



(11) **EP 2 003 263 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
17.11.2010 Bulletin 2010/46

(51) Int Cl.:
E04D 13/035^(2006.01) E05C 1/00^(2006.01)
E05F 1/00^(2006.01)

(21) Application number: **08460023.8**

(22) Date of filing: **11.06.2008**

(54) **Device for fixing the position of a roof window wing**

Vorrichtung zur Fixierung der Position eines Dachfensterflügels

Dispositif de fixation de la position d'une fenêtre de toit

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

(30) Priority: **11.06.2007 PL 38262807**

(43) Date of publication of application:
17.12.2008 Bulletin 2008/51

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(56) References cited:
EP-A- 0 872 610 DE-U1- 9 403 993
DE-U1- 9 406 929 DE-U1-202004 018 472

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Description

[0001] The subject of the present invention is a device for fixing the position of a roof window wing.

[0002] Polish patent no. PL-177697 discloses a roof window with a fixing device for blocking opening positions, comprising a support in a form of a flexible arm, angularly movable with respect to the window frame, which is connected to a window frame and to a window wing, whereas the ending of the arm is provided with a roll actuated by a spring located in a window frame guide.

[0003] Also, European patent application EP 0 872 610 discloses a roof window having a movable wing, which is connected to the window frame by means of an arm supported rotationally in the window frame, and an axle located in a window frame guide. The frame of the window wing is also connected to the window frame via a telescopic device, which is mounted pivotally in the window wing frame and the window frame guide. The telescopic device comprises a main spring and an auxiliary spring.

[0004] According to the present invention, the window wing is provided with a roll which is supported on a raceway of a window frame and, at the same time, on the face of a nut screwed onto an end of a rod slidingly disposed within a guide rail by means of an adjusting nut, whereas a spiral spring is pulled onto the rod, with the spring end faces butting up against the adjusting nut and a nut located on the other end of the rod. Lock nuts are disposed on a tip of the rod that protrudes beyond the guide rail. On the internal surface of the top wall of the guide rail a flat spring is mounted with screws, located above the roll it presses against with its offset part parallel to the raceway. The screws fixing the flat spring are rotationally mounted at the flat spring ends. At the corners of the window frame there are beds mounted in which sliders are placed, said sliders having keys which are inserted into bed grooves, whereas arm ends are pivotally mounted to the sliders by means of pins. The other arm ends are pivotally mounted in the window wing frame. The sliders are provided with locking screws to lock the sliders within the beds, whereas the beds are provided with adjusting screws whose faces butt up against the walls of the sliders.

[0005] This solution allows for freely opening and closing the window while it is easily possible to adjust the braking of the window wings in opening positions and it gives the possibility to adjust the tension of the spiral springs that amortise the window wing.

[0006] This device makes it possible to lock a window open ajar in a fixed position without the necessity to make other operations. Additionally, by exerting a stronger pressure on a window wing, one can flip it to a reverse position or close it. The mounting of the arm to the window frame by means of the slider makes it possible to adjust the position of the window wing with respect to the window frame, which is particularly important for keeping the window seal-light.

[0007] The invention is disclosed in an embodiment

illustrated in a drawing, where fig. 1 depicts the window in a side view with partial cross-section, fig.2 shows the details of the wing-to-window frame connection, fig. 3 shows the details of the arm-to-window frame connection, fig.4 shows the bed in an axonometric view, and fig. 5 is the view of a slider.

[0008] As shown in the drawing, in window wing frame 1 a roll 2 is mounted, which is supported on raceway 3 mounted on window frame 4 and on the face of a nut 5 screwed onto an end of rod 6 slidingly disposed within adjusting nut 7 screwed into a vertical wall 8 of the raceway 9, which is formed by the final part of the raceway 3 in the shape of a tube of rectangular cross-section. On rod 6, between nut 5 and adjusting nut 7, there is a spiral spring 10 mounted. Fixed with screws 11 to the top wall of raceway 9, a flat spring 12 is located at the initial section of the track of the roll 2 it presses against with its offset part parallel to the raceway 3. The screws 11 are rotationally mounted to the ends of the flat spring 12. On the threaded end of the rod 6, which protrudes beyond the guide rail 9, there are lock nuts 13.

