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(54)

Window stay.

(57)

Window stay with a first (4) and a second (6) arm, hingedly interconnected, around an axis (8) the first arm (4) lying in the collapsed state of the stay within the second arm (6), with locking means (40a, 40b, 46) arranged around said axis (8) for defining at least one intermediate position of the arms.

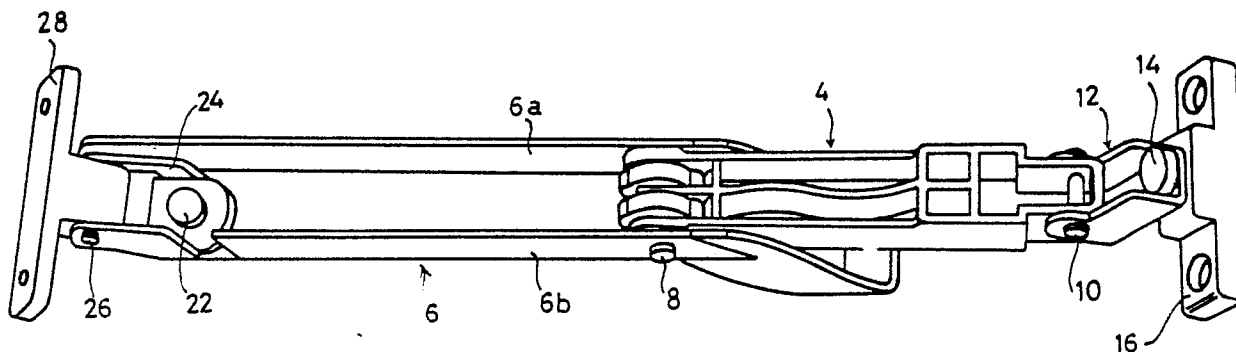


FIG. 2.

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Window stay.

The invention relates to a window stay of the type described in the preamble of Claim 1.

The object of the invention is to improve such a window stay - which is known per se from, for example, British Patent 803,999, which, in the collapsed state, projects from the frame horizontally into the room, and from Dutch Patent Specification 133,703 - of which the arms in the collapsed state can be swung aside into a position parallel to the window frame - in such a way that in this improved stay in at least one intermediate position thereof (ventilation position) the two window stay arms are fixed positively relative to each other, so that the window, operated with this window stay, has in this state a stable position.

This object is achieved with the measures described in the main claim.

Preferred embodiments are described in the subclaims.

It is observed that FR-A-2,377,508 describes a mechanism for limiting the angle of opening and determining an intermediate position of a car door with two hingedly interconnected arms of which one extends into a profiled part, a cut-out of this part co-operating with a spring-loaded locking counter part.

The invention is explained with reference to the drawing.

Fig. 1 is a perspective view of the window stay in the half extended position.

Fig. 2 is a bottom view of said window stay in the fully extended position.

Fig. 3 is a top view of the second arm of the window stay, with the flat spring leaf disposed therein.

Fig. 4 is a side view of the spring leaf end.

Fig. 5 is an end view of the handle with the locking discs formed thereon.

Fig. 6 is a side view of said handle with locking disc.

Figs. 7a-7c show various positions of the locking discs relative to the locking element.

The window stay according to the invention, indicated in its entirety in the figures by the reference number 2, comprises in the usual manner a first arm 4 and a second arm 6, which are hingedly connected to each other via a first pin 8 disposed at right angles to the lengthwise direction of the arms. The first arm 4 is hingedly connected via a second pin 10 parallel to the first pin 8, to a first coupling element 12; said coupling element is supported around a first cross pin 14 which is at right angles to the first and second pins (and which will thus in practice be standing vertically) by a first fixing component 16, which is fixed with screws 18

on the frame 20.

The second arm 6 is connected, by means of a second hinge pin 22 which is at right angles to the pins 8 and 10, to a second coupling element 24, which is coupled by means of a hinge pin 26 which is parallel to the pins 8 and 10 (and which is thus in practice horizontal), to a second fixing component 28, which is fixed on the frame 32 with screws 30.

The second arm carries the operating handle 34 with which the window stay can be taken to the closed, half open and open position.

