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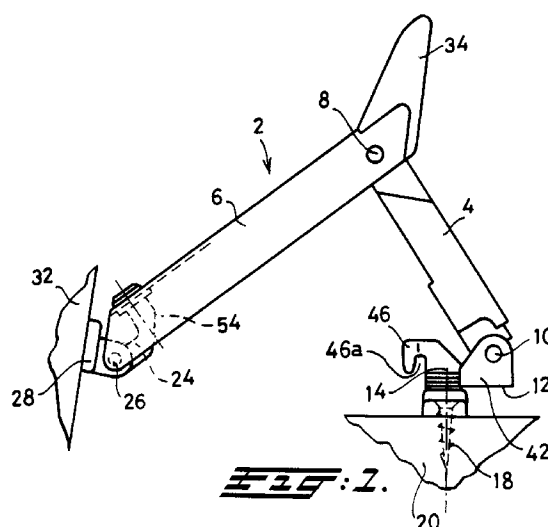
(71) Applicant : **STENMAN HOLLAND B.V.**
Energiestraat 2 P.O. Box 47
NL-3903 AV Veenendaal (NL)

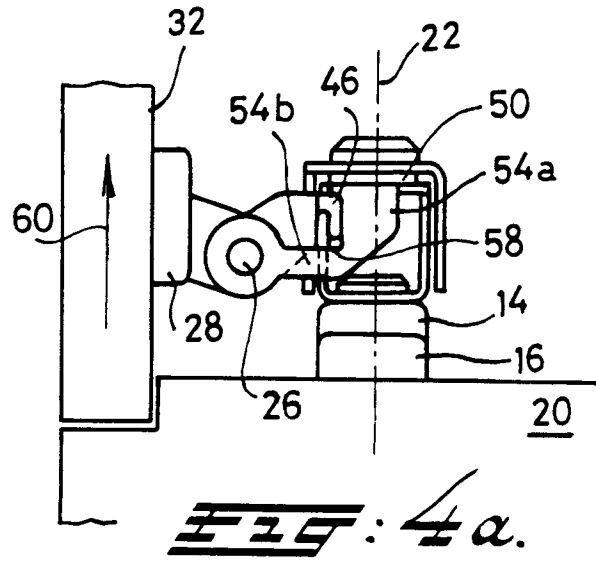
(72) Inventor : **Gussinklo, Paul Gerhard**
6, Sterappel
NL-6922 BA Duiven (NL)

(74) Representative : **Timmers, Cornelis Herman**
Johannes et al
EXTERPATENT B.V. P.O. Box 3241
NL-2280 GE Rijswijk (NL)

(54) **Window stay.**

(57) Window stay with two arms (4,6) hinged thereto, the first of which lies inside the second when folded up, and in which each arm is hinged to a coupling part (12,24), the first coupling part (12) being provided with a locking hook (46) which projects inwards and interacts with a take-up opening in the wall (54) of the second coupling part (24), while a slit (46a) is formed in the locking hook (46), extending from the bottom edge towards the top edge thereof, and interacting with a leg (54b) of the second coupling part (54).





The invention relates to a window stay, comprising a first arm and a second arm hinged thereto by means of a first axis placed at right angles to the lengthwise direction thereof, of which arms the first one lies, in the folded-up position inside the second one, the first arm being connected, by means of a second axis running parallel to the first axis, to a first coupling part which is supported by a first fixing part by means of a first transverse axis lying at right angles to the first and second axis, while the second arm, by means of a second transverse axis, is connected to a second coupling part which, by means of a third hinge axis running parallel to the first and second axis, is connected to the second fixing part, and the first coupling part is provided with a locking hook which projects inwards from a side face thereof and interacts with a take-up opening in the wall of the second coupling part lying opposite the window stay when it is folded up, all this in such a way that, in the position in which the folded-up window stay is turned against the window, the hook is enclosed by the edge of the take-up opening.

Such a window stay is known per se from European Patent 0,277,375 in the name of applicant. This window stay is already a considerable improvement on the classic window stay which in the folded-up position can be moved into a position parallel to the window, this being due to the presence of the locking hook which in the turned-away position, in which the window stay is parallel to the window frame, makes it difficult to force the window stay.

