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Alátámasztó eszköz egy kerethez képest elforgatható szárnyhoz

Az európai szabadalom ellen, megadásának az Európai Szabadalmi Közlönyben való meghirdetésétől számított kilenc hónapon belül, felszólalást lehet benyújtani az Európai Szabadalmi Hivatalnál. (Európai Szabadalmi Egyezmény 99. cikk(1))

A fordítást a szabadalmas az 1995. évi XXXIII. törvény 84/H. §-a szerint nyújtotta be. A fordítás tartalmi helyességét a Szellemi Tulajdon Nemzeti Hivatala nem vizsgálta.

Description

The invention relates to a support device for a casement, pivotable relative to a frame of a closed window, a French door or the like, with a stop bracket, with a basic element of the stop bracket for mounting on the frame or the casement and a stop element mounted on the basic element, of the stop bracket for supporting the opposite component of the casement or the frame, wherein the stop element has a tilting bearing on the basic element and a support path.

A support device has become known from US 2007/0289 219 A1, in which the stop element on the frame unrolls relative to the casement. This movement area of the rolling element is limited by chamfered areas on the basic element. A limitation is not achieved in the case of the closed window. Thus, the entire weight of the casement is supported on the bearing axis of the rolling element.

Such a support device is known for example from DE 295 11 379 U1. In the case of this support device the stop element is designed as a roller mounted in the base element. The basic element is connected to the frame. During the movement of the casement relative to the frame the roller unrolls on a counter element arranged on the casement. In the closed position of the window the weight of the casement is supported via the counter element on the roller. Through this design the bearing axis of the roller is very heavily loaded, so that it can be deformed in the worst case and further rotations of the roller prevented. Furthermore, the roller has only a linear support on the counter element, so that the counter element can also be deformed by the weight of the casement and makes it difficult to open the window.

A casement lifter with a pivot lever mounted on the casement has become known from EP 0 615 931 B2. During the movement of the casement relative to the frame a free end of the pivot lever comes initially against a projection on the frame. In the case of a closed window the weight of the casement is supported via the pivot lever on the projection. Thus, in the case of this casement lifter the entire weight of the casement in the closed state of the window is also supported by the bearing of the pivot lever. In the case of this casement lifter it is also disadvantageous, that the pivot lever in the case of the opened window sticks out from the casement interferingly.

The problem addressed by the invention is to develop a support device of the type mentioned at the outset, such that it has a high stability and is constructed especially compactly.

5 This problem is solved according to the present invention in that the support path is arranged in the first position tilted and in the second position essentially parallel to the basic element, so that during the movement of the casement relative to the frame the support path glides over a glide path of a counter element until the counter element engages behind the stop element and that the stop element has a stopper for supporting in the second position relative to the basic element so that a part of the load of the
10 casement is supported by the stopper.

Through this design rotating components are avoided on the stop bracket. The tiltability of the stop element permits a slight lifting of the casement relative to the frame and sliding along the support path during the swiveling in of the casement. Through the support path an extensive support of the weight of the casement is ensured. As a result
15 of this the support device has a high stability and is constructed especially compactly. The stop bracket has an especially high stability, because the stop element has a stopper for support in the second position relative to the basic element. Through this design an axis of the tilting bearing is relieved, because at least a part of the load is supported by the stopper.

20 It contributes to further increasing the stability of the stop bracket according to another advantageous development of the invention, if the stopper is arranged on a bar sticking out from the rear side of the support path and facing the basic element.

Casement loads are supported fully by the stopper according to another advantageous development of the invention, if several bars, having the stopper, are
25 arranged parallel and transverse to the tilting axis of the tilting bearing. Through this design the tilting bearing is fully relieved when the window is closed.

The casement lying in the frame is reliably held by the support device, because the support path has a design elevated from the stop element and because in the mounted state a counter element mounted on a component of the frame or the
30 casement opposite the stop element engages behind the support path when the window is closed.

The closing of the casement is designed according to another advantageous development of the invention especially conveniently, because the counter element has a glide path facing the stop bracket. This design permits the gliding of the support path of the stop bracket over the glide path of the counter element.