Up to this point the window stay according to the invention corresponds to the one which is known from, for example, Dutch Patent Specification 133,703 and German Patent Specification 1,708,425 both in the name of applicant. The window stay can be brought into the collapsed position, in which the arm 4 lies within the arm 6 and then, by turning about the pins 14 and 22, taken both vertical and lying in line with one another, to the position in which the window stay is parallel to the window and thus does not constitute a cumbersome obstacle protruding into the room.

This known window stay is improved according to the invention in that provision is made for fixing means which fix the arms of the window stay relative to each other in certain extended positions, which means in particular that it is possible to place the window stable in a slightly open position: the "ventilation position".

For this, the base 36 of the handle 34 extends into two locking discs 40a, 40b, which are the same shape and are disposed away from each other inside the second arm 6, and which have an approximately circular external circumference 42 from which the lobes 44, 46 and 48 project. On either side of the locking parts 40a, 40b are the side lips 50a, 50b of the handle 34, and they are enclosed by the upright sides 6a, 6b of the arm 6.

Each of the discs 40a, 40b has on the outside a round recess 41a, 41b, each accommodating a corresponding projection 43a, 43b, formed at the respective ends of the upright sides 45a, 45b of the first arm 4.

The upright sides 4a, 4b of the slightly narrowed end of the arm 4 fit into the space between the lip 50a and the locking disc 40a and the lip 50b and the locking disc 40b respectively. Into the space between the locking discs 40a and 40b fits one end 52 of a corrugated spring part 54 which is integral with the arm 4 and at the end facing away from the handle 34 goes out from the cross component 56 connecting the arm side walls 4a, 4b. Formed in this end 52 is a slotted hole 58, through

which the pin 8 passes, in such a way that the end of the leaf spring has freedom of movement in the lengthwise direction thereof. Projecting on either side of the leaf spring 54 is a locking lobe 60 which stands transversely to the plane thereof, and which mates with the external periphery 42 of the locking discs 40a, 40b as follows:

In the fully collapsed position of the window stay, shown in Fig. 7a, the lobe 60 rests against the top side of the lobe 44, thus at the same side as the handle base 36. The window stay is thus fixed in the closed position. When extended, the lobe 60 is pressed by the lobe 44 against the action of the spring in the direction of the arrow 62 and then goes into the position shown in Fig. 7b, in which the lobe 60 is resting against the lobes 44 and 46. This position is the "ventilation position", and the window stay is also fixed in this position. On further extension of the window stay, the parts finally go into the position shown in Fig. 7c: this is the fully extended position of the stay, and the arms are also fixed relative to each other in this position.

It is pointed out that many variants are possible within the scope of the invention. For example, another spring can be used instead of a leaf-type one, or two parallel springs can be used. The number of fixing positions can also be different from what is described above.

Claims

1. Window stay, comprising two arms (4, 6) which are hingedly connected to each other by via an axis (8) disposed at right angles to the longitudinal direction thereof, one arm (4) in the collapsed position of the window stay lying inside the other arm (6), and each of them via a second (10) or third (26) axis, which is parallel to the first axis (8), being connected to a fixing component (16, 28), characterized in that disposed around the axis (8) is a locking element (40a, 40b) fixedly connected to one of the arms (6), and in that the other arm (4) is connected to a locking counter part (46) mating with said locking element and being under spring tension in the lengthwise direction of the arm (4) towards said locking element, in such a way that at least one fixed intermediate position of the stay arms is obtained.

2. Window stay according to Claim 1, characterized in that the external face (42) of the locking element (40a, 40b) is provided with at least one recess, mating with an end of the locking counter part fitting therein and being under spring tension.

3. Window stay according to Claim 1, characterized in that the external face of the locking element is provided with at least one pro-

jection, mating with an end of the locking counter part fitting around it and being under spring tension.

4. Window stay according to Claim 1-3, characterized in that the locking counter part (46) and the part (54) producing the spring tension are accommodated in the first arm (4) which in the collapsed position of the window stay lies inside the second arm (6) fixedly connected to the locking element.

5. Window stay according to Claim 4, characterized in that the part producing the spring tension is formed by a corrugated leaf spring (54) running in the lengthwise direction of the arm (4), said leaf spring (54) bearing at one end a locking counter part (60) projecting therefrom on either side.

6. Window stay according to Claim 5, characterized in that the first arm (4) with the leaf spring (54) therein and the locking counter part are integral and made of plastic.

7. Window stay according to Claims 5-6, characterized in that the locking element (40a, 40b) fixed to the second arm (6) and an operating handle (34) connected thereto are integral and made of plastics.

