



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 0 924 476 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
23.06.1999 Bulletin 1999/25

(51) Int. Cl.⁶: **F24F 13/14**, F24F 13/18

(21) Application number: **97204018.2**

(22) Date of filing: **18.12.1997**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV MK RO SI
(71) Applicant:
Kestral Organisation Limited
Milton Keynes, Buckinghamshire, MK3 5AT (GB)

(72) Inventor: **Sapphire, Steve**
Nottingham NG3 2ET (GB)
(74) Representative:
Pieraerts, Jacques
Gevers & Vander Haeghen,
Patent Attorneys,
Rue de Livourne 7
1060 Brussels (BE)

(54) **Rotatable shutter for slot ventilation**

(57) This invention relates to a rotatable shutter for slot ventilation through a hollow profile of which the internal wall and external wall form a continuous hollow chamber, characterized in that in above said hollow chamber a shut off element (8) is mounted, which can revolve around an axis (9) extending over the entire length of the hollow chamber, between the open and closed positions, to which purpose said shut off element (8) shows an oblong cavity (14) in which fits a tap (13) being part of a disc (11) which is rotatable from outside the hollow profile.

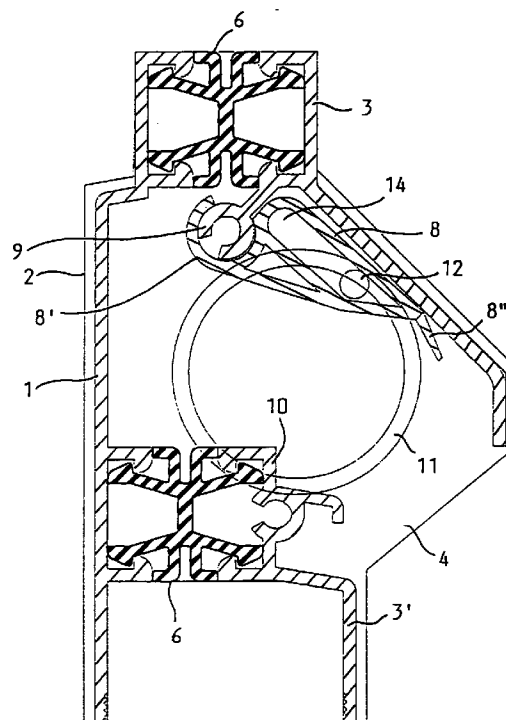


Fig.1

EP 0 924 476 A1

Description

[0001] This invention relates to a rotatable shutter for slot ventilation through a hollow profile, of which the internal wall and external wall form a continuous hollow chamber with local passages, and the external wall shows an outwards protruding cap which partially protects the passages in the external wall.

[0002] The aim of the invention is to achieve a shutter of the said type, which is easy to operate, and allows the desired hermetic seal and a ventilation in several intermediate positions.

[0003] In order to make this possible in accordance with the invention, in above said hollow chamber a shut off element is mounted, which can revolve around an axis extending over the entire length of the hollow chamber, between the open and closed positions, to which purpose said shut off element shows an oblong cavity in which fits a tap being part of a disc which is rotatable from outside the hollow profile.

[0004] Still according to the invention, the above said hollow profile, at the top and internally, shows a wing extending over the entire length of this external wall and forming the above said axis around which above said shut off element snapped on this axis can revolve.

[0005] Other details and advantages will become evident from the following description of a rotatable shutter for slot ventilation according to the invention. This description is only given as an example and does not limit the invention. The reference numbers refer to the attached figures.

Figure 1 is a cross section of the rotatable shutter according to the invention, shown in open position; Figure 2 is, on a smaller scale, the same cross section, with the shutter in closed position;

Figure 3 is a side view of the disc for operating the shutter;

Figure 4 is a partial section according to line IV-IV in figure 3;

Figure 5 is a side view of the device according to the invention;

Figure 6 is a section according to line VI-VI in figure 5.

[0006] The rotatable shutter shown in these figures is mounted here in a hollow profile composed of an internal wall 1 with local grate shaped passages 2 and an external wall 3 - 3' with a continuous passage 4 and a screening cap 5. In the usual way, the internal wall 1 and the external walls 3 - 3' are connected by plastic profiles 6 ensuring the interruption of the thermal bridge. Side-long, the internal wall 1 and the external walls 3 - 3' join two head walls 7, one of which is shown in side view in figure 6. These parts actually form the housing in which the shutter is mounted.

[0007] The rotatable shutter according to the invention is formed by a shut off element 8 which can revolve

around an axis 9 extending over the entire length. The axis 9 is part of the profile forming the external wall 3.

