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(54) **Device for generating a natural ventilation**

(57) The invention relates to a device to be attached onto a glazing profile, which enables the passage of air in order to generate a natural ventilation, comprising on the one hand a cap (5) covering an air inlet provided at one side (the exterior side) of the profile (1, 1'), and a

pivoting elongated valve (10) located at the other side (the interior side) of the profile, characterised in that both the cap (5) and the components (12) in which the pivoting valve (10) is mounted with both extremities onto the profile, are glued with an adhesive material.

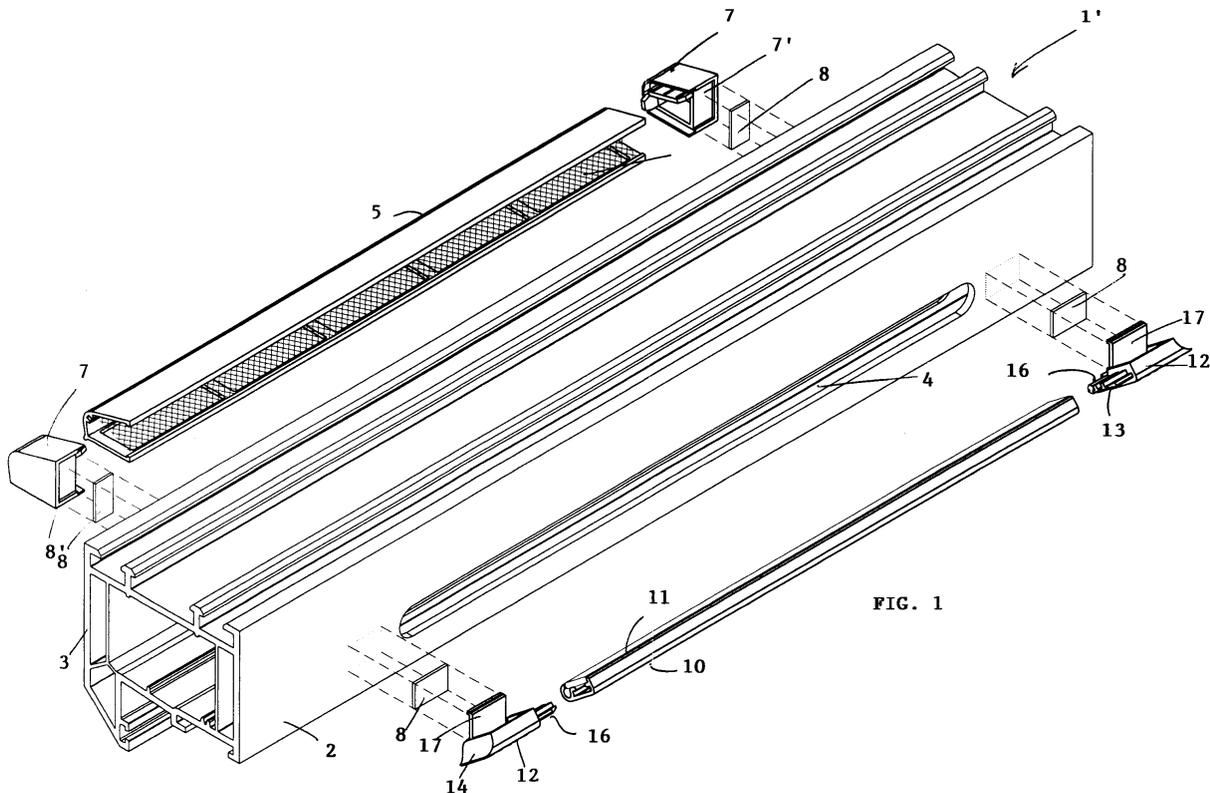


FIG. 1

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## Description

**[0001]** This invention relates to a device to be attached onto a glazing profile, which enables the passage of air in order to generate a natural ventilation, comprising on the one hand a cap covering an air inlet provided at one side (the exterior side) of the profile, and a pivoting elongated valve located at the other side (the interior side) of the profile.