5 A friction of the casement during the gliding over the stop element can be kept especially low according to another advantageous development of the invention, if the stop element has a stop ramp connected to the support path and arranged tilted to the support path. An especially small rebate clearance between frame and casement is made possible, if the basic element has a recess for receiving a partial area of the stop
10 element located in the first tilted position.

The installation of the stop bracket is designed especially simply, if the stop element is connected to the basic element via a tiltable snap-lock connection. The tilting mobility of the snap-lock connection with snap-lock hooks arranged near the bearing axis of the tilting bearing thereby ensures that the stop element is reliably tiltable relative
15 to the basic element between the two positions.

The tilting bearing is designed according to another advantageous development of the invention especially stably, if the tilting bearing has an edge sticking out from the stop element and a notch arranged in the basic element for supporting the edge.

It contributes to further increasing the stability of the stop bracket according to another advantageous development of the invention, if the basic element and the stop
20 element have reinforcing bars facing each other and if the reinforcing bars gear into each other and secure the stop element relative to the basic element in the direction of the tilting axis of the tilting bearing.

The invention permits numerous embodiments. To further illustrate its basic
25 principle one of these embodiments is depicted in the drawing and is described below.

Fig. 1 shows a sectional view through the window during the closing with a support device according to the present invention,

Fig. 2 shows a sectional view through the window from Figure 1 in the closed state with the support device according to the present invention,

30 Fig. 3 shows a stop bracket of the support device from Figure 1,

Fig. 4 shows a stop bracket from Figure 3 before the installation.

Figure 1 shows a lower horizontal area of a window with a casement 2 pivotable relative to a frame 1. To simplify the drawing in each case only a lower horizontal beam of the frame 1 and the casement 2 are depicted. In a rebate clearance between frame 1 and casement 2 a stop bracket 3 is mounted on the frame 1 and a counter element 4 on the casement 2. The stop bracket 3 has a basic element 5 with a stop element 6. The basic element 5 and the counter element 4 in each case have flange 7, 8 with leg supports 11, 12 penetrating into notches 9, 10 of the frame 1 or the casement 2. In Figure 1 the stop element 6 is depicted in a first position tilted relative to the basic element 5. In this position the stop element 6 with a stop ramp 13 is opposite a ramp 14 of the counter element 4. Furthermore, the stop element 6 has a support path 15.

If one presses the casement 2 starting from the position depicted in Figure 1 against the frame 1, the window is closed. During this movement the stop element 6 is tilted into a second position, in which the support path 15 is aligned essentially parallel to the basic element 5. During the movement of the casement 2 against the frame 1 the support path glides over a glide path 16 of the counter element 4, until the counter element 4 engages behind the stop element 6. The closed position of the window is depicted in Figure 2. In this position the weight of the casement rests directly on the stop bracket 3.

Figure 3 shows the stop bracket 3 enlarged in a perspective representation. Here it can be seen that the basic element 5 has boreholes 17 for the screw connection with the frame 1. Furthermore, the basic element 5 has a recess 18 for the reception of an end of the stop element 6 in the first position depicted in Figure 1. Furthermore, the stop bracket 3 has a tilting bearing 19, of which only the tilting axis is depicted in a dot-and-dash manner. The stop element 6 is supported with a stopper 20 on the basic element 5.

Figure 4 shows the stop bracket 3 from Figure 3 before the installation. The stop element 6 is depicted from below for clarification. Here it can be seen, that the stopper 20 has bars 21 arranged parallel and transverse to the axis of the tilting bearing 19. Furthermore, basic element 5 and stop element 6 have reinforcing bars 22, 23 facing each other. In the mounted position of the stop bracket 3 depicted in Figure 3 the

reinforcing bars 22, 23 gear into each other and secure the stop element 6 relative to the basic element 5 in the axial direction of the tilting axis of the tilting bearing 19. The tilting bearing 19 is formed from a long extended edge 24 of the stop element 6 and a notch 25 in the basic element 5. Furthermore, the basic element 5 and the stop element 6 have a snap-lock connection 26 with snap-lock recesses 27 in the basic element 5 and snap-lock hooks 28 on the stop element 6. The snap-lock hooks are arranged near the tilting axis of the tilting bearing 19, so that a tilting mobility of the stop element relative to the basic element is ensured.

