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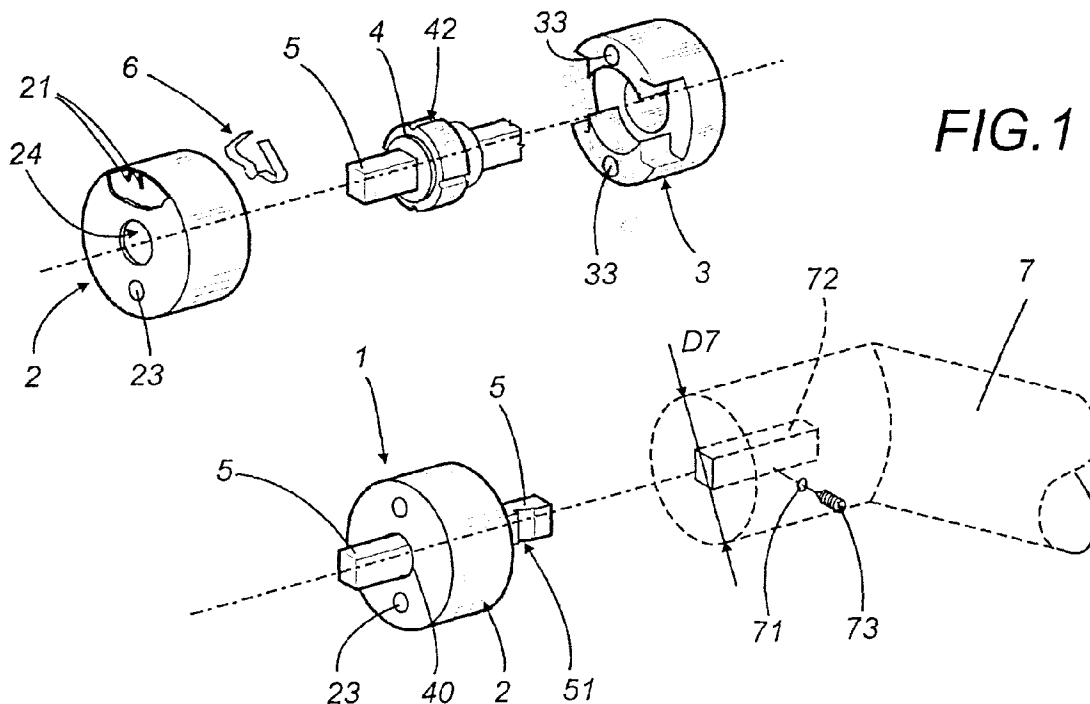
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47900 Rimini (RN) (IT)(30) Priority: **09.05.1997 IT BO970284**(71) Applicant: **ERRETI S.r.l.**
I-48010 Bagnara di Romagna (Ravenna) (IT)**(54) Device for positioning handles**

(57) A device (1) for positioning handles, usable to determine the arrest of a grip (7) of a handle, revolving around an axis defined by a related manoeuvring pivot (5), in correspondence with pre-determined angular positions; the device (1) comprises a fixed portion (2, 3) able to be associated to a window or door casing, a mov-

able element (4), able to be associated to the manoeuvring pivot (5), and resolvable interception means (6), acting between the fixed portion (2, 3) and the movable element (4), able to fasten, in the rotation of the grip (7), the fixed portion (2, 3) and the movable element (4) in correspondence with said pre-determined angular positions.

**FIG. 1****EP 0 881 344 A2**

Description

The present invention relates to a device for positioning handles, i.e. a device that allows to set the handle in a predetermined configuration.

In practice, the subject device is of the type usable to stop the handle in such a way that the related grip assumes only predetermined and precise positions, generally corresponding at least to the configurations wherein the window or door is open and closed.

The handles fitted with such devices, in their rotation around the axis of the motion pivot, are therefore able to stop on multiple positions, usually at angular distances of 90°.

In prior art devices, on the neck of the grip, i.e. on the part of the grip of the handle facing towards and nearest to the handle body, projections are provided and the handle body presents related recesses, thereby defining obligated couplings, thanks to the action of appropriate elastic means.

In the use of such prior art realisations, appropriate work processes on the handle body and/or on the grip thus become necessary.

The present invention relates to a new device, able to be interposed between grip and motion-transmitting means and which does not require any kind of substantial intervention on existing structures.

The invention, as it is characterised by the claims, solves the problem of providing a device for positioning handles, usable to determine the arrest of a grip of a handle, revolving around an axis defined by a related manoeuvre pivot, in correspondence with pre-determined angular positions; the device comprises a fixed portion, able to be associated to a window or door casing, by a movable element, able to be associated to the manoeuvring pivot, and by resolvable interception means, acting between the fixed portion and the movable element, able to fasten, in the rotation of the grip, the fixed portion and the movable element in correspondence with pre-determined angular positions.