**[0002]** It is the aim of the invention to prescribe a device, which thanks to its structure, can be attached to a profile containing a glazing panel, using means which have never been applied up to now. This profile can be both a hollow profile and a solid profile with air passage.

**[0003]** To make this possible according to the invention, both the cap and the components in which the pivoting valve is mounted with both extremities onto the profile, are glued with adhesive material.

**[0004]** Still according to the invention, above said adhesive material which keeps above said cap and above said components attached to above said profile, is a glue the specifications of which answer to the glue that is marketed by the Minnesota Mining & Manufacturing company under the name of V.H.B. and exists in the form of tapes or strips.

**[0005]** A remarkable feature of the invention resides in the fact that above said pivoting valve is mounted rotatably around a pin slid into a cylindrical recess provided in this component, by which the valve is connected and designed to be manipulated by an operator, and with the further characteristic that with said pin, and parallel to its geometrical axis, a plate is connected for receiving an adhesive material for attaching onto above said profile.

construction point of view, is the presence on above said component of a laterally protruding tongue, by which the connection with one extremity of the profile forming above said elongated valve is realised.

**[0006]** In order to allow an easy operation of the valve by means which are not subject to fracture, above said component shows along the extremity turned away from above said tongue, an extended portion intended to enable the operation of the pivoting valve, and extending substantially in line with said component.

**[0007]** Other advantages and characteristics of the invention will become evident from the following description of a device to be attached onto a hollow profile for generating a natural 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 figures attached hereto.

**[0008]** Figure 1 is a perspective representation of the device according to the invention, with exploded components.

**[0009]** Figure 2 is, on a larger scale, a similar view with part of the components left out.

**[0010]** Figures 3 and 4 are cross sections of two possible embodiments of the device according to the inven-

tion.

**[0011]** Figure 5 is a perspective representation on a larger scale of the component of the invention destined to be attached onto an extremity of the valve (shown in the dosed position).

**[0012]** Figure 6 is a same view as Figure 5, whereby the valve is shown in the open position.

**[0013]** Figure 7 is an analogous view as Figures 5 and 6, with exploded components.

**[0014]** The device according to the invention, and represented by the various figures, has been developed to ensure the ventilation through a frame profile. The characteristics of this profile, as these can be derived from its cross section, do not belong to the substance of the invention. By "profile" is meant both a solid profile 1, as is represented by figure 3, in which the passage of air is ensured by a passage provided in this profile, and a hollow profile 1', as represented by the figures 1, 2 and 4. The profile described hereinafter is a profile of the type according to these figures.

**[0015]** On each of both the interior and the exterior side 2, respectively 3, of the profile 1' a slot 4, respectively 4' is milled. The slot 4' is covered by a cap 5, with internal grid 6 against insects. In the case of a profile 1 (figure 3), the air circulates through the passage 9. Each extremity of the cap 5 fits into a housing 7 which is glued to the external side 3 of the profile 1. In order to make a permanent and safe attachment of this housing possible, and this is an essential feature of the invention, an adhesive material is used with excellent and surprising characteristics.

**[0016]** The adhesive material applied here, is a plastic foam based on acrylic resins and is used in the form of strips 8. A material that is most suitable for this, is manufactured by Minnesota Mining & Manufacturing Co. under the name of V.H.B. The strips 8 resist large temperature differences, i.e. from -30 to 90 °C with peaks to 150 °C.

**[0017]** The strips 8 show a thickness which is decisive for the depth of the rectangular recesses 7' (figure 1) which are located in the side of the housing 7 directed toward the exterior side of the profile 1 or 1'.

**[0018]** Along the interior side 2 of the profiles 1 or 1' a valve 10 is provided. The valve consists of an elongated profile 10 that is internally covered by a strip 11 of foam plastic, by which in the dosed position of the valve, the sealing is perfectly ensured.