714601/DO

SZABADALMI IGÉNYPONTOK

ALÁTÁMASZTÓ ESZKÖZ EGY KERETHEZ KÉPEST ELFORGATHATÓ SZÁRNYHOZ

1. Alátámasztó eszköz egy kerethez (1) képest elfordítható ablak szárnyhoz (2) egy zárt állapotban lévő ablak, üvegajtó, vagy más esetén, egy ráfutó blokkal (3), a kereten (1) vagy a szárnyon (2) való rögzítésre a ráfutó blokk (3) egy alapelemével (5) és egy, az alapelemen (5) csapágyazott, a ráfutó blokk (3) ráfutó elemével (6) a szárnyal (2) vagy a kerettel (1) szemben fekvő elemének feltámasztására, ahol a ráfutó elemnek (6) az alapelemen (5) van egy billenő csapágya (19) és egy támasztó sínje (15), amely támasztó sín (15) a ráfutó elem (6) kidomborodásaként van kialakítva, és egy első állásban ferdén és egy második állásban lényegében az alapelemmel (5) párhuzamosan van elrendezve, azzal jellemezve, hogy a szárnyak (2) kerethez (1) képest történő mozgása során a támasztósín (15) egy csúszó sínen (16) a keret (1) vagy a szárny (2) a ráfutó elemmel (6) szemközti alkatrészén felszerelt ellenelemek (4) csúsznak egészen addig, amíg az ellenelem (4) a ráfutó elem (6) mögé nem akaszkodik, és hogy a ráfutó elemnek (6) van egy ütközője (20) a második állásban való, az alapelemmel (5) szembeni megtámasztáshoz, úgy, hogy a szárny (2) terhelt része az ütközőn (20) van feltámasztva.

2. Az 1. igénypont szerinti alátámasztó eszköz, azzal jellemezve, hogy az ütköző (20) egy a felfekvő sínnek (15) háttal felállított, az alapelemmel (5) határolt pánton (21) van elrendezve.

3. A 2. igénypont szerinti alátámasztó eszköz, azzal jellemezve, hogy több, a ütközőt (20) tartalmazó pánt (21) a billenő csapágy (19) billenőtengelyére párhuzamosan és merőlegesen van elrendezve.

4. Az előző igénypontok egyike szerinti alátámasztó eszköz, azzal jellemezve, hogy a ráfutó elemnek (6) egy, a támasztó sínnel érintkező (15), támasztó sínhez (15) ferdén elrendezett ráfutó rámpája (13) van és hogy az alapelem (5) tartalmaz egy kivágást (18) az első ferde állásban található ráfutó elem egy részterületének befogadására.

5. Az előző igénypontok egyike szerinti alátámasztó eszköz, azzal jellemezve, hogy a ráfutó elem (6) az alapelemmel (5) egy billenthetően mozgatható reteszkötéssel (26) van összekötve, és hogy a reteszkötésnek (26) a billenő csapágy (19) billenőtengelye közelében elrendezett reteshorga (28) van.

6. Az előző igénypontok egyike szerinti alátámasztó eszköz, azzal jellemezve, hogy a billenő csapágyának (19) egy a ráfutó elem (6) által kialakított pereme (24) van, és a perem (24) megtámasztására egy, az alapelemen (5) elrendezett hornya (25) van.

7. Az előző igénypontok egyike szerinti alátámasztó eszköz, azzal jellemezve, hogy az alapelem (5) és a ráfutó elem (6) egymással határos megerősítő pántokat (22, 23) tartalmaznak, és hogy a megerősítő pántok (22, 23) egymásba kapaszkodnak, és a ráfutó elemet (6) az alapelemmel (5) szemben a billenőcsapágy (19) billenőtengelyének irányába biztosítják.