8. Window stay according to Claims 5-7, characterized in that the locking element (40a, 40b) is provided with an essentially cylindrical external face (49) which mates with the locking counter part, and from which project first and second locking lobes (44, 46), lying near each other and mutually determining an interim position of the window stay.

9. Window stay according to Claims 5-8, characterized in that the locking element is provided with a third locking lobe (48) defining the extended position of the window stay, while the first lobe (44) also defines the closed position of the window stay.

10. Window stay according to Claim 5-9, characterized in that the locking element is formed by two parallel discs (40a, 40b) projecting from the handle base (36), said discs together enclosing an end (52) of the leaf spring which projects beyond the locking counter part (60) and is movable in the lengthwise direction.

11. Window stay according to Claim 10, characterized by chambers (50a, 50b) formed in the outside walls of the respective discs, to take up corresponding projections projecting from the inside walls (6a, 6b) of the first arm (4).

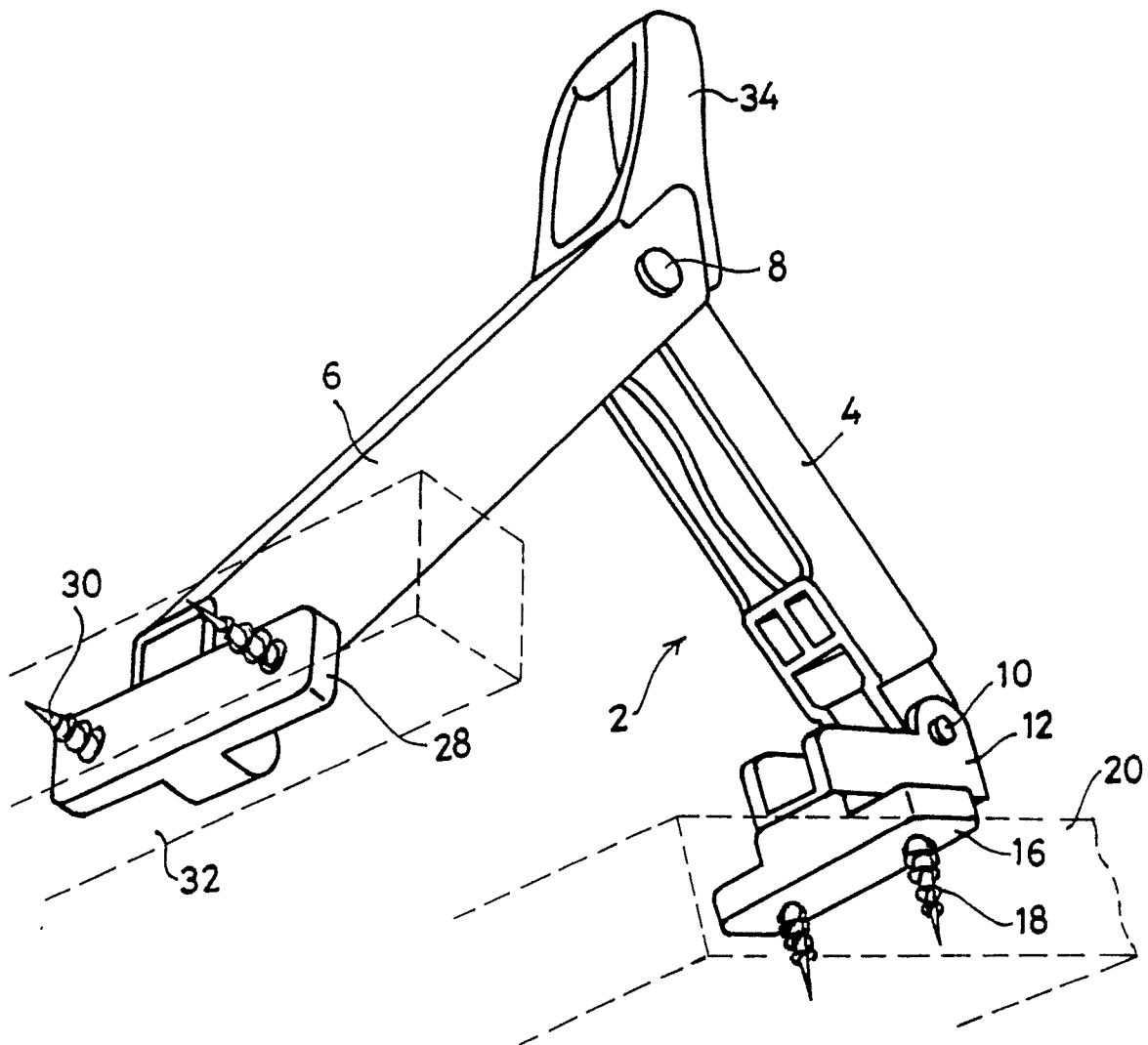


FIG. 1.