[0009] The window wing 1 is connected to the window frame 4 by means of arms 14, one end of which is rotationally mounted on pivots 15 of wing 1, and the other end of arms 14 is rotationally mounted on pins 16 located within sliders 17. The sliders 17 have keys 18 located in grooves 19 of beds 20, which are fixed with screws to two corners of window frame 4. Within the transverse wall of beds 20 there are adjusting screws 21 whose faces butt up against sliders 17, and within the sliders 17 there are screws 22 whose faces are pressed against the base of beds 20.

[0010] When the wing 1 is being opened, the roll 2, being pushed by spiral spring 10, moves between the raceway 3 and the flat spring 12, to the place where the offset part of the flat spring 12 ends. Then, the roll 2 moves away from the raceway 3 and jumps down along the slope of the flat spring 12, thus fixing the window wing 1 in such a position. To close the window wing 1, an adequate force is required.

Claims

1. Device for fixing the position of a roof window wing (1), which is connected to a window frame (4) by means of an arm (14) pivotally mounted within the wing and the window frame, while a roll (2) mounted to the window wing frame is placed in a guide rail (9) of the window frame, **characterised in that** said roll (2) is supported on raceway (3) of guide rail (9) and at the same time butts up against the face of a nut (5) screwed onto an end of rod (6) disposed slidingly within said guide rail (9) by means of adjusting nut (7), whereas on said rod (6), between adjusting nut (7) and nut (5) a spiral spring (10) is disposed, while on the internal top wall of said guide rail (9) a flat spring (12) is fixed with screws (11) and disposed

above the said roll (2) it presses against with its offset middle part parallel to said raceway (3), and additionally within the final part of the longer sides of said window frame (4), there are beds (20) into which sliders (17) are inserted, said sliders having an opening for a pin (16) to which there is mounted the end of arms (14), the other end of said arms being pivotally mounted in the window wing frame (1).

2. The device according to claim 1, **characterised in that** said sliders (17) have keys (18) placed within the grooves (19) of said beds (20), and in the base of the slides (17) there are locking screws (22).
3. The device according to claim 1, **characterised in that** in the transverse wall of said bed (20) there is an adjusting screw (21), whose face is supported on the transverse wall of said slider (17).
4. The device according to claim 1, **characterised in that** the screws (11) are rotationally mounted at the ends of the flat spring (12).

Patentansprüche

1. Die Einrichtung zum Feststellen des Dachfensterflügels (1), der mit dem Zargenrahmen (4) mit Hilfe eines im Flügel und im Zargenrahmen gelenkig eingesetzten Arm (14) verbunden ist, und die am Flügelrahmen befestigte Rolle (2) wird hingegen in der Führung (9) des Zargenrahmens angebracht, **dadurch gekennzeichnet, dass** die Rolle (2) auf die Laufbahn (3) der Führung (9) und gleichzeitig auf die Stirnseite (5) der auf das Endstück des innerhalb der Führung (9) mit Hilfe einer Reguliermutter verschiebbar angebrachten Bolzens (6) angeschraubten Mutter (5) gestützt ist, wobei am Bolzen (6) zwischen der Reguliermutter (7) und der Mutter (5) eine Spiralfeder (10) vorhanden ist, an der oberen Innenwand der Führung (9) wird dagegen mit Hilfe von Schrauben (11) eine über der Rolle (2) angebrachte Plattenfeder (12) aufgesetzt, die ihr mit ihrem abgesetzten, zu der Laufbahn (3) parallelen Mittelteil anliegt und im Endteil von längeren Seiten des Zargenrahmens (4) sind Lager (20) vorhanden, in die die Schieber (17) mit einer Öffnung für den Bolzen (6) eingeschoben sind, an den das Endstück der vom anderen Ende an den Flügelrahmen (1) gelenkig festgemachten Arme (14) befestigt wird.
2. Die Einrichtung, nach dem Anspruch 1 **dadurch gekennzeichnet, dass** die Schieber (17) die in den Nuten (19) der Lager (20) angebrachten Vorsprünge aufweisen und dass außerdem in der Unterlage der Schieber (17) Feststellschrauben (22) vorhanden sind.

3. Die Einrichtung, nach dem Anspruch 1 **dadurch gekennzeichnet, dass** in der Querwand des Lagers (20) eine Regulierschraube (21) vorhanden ist, deren Stirnseite auf die Querwand des Schiebers (17) gestützt ist.
4. Die Einrichtung, nach dem Anspruch 1 **dadurch gekennzeichnet, dass** die Schrauben (11) an den Enden der Plattenfeder (12) drehbar eingesetzt werden.