This does not alter the fact that, if extremely great forces are exerted on the window frame, for example using a crowbar, the stay can be forced, through the locking hook being bent over. The situation can then occur that the window can still be opened.

The object of the invention is to overcome this drawback, and the invention makes this possible by an extremely simple measure which does not make the design more complex or more expensive. According to the invention, a slit is formed in the locking hook, running from the bottom edge towards the top edge thereof, which slit, in the folded-up position of the window stay when it is turned against the window, lies opposite the leg of the second coupling part through which the third hinge axis passes.

If this second coupling part connected to the window is pressed upwards when the window is being forced, said coupling part comes to lie in the slit, as a result of which the window stay remains locked.

If a great outward-directed force is exerted on the window, the top side of the outside-lying arm will bend out, and the coupling part connected thereto will then also come to lie in the slit, thereby bringing about a permanent locking. Bending of the hook will do nothing to alter this.

The invention is explained with reference to the drawing.

Figure 1 is a first side view of the window stay according to the invention in the semi-extended position;

Figure 2 is a second side view of the window stay in this position, viewed from the other side;

Figure 3 is a side view of the ends of the arms in the folded-up position of the window stay;

Figure 4a is an end view of the window stay in the folded-up and turned-away position;

Figures 4b and 4c are corresponding end views with the parts in the position which they assume when an attempt is made to force the window;

Figure 5 is a perspective top view of the first coupling part with the locking hook according to the invention.

The window stay according to the invention, indicated in its entirety in the figures by the reference numeral 2, comprises in the usual way a first arm 4 and a second arm 6, which are hinged to each other by means of a first axis 8 positioned at right angles to the lengthwise direction of the arms. The first arm 4 is hinged, by means of a second axis 10 running parallel to the first axis 8, to a first coupling part 12; this coupling part is supported, about a first transverse axis 14 which lies at right angles to the first and second axis (and which in practice will thus be vertical), by a first fixing part 16 fixed by means of screws 18 on the fixed frame 20.

The second arm 6 is coupled, by means of a second hinge axis 22 lying at right angles to the axes 8 and 10, to a second coupling part 24, which is coupled by means of a hinge axis 26 parallel to the axes 8 and 10, in practice thus horizontal, to a second fixing part 28, which is fixed by means of screws 30 on the window frame 32.

The second arm bears the control handle 34, with which the window stay can be moved into the closed, half-open and open position.

The window stay can be moved into the folded-up position, in which the arm 4 lies inside the arm 6, and subsequently, by turning about the two then vertical axes 14 and 22 lying in line with each other, can be moved into the position shown in Figure 4, in which the window stay is parallel to the window, and thus does not form an irksome obstacle projecting into the room.

The essentially U-shaped first coupling part 12 is composed (see in particular Figure 5) of the bottom 40 and the two vertical walls 42 and 44 projecting therefrom. The wall 44 is composed of the two parts 44a and 44b which merge into each other, and of which the part 44b bears a locking lip 46 turned inwards through about 60°. The wall 42 is partially cut away. The second coupling part 24 (see Figure 3 and Figures 4a - 4b) is also essentially U-shaped, with a bottom 50 from which a first end wall 52 and a second L-shaped end wall, which is made up of the parts 54a, 54b, project. Thus, when the window stay is turned

into the position shown in Figures 4a - 4c, the hook 46 falls behind the leg 54a, with the result that the window stay is locked in the closed position.

