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(54) **A multi-purpose handle for window or door units**

Mehrzweckgriff für Fenster- oder Türeinheiten

Poignée multifonctionnelle pour unités de fenêtre ou de porte

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DE-U1- 8 327 683 FR-A- 2 560 271
FR-A- 2 847 927 IT-B- 1 146 524**

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Description

[0001] The present invention relates to a multi-purpose handle for window or door units.

[0002] At present, handles for window or door units, in particular window or door units made of metal, wood - synthetic material and the like, are divided into two main categories: handles for "exterior" window or door units (doors, French windows, windows, etc.) and handles for "interior" window or door units (for example, doors used to separate rooms).

[0003] The most widely used handles for exteriors are the known cremone handles, which comprise a handle body (usually having a prismatic shape with or without rounded edges and with a projecting central bushing for connection to the grip), from which there projects on one side said movement grip and on the other side the parts designed to operate the window or door unit closing device.

[0004] The document DE 8327683 U discloses an example of such a handle.

[0005] This basic structure gave rise to a series of models of cremone handle (for example, patent EP - 446.566, patent IT - 1.285.897, Utility model IT - 234.079, all by the Applicant) with the aim of diversifying the uses of the cremone handle according to the window or door unit requirements: a bilateral handle (turning to the right, turning to the left) or multi-purpose handle, with lockable grip, a handle for tilt and turn windows, with safety lock. Another example may be the need for its use for outward opening window or door units, where it becomes essential to take into account the reduced outer height dimensions of the handle, which must, however, retain a high and reliable level of efficiency even for the other functions mentioned above: as shown, for example, in the solution by the Applicant in patent application EP-1.036.899.

[0006] Another example, according to the preamble of claim 1, can be seen in EP 0 167 3.86. This document shows a securing system for a hinged panel such as a hollow stile window or door comprising a rotatable handle which drives a rotatable pinion acting on a slidable rack. The projecting operating member of the rack acts between a pair of abutments fixed to a slidable espagnolette part, to move the slidable part relative to a fixed espagnolette part secured to an edge of the window stile. Rollers, which may be tapered or flanged, can be engaged or disengaged with keepers in a fully locked position or a locked ventilation position. Optional variations of the system incorporate a two or three point locking bar system driven by the rack and pinion and a multi point espagnolette system acting on three or four sides of the hinged window panel. Different widths of stile including slimline stiles can be accommodated using slotted fixing members in one plane and by the configuration of the drive element in a perpendicular plane.

[0007] Document FR 2 560 271 relates to a bascule handle, for metal door and window frames, having a body accommodating a pair of spur racks, with lugs to connect

with blocks on rods, for opening and closing. Each spur rack comprises a base rod and removable lug. The L-shaped rods have symmetrical double, shallow serrations on their longer side. One of the serrations provides connection with the gearwheel. On the shorter side, the rods have a seat to accommodate the bottom end of the appropriate lug, when firmly connected.

[0008] Document IT 1 146 524 shows a handle comprising a casing, preferably made of plastic, with a topping on a handgrip side and a containing topping on a frame side. The handle also comprises a shaft joined to the handgrip and integral with a crown gear engaged to a rack.

[0009] Document DE 83 27 683 U discloses a handle having a shaft, with a square cross-section, which is integrally formed with the handle grip. The free end of the shaft is deformable, so that it can be fixed to a movement means in the form of a disc, which includes a toothed area and a cylindrical body to be housed in a seat of the handle base.

[0010] The cylindrical body incorporates a plurality of recesses around its periphery, which can be engaged by elastic means, designed to stabilise the position of the grip.

[0011] The huge commercial expansion of these handles therefore generated a large number of different models. These may be added to the traditional models for interiors which, unlike the above-mentioned cremone handle for exteriors, have component parts with different technical characteristics (one being the fact that the movement elements are recessed in the thickness of the window or door unit) and cannot be substituted by the known cremone handles.

[0012] Moreover, it is important to consider the appearance (shape and colour) of the handles, that is to say, the need to have large numbers of handles of different colours for both types mentioned in order to be able to meet user requirements. Therefore, all of this considerably increases the size of the stores for both producers and fitters, consequently increasing the final costs of the handles and window or door units.

[0013] For this reason, the Applicant has invented and produced a set of elements which form a handle for window or doors units with which it is possible to rationalise and optimise stores thanks to the possibility of using common elements for both types of handles, both for exteriors and for interiors, and with the possibility of using some elements irrespective of the type of final colour of the handle.

[0014] Another aim of the invention is to provide a handle which includes a system for stabilising the positions assumed by the grip, wherein the dimensions of the core body are reduced.

[0015] According to the present invention, this aim is achieved by a handle for window or door units in accordance with claim 1.

[0016] The technical features of the present invention, in accordance with the above aims, are apparent in the

claims herein, and the advantages are more clearly described in the detailed description below, with reference to the accompanying drawings, which illustrate a preferred embodiment of the invention, without limiting the scope of its application, and in which:

- Figure 1 is an exploded perspective view of a multi-purpose handle for window or door units in accordance with an embodiment of the present invention;
- Figures 2, 3 and 4 are, respectively, a side view with some parts in cross-section, a bottom plan view and a top plan view with some parts cut away of a detail of the handle of Figure 1, that is to say, a core-body;
- Figure 5 is a perspective view of another detail of the handle of Figure 1, that is to say, a covering element;
- Figure 6 is a longitudinal section of the detail of Figure 2, providing a clearer view of the positioning means;
- Figure 7 is a perspective view of another detail of the handle of Figure 1, that is to say, movement means;
- Figure 8 is a partial perspective view of a part of a grip belonging to the handle illustrated in Figure 1;
- Figure 9 is an enlarged view of a detail P illustrated in Figure 2;
- Figure 10 is a perspective view of another technical detail of the positioning means illustrated in Figure 6.

[0017] With reference to the accompanying drawings, and in particular with reference to Figure 1, the handle disclosed can be mounted on various types of window or door units (doors, windows, French windows, for interiors or exteriors, etc.) which are not illustrated here, since they are of the known type and not part of the subject matter of the present invention.

