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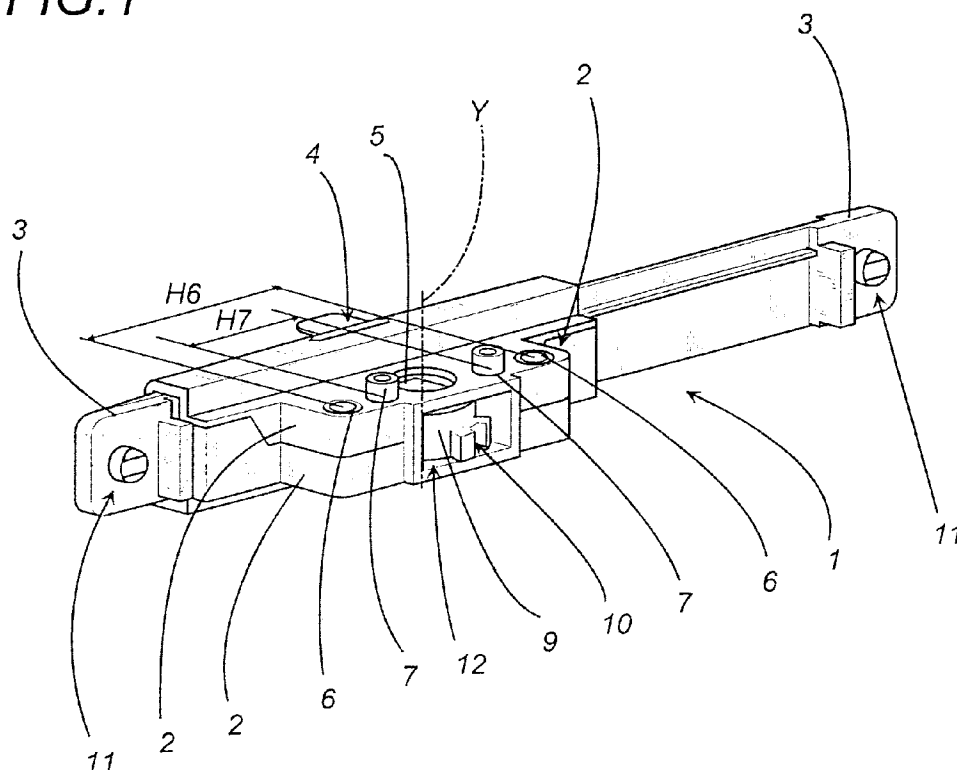
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(54) Device for manually controlled handles

(57) A device (1) for manually controlling handles, of the type comprising a body (2) for the containment of motion transmission means able to be inserted in a chamber with longitudinal development presented by a

section bar of a movable frame; the device (1) presents on the containment body (2) means able to allow the association of a handle to the section bar, means comprising at least one pair of seats (7) distanced from each other by a value (H7) ranging from 22 and 30 mm.

FIG.1**EP 0 877 132 A2**

Description

The present invention relates to a device for manually controlling handles, in particular for metal window and door casings.

Motion of the wings in the casings of this kind is generally allowed by action upon a cremone-bolt handle, i. e. a handle revolving around an axis perpendicular to the plane of the wing and associated to appropriate closure organs comprising rods or tie-rods interacting, upon command, between wing and fixed frame of the casing to determine their closure and opening.

Recent solutions provide for the handle to comprise essentially the command grip supported by a box-shaped body, able to be frontally associated to the wing and containing the connection, usually constituted by gears, between the grip and the underlying linkage able to slide within the section bars comprising the casing.

Metal casings thus have handles that project from the wing towards the interior of the spaces delimited by the casing, with size defined by the sum of the grip and containment body heights.

This size is always greater than that presented by the handles used in wooden windows and doors, where the part of the handle that projects is represented by the grip alone.

Moreover, the grip-containment body combination is practically inseparable, so that it is mandatory to use both at the same time, making it more costly to replace the handle, in those cases wherein the grip alone could be replaced.

With such stable combination the variety in the production of handles is limited, since it is necessary to construct combined grips and containment bodies and not the handles alone, as occurs for instance in the field of wooden windows and doors.

To limit such a drawback, handles have been constructed wherein the grip can be separated from the actual containment body, enclosing the means for transmitting motion, such as gear teeth and racks.

Such solutions are dedicated to a precise standard which provides, for the association of the grip, a pair of holes with a distance between centres equal to 43 mm. in practice, the handles that can be mounted in association on a containment body of this type must necessarily present the standard distance between centres of 43 mm.