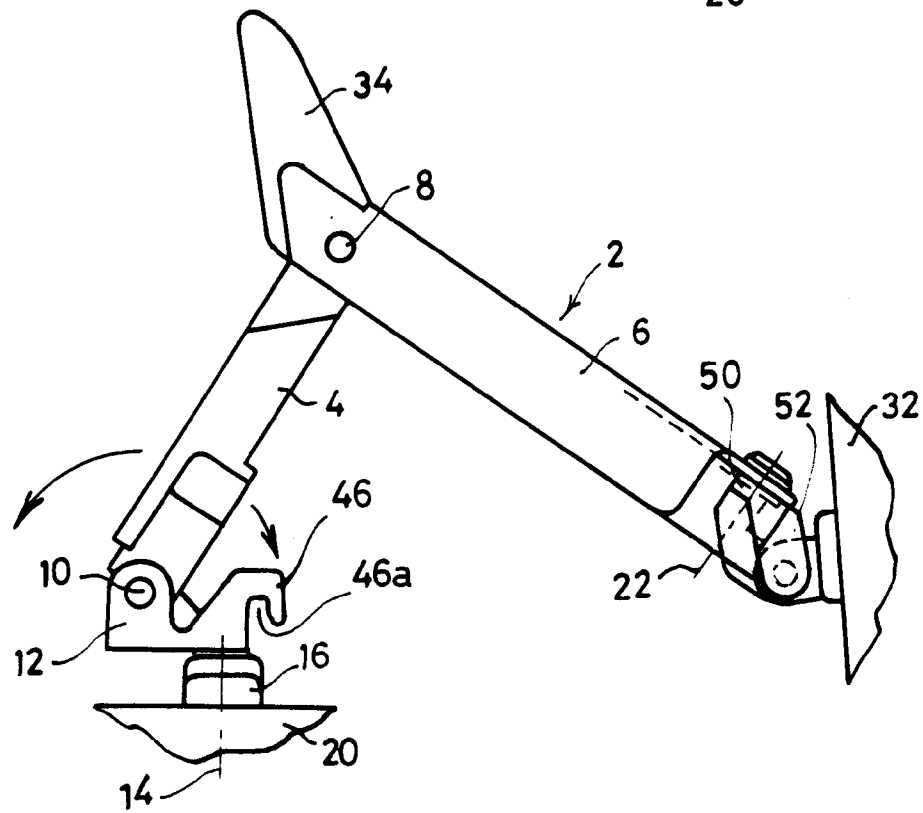
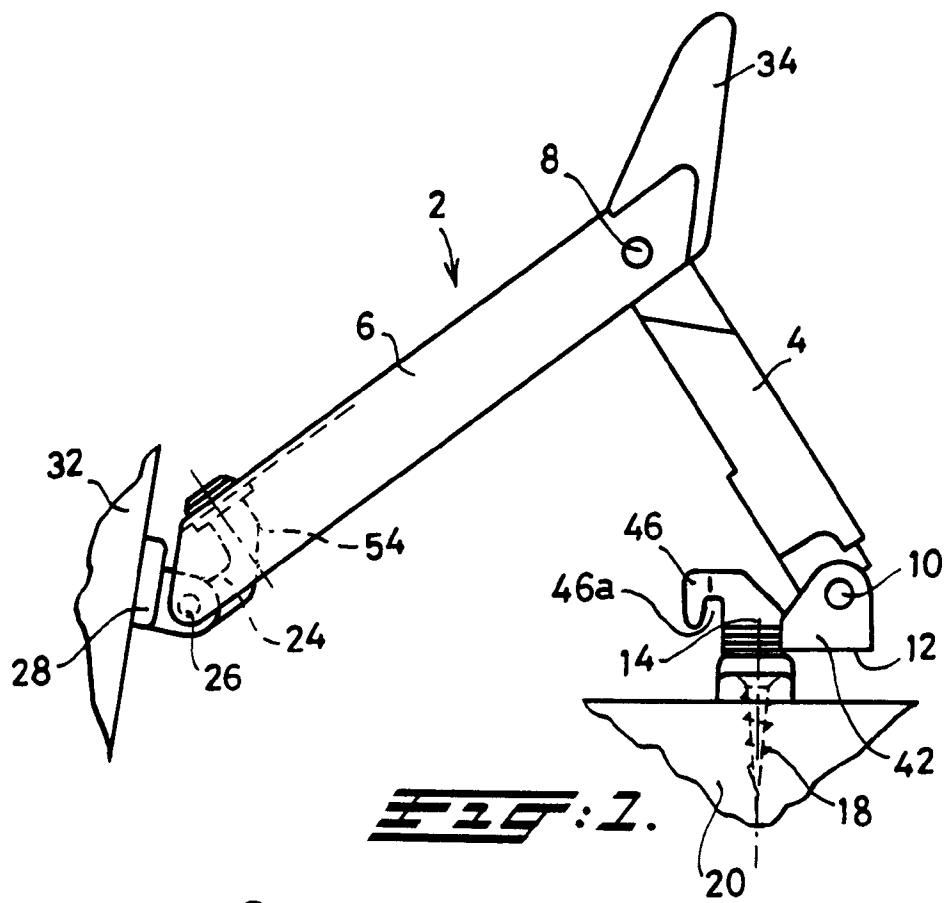
Thus far the window stay according to the invention corresponds to that which is known per se from European Patent 0,277,375 in the name of applicants.

