

Title: Hold-open device for a movable wall

Description

The invention relates to a hold-open device for a movable wall, comprising a hold-open element, which can be brought into the active position thereof by means of a manually operable actuator.

Such hold-open devices are required with manually movable walls for blocking the walls in a predetermined position. Already known hold-open devices present a sliding member, which is guided in an oblong hole provided in the wall and which brings a hold-open element, which is connected to the sliding member, into the active position thereof.

The drawback of such a hold-open device is that the sliding member has to be accommodated with play in the oblong hole and that for this reason dirt and other contaminations may collect in the oblong hole and underneath the sliding member, which affect the functioning of the hold-open device.

Therefore, it is an object of the present invention to indicate a hold-open device for a movable wall or the like, which guarantees reliable and trouble-free functioning, while using simple means.

This problem is solved with the characteristics specified in patent claim 1. Advantageous further embodiments will result from the dependent claims.

As the actuator is constituted as a rotary knob, the rotational movement thereof being transformable into a lengthwise motion for the hold-open element, on the one hand, the disposition of an oblong hole in the wall becomes needless, and, on the other hand, the sliding member is not required at all. The inventive hold-open device is thus less prone to be exposed to dirt and other contamination.

According to one advantageous further development, the rotary knob is arranged in the wall within an aperture surrounding the rotary knob with minor play. As the rotary knob almost completely fills the opening provided in the wall, the penetration of dirt is effectively prevented, such that reliable functioning of the inventive hold-open device is guaranteed over a long period of time.

With the intention to enable non-slip actuation of the rotary knob, according to one advantageous further development, the rotary knob is provided with a knurling at the outside circumference thereof.

According to one preferred embodiment, the rotary knob is provided, on the side oriented towards the wall, with a bearing journal for the rotatable support thereof and

eccentrically thereto with an eccentrical pin. This allows for reliably supporting the rotary knob in the wall and simultaneously guarantees operational reliability of the connection to the hold-open element.

- 5 Advantageously, the eccentrical pin engages in a crank, which is connected to the hold-open element. On the basis of this arrangement, a good and reliable transformation of the rotational movement of the rotary knob into a lengthwise motion of the hold-open element is achieved.
- 10 With the intention to even further improve the guidance of the rotary knob, according to one advantageous further development, it is intended that the eccentrical pin is guided in a circular path arranged in the wall, the ends thereof serving as abutment for the rotational movement of
- 15 the rotary knob. Thus, the end positions of the rotational movement and therefore both end positions of the hold-open element can be reliably defined.

The circular path is preferably designed as a quarter circle such that an extension of the hold-open element is

20 achieved with the smallest possible angle of rotation.

According to one advantageous further development the hold-open element is formed as a plunger pin. This allows for easy production of the hold-open element.

With the intention to guide the inventive hold-open device reliably and above all jam-free, the hold-open element is guided in a support in the displacement direction thereof, the support being held at a rail which is arranged in the wall, such that it can be displaced and blocked. A certain
5 adjustment for the hold-open device is thus enabled.

Further characteristics and advantages of the invention will become obvious from the following description of one preferred embodiment example, in which:

10 Figure 1: is a view of the inventive hold-open device

Figure 2: is a cross-section through the inventive hold-open device,

Figure 3: is a partial section through the inventive hold-open device, and

15 Figure 4: is another view of the inventive hold-open device.

An inventive hold-open device is illustrated in Figures 1 to 4, arranged at a wall, which is, preferably, manually movable. The wall (not illustrated), in a lower region thereof, extends into a profile 1, which, in the illustrated
20 embodiment, consists of two profile half-shells featuring slightly rounded exterior sides (see Figure 2).

The profile 1 is provided with a circular aperture 2, in which a rotary knob 3 is supported. The aperture 2 surrounds the rotary knob 3 with minor play, such that penetration of dirt or dust into the gap between the aperture 2 and the rotary knob 3 can be largely prevented. The rotary knob 3 is provided with a knurling 4 on the outside circumference thereof, which will allow for reliable actuation of the rotary knob 3.

The rotary knob 3 is engaged in active connection with a hold-open element 5, designed as a plunger pin, such that, by actuating the rotary knob 3, the hold-open element 5 can be extended, respectively retracted.

The rotary knob 3, on the inside thereof, is provided with a central bearing journal 6, which allows for rotatable support of the rotary knob 3 in the profile 1. An eccentric pin 7 is provided in the vicinity of the exterior periphery of the rotary knob 3, eccentrically with regard to the bearing journal 6. The rotary knob 3, with the bearing journal 6 and the eccentric pin 7, may be realized as a single-piece, for example by casting.

The eccentric pin 7 engages in a crank 8, which receives the eccentric pin 7 in an oblong hole 9. The crank 8 itself is connected with the hold-open element 5 via a screw connection, for example.

- The hold-open element 5, in the displacement direction thereof, is guided in a support 10, which is held in a rail 11 provided at the profile 1 and can be displaced and blocked. Furthermore, the profile 1 is provided with a circular path
- 5 12 formed as a quarter circle, through which the eccentric pin 7 extends. The ends of the circular path 12 serve as an abutment and therefore limit the rotational movement of the rotary knob 3, and thus the displacement path of the hold-open element 5.
- 10 When turning the rotary knob 3, the eccentric pin 7 moves within the oblong hole 9 of the crank 8 and thereby causes the hold-open element 5 to move downward respectively upward, depending on the direction of rotation. The rotational movement of the rotary knob 3 is thus
- 15 transformed into a lengthwise motion of the hold-open element 5.

References

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| | 1 | profile |
| | 2 | aperture |
| | 3 | rotary knob |
| 5 | 4 | knurling |
| | 5 | hold-open element |
| | 6 | bearing journal |
| | 7 | eccentric pin |
| | 8 | crank |
| 10 | 9 | oblong hole |
| | 10 | support |
| | 11 | rail |
| | 12 | circular path |

Patent claims

1. A hold-open device for a movable wall comprising a hold-open element, which can be brought into the active position thereof by means of a manually operable actuator, characterized in that the actuator is formed as a rotary knob (3), the rotational movement thereof being transformable into a lengthwise motion for the hold-open element (5).
2. A hold-open device according to claim 1, characterized in that the rotary knob (3) is arranged in an aperture (2) in the wall surrounding the rotary knob (3) with minor play.
3. A hold-open device according to one of the preceding claims, characterized in that the rotary knob (3) is provided with a knurling (4) on the outside circumference thereof.
4. A hold-open device according to one of the preceding claims, characterized in that the rotary knob (3), on the side thereof oriented towards the wall, is provided with a bearing journal (6) for the rotatable support thereof and eccentrically thereto with an eccentric pin (7).

5. A hold-open device according to one of the preceding claims, characterized in that the eccentric pin (7) engages in a crank (8), which is connected to the hold-open element (5).
- 5 6. A hold-open device according to one of the preceding claims, characterized in that the eccentric pin (7) is guided in a circular path (12) arranged in the wall, the ends thereof serving as an abutment for the rotational movement of the rotary knob (3).
- 10 7. A hold-open device according to one of the preceding claims, characterized in that the circular path (12) is formed as a quarter circle.
8. A hold-open device according to one of the preceding claims, characterized in that the hold-open element
15 (5) is formed as a plunger pin.
9. A hold-open device according to one of the preceding claims, characterized in that the hold-open element (5), in the displacement direction thereof, is guided in a support (10), which is held at a rail (11), arranged in
20 the wall, and can be displaced and blocked.