Moreover, to such solutions is generally associated a device for the correct opening (known as "false move" in technical jargon) positioned in proximity or in correspondence with one of the two ends of the complex comprising containment body and related rack. The lateral positioning of the device for the correct opening determines a differentiation in the cut of the motion-imparting rods connected to the containment body, as a function of the presence of such device above or below the handle. In other words, the rods inserted in the section bar and able to transmit motion from the handle to other clo-

sure organs, must be cut in lengths variable according to the destination of an opening to the right or to the left.

The containment body of the prior art, moreover, provides for a conformation that allows to insert the containment body itself only in section bars presenting a certain clearance in the chamber destined to its containment.

The invention, as it is characterised by the claims, solves the problem of providing a manual control device whose grip and containment body components are separate and wherein a containment body can be associated to a grip without previously defined standard combinations. Assembly, as shall be described below, can be performed by effecting three holes on the face in view of the wing, whereof a central hole is used for passage of the pin (square) of the grip and the remaining pair can be distanced by a value smaller than the aforementioned standard, so as to allow a combination extensible to a greater number of grips. Moreover, the present invention can be provided with a device for correct opening located centrally, so as to eliminate the rod-cutting problems described above.

An additional advantage provided by the present invention is related to the fact that in case of utilisation of transmission through gear wheel-rack, the gear wheel can project from the containment body with its portion of smaller thickness, thereby reducing size in that dimension and allow to position the device in section bar chambers presenting reduced clearance; in this way it is possible, for instance, to reach with the containment body in an area next to the glass-holding portion of the section bar, without having to work thereon.

The technical characteristics of the invention, according to the aforesaid purposes, are readily apparent from the content of the claims reported below and its advantages shall be made more evident in the 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 top perspective view, a possible embodiment of the present invention;
- Figure 2 shows, in a side view with parts in section, a detail related to the embodiment as per Figure 1, in one of the possible positions assumable by a gear wheel comprised among related transmission means.

In accordance with the enclosed figures, the device 1 for manually controlling handles is of the type comprising a body 2 for the containment of motion transmission means and it is able to be inserted in a chamber with longitudinal development presented by a section bar of a movable frame.

Such motion transmission means essentially comprise a gear wheel 9, provided with a related connection 5 for a square pin presented by the grip of a handle and with a set of teeth 10 complementary with a rack 3. The

square pin (able to be associated on the axis Y) and the grip are not shown because they are not relevant to the present innovation.

The rack 3 presents appropriate means of association 1 1 for connection to the linkage of the movable frame; such means 11 shall be shaped according to the type of linkage used.

Advantageously, the containment body 2 is provided with means able to allow association of a handle to the section bar, means comprising at least a pair of seats 7, distanced from each other by a value H7 ranging from 22 to 30 mm. In particular, such value H7 is near 23.5 mm.

In other words, in addition or as an alternative to the standard holes 6, distanced by a value H6 equal to 43 mm, the body 2 of the invention presents the holes indicated as 7 and distanced by a value smaller than the standard, ranging between 22 and 30 mm, in particular 23.5 mm. Another characteristic can be envisioned, moreover, when to the device 1 is associated an element 4 for the detection of the correct opening (also known as "false move"). Such detector element 4 is able to allow the activation of the motion transmission means (and, hence, of the handle connected thereto) in correspondence with a determined configuration of the movable frame with respect to a fixed frame (closed window or door). In this case, the element 4 for the detection of the correct opening is positioned centrally with respect to the containment body 2 (and to the rack 3).

This feature allows both the right and left association of the same device 1, without having to effect differentiated cuts on the rods of the linkage of the window or door casing.

Lastly, as better shown in Figure 2, the gear wheel 9 presents a set of teeth 10 which, for at least one portion, destined to project from the containment body 2, through a related opening 12, presents a thickness H10 smaller than the thickness H9 presented by the remaining part of the wheel 9 itself. This allows to use the device 1 on section bars (shown schematically as P in Figure 2) presenting a chamber with reduced dimensional development in one of its peripheral portions, for instance, but not exclusively, in correspondence with the glass holder.

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 technically equivalent elements.

Claims

1. Device for manually controlling handles, of the type comprising a body (2) for the containment of motion transmission means able to be inserted in a chamber with longitudinal development presented by a section bar of a movable frame, characterised in

that it presents on said containment body (2) means able to allow the association of a handle to the section bar comprising at least a pair of seats (7) distanced from each other by a value (H7) ranging from 22 to 30 mm.