According to the invention, in order to make this window stay even more resistant to forcing, a recess 46a is formed in the locking lip 46. When the window stay is folded-up and turned away, this recess lies opposite the top edge 58 of the leg 54b of the coupling part 24, as shown in end view in Figures 4a - 4c. A burglar trying to force the window stay by placing a crowbar between the bottom edge of the window frame 32 and the fixed frame 20, and thereby exerting a force in the direction of the arrow 60a will press the window frame 32 with the fixing part 28 - and thus the hinge axis 26 and the second coupling part 24 - upwards, so that the position shown in Figure 4b, in which the leg 54b lies in the recess 46a, arises. In virtually all cases this forcing is accompanied by the exertion of a horizontally directed force on the window frame 32 (in the direction of the arrow 60b), and this produces the situation shown in Figure 4c, in which the locking hook is bent away; even then the window stay can still not be moved into the release position, because the first coupling part 12 and the second coupling part 24 always remain coupled to each other through the leg 54b falling into the recess 46a.

of the take-up opening, **characterised in that** a slit (46a) is formed in the locking hook (46), extending from the bottom edge towards the top edge thereof, which slit, in the folded-up position of the window stay when it is turned against the window, lies opposite the leg (54b) of the second coupling part (54) through which the third hinge axis (26) passes.

Claims

1. Window stay, comprising a first arm (4) and a second arm (6) hinged thereto by means of a first axis (8) placed at right angles to the lengthwise direction thereof, of which arms the first one lies, in the folded-up position inside the second one, the first arm (4) being connected, by means of a second axis (10) running parallel to the first axis (8), to a first coupling part (12) which is supported by a first fixing part (16) by means of a first transverse axis (14) lying at right angles to the first and second axis, while the second arm (16), by means of a second transverse axis (22), is connected to a second coupling part (24) which, by means of a third hinge axis (26) running parallel to the first and second axis, is connected to the second fixing part (28), and the first coupling part (12) is provided with a locking hook (46) which projects inwards from a side face (44) thereof and interacts with a take-up opening (56) in the wall (54) of the second coupling part (24) lying opposite the window stay when it is folded up, all this in such a way that, in the position in which the folded-up window stay is turned against the window, the hook (46) is enclosed by the edge (58)



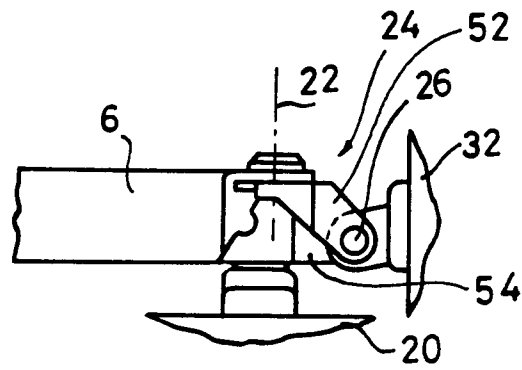


FIG. 3.