[0018] These window or door units normally comprise, on at least one surface, a through hole for handle 1 movement means 2.

[0019] At this hole there are usually control means (not illustrated) for opening and closing the window or door unit and whose structure may vary according to the type of window or door unit.

[0020] As illustrated in Figure 1, the handle 1 comprises:

- a core-body 3 which can be connected, using retaining means 4, to said surface of the window or door unit; this core-body 3 having, on one side, a first part 5 of the movement means 2 which can be connected to the above-mentioned control means and, on the opposite side of the core-body 3, there projecting a second part of the movement means 2 consisting of a shaft 7 with a square cross-section and a cylindrical body 6;
- a covering element 8 for the core-body 3 which can be positioned on the core-body 3 and which has a through hole 9 for the shaft 7 with the square cross-

section;

- a grip 10 which can be connected to the shaft 7 with the square cross-section; and
- means 11 for joining the grip 10 and the shaft 7 with the square cross-section to one another, acting from the outside of the grip 10, so as to allow a co-ordinated opening and closing movement of the window or door unit by moving the grip 10.

[0021] The retaining means 4 may, for example, be screws 4v which can be applied either from the inside of the window or door unit as illustrated in Figure 1, or from the outside of the core-body 3, since they are then covered by the covering element 8.

[0022] In more detail, as Figure 8 shows, the above-mentioned grip 10 comprises one end 10a for connection to the shaft 7 with the square cross-section, which projects from the rest of the body of the grip 10.

[0023] Said end is smaller than the zone of the grip 10 it comes out of, forming an undercut designed to allow, in practice, relative locking of the covering element 8 by means of contact between the grip 10 and the core-body 3: this allows rapid covering element 8 locking without other operations.

[0024] The projecting end 10a of the grip 10 has a cylindrical external cross-section and a square internal cross-section for connection to the shaft 7 with the square cross-section.

[0025] The end 10a also has two longitudinal through holes 10b, 10c, diametrically opposed, designed to connect with the relative walls 16a and 16b in a cup (clearly visible in Figure 7).

[0026] The two walls 16a and 16b form means 16 for the predetermined connection and positioning of the grip 10. These two walls 16a and 16b are made inside the cup formed by a cylindrical body 6 and are on opposite sides of the shaft 7 with the square cross-section.

[0027] As shown in Figures 4 and 7, each wall 16a, 16b extends from the inner edge of the cup to join a relative side 7a, 7b of the shaft 7 with the square cross-section, forming a fixed connecting zone for the grip 10.

[0028] The above-mentioned means 11 for joining the grip and the shaft to one another comprise a threaded grub screw 11g which can be screwed into a respective through hole 10g in the grip 10 and which acts on the shaft 7 with the square cross-section.

[0029] The above-mentioned movement means 2 comprise (see also Figures 2, 3, 4 and 7) a single element consisting of a crown gear 5, forming the first part of the movement means 2 and the second part consisting of the shaft 7 and the cylindrical body 6, integral with the crown gear 5 and housed in a seat 3b in the core-body 3.

[0030] As illustrated in Figure 7, the cylindrical body 6 is hollow, forming the above-mentioned cup and the shaft 7 with the square cross-section comes out of it, projecting from the centre of the cup and from the core-body 3 (as shown in Figures 2 and 6).

[0031] The shaft 7 clearly projects from the core-body

3, since the latter has an outer surface 3a that is regular and extends without interruption along its entire length, without elements or surfaces projecting towards the grip 10 (as is clearly visible in Figures 1, 2 and 6).

[0032] Returning to the movement means 2, the crown gear 5 meshes (see Figure 1) with at least one rack 12 located inside the core-body 3.

[0033] This rack 12 in turn has a connecting slider 13, projecting from the core-body 3 and designed to connect, in practice and in the well known way, to the control means located in the window or door unit.

[0034] Again with reference to Figures 6 and 7, the part of the cylindrical body 6 closest to the crown gear 5 has a plurality of notches 14 around its circumference positioned at a right angle α to one another, at least a pair of notches opposite one another simultaneously engaging with elastic end of stroke snap means 15, designed to allow stabilising and positioning of the crown gear 5, and therefore also of the grip 10, when the configuration of the window or door unit is varied from an open position to a closed position and vice versa.

[0035] These elastic means 15 may comprise, in a non-restricting embodiment, a pair of sliders 17 and 18 (of which one is visible in Figure 10) located on opposite sides of the crown gear 5 and slidably positioned inside a relative channel 19 in the core-body 3.

[0036] Each of these sliders 17 and 18 has a head 20 for connection to one of the recesses 14 on the crown gear 5 and spring means 21 inserted between the slider 17, 18 and a fixed wall 22 of the channel 19, allowing respectively:

- a backward movement of the slider 17, 18, by means of compression of the springs 21, and relative detachment of the head 20 from the recess 14, when the crown gear 5 rotates, and
- a forward movement of the slider 17, 18, driven by the action of the springs 21, with subsequent connection of the head 20 and another recess 14 again caused by the rotation of the crown gear 5.

[0037] This solution may be substituted, for example, by simple elastic elements arranged parallel with one another along the sides of the core-body 3, and in contact with opposite sides of the ring gear 5 so as to perform the cursor 17 and 18 functions described above.

[0038] As illustrated in particular in Figure 9, the elements forming the movement means 2 are stably connected to the core-body 3 by a retaining snap ring 23, inserted between the seat 3b of the core-body 3 and the cylindrical body 6 with the cup of the movement means 2 so as to allow rotating locking of the movement means 2 on the core-body 3. A handle structured in this way, therefore, achieves the preset aims, thanks to a combination of construction elements which bring a series of advantages:

- use of a single base element consisting of the core-

body and of movement means having a shaft with a square cross-section, which can be made without the need for external colouring and, therefore, one kind of production and reduction of the items held in the stores;

- presence of a covering element designed to provide the most suitable colour matching when the handle is fitted;
- standardised grip type both for handles for exteriors and those for interiors, thus reducing the number of items that have to be held in the stores;
- the grip, like the covering element, can have both its model and colour selected at the last minute and without affecting assembly of the core-body;
- connection of the grip to the movement means may also lock the covering element without any further operations which could damage the covering element;
- system for stabilising the positions assumed by the grip located in the core-body, reducing the dimensions of the core-body.