**[0019]** Up to now, such valves were operated by small levers which were moved in a plane that extends vertically with respect to the pivot axis of the valve. This made these levers very vulnerable.

**[0020]** A very remarkable structure of the pivoting extremities of these valves now solves this problem by using technically simple and reliable means.

**[0021]** In both extremities of the profile 10, a component 12 is slid. This component shows a tongue 13, which is profiled to be pushed and remain clamped between the wings 10' of the profile 10. At the other ex-

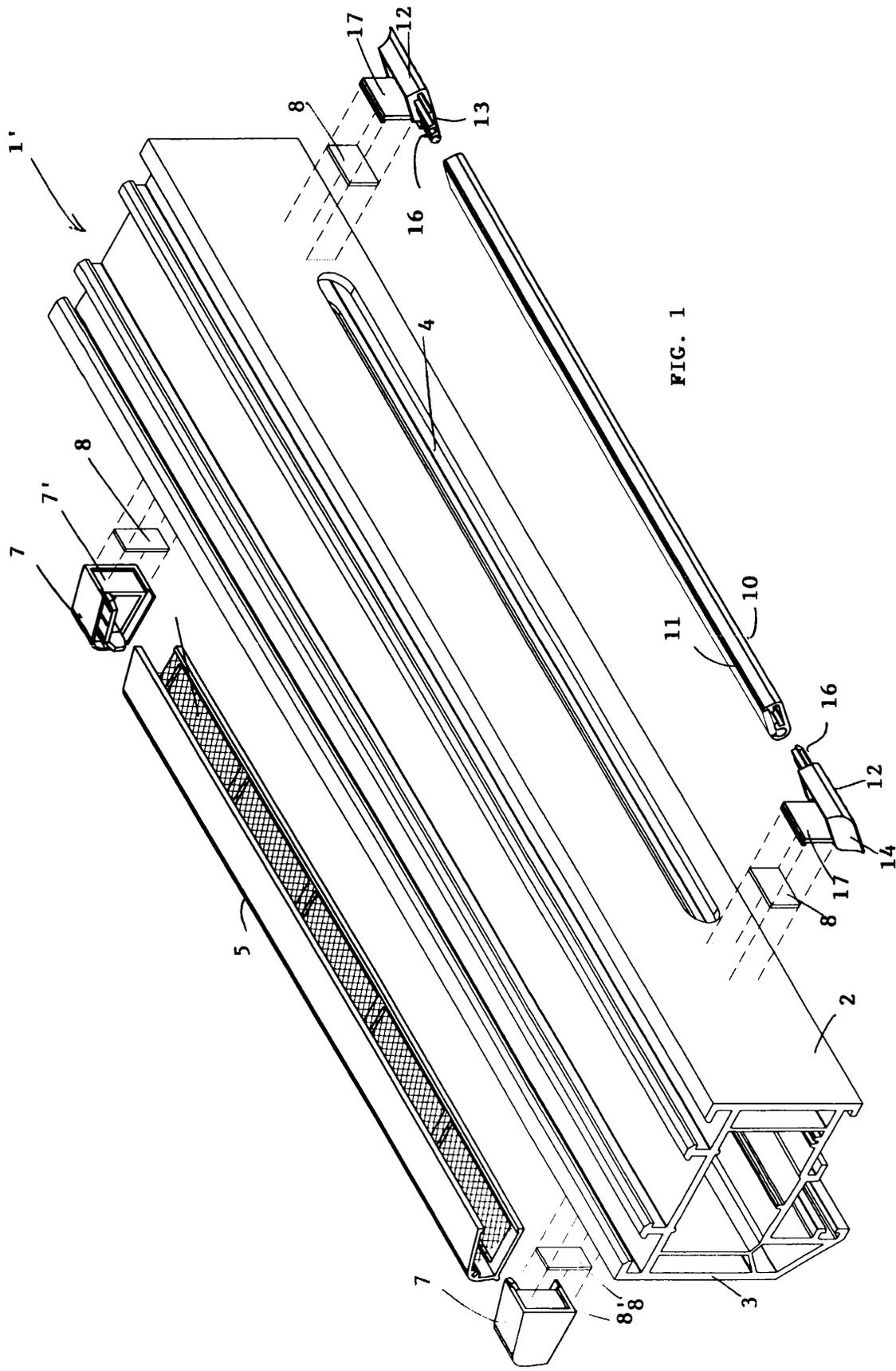
tremity of the component 12, this component is provided with an extended portion 14, destined to be manipulated by the operator of the valve. This extended portion thus replaces the small levers used up to now.