[0008] The shut off element 8 which is made of a plastic material, may be slid over the axis 9 or snapped to it. To that purpose, the shut off element 8 shows a hollow chamber 8' extending over almost 270 °, and the element consists of a composite material so that the lip 8", which in closed position is contacting the buffer edge 10 belonging to the external wall 3', and consisting of a somewhat elastic material, may be pressed sealingly against this buffer edge 10.

[0009] The rotation from the inside of the shut off element 8 is ensured by a rotatable disc 11 with handle 15 (figures 1-4). The rotatable disc 11 sidelong has a tap 13 which fits in an oblong cavity 14 belonging to the shut off element 8. The rotation of the disc 11 brings the shut off element 8 alternately in the open and closed position. The open position is shown in figure 1, while the closed position is shown in figure 2.

[0010] The rotation by the user of the shut off element 8 is obtained by acting on the handle 15 (figures 5, 6) with spring finger 16. The lever 15 is spring-mounted between two arms 17 belonging to the disc 11. Because a protrusion 16' exists at the extremity of the spring fingers 16, it is possible to block the shut off element 8 in several positions between the open and closed position. Indeed, upon rotation of the disc 11, this protrusion 16' moves over teeth 18 on a part of the head wall 7 located to the same side of the shut off element as the disc 11.

[0011] From the above description of the shutter according to the invention, it is shown that an excellent ventilation can be realised using technically simple and reliable means.

Claims

1. Rotatable shutter for slot ventilation through a hollow profile of which the internal wall and the external wall form a continuous hollow chamber with local passages and the external wall shows an outwards protruding cap which partially protects the passages in the external wall, characterized in that in the above said hollow chamber a shut off element (8) is mounted, which can revolve around an axis (9) extending over the entire length of the hollow chamber, between the open and closed positions, to which purpose said shut off element (8) shows an oblong cavity (14) in which fits a tap (13) being part of a disc (11) which is rotatable from outside the hollow profile.
2. Rotatable shutter according to claim 1, characterized in that above said hollow profile, at the top and internally, shows a wing (9') extending over the entire length of this external wall and forming the above said axis around which above said shut off element (8) which is snapped on this axis (9) can revolve.

3. Rotatable shutter according to any one of claims 1 and 2, characterized in that the free edge of the external wall (3') of above said hollow profile, in order to form the above said hollow chamber, shows a buffer edge (10) against which above said lip (8") of the shut off element (8) may be pressed in the closed position. 5
4. Rotatable shutter according to any one of claims 1-3, characterized in that above said shut off element (8) in cross direction, outside above said oblong cavity (14), shows an arched chamber extending over almost 270 ° which may be snapped to above said axis (9). 10 15
5. Rotatable shutter according to any one of claims 1-4, characterized in that above said shut off element (8) consists of a composite material, and the part of the shut off element (8) which is shaped as a lip (8") and in the closed position is pressed against a buffer edge (10) of the profile being part of the external wall (3'), shows a lower Shore D reading than the remaining part of the shut off element (8). 20 25 30 35 40 45 50 55