Claims

1. A handle for window or door units, said window or door units comprising, on at least one of its surfaces, a through hole for handle (1) movement means (2); at said hole there being control means for opening and closing the window or door unit, the handle comprising:

- a core-body (3) which can be connected, using retaining means (4), to the surface of the window or door unit; the core-body (3) having, on one side, a first part (5) of the movement means (2) which can be connected to the control means and, on the opposite side of the core-body (3), there being a projecting second part of the movement means (2), comprising a shaft (7) with a square cross-section;
- a covering element (8) for the core-body (3) which can be positioned on the core-body (3) and has a through hole (9) for the shaft (7) with the square cross-section;
- a grip (10) which can be connected to the shaft (7) with the square cross-section;
- means (11) for joining the grip (10) and the shaft (7) with the square cross-section to one another, acting from the outside of the grip (10), allowing a co-ordinated opening and closing movement of the window or door unit using the grip (10), the movement means (2) comprises a single element consisting of a crown gear (5), forming the first part of the movement means (2) and also consisting of said second part, the crown gear (5) meshing with at least one rack (12) located inside the core-body (3), the rack

- (12) in turn having a connecting slider (13), projecting from the core-body (3) and designed to connect, in practice, with control means located in the window or door unit, the handle being **characterized in that** said second part also comprises a cylindrical body (6), integral with the crown gear (5) and housed in a seat (3b) in the core-body (3), the cylindrical body (6) being hollow and forming a cup and the shaft (7) with the square cross-section coming out of it, projecting from the centre of the cup and from the core-body (3), the portion of the cylindrical body (6) closest to the crown gear (5) having a plurality of recesses (14) around its circumference positioned at a right angle (α) to one another, at least an opposite pair being simultaneously engaged by elastic end of stroke snap means (15), designed to allow stabilising and positioning of the crown gear (5), that is to say, of a grip (10), when the configuration of a window or door unit is varied from an open position to a closed position and vice versa.
2. The handle according to claim 1, **characterised in that** the grip (10) comprises an end (10a) for connection to the shaft (7) with the square cross-section, said end (10a) projecting from the rest of the body of the grip (10) and being smaller than the zone of the grip (10) it comes out of, so as to form an undercut designed to allow, in practice, relative locking of the covering element (8) by means of contact between the grip (10) and the core-body (3).
3. The handle according to claim 1, comprising connecting means (16) for the predetermined connection and positioning of the grip (10) located inside the core-body (3) and integral with the movement means (2); the connecting means (16) comprising two walls (16a, 16b) made inside the cup formed by the cylindrical body (6) and on opposite sides of the shaft (7) with the square cross-section; each wall (16a, 16b) extending from the inner edge of the cup to join a relative side (7a, 7b) of the shaft (7) with the square cross-section, forming a fixed connecting zone for the grip (10).
4. The handle according to claim 3, **characterised in that** the grip (10) has a projecting end (10a) with a cylindrical external cross-section and a square internal cross-section for connection to the shaft (7) with the square cross-section; said end (10a) having two longitudinal through holes (10b, 10c), diametrically opposed, designed to connect with the relative walls (16a, 16b) in the cup.
5. The handle according to claim 1, **characterised in that** the core-body (3) has an outer surface (3a) that is regular and extends without interruption along its entire length, without elements or surfaces projecting towards the grip (10); the outer surface (3a) having a seat (3b) in which part of the movements means (2) is housed.
6. The handle according to claim 1, **characterised in that** the end of stroke snap means (15) comprise a pair of sliders (17, 18) located on opposite sides of the crown gear (5) and slidably positioned inside a relative channel (19) in the core-body (3); each slider (17, 18) having a head (20) for connection to one of the recesses (14) on the crown gear (5) and spring means (21) inserted between the slider (17, 18) and a fixed wall (22) of the channel (19) allowing, respectively, a backward movement of the slider (17, 18), by compression of the spring means (21), and relative detachment of the head (20) and the recess (14), when the crown gear (5) rotates, and a forward movement of the slider (17, 18), driven by the action of the spring means (21), with subsequent connection of the head (20) and another recess (14) again caused by the rotation of the crown gear (5).
7. The handle according to claim 1, **characterised in that** the means (11) for joining the grip and the shaft to one another comprise a threaded grub screw (11g) which can be screwed into a respective through hole (10g) in the grip (10) and acting on the shaft (7) with the square cross-section.
8. The handle according to claim 1, **characterised in that** the movement means (2) are stably connected to the core-body (3) by a retaining snap ring (23), inserted between a seat (3b) of the core-body (3) and a cylindrical body (6) which is part of the core-body (3), allowing rotating locking of the movement means (2) on the core-body (3).

Patentansprüche

1. Griff für Fenster- oder Türeinheiten, wobei diese Fenster- oder Türeinheiten auf zumindest einer ihrer Oberflächen ein Durchgangsloch für Betätigungsmittel (2) für den Griff (1) beinhalten; wobei an diesem Loch Bedienungsmittel zum Öffnen und Schließen der Fenster- oder Türeinheit angeordnet sind, und wobei der Griff Folgendes beinhaltet:
- einen Kernkörper (3), der unter Verwendung von Haltemitteln (4) mit der Oberfläche der Fenster- oder Türeinheit verbunden werden kann; wobei der Kernkörper (3) auf einer Seite einen ersten Teil (5) der Betätigungsmittel (2) aufweist, der mit den Bedienungsmitteln verbunden werden kann, und wobei sich auf der gegenüberliegenden Seite des Kernkörpers (3) ein hervorstehender zweiter Teil der Betätigungs-

mittel (2) befindet, der eine Welle (7) mit Vierkantquerschnitt beinhaltet;