Revendications

1. L'appareil servant à fixer un batail de fenêtre de toit (1) qui est relié à un dormant de fenêtre (4) par un bras (14) encastré dans ledit batail et ledit dormant, tandis que le rouleau (2) placé dans le guide de glissement (9) du châssis du dormant de fenêtre, **caractérisé en ce que** ledit rouleau (2) s'appuie sur la voie de guidage (3) du guide de glissement (9) et en même temps sur le front de l'écrou (5) vissé sur la queue de la tige (6) placé d'une façon glissante dans le guide (9) de glissement par l'intermédiaire de l'écrou de réglage (7), de sorte que sur la tige entre l'écrou de réglage (7) et l'écrou (5) est placé un ressort en spirale (10) tandis que sur le côté intérieur du haut du guide (9) est placé avec des écrous (11) un ressort plat (12) placé au-dessus du rouleau (2), et auquel rouleau le ressort est contigu de sa partie encastrée centrale et parallèle à la voie de guidage (3), et en plus dans la partie extrême des côtés plus longs du dormant (4) se trouvent des bancs (20), dans lesquels sont insérés des coulisseaux (17) avec un trou pour l'axe (16) auquel est fixé la queue des bras (14) fixés par articulation de l'autre côté du châssis de batail (1).
2. L'appareil selon la revendication no 1 **caractérisé en ce que** les coulisseaux (17) ont des languettes (18) placées dans les clavettes (19) des bancs (20), et en plus dans la base des coulisseaux (17) sont placés des vis de fixation (22).
3. L'appareil, selon la revendication no 1, se **caractérise en ce que** dans le côté transversal du banc (20) se trouve un vis de réglage (21), dont le front s'appuie sur le côté transversal du coulisseau (17).
4. L'appareil, selon la revendication no 1, se **caractérise en ce que** les vis (11) sont placés sur les bouts du ressort plat d'une façon rotatoire.