In practice, the present invention relates to a device that can be fastened on a window or door casing and splined on to a manoeuvring pivot of a handle thereby arresting the related grip on pre-determined positions, with the so-called "snap", which distinguishes the various positions, determined by the interaction of the fixed portion (associated to the window or door casing) with the movable element (integral to the pivot and the grip) through the resolvable interception means, which can comprise elastic means.

One of the advantages of the present invention relates to the appreciable aesthetic effect provided to the handle: there is a continuity between grip and device, with a single profile to the casing; the cases and strips usually employed in the prior art are not necessary.

Another advantage provided by the subject device relates to the fact that it allows detachment between the grip and the rest of the handle.

This characteristic is particularly advantageous during the mounting phase on window and door frames, since it is possible to mount on the movable frame, already in the factory, the handle with no grip, i.e. provided with the manoeuvring pivot with only the positioning device. This allows to transport the casings, mount them in place and perform on the surrounding walls such operations as painting and the like, without being forced to protect the grips from possible damages.

The technical characteristics of the invention, according to the aforesaid purposes, are readily apparent from the contents of the claims reported below and its advantages shall be made more evident in the detailed description that follows, made with reference to the accompanying drawings, which show an embodiment provided purely by way of non limiting example, wherein:

- Figure 1 shows, in a perspective view with some details reproduced in exploded view and with parts removed, a possible embodiment of the present invention;
- Figure 2 shows, in plan view, some details of a device according to the invention;
- Figure 3 shows, in a section view according to the section lines III-III, details as per Figure 2.

In accordance with the accompanying drawings, a device for positioning handles 1, constructed according to the invention, can be used to determine the arrest of a grip 7 of a handle, revolving around a related manoeuvring pivot 5.

The grip 7 has been shown in dashed lines and of the type known as cremone-bolt, but it can, obviously, be of a different type.

The arrest of the rotation of the handle is performed in correspondence with pre-determined angular positions, usually, but not exclusively, at angular distances of 90°.

The device 1 essentially comprises a fixed portion 2, 3, a movable element 4 and resolvable interception means 6, all described below.

The fixed portion 2, 3 can be associated to a casing, not shown because it is not part of the invention, whilst the movable element 4 can be associated to the manoeuvring pivot 5.

The resolvable interception means 6 act between the fixed portion 2, 3 and the movable element 4, in such a way as to fasten fixed portion and movable element in correspondence with the pre-determined angular positions mentioned above.

In other words, such means 6 have the function of interrupting the rotation of the pivot 5 (and of the grip 7 connected thereto) causing the so-called "snap" or, in any case, stopping the grip 7 in the desired positions, for example every 90°.

As in the non limiting example shown, the movable element 4 is a rotor presenting an inner hole 41 complementary to the section of the pivot 5, in order to be able

to be splined thereto.

The movable element 4 presents an outer surface provided with a plurality of seats 42, radially positioned every 90° in the example, but able to be constructed in variable ways. Moreover, the movable element 4 shown in the Figures presents end portions 40, 40' of respective diameters D4 and D4', suitable to be introduced in corresponding cavities presented by the fixed portion 2, 3, as specified farther on.

The fixed portion 2, 3 can comprise a body 2 and a cover 3.

The body 2 is centrally holed in 24, in such a way as to be able to fit on the pivot 5 (and to receive the end portion 40 of the rotor 4), and it is provided with fastening means 21 for related elastic means 6 defining the resolvable interception means.

The closure cover 3 is able to close the holed body 2, such as to contain within the fixed portion the movable element 4, and it is also holed in 34, to be able to fit on the pivot 5 and to receive the other end portion 40' of the rotor 4.

In practice, the fixed portion 2, 3 defines a single body rotationally free with respect to the rotor 4, which is splined onto the pivot 5 and which constitutes the axial constraint against sliding by the device along the pivot 5.

The aforementioned fastening means 21 provided on the body 2 can comprise at least one pair of wings 21.

The elastic means 6 can comprise at least one spring shaped, in plan view, essentially as an isosceles triangle, as can be better seen in Figure 2 (where the device is shown equipped with two springs). This triangle is open in correspondence with the vertex 64 between the two equal sides 63, thereby being able to be constrained by the wings 21. The spring presents, on the side 62 opposite to said open vertex 64, an interference end 61 oriented, when the spring is fixed, towards the interior of the body 2, i.e. towards the movable element 4 to insert itself stably and removably in the seats 42 described above.

The fixed portion 2, 3 can present a pair of holed areas 23, able to allow the association to a casing (in practice, the holes for the screws for fastening to the casing).

The distance between centres of the holed areas 23 has a value D2 smaller than the value of the diameter D7 presented by the neck of the grip 7; in this way, the related fastening screws are hidden from view.