**[0022]** In the component 12, an elongated recess 15 is provided (figure 7) for receiving the pin 16 onto which the plate 17 is attached, or forms a whole with the latter. The plate 17 is attached to the interior side 2 of the profiles 1 or 1' also by using here, as has been already described earlier, an adhesive material that exists in the form of a strip of foam rubber (figures 1 and 2), which is saturated by the adhesive agent also described above. The thickness of the adhesive material is of course substantially equal to the calculated depth between the lips 17' and the plate 17. Upon the connection of the component 12 with the elongated profile 10 of the valve, the free extremity of the pin 1 is slid into a specially provided and accurately calibrated cylindrical recess 10" of the profile 10 (Figure 2).

**[0023]** By making use of the adhesive material which is commercialised under the name of V.H.B. by the Minnesota Mining & Manufacturing Co. and by providing this adhesive material such as described above in a housing 7 or in a component with the characteristics of the component 12, a durable connection with the glazing profile 1 is formed. However, it is dear that components with a modified structure could be called upon, provided that they fall within the frame of the conclusions attached hereto.

### Claims

1. Device to be attached onto a glazing profile, which enables the passage of air in order to generate a natural ventilation, comprising on the one hand a cap (5) covering an air inlet provided at one side (the exterior side) of the profile (1, 1'), and a pivoting elongated valve (10) located at the other side (the interior side) of the profile, characterised in that both the cap (5) and the components (12) in which the pivoting valve (10) is mounted with both extremities onto the profile, are glued with an adhesive material.
2. Device according to claim 1, characterised in that the adhesive material which keeps above said cap (5) and above said components attached to above said profile (1, 1'), is a glue the specifications of which answer to the glue marketed by the Minnesota Mining & Manufacturing Company under the name of V.H.B. and exists in the form of tapes or strips.
3. Device according to any one of the claims 1 and 2, characterised in that above said pivoting valve (10) is mounted rotatably around a pin (16) slid into a cylindrical recess provided in this component, by which the valve (10) is connected, and designed to be manipulated by an operator, and with the further characteristic that with said pin (16), and parallel to its geometrical axis, a plate (17) is connected for receiving an adhesive material for attaching onto above said profile.
4. Device according to claim 3, characterised in that above said adhesive material exists in the form of strips (8) that carry a glue as determined in claim 2.
5. Device according to any one of claims 3 and 4, characterised in that above said component (12) shows a laterally protruding tongue (13), by which the connection with one extremity of the profile forming above said elongated valve (10) is realised.
6. Device according to claim 5, characterised in that above said elongated valve (10) consists of a profile, which according to a cross section shows the required means for receiving above said tongue (13) on the one hand, and a strip of cushioning material (11) on the other hand, for ensuring the required sealing when the valve (10) is pushed in the closed position against above said profile.
7. Device according to any one of claims 5 and 6, characterised in that above said component (12), at the extremity which is turned away from above said tongue (13), shows an extended portion (14) intended to enable the operation of the pivoting valve, and extends substantially in line with said component.



