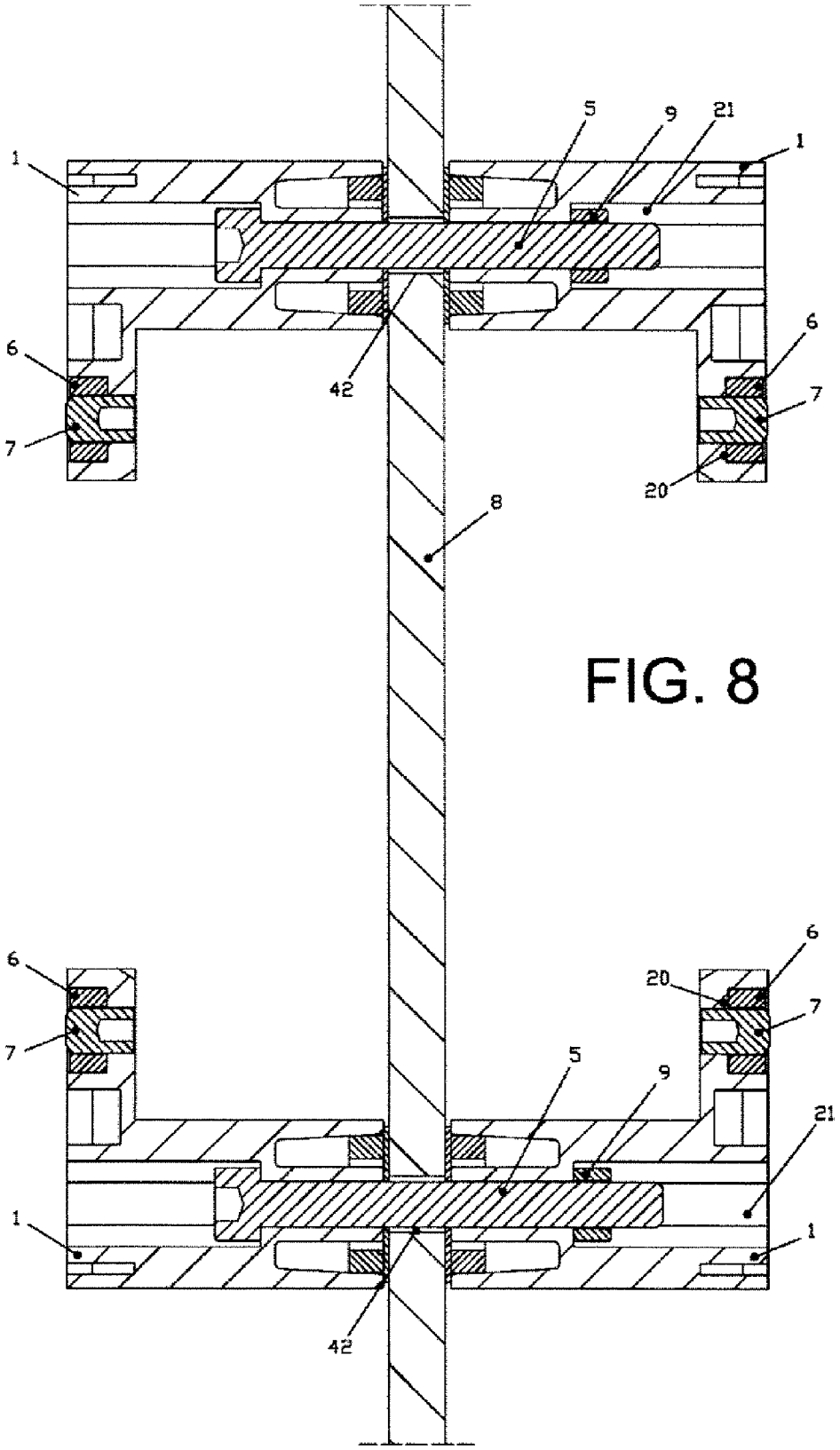

FIG. 8

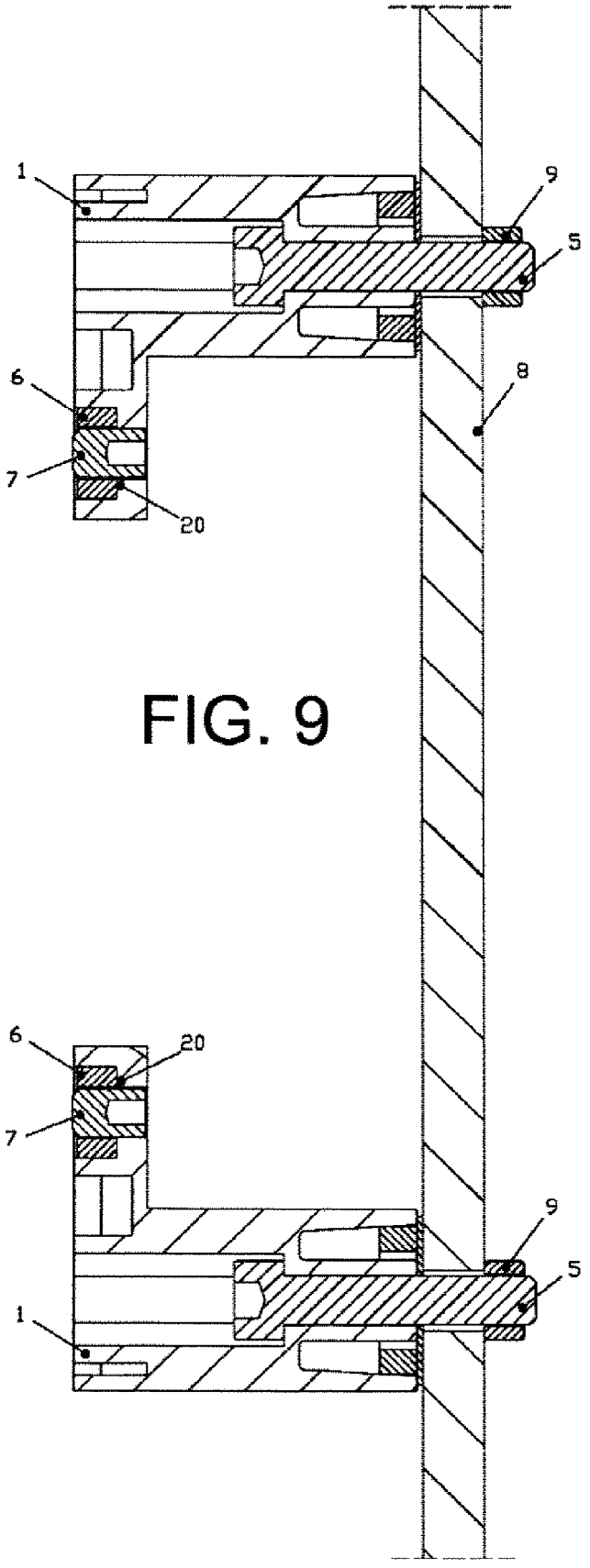

FIG. 9