- ein Abdeckelement (8) für den Kernkörper (3), das auf dem Kernkörper (3) angeordnet werden kann und ein Durchgangsloch (9) für die Welle (7) mit Vierkantquerschnitt aufweist;

- einen Griff (10), der mit der Welle (7) mit Vierkantquerschnitt verbunden werden kann;

- Mittel (11), die dazu dienen, den Griff (10) und die Welle (7) mit Vierkantquerschnitt miteinander zu verbinden, und die von außerhalb des Griffes (10) wirken, um eine koordinierte Öffnungs- und Schließbewegung der Fenster- oder Türeinheit unter Verwendung des Griffes (10) zu ermöglichen,

wobei die Betätigungsmittel (2) ein einziges Element beinhalten, das aus einem Zahnkranz (5) besteht, der den ersten Teil der Betätigungsmittel (2) bildet, und ferner aus dem genannten zweiten Teil besteht, wobei der Zahnkranz (5) mit zumindest einer Zahnstange (12) in Eingriff steht, die in dem Kernkörper (3) untergebracht ist, und die Zahnstange (12) ihrerseits ein Verbindungsgleitstück (13) aufweist, das von dem Kernkörper (3) hervorragt und dafür ausgelegt ist, beim Gebrauch die Verbindung mit den Bedienungsmitteln herzustellen, die in der Fenster- oder Türeinheit untergebracht sind, wobei der Griff **dadurch gekennzeichnet ist, dass** der zweite Teil ferner einen zylindrischen Körper (6) aufweist, der einteilig mit dem Zahnkranz (5) ausgeführt ist und in einer Aufnahme (3b) in dem Kernkörper (3) untergebracht ist, wobei der zylindrische Körper (6) hohl ist und eine Mulde bildet, aus der die Welle (7) mit Vierkantquerschnitt herausgearbeitet ist, so dass sie von der Mitte der Mulde und von dem Kernkörper (3) hervorragt, wobei der Abschnitt des zylindrischen Körpers (6), der am nächsten bei dem Zahnkranz (5) gelegen ist, mehrere Aussparungen (14) entlang seines Umfangs aufweist, die jeweils im rechten Winkel (α) zueinander angeordnet sind, wobei zumindest ein gegenüberliegendes Paar gleichzeitig mit elastischen Endlagen-Rastmitteln (15) in Eingriff steht, die dafür ausgelegt sind, das Stabilisieren und Positionieren des Zahnkranzes (5), das heißt also eines Griffes (10), zu ermöglichen, wenn die Konfiguration einer Fenster- oder Türeinheit von einer geöffneten Stellung in eine geschlossene Stellung überführt wird oder umgekehrt.

2. Griff nach Anspruch 1, **dadurch gekennzeichnet, dass** der Griff (10) ein Ende (10a) für die Verbindung mit der Welle (7) mit Vierkantquerschnitt beinhaltet, wobei dieses Ende (10a) von dem restlichen Körper des Griffes (10) hervorragt und kleiner ist als der Bereich des Griffes (10), an dem es austritt, so dass es eine Hinterschneidung bildet, die beim Gebrauch das relative Blockieren des Abdeckelementes (8)

mittels Berührung zwischen dem Griff (10) und dem Kernkörper (3) ermöglicht.

3. Griff nach Anspruch 1, der Verbindungsmittel (16) für die vorbestimmte Verbindung und Positionierung des Griffes (10) beinhaltet, die in dem Kernkörper (3) untergebracht und einteilig mit den Betätigungsmitteln (2) ausgeführt sind; wobei diese Verbindungsmittel (16) zwei Wände (16a, 16b) beinhalten, die in der von dem zylindrischen Körper (6) gebildeten Mulde und auf entgegengesetzten Seiten der Welle (7) mit Vierkantquerschnitt ausgefertigt sind; wobei sich jede Wand (16a, 16b) von der Innenkante der Mulde aus erstreckt, um eine entsprechende Seite (7a, 7b) der Welle (7) mit Vierkantquerschnitt zu erreichen, so dass ein festgelegter Verbindungsbereich für den Griff (10) gebildet wird.
4. Griff nach Anspruch 3, **dadurch gekennzeichnet, dass** der Griff (10) ein hervorstehendes Ende (10a) mit zylindrischem Außenquerschnitt und quadratischem Innenquerschnitt für die Verbindung mit der Welle (7) mit Vierkantquerschnitt aufweist; wobei das Ende (10a) zwei diametral entgegengesetzte, längliche Durchgangslöcher (10b, 10c) aufweist, die für die Verbindung mit den entsprechenden Wänden (16a, 16b) in der Mulde ausgelegt sind.
5. Griff nach Anspruch 1, **dadurch gekennzeichnet, dass** der Kernkörper (3) eine gleichmäßige Außenoberfläche (3a) aufweist, die sich unterbrechungsfrei entlang seiner gesamten Länge erstreckt, ohne Elemente oder Oberflächen, die zum Griff (10) hin hervorstehen; wobei die Außenoberfläche (3a) eine Aufnahme (3b) aufweist, in der ein Teil der Betätigungsmittel (2) untergebracht ist.
6. Griff nach Anspruch 1, **dadurch gekennzeichnet, dass** die Endlagen-Rastmittel (15) ein Paar Gleitstücke (17, 18) beinhalten, die auf entgegengesetzten Seiten des Zahnkranzes (5) angeordnet und gleitbar in einem entsprechenden Kanal (19) in dem Kernkörper (3) untergebracht sind; wobei jedes Gleitstück (17, 18) einen Kopf (20) zur Verbindung mit einer der Aussparungen (14) auf dem Zahnkranz (5) aufweist und Federmittel (21) aufweist, die zwischen dem Gleitstück (17, 18) und einer feststehenden Wand (22) des Kanals (19) eingefügt sind und jeweils folgende Bewegungen ermöglichen: eine Rückwärtsbewegung des Gleitstückes (17, 18) durch Zusammendrücken der Federmittel (21) mit entsprechender Lösung der Eingriffsverbindung zwischen dem Kopf (20) und der Aussparung (14) während der Drehung des Zahnkranzes (5), und eine Vorwärtsbewegung des Gleitstückes (17, 18), die durch die Wirkung der Federmittel (21) angetrieben wird, mit daraus folgender Verbindung des Kopfes (20) mit einer anderen Aussparung (14), die eben-

falls durch die Drehung des Zahnkranzes (5) bewirkt wird.