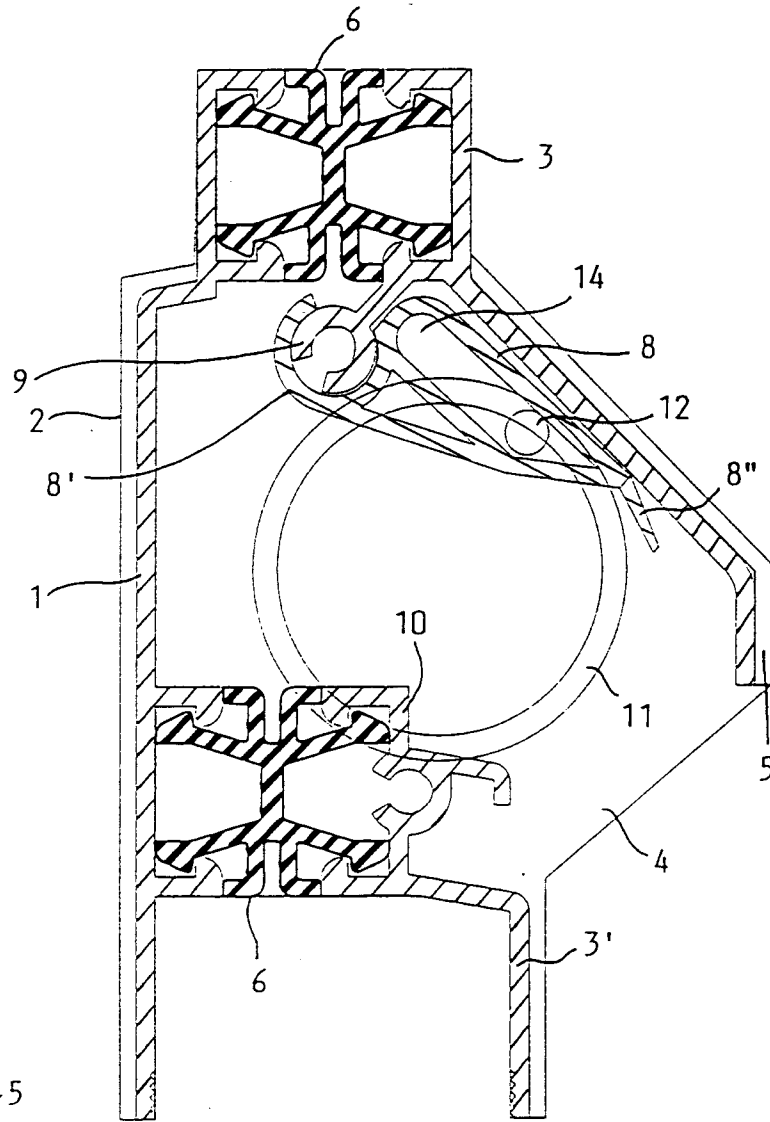


Fig.1

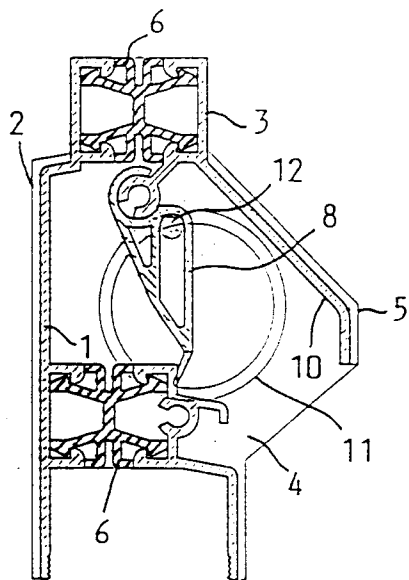
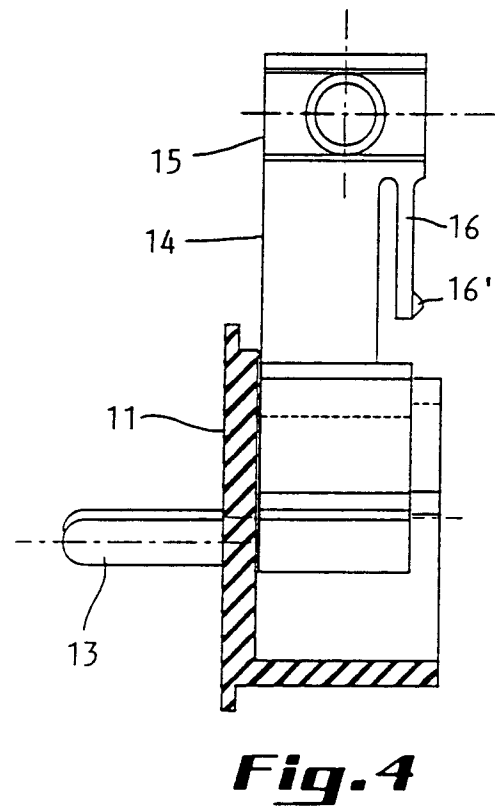
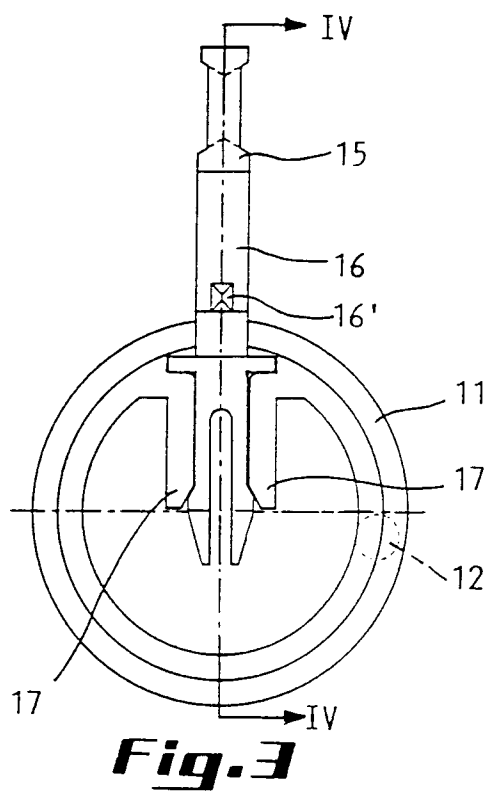
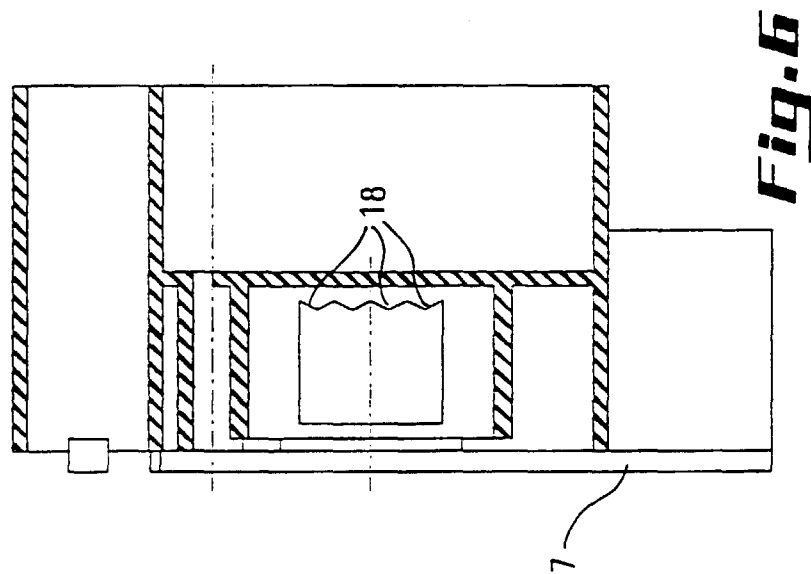
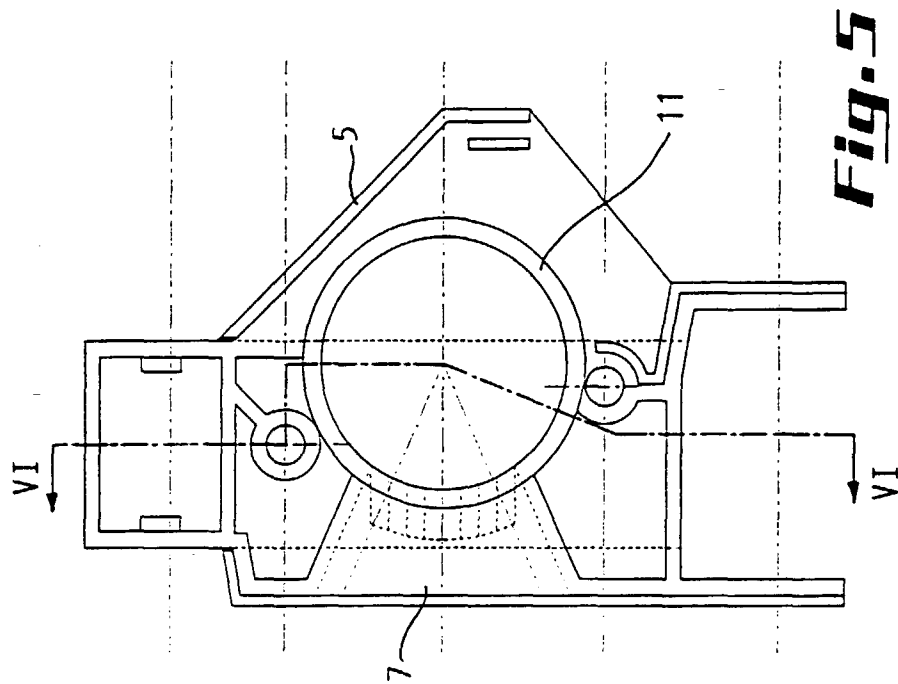


Fig.2







European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 20 4018

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP 0 236 557 A (SIEGENIA FRANK KG) 16 September 1987 * abstract; figures * ---	1	F24F13/14 F24F13/18
A	DE 32 03 711 A (OPEL ADAM AG) 11 August 1983 * figures * ---	1	
A	DE 92 01 465 U (SIEGENIA FRANK KG) 26 March 1992 -----		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6) F24F B60H
Place of search THE HAGUE		Date of completion of the search 7 May 1998	Examiner Gonzalez-Granda, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03 82 (P04C01)