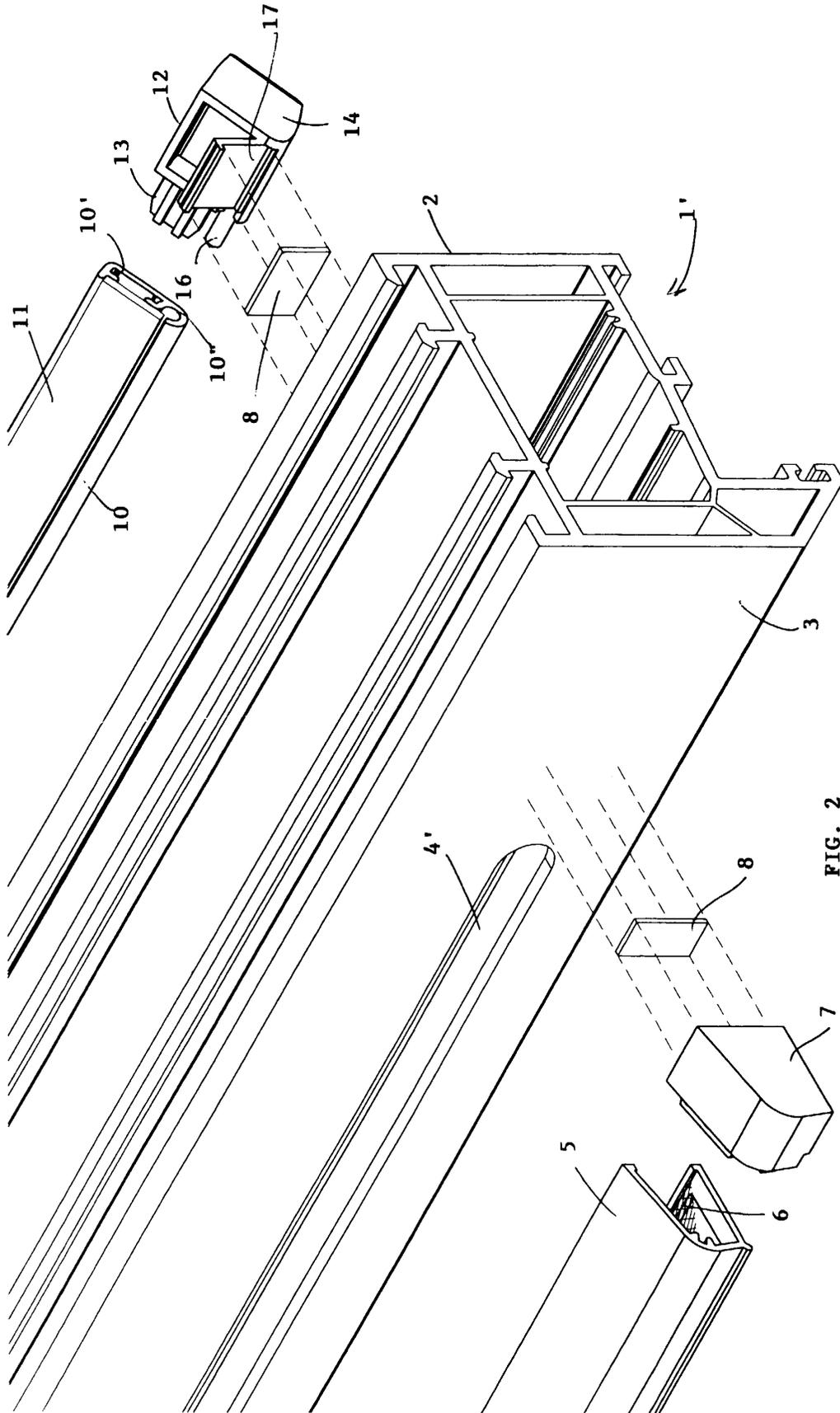
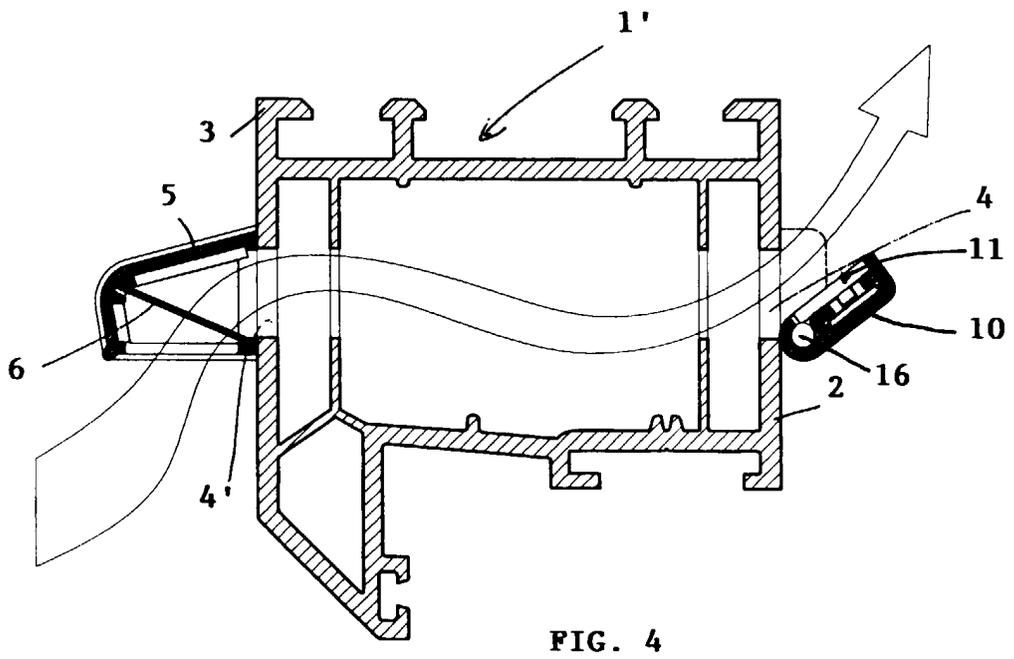