7. Griff nach Anspruch 1, **dadurch gekennzeichnet, dass** die Mittel (11) zur Herstellung der Verbindung zwischen Griff und Welle einen Gewindestift (11g) beinhalten, der in ein entsprechendes Durchgangsloch (10g) in dem Griff (10) eingeschraubt werden kann und auf die Welle (7) mit Vierkantquerschnitt wirkt. 5 10
8. Griff nach Anspruch 1, **dadurch gekennzeichnet, dass** die Betätigungsmittel (2) fest mit dem Kernkörper (3) verbunden sind, und zwar über einen einrastenden Sicherungsring (23), der zwischen einer Aufnahme (3b) des Kernkörpers (3) und einem zylindrischen Körper (6), der Bestandteil des Kernkörpers (3) ist, eingesetzt ist, um die drehbare Befestigung der Betätigungsmittel (2) auf dem Kernkörper (3) zu ermöglichen. 15 20

Revendications

1. Une poignée pour unités de fenêtre ou de porte, lesdites unités de fenêtre ou de porte comprenant, sur au moins une surface, un trou débouchant destiné à des moyens (2) de manoeuvre de la poignée (1) ; des moyens de commande étant prévus au niveau dudit trou pour l'ouverture et la fermeture de l'unité de fenêtre ou de porte, la poignée comprenant : 25 30
 - un corps-noyau (3) qui peut être associé, par l'intermédiaire de moyens de retenue (4), à la surface de l'unité de fenêtre ou de porte ; le corps-noyau (3) présentant, d'un côté, une première partie (5) des moyens de manoeuvre (2) qui peut être accouplée avec les moyens de commande et, du côté opposé du corps-noyau (3), une deuxième partie en saillie des moyens de manoeuvre (2) étant présente et comprenant un arbre (7) de section carrée ; 35 40
 - un élément (8) de recouvrement du corps-noyau (3), qui peut être placé sur ledit corps-noyau (3) et présente un trou débouchant (9) pour l'arbre (7) de section carrée ; 45
 - une manette (10) qui peut être accouplée avec l'arbre (7) de section carrée ;
 - des moyens (11) pour joindre ensemble la manette (10) et l'arbre (7) de section carrée, agissant de l'extérieur de la manette (10) afin de permettre un mouvement coordonné d'ouverture et de fermeture de l'unité de fenêtre ou de porte par le biais de la manette (10), les moyens de manoeuvre (2) comprenant un élément unique consistant en une couronne dentée (5), constituant la première partie des moyens de manoeuvre (2), et consistant aussi en ladite 50 55
2. La poignée selon la revendication 1, **caractérisée en ce que** la manette (10) comprend une extrémité (10a) pour l'accouplement avec l'arbre (7) de section carrée, ladite extrémité (10a) saillant du reste du corps de la manette (10) et étant plus petite que la zone de la manette (10) à partir de laquelle elle se projette, de manière à former une contre-dépouille destinée à permettre, en pratique, un blocage relatif de l'élément de recouvrement (8) par contact entre la manette (10) elle-même et le corps-noyau (3).
3. La poignée selon la revendication 1, **caractérisée en ce qu'elle** comprend des moyens d'accouplement (16) pour l'accouplement et le positionnement prédéfinis de la manette (10), situés à l'intérieur du corps-noyau (3) et faisant partie intégrante des moyens de manoeuvre (2) ; les moyens d'accouplement (16) comprenant deux parois (16a, 16b) réalisées à l'intérieur de la coupe formée par le corps cylindrique (6) et sur des côtés opposés de l'arbre (7) de section carrée ; chaque paroi (16a, 16b) s'étendant à partir du bord intérieur de la coupe jusqu'à rejoindre un côté (7a, 7b) respectif de l'arbre (7) de section carrée, définissant ainsi une zone d'accouplement fixe pour la manette (10).
4. La poignée selon la revendication 3, **caractérisée en ce que** la manette (10) présente une extrémité en saillie (10a) ayant une section extérieure cylindrique

deuxième partie, la couronne dentée (5) venant en prise avec au moins une crémaillère (12) située à l'intérieur du corps-noyau (3), la crémaillère (12) présentant à son tour un curseur (13) d'accouplement, saillant du corps-noyau (3) et destiné à s'accoupler, en pratique, avec des moyens de commande placés dans l'unité de fenêtre ou de porte, la poignée étant **caractérisée en ce que** ladite deuxième partie comprend aussi un corps cylindrique (6), solidaire de la couronne dentée (5) et logé dans un logement (3b) du corps-noyau (3), le corps cylindrique (6) étant creux et formant une coupe d'où dépasse l'arbre (7) de section carrée, saillant du centre de la coupe et du corps-noyau (3), la partie du corps cylindrique (6) la plus proche de la couronne dentée (5) présentant une pluralité de renforcements (14) sur sa circonférence disposés selon un angle droit (α) les uns par rapport aux autres, au moins une paire opposée étant simultanément assujettie par des moyens élastiques (15) à enclenchement de fin de course destinés à permettre la stabilisation et le positionnement de la couronne dentée (5), c'est-à-dire d'une manette (10), quand la configuration d'une unité de fenêtre ou de porte passe d'une position d'ouverture à une position de fermeture et inversement.

que et une section intérieure carrée pour l'accouplement avec l'arbre (7) de section carrée ; ladite extrémité (10a) présentant deux trous débouchants longitudinaux (10b, 10c), diamétralement opposés, destinés à s'accoupler avec les parois (16a, 16b) respectives à l'intérieur de la coupe. 5

5. La poignée selon la revendication 1, **caractérisée en ce que** le corps-noyau (3) a une surface extérieure (3a) qui est régulière et s'étend sans interruption sur toute sa longueur, sans éléments ou surfaces saillant vers la manette (10) ; la surface extérieure (3a) présentant un logement (3b) dans lequel une partie des moyens de manoeuvre (2) est logée. 10 15