A meghatalmazott:

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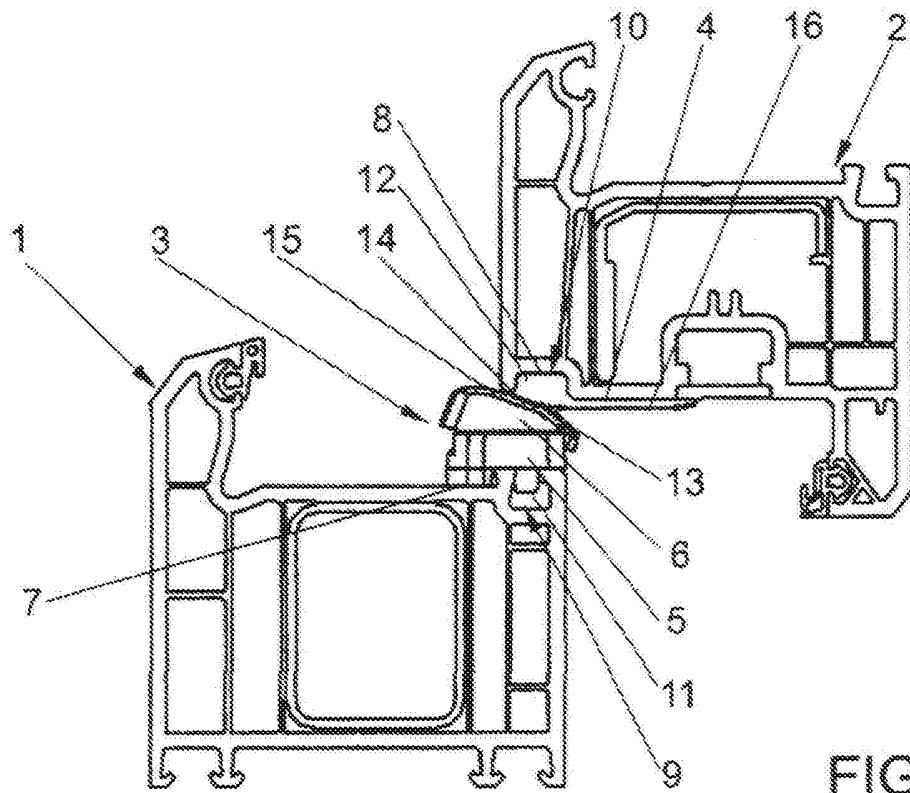