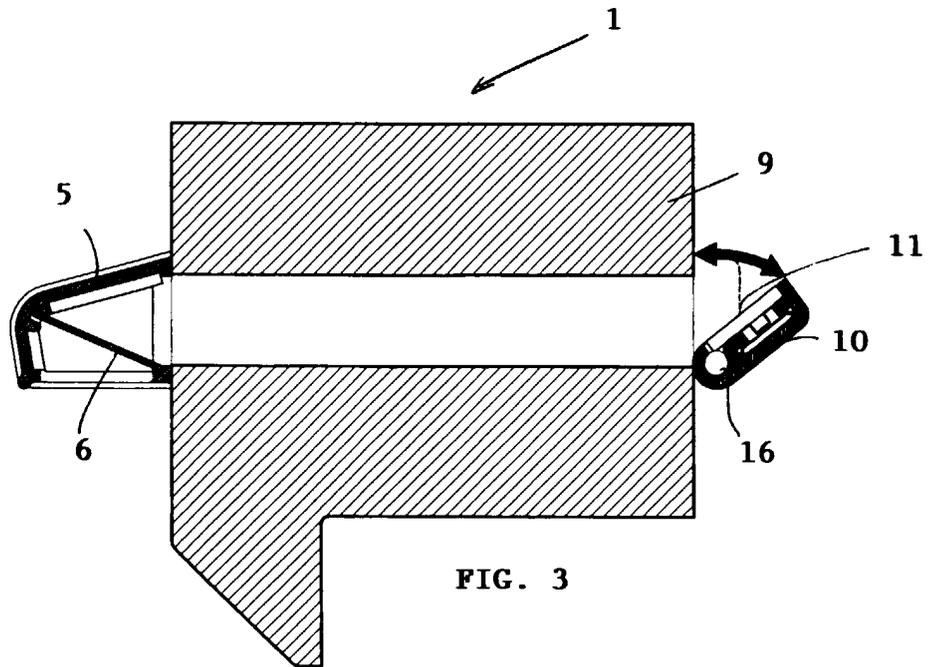