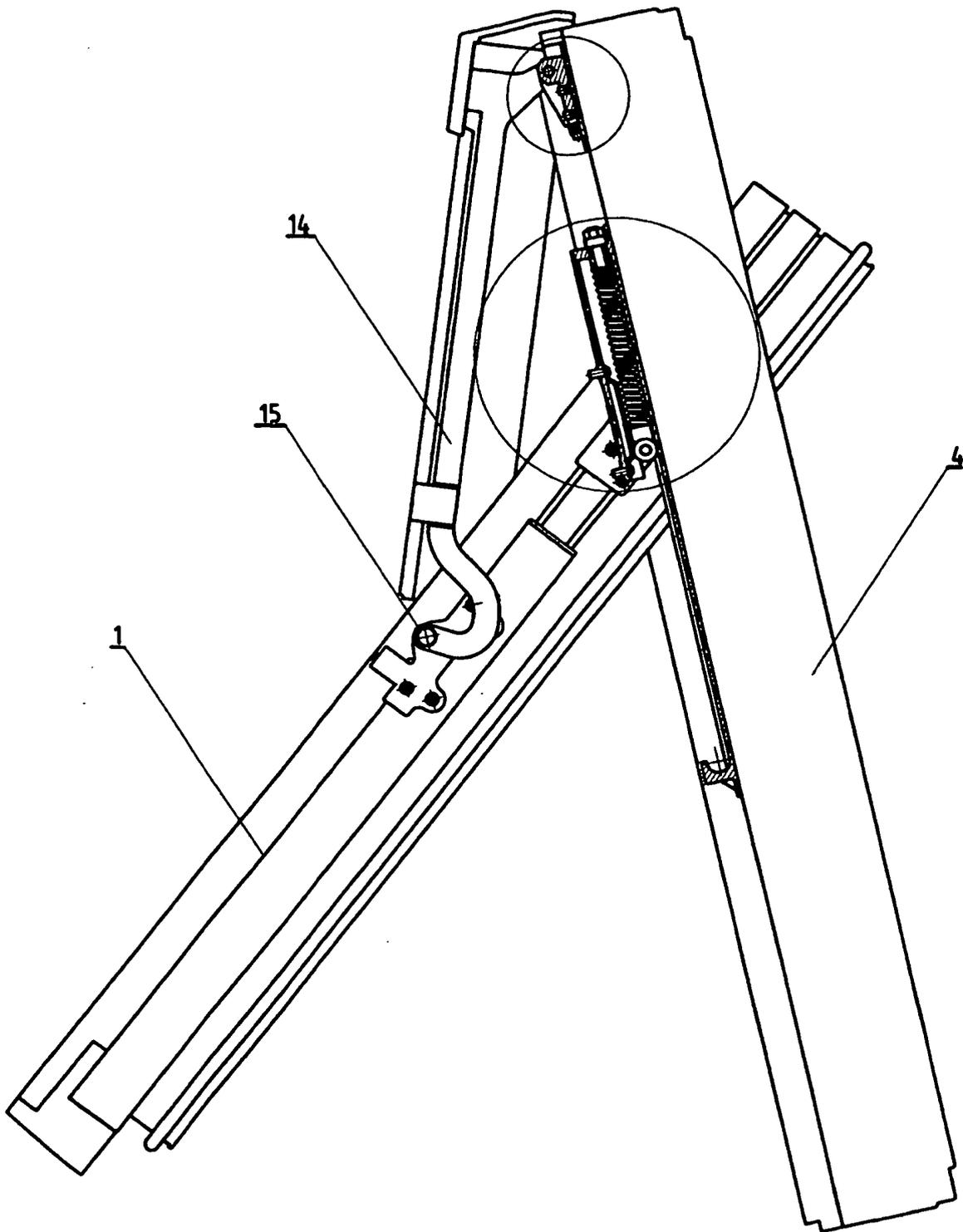


Fig. 1

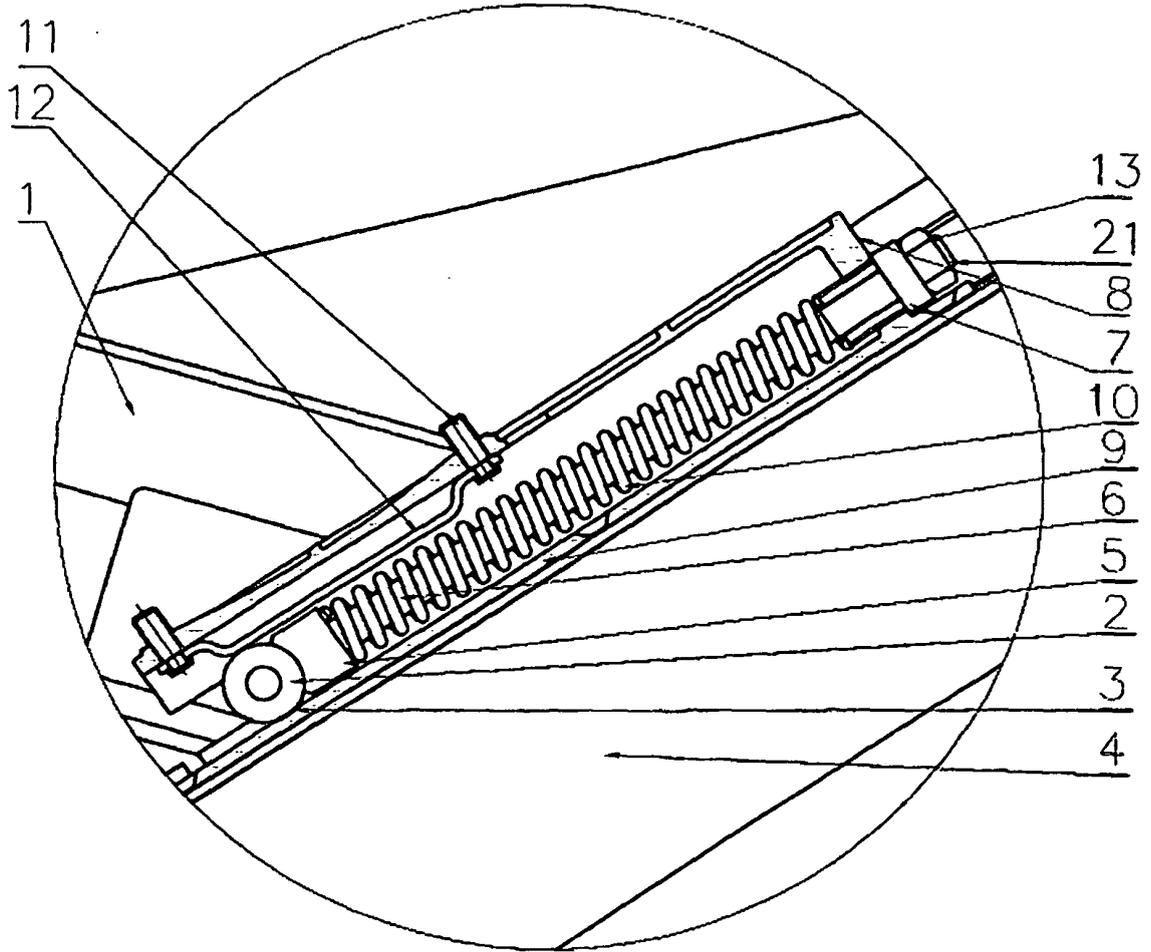


Fig. 2