6. La poignée selon la revendication 1, **caractérisée en ce que** les moyens (15) à enclenchement de fin de course comprennent une paire de curseurs (17, 18) situés sur des côtés opposés de la couronne dentée (5) et positionnés de façon coulissante à l'intérieur d'un canal (19) correspondant situé dans le corps-noyau (3) ; chaque curseur (17, 18) ayant une tête (20) pour l'accouplement avec un des renforcements (14) de la couronne dentée (5) et des moyens à ressort (21) insérés entre le curseur (17, 18) et une paroi fixe (22) du canal (19) afin de permettre, respectivement, un mouvement de recul du curseur (17, 18), par compression des moyens à ressort (21), et un détachement correspondant de la tête (20) et du renforcement (14), quand la couronne dentée (5) tourne, et un mouvement d'avance du curseur (17, 18), sous l'action des moyens à ressort (21), avec accouplement successif de la tête (20) et d'un autre renforcement (14) déterminé, là encore, par la rotation de la couronne dentée (5). 20 25 30 35

7. La poignée selon la revendication 1, **caractérisée en ce que** les moyens (11) pour joindre ensemble la manette et l'arbre comprennent une vis sans tête filetée (11g) qui peut être vissée dans un trou débouchant (10g) respectif prévu dans la manette (10) et agit sur l'arbre (7) de section carrée. 40

8. La poignée selon la revendication 1, **caractérisée en ce que** les moyens de manoeuvre (2) sont associés de façon stable au corps-noyau (3) par l'intermédiaire d'un anneau élastique (23) de retenue, inséré entre un logement (3b) du corps-noyau (3) et un corps cylindrique (6) qui fait partie intégrante dudit corps-noyau (3) afin de permettre un verrouillage tournant des moyens de manoeuvre (2) sur le corps-noyau (3). 45 50