FIG 1

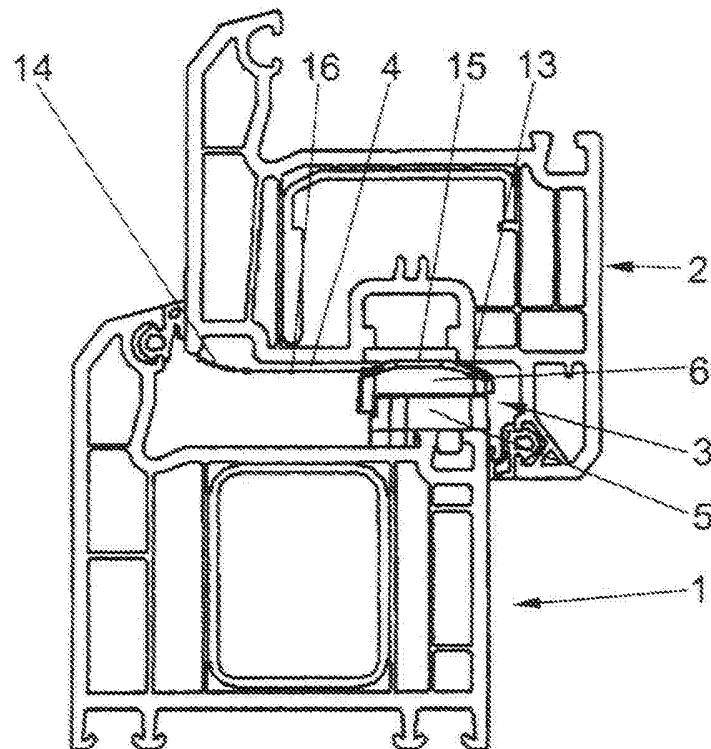


FIG 2

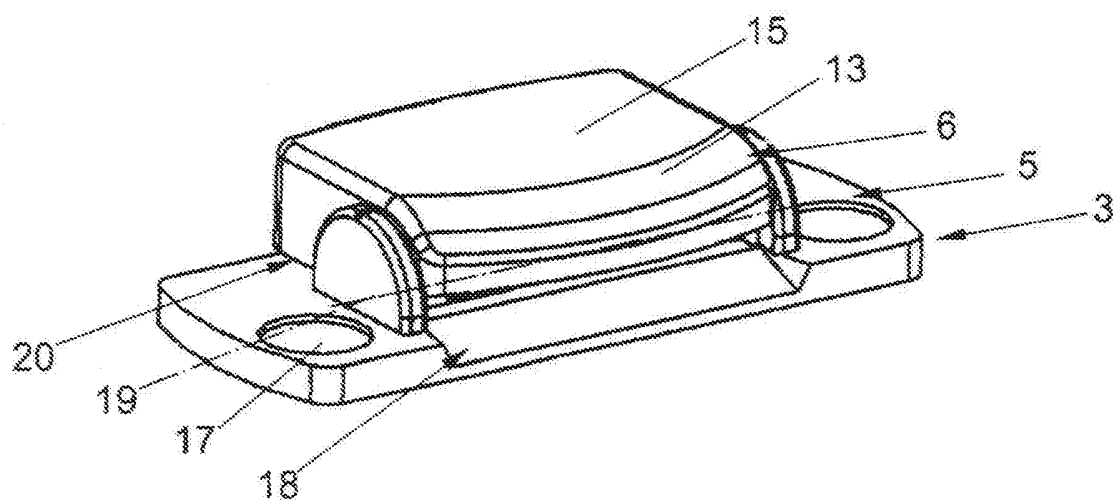


FIG 3

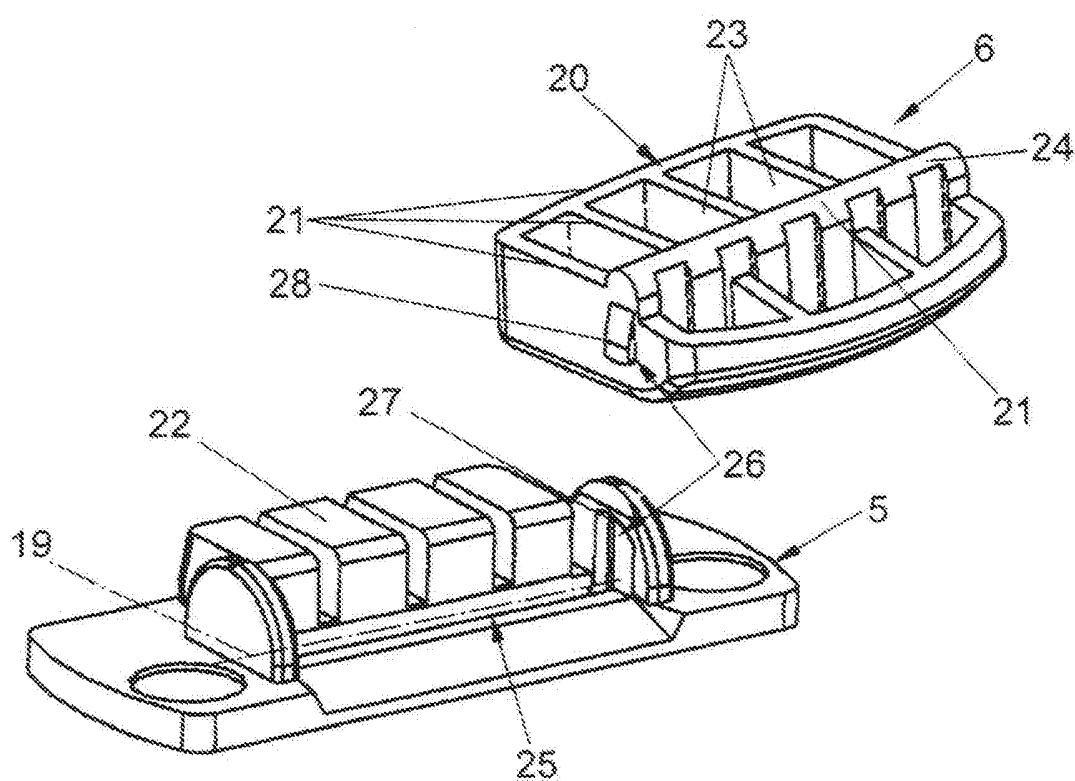


FIG 4