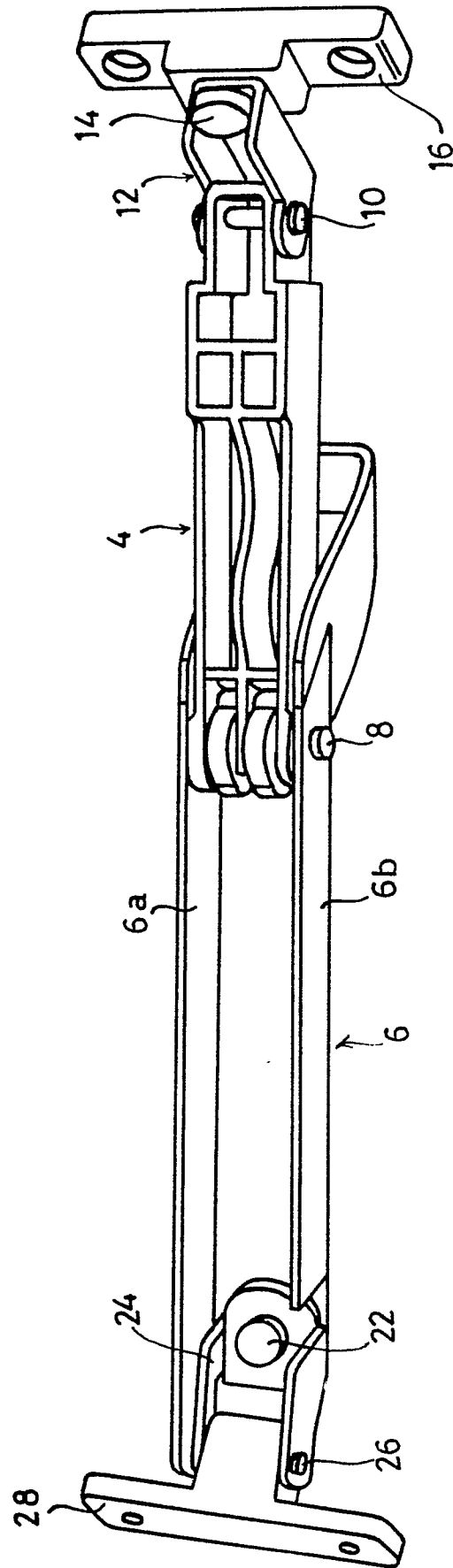
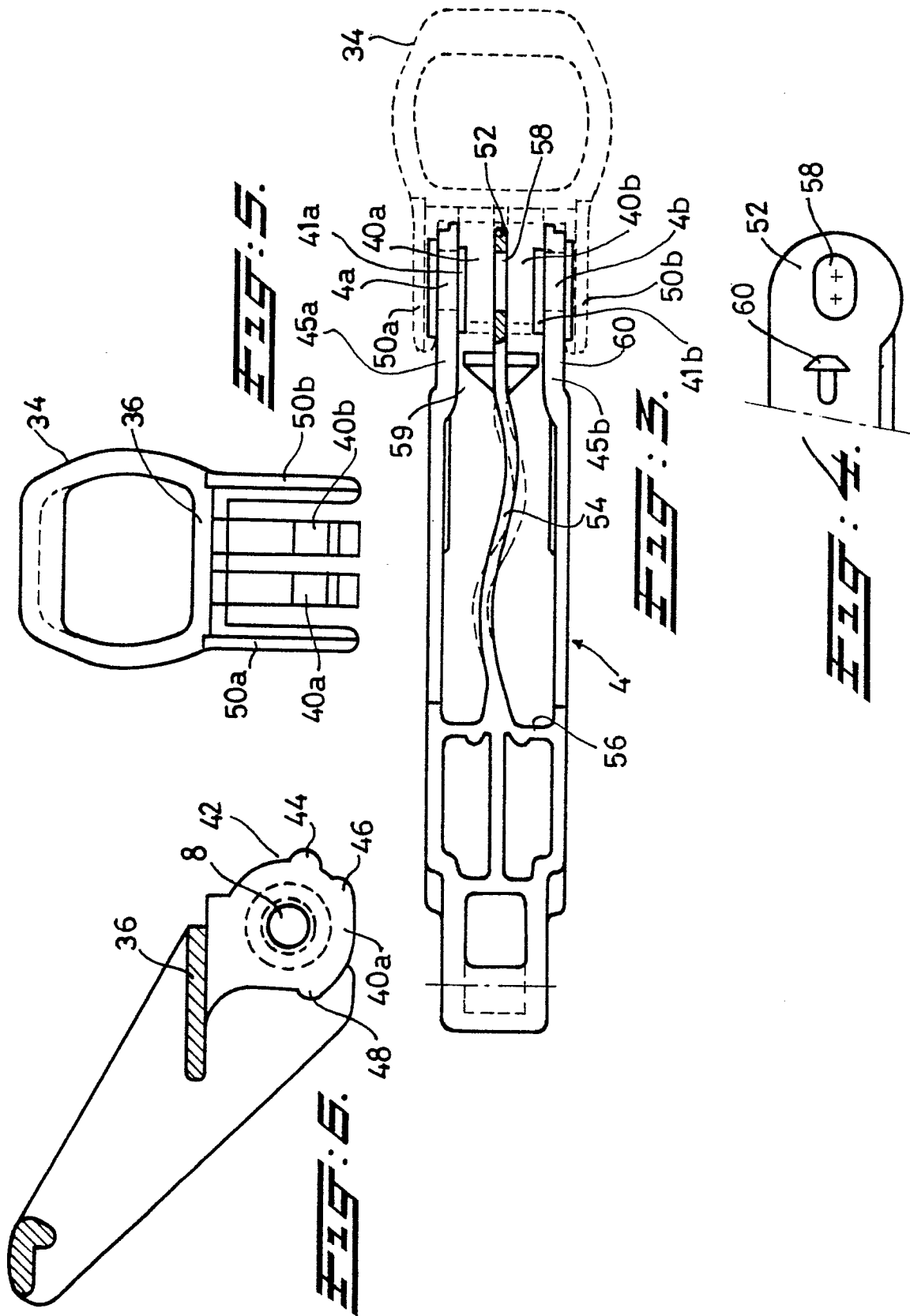


