



HU000035977T2

(19) **HU**(11) Lajstromszám: **E 035 977**(13) **T2****MAGYARORSZÁG****Szellemi Tulajdon Nemzeti Hivatala**

EURÓPAI SZABADALOM SZÖVEGÉNEK FORDÍTÁSA

(21) Magyar ügyszám: **E 13 158879**(51) Int. Cl.: **E05C 9/18** (2006.01)(22) A bejelentés napja: **2013. 03. 13.****E05B 15/02** (2006.01)**E05B 65/08** (2006.01)

(96) Az európai bejelentés bejelentési száma:

EP 20130158879

(97) Az európai bejelentés közzétételi adatai:

EP 2778329 A1 **2014. 09. 17.**

(97) Az európai szabadalom megadásának meghirdetési adatai:

EP 2778329 B1 **2017. 08. 16.**

(72) Feltaláló(k):
Peter,Markus, Dipl.-Ing., 70771 Leinfelden-Echterdingen (DE)
Fingerle,, Stefan, 72768 Rommelsbach (DE)

(73) Jogosult(ak):
ROTO FRANK AG, 70771 Leinfelden-Echterdingen (DE)

(74) Képviselő:
SBGK Szabadalmi Ügyvivői Iroda, Budapest

(54) **Többrészes záróidom és tolóajtó**

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 multi-part striker having a fixing portion for fixing to a strut and a closure element receiving portion for receiving a closure element. Furthermore, the invention relates to a sliding door or a sliding window having a multi-part striker according to the invention.

In order to be able to close the leaf of a sliding door or a sliding window in a tight manner, a leaf should be able to be pressed perpendicularly to the plane thereof against an in particular peripheral seal which is provided on a fixed field, a fixed frame or another leaf. To this end, it is possible to use a closure arrangement which has to be capable of ensuring corresponding tightening of the leaf on a seal so that when the leaf is locked it is effectively pressed against the peripheral seal.

To this end, in the non-published European patent application 12 174 793.5, it is proposed to use a closure arrangement which has a bearing element which can be secured to a leaf, a fixed surround or a fixed field of the sliding door or the sliding window, and having a transverse sliding member which is arranged on the bearing element so as to be able to be moved relative thereto, wherein the transverse sliding member has a control element, which in the assembled state of the closure arrangement cooperates with an actuation device of the sliding door or the sliding window, and a closure element. The closure element cooperates with a striker which is arranged, for example, on a fixed leaf or a fixed surround. When the leaf is closed, the closure element of the closure arrangement moves into the striker and can subsequently be displaced perpendicularly to the main plane of the sliding



SZTNH-100077828

door or the sliding window in order to thereby press a leaf on a seal. With large leaves, under some circumstances a plurality of closure arrangements and accordingly a plurality of strikers are required in order, on the one hand, to reduce the loading of the individual striker and, on the other hand, to ensure uniform pressing of the leaf on the seal. With large leaves, there is the risk that specific tolerances may occur, for which reason the positions of the strikers and the closure arrangements have to be adapted to each other. This can under some circumstances be very complex.

DE 1 185 948 B discloses a two-piece striker, wherein the striker portion which has a slot for receiving a closure element can be adjusted relative to a fixing portion which is located therebelow.

EP 1 568 833 A12 discloses a multi-part striker, wherein an intermediate piece can be moved in the longitudinal direction of the slot.

US 2008/0250719 A1 discloses a multi-part striker, wherein the two portions can no longer be moved relative to each other after an adjustment.

DE 10 2004 062 558 A1 discloses a multi-part striker, wherein a closure element receiving portion can be moved relative to a fixing portion. The relative adjustment is carried out perpendicularly relative to the orientation of the slot which is provided for receiving a closure element.

GB 2 208 891 A discloses a striker which has an element which can be moved in the direction of a slot counter to the restoring force of a spring.

DE 196 42 924 C1 discloses an adjustable pivot latch for door openers. A relative adjustment is possible via a screw whose screw head is arranged in a pocket.

US 2,217,891 A discloses a striker which is flexible, but which has no slot for receiving a closure element.

An object of the present invention is to provide a striker by means of which a simple adaptation to a closure arrangement can be carried out and which has a damping function.

This object is achieved according to the invention with a multi-part striker having the features of claim 1.

Consequently, it is possible always to assemble the fixing portion of the multi-part striker in a predetermined position and subsequently by adjusting the closure element receiving portion to carry out an adaptation to the position of the closure element of a closure arrangement. This is particularly advantageous with large sliding doors or sliding windows, in which a plurality of strikers are provided.

The closure element receiving portion has a slot-like receiving member for the closure element and the closure element receiving portion can be adjusted in the direction of the slot relative to the fixing portion. The slot-like receiving member may in particular constitute a rear engagement for a closure element which is constructed as a mushroom-head-like pin. If the closure element receiving portion can be adjusted in the direction of the orientation of the slot-like receiving member, it can be positioned in such a manner that a reliable rear engagement of the closure element is ensured when the leaf is closed.

There is provided at least one adjustment means for adjusting the position of the closure element receiving member partially with respect to the fixing portion. Preferably, two adjustment means for adjusting the position of the closure element receiving portion with respect to the fixing portion are provided. Depending on the type of adjustment means, a step-like or continuous adjustment of the position of the closure element receiving portion can be carried out.

Other advantages are afforded when the closure element receiving portion is retained on the fixing portion by means of the at least one adjustment means. No additional fixing means are thereby required to arrange and fix the closure element receiving portion on the fixing portion.