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FIG.1

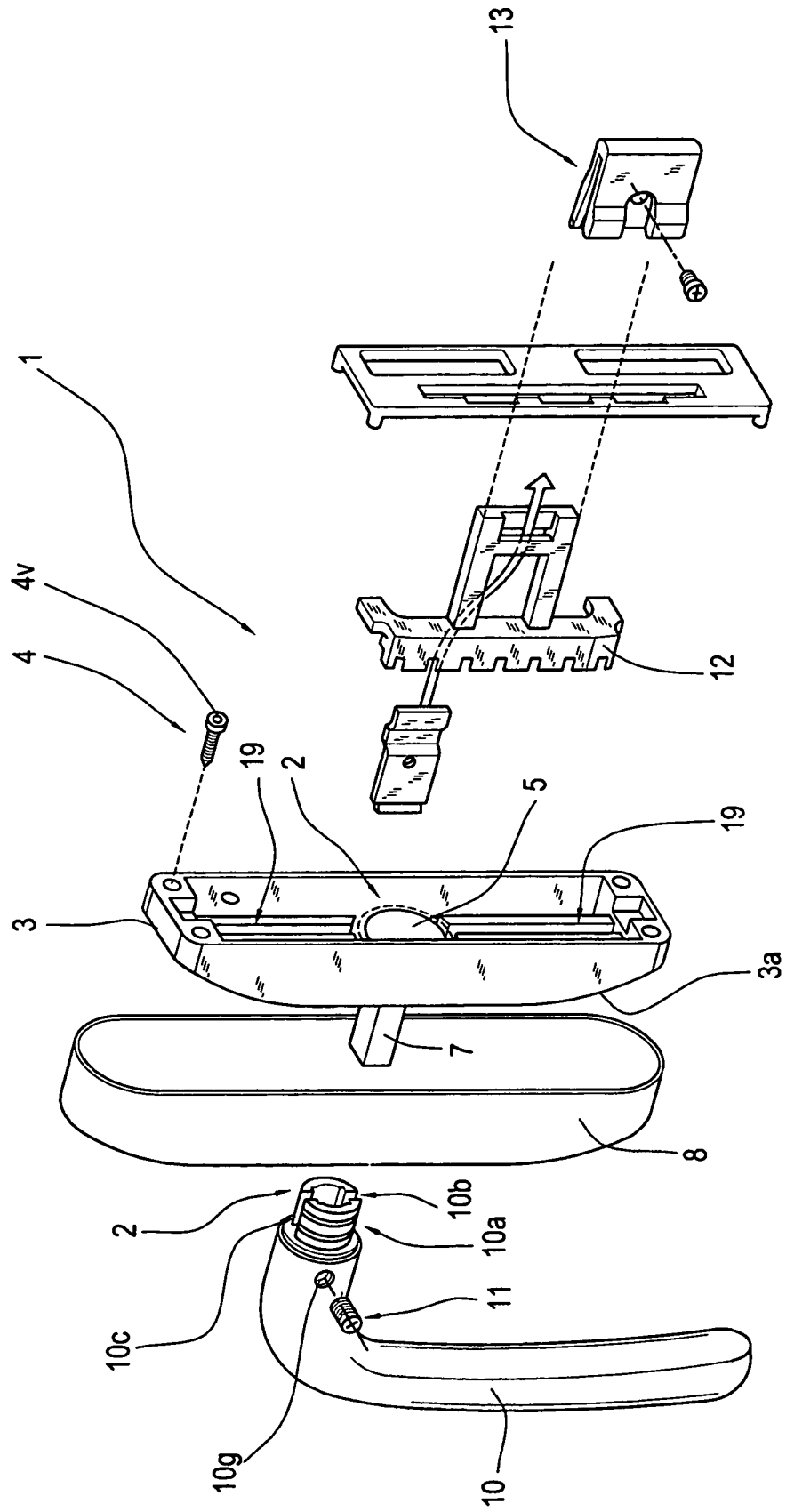


FIG.2

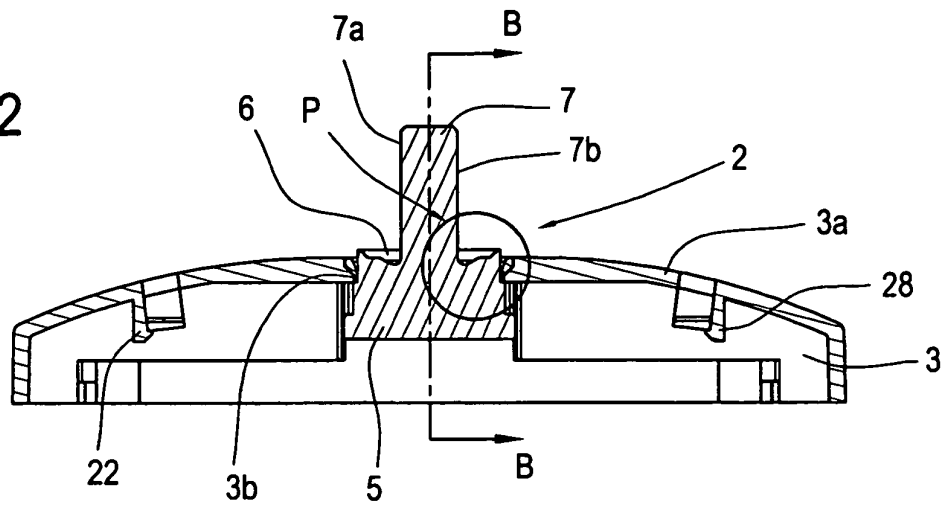


FIG.3

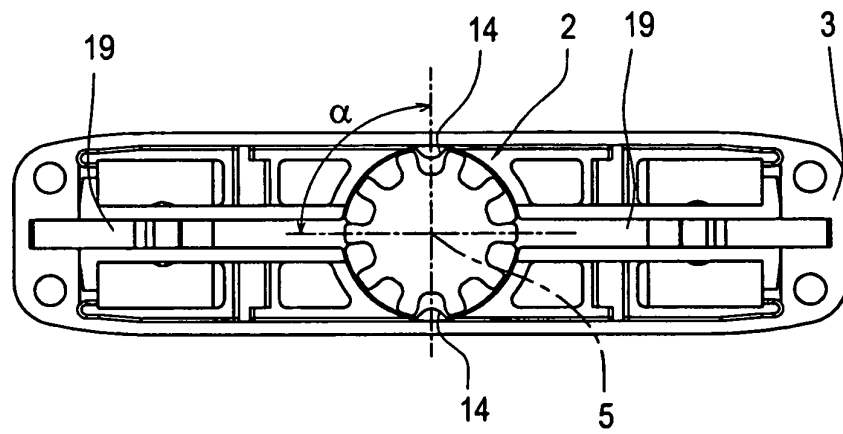


FIG.4

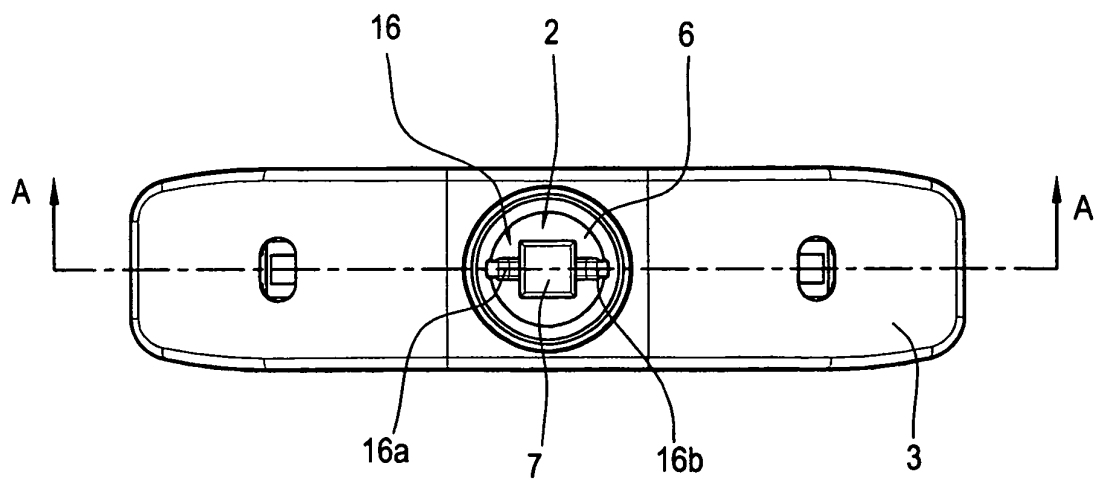


FIG.5

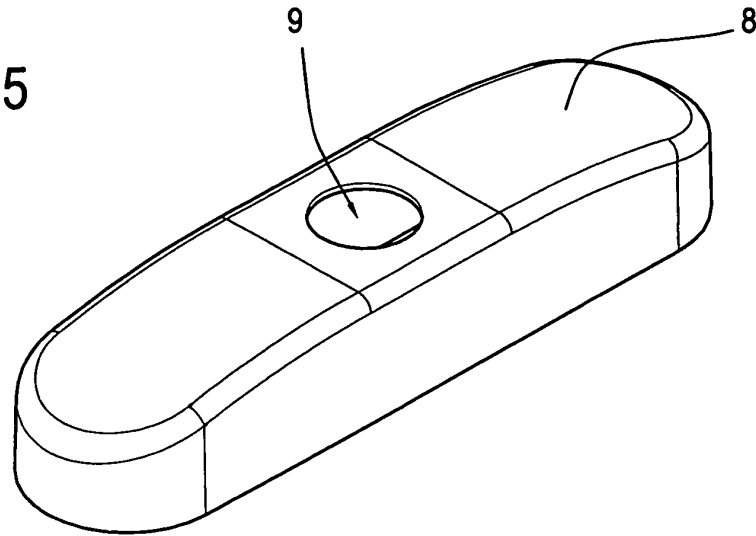


FIG.6