Fig. 2.



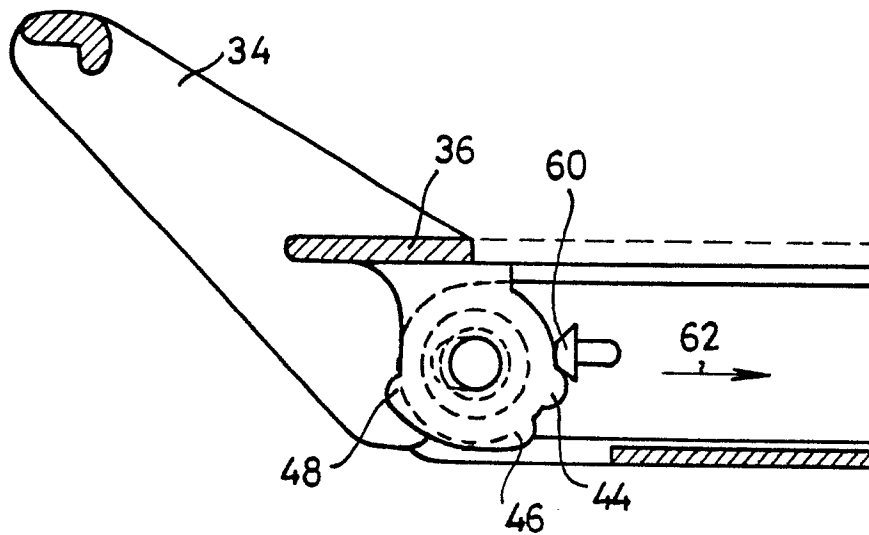


FIG. 7a.