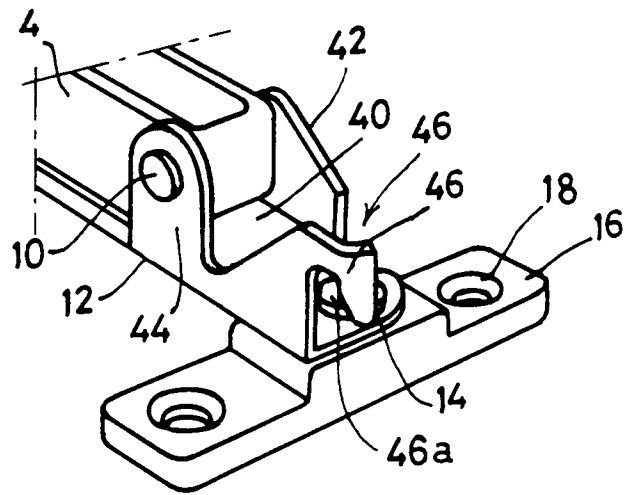
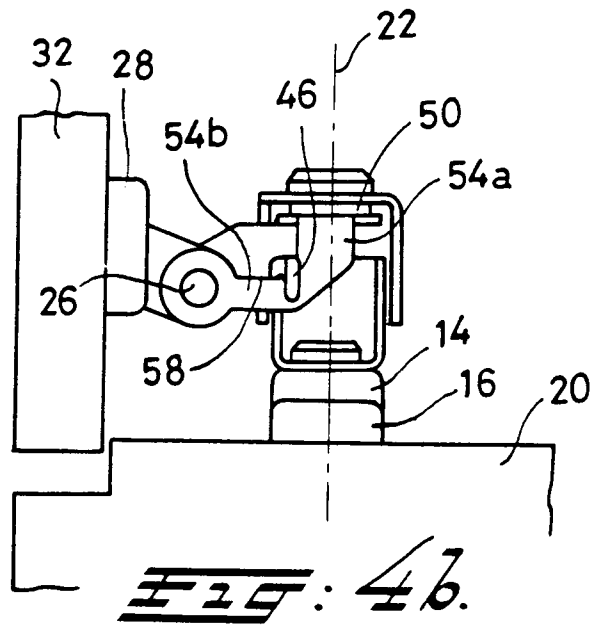
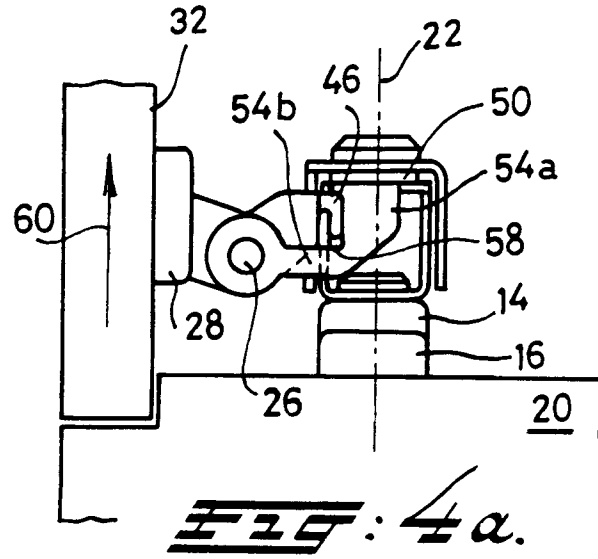
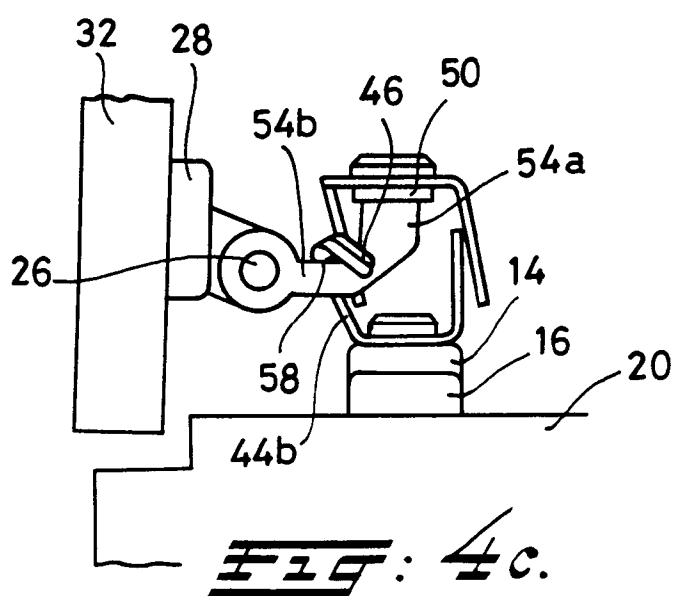


FIG. 5.







European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 93 20 0542

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.5)
D,A	EP-A-0 277 375 (STENMAN HOLLAND B.V.) * the whole document * -----	1	E05C17/32
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E05B E05C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 MAY 1993	Examiner VESTIN K.
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