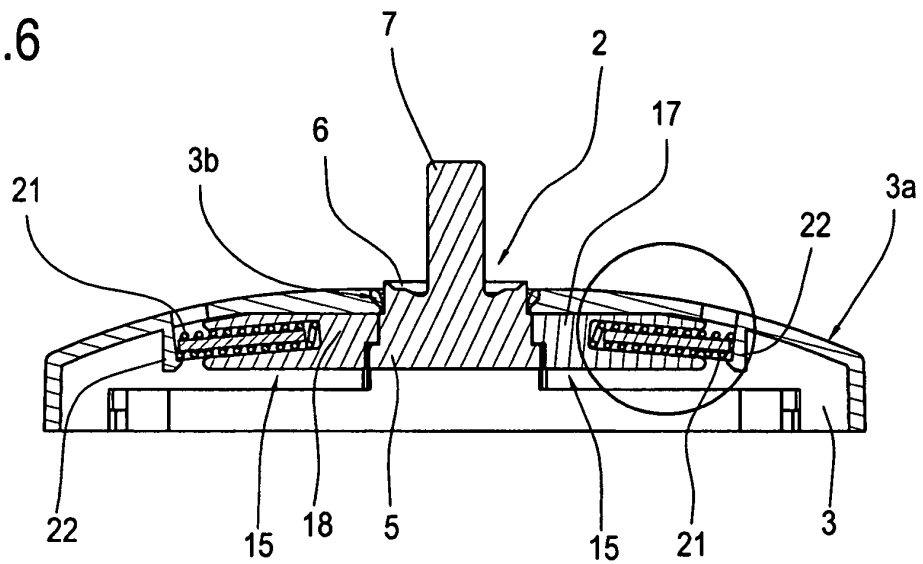


FIG.7

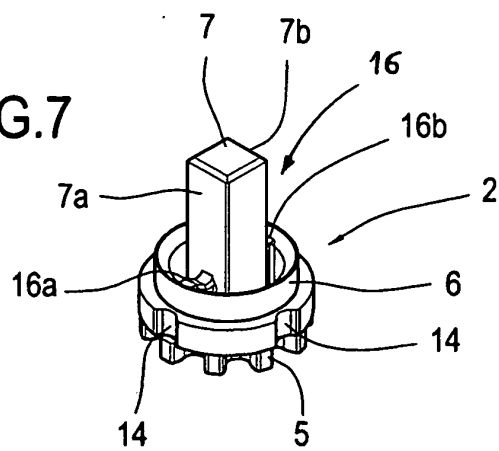


FIG.8

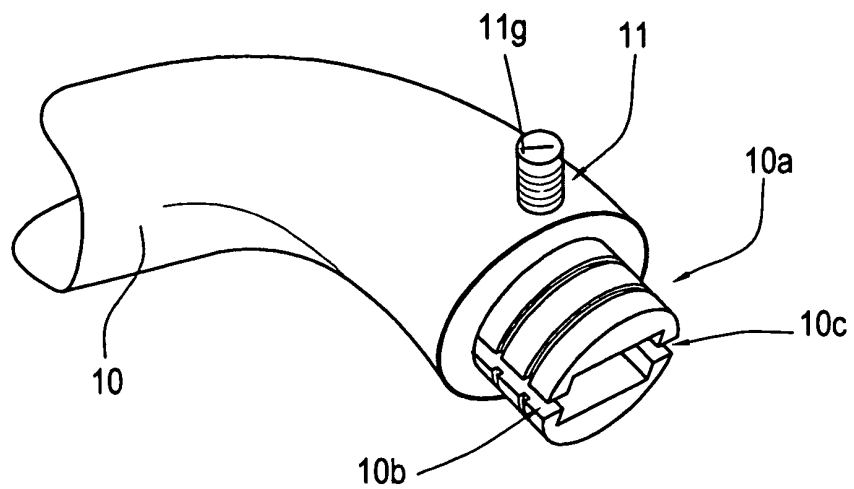


FIG.9

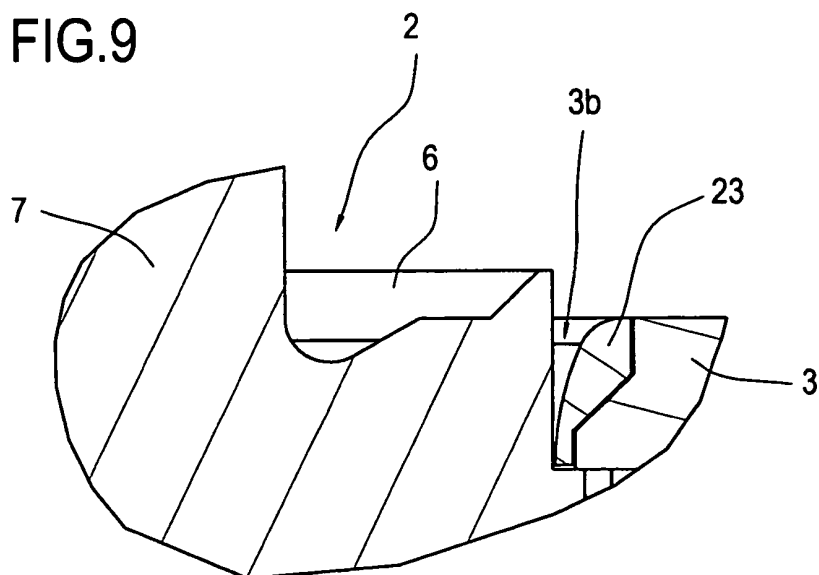
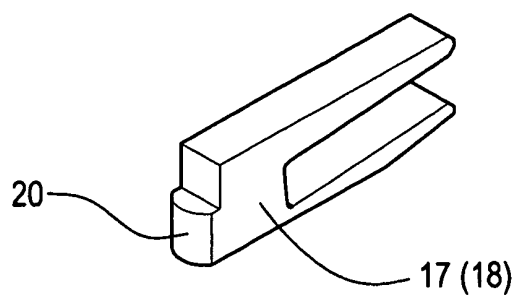


FIG.10



REFERENCES CITED IN THE DESCRIPTION

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