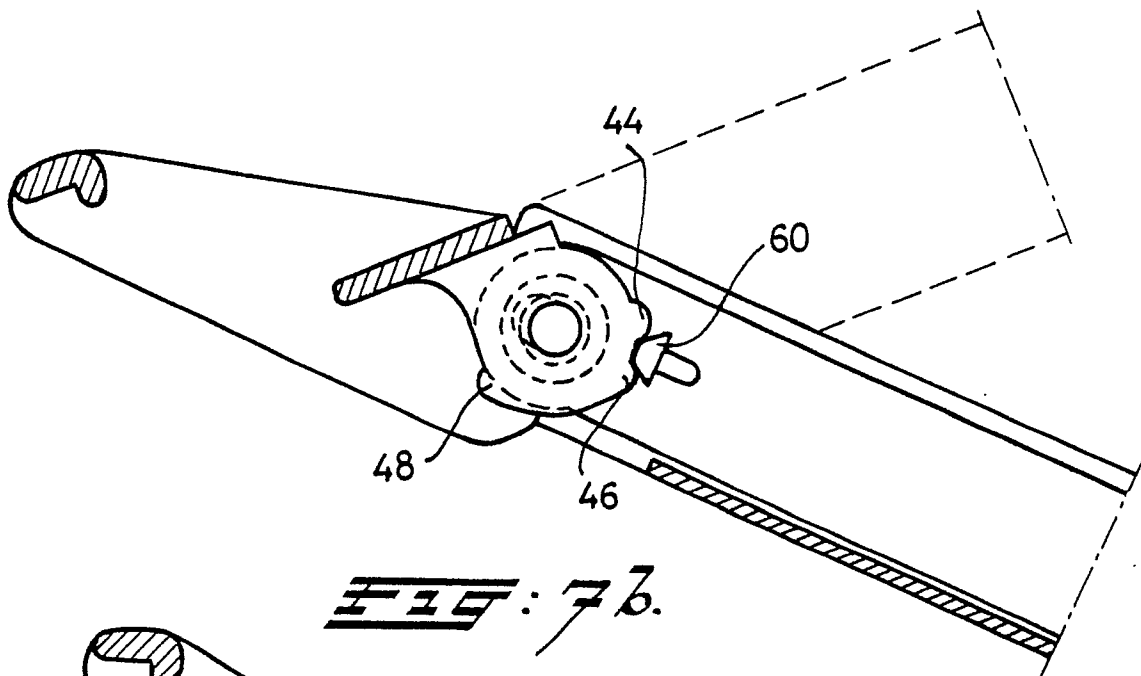


FIG. 7b.

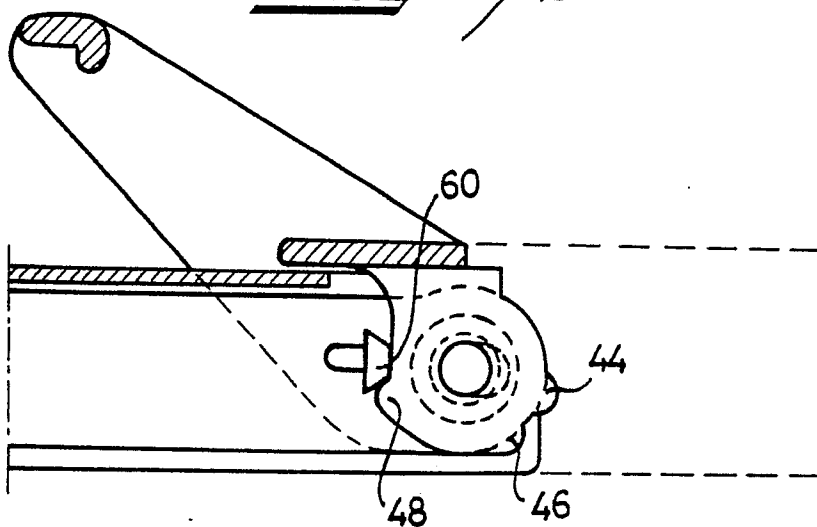


FIG. 7c.



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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.4)
X,D	FR-A-2 377 508 (PAUMELLERIE ELECTRIQUE) * Figure 5 * ---	1-5	E 05 C 17/32
A	US-A-4 466 644 (LEVAN) * Whole document * ---	6-8	
A	FR-A-2 198 523 (DUBOIS) ---		
A	GB-A-2 169 953 (WEST ALLOY DIECASTINGS) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			E 05 C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 20-04-1988	Examiner VAN BOGAERT J.A.M.M.
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