FIG. 2



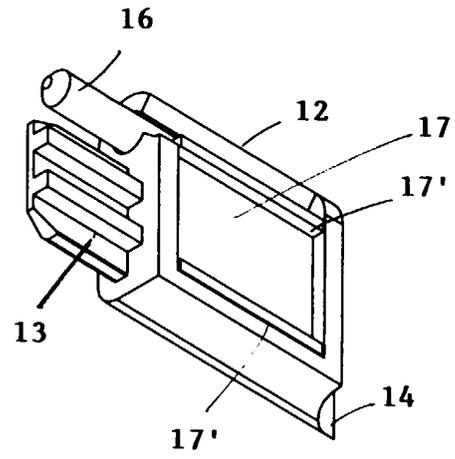


FIG. 5

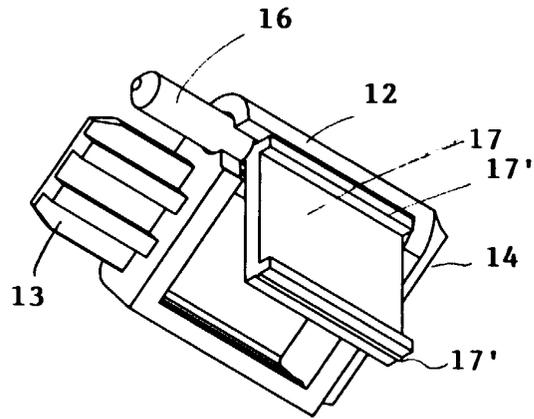


FIG. 6

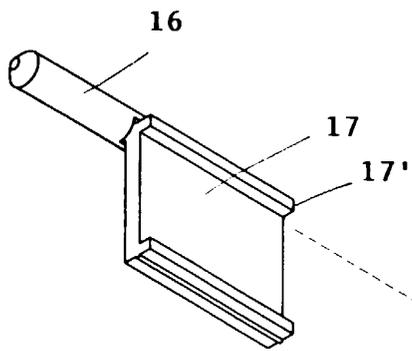
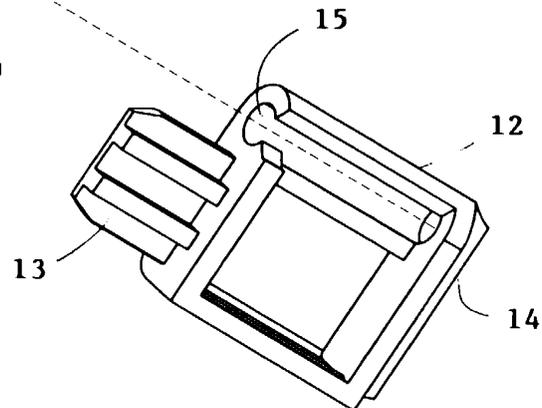


FIG. 7





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EUROPEAN SEARCH REPORT

Application Number  
EP 99 87 0032

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)
Y A	GB 2 241 572 A (GLIDEVALE BUILDING PROD) 4 September 1991 * page 5, last paragraph - page 6, paragraph 1 * * page 10, line 10 - page 11, line 12 * * figures 1,2,8 * ---	1  3,6,7	E06B7/10 F24F13/18
Y	GB 2 224 826 A (TITON HARDWARE) 16 May 1990 * page 7, last paragraph * * figure 1 * ---	1	
A	GB 2 194 328 A (HARDWARE & SYSTEMS PATENTS LTD) 2 March 1988 * page 2, line 76 - line 118 * * page 4, line 31 - line 36 * * figures * -----	1,3,5,6	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			E06B F24F
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>19 July 1999</b>	Examiner <b>Verdonck, B</b>
CATEGORY OF CITED DOCUMENTS		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	
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 99 87 0032

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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19-07-1999

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82