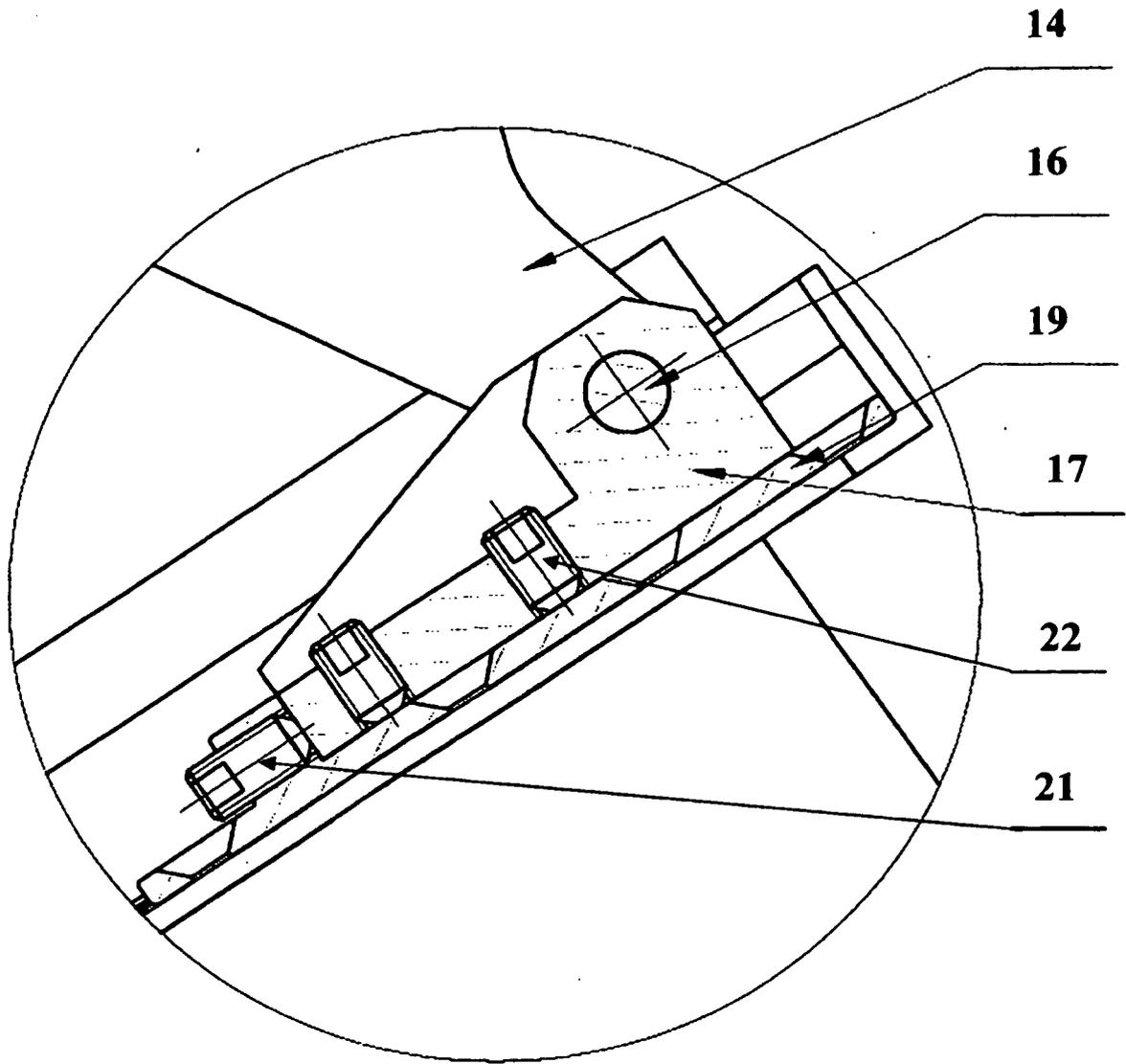


Fig. 3

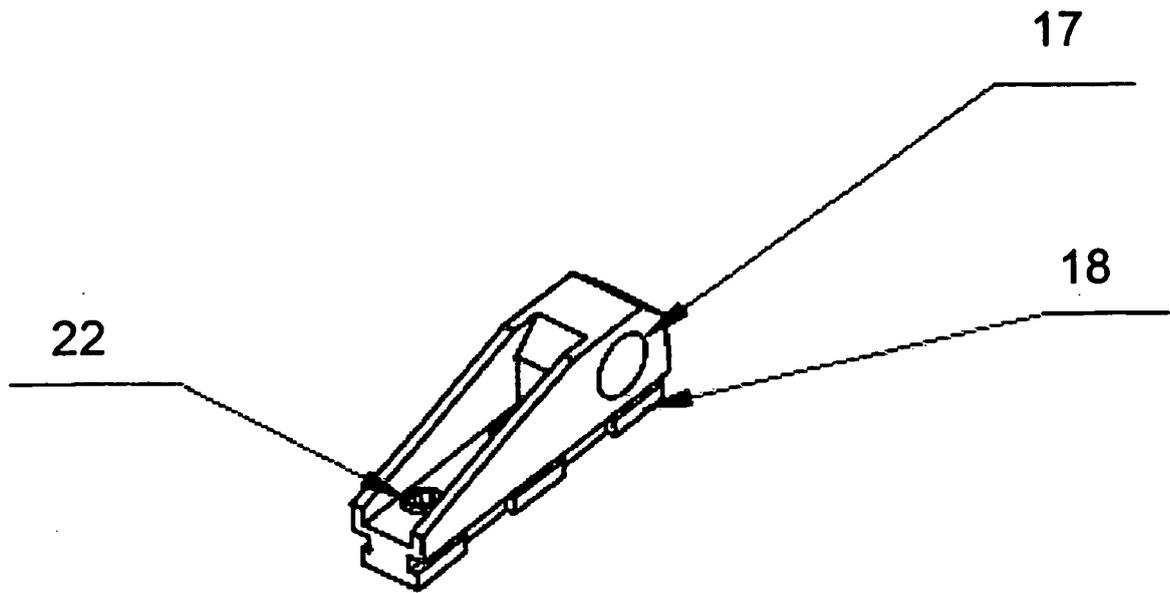


Fig. 4

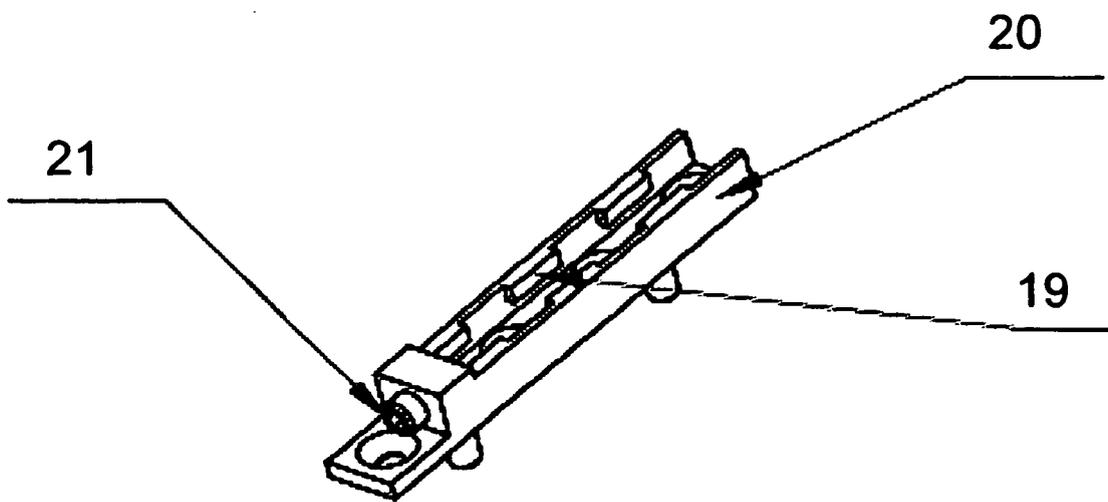


Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- PL 177697 [0002]
- EP 0872610 A [0003]