2. Device according to claim 1, characterised in that said value (H7) is close to 23.5 mm.
3. Device according to claim 1, wherein to said device is associated an element (4) for the detection of the correct opening, able to allow the activation of said motion transmission means in correspondence with a given configuration of said movable frame with respect to a fixed frame, characterised in that said element (4) for the detection of the correct opening is positioned centrally with respect to said containment body (2), in such a way as to allow both a right and a left association.
4. Device according to claim 3, characterised in that said element (4) for the detection of the correct opening is positioned centrally with respect to a rack (3), comprised among said transmission means and in that it is at least partially contained in said body (2).
5. Device according to claim 1, wherein said motion transmission means comprise at least a gear wheel (9) and a rack (3), partially contained in said containment body (2), characterised in that the portion of said wheel destined to project outside said body has smaller thickness (H10) with respect to the remaining part of the wheel (9) itself, thereby allowing the insertion of said device into section bars (P) presenting a chamber with reduced dimensional development in one of their peripheral portions.

FIG.1

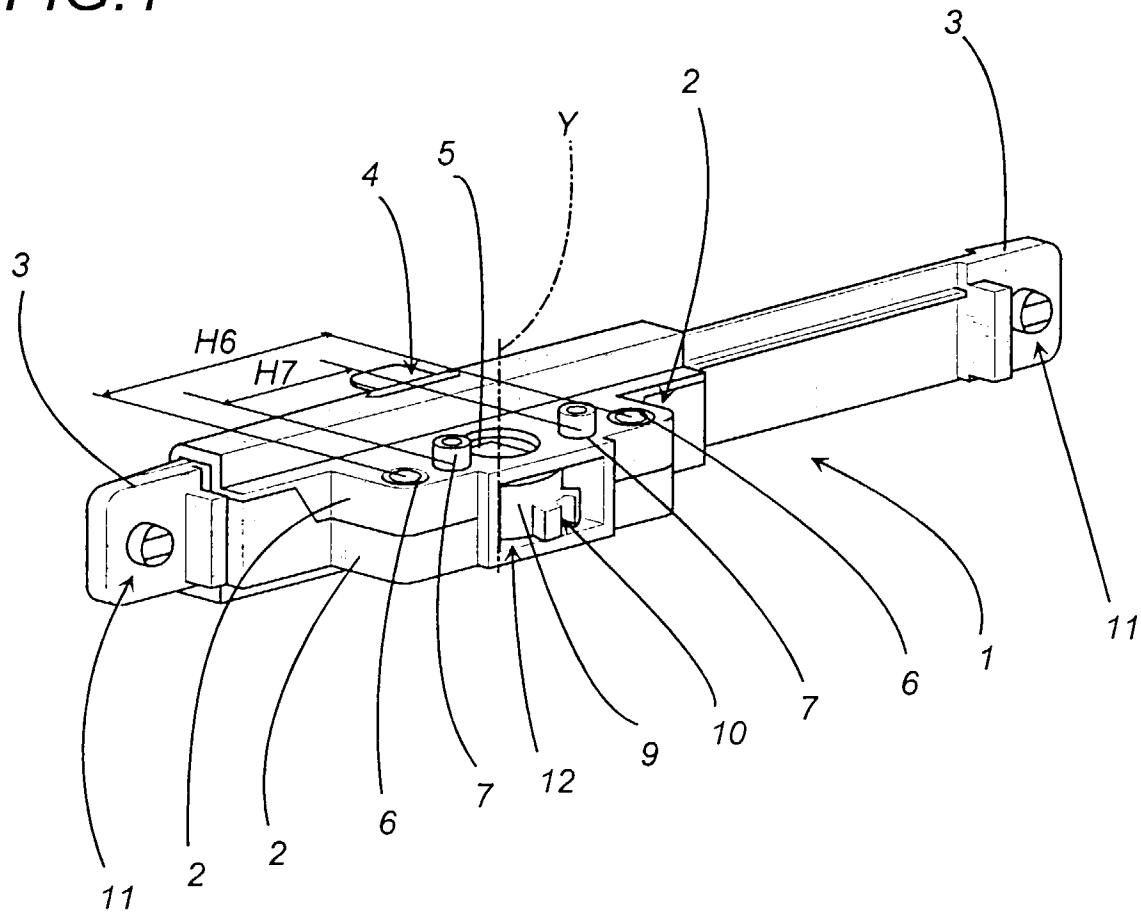


FIG.2