Also for the cover 3 the holes 33 shall be provided in a similar way.

Moreover, the fixed portion 2, 3 can present an outer diameter D1 whose value is essentially equal to that of the diameter D7 presented by the neck of the grip 7, in such a way as to define a single profile between device and grip.

For assembling the grip, the pivot 5 presents a recess 51, or a reduced section, in correspondence with the first portion destined to be inserted in a corresponding first seat 72 provided on the grip 7. On the grip 7 is

provided a second seat 71 connected to the first seat 72 and able to allow the passage of related constraining means 73 (the so-called dowel) able to interact with the recess 51.

In practice, the device I constituting the subject of the invention, in addition to being extremely advantageous from the functional point of view, is considerably appreciable from the formal point of view, because it is able to hide all possible anti-aesthetic features due to the fastening screws.

The handle equipped with the present device shall therefore be characterised by a remarkable aesthetic effect because there is a single profile presented by the device and by the grip, with no interruptions and without visible screws; there are no differences in section between the part nearest the casing with respect to the neck of the grip.

The invention thus conceived can be subject to numerous modifications and variations, without thereby departing from the scope of the inventive concept. Moreover, all components can be replaced with technical equivalent elements.

Claims

1. Device for positioning handles, usable to determine the arrest of a grip of a handle, revolving around an axis defined by a related manoeuvring pivot, in correspondence with pre-determined angular positions, characterised in that it comprises a fixed portion (2, 3), able to be associated to a window or door casing, a movable element (4), able to be associated to said manoeuvring pivot (5), and resolvable intercepting means (6), acting between said fixed portion (2, 3) and said movable element (4), able to fasten, in the rotation of said grip (7), said fixed portion (2, 3) and said movable element (4) in correspondence with said pre-determined angular positions.
2. Device according to claim 1, characterised in that said resolvable intercepting means comprise elastic means (6) positioned between said fixed portion (2, 3) and said movable element (4).
3. Device according to claim 1, characterised in that said movable element (4) is a rotor splined onto said pivot (5) and presenting an outer surface provided with a plurality of seats (42), radially positioned according to said predetermined angular positions, said resolvable intercepting means (6) presenting at least an interference end (61), able to be inserted stably and removably in said seats (42).
4. Device according to claim 1, characterised in that said fixed portion (2, 3) comprises a centrally holed body (2), in such a way as to be able to fit onto said pivot (5), and provided with fastening means (21)

for related elastic means (6) defining said resolvable intercepting means.

5. Device according to claim 4, characterised in that said fixed portion (2, 3) further comprises a closure cover (3), able to close said holed body (2), so as to contain said movable element (4) inside said portion.
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6. Device according to claim 4, characterised in that said fastening means (21) comprise at least one pair of wings (21) provided within said body (2) and in that said elastic means (6) comprise at least one spring shaped, in plan view, essentially as an isosceles triangle, open in correspondence with the vertex (64) between the equal sides (63), so as to be able to be fastened by said wings (21), and presenting, on the side (62) opposite to said open vertex, an interference end (61) oriented, with the spring fastened to the body, towards the interior of said body (2), i.e. towards said movable element (4).
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7. Device according to claim 1, characterised in that said fixed portion (2, 3) presents a pair of holed areas (23), able to allow association to a casing, distanced from each other by a value (D2) smaller than the value of the diameter (D7) presented by the neck of said grip (7), so as to hide from view the related fastening screws passing through said holed areas (23).
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8. Device according to claims 4 and 7, characterised in that said closure cover presents a second pair of holed areas (33) similarly distanced with respect to the pair presented by said body (2).
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9. Device according to claim 1, characterised in that said pivot (5) presents a recess (51) or a reduced section, in correspondence with its own portion destined to be inserted in a corresponding first seat (72) provided on said grip (7), a second seat (71) being provided connected to said first seat (72), able to allow the passage of related fastening means (73) able to interact with said recess (51) to fasten said grip (7) to said pivot (5).
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10. Device according to claim 1, characterised in that said fixed portion (2, 3) comprises a body (2) and a closure cover (3), centrally holed in respective central portions (24, 34), so as to be able to fit onto said pivot (5) and in that said movable element (4) presents respective end portions (40, 40') whose diameters (D40, D40') have values corresponding to the respective values of the lights of said central holed portions (24, 34), so as to be able to be coupled in complementary fashion, thereby defining a single body (1) whose outer part, constituted by said fixed portion (2, 3) can be fastened to a window or
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door casing and rotationally free with respect to said movable element (4) which constitutes its inner part and is splined on said pivot (5).

- 5 11. Device according to claim 1, characterised in that said fixed portion (2, 3) presents an outer diameter (D1) whose value is essentially equal to that of the diameter (D7) presented by the neck of said grip (7), in such a way as to define a single profile between device and grip itself.