It is particularly preferable for the at least one adjustment means to be constructed as a screw with a partial cross-sectional enlargement, wherein the screw can be screwed into the fixing portion or the closure element receiving portion and the cross-sectional enlargement is arranged in a chamber of the other portion of the striker, respectively. As a result of this embodiment, it is possible in a particularly simple manner for the closure element receiving portion to be adjusted in a stepless manner with respect to the fixing portion. In particular, the screw may have at one end the cross-sectional enlargement. Preferably, the adjustment means is screwed into the closure element receiving portion. In this instance, the closure element receiving portion may have a through-opening which has an inner thread and which is orientated parallel with the orientation of the slot-like receiving member for the closure element and in which the adjustment means can be screwed.

A damping element is arranged between the closure element receiving portion and the fixing portion. In this embodiment, the striker may not only perform its actual function as a striker, but instead it further acts as a stop. In particular in this embodiment, the closure of a leaf can be damped and the closure element can be protected.

The damping element may be arranged between an adjustment means and the fixing portion or the closure element receiving portion. It is particularly advantageous for the damping element to be arranged between the adjustment means and the fixing portion. In particular, the adjustment means can be supported on the damping element.

The damping element may, for example, be constructed as a rubber buffer or spring or other resilient element.

In order to ensure that the damping function is always carried out, the damping element may be arranged on the fixing portion in a non-releasable manner. In particular, it may be adhesively bonded at that location. Alternatively, it may be adhesively bonded in the closure element receiving portion.

In order to increase the stability of the fixing portion, it may have a pin which is arranged in the region of the receiving member of the closure element receiving portion. Consequently, the fixing portion is reinforced at the location at which the greatest mechanical loading of the fixing portion may be anticipated. As a result of the fact that a pin is used, for example, in place of a screw, the fixing portion has no weakened portion. In contrast, as a

result of the pin, at the location which is loaded to a particularly great extent, more material is used, whereby the stability is increased.

The pin may be arranged centrally on the fixing portion.

A sliding door or a sliding window having a striker according to the invention is also included within the scope of the invention.

Other features and advantages of the invention will be appreciated from the following detailed description of embodiments of the invention, with reference to the Figures of the drawings which show details which are inventively significant, and from the claims. The features which are set out at that location are not necessarily intended to be understood to be true to scale and are illustrated in such a manner that the specific features according to the invention can be made to be clearly visible. The different features can be implemented individually per se or together in any combination in variants of the invention.

Embodiments of the invention are illustrated in the schematic drawings and explained in greater detail in the following description. In the drawings:

Figure 1 is a perspective view of a sliding door;

Figure 2 is an enlarged view in the direction of the arrow B of Figure 1;

Figure 3 is an exploded illustration of the striker according to the invention;

Figure 4 is a view from below of the assembled striker according to the invention;

Figure 5 is a perspective illustration of the striker;

Figure 6 shows the striker which is mounted on a strut.

Figure 1 shows a sliding door 1 having a fixed surround 2, two fixed fields 3, 4 and two sliding leaves 5, 6. In order to open the sliding door 1, the leaves 5, 6 can be pushed over the fixed fields 3, 4. In order to seal the leaves 5, 6 in the position shown, they have to be tightened perpendicularly to the main plane thereof in the direction of the fixed surround 2 or vertical struts 21 of the fixed fields 3, 4. This is carried out, for example, using a closure arrangement at the location A. A view of the closure arrangement in the viewing direction B is illustrated in Figure 2.

Figure 2 shows a closure arrangement 10 which has a bearing part 11 which has a transverse sliding member 12 which can be displaced transversely relative to the bearing part 11. A drive rod 14 which has a control pin 15 can be displaced via an operating element 13. The control pin 15 is arranged in a guide 16 of the transverse sliding member 12. Since the guide 16 is constructed in a curved manner, a movement of the pin 15 in an upward or downward direction brings about a movement of the transverse sliding member 12 to the right or to the left. A closure element 17 is arranged on the transverse sliding member 12. The closure element 17 is located with the thickened end 18 thereof in rear engagement with respect to a striker 20. If the transverse sliding member 12 is

accordingly displaced to the left, the leaf 6 is pulled in the direction of the strut 21.

Figure 3 is an exploded view of the striker 20. The striker 20 has a fixing portion 25 and a closure element receiving portion 26, wherein the closure element receiving portion 26 has a slot-like receiving member 27 for the closure element 17.

Adjustment means 28, 29 have a thread 30, 31 by means of which they can be screwed into the closure element receiving portion 26. In a portion, in particular at the free end thereof, the adjustment means 28, 29 have a cross-sectional enlargement 32, 33. As a result, they can each be arranged in a chamber 34, 35 of the fixing portion 25. As a result of the fact that they are arranged in the chambers 34, 35, they are engaged behind by the walls 38, 39 of the chambers 34, 35 which are slotted. As a result of the adjustment means 28, 29 being rotated into or out of the closure element receiving portion 26, the closure element receiving portion 26 can be displaced in the direction of the orientation of the receiving member 27 relative to the fixing portion 25 and adjusted in terms of its position.

Damping elements 36, 37 may be arranged in the chambers 34, 35, wherein the damping elements 36, 37 are arranged between the cross-sectional enlargements 32, 33 and the fixing portion 25. The damping elements 36, 37 may be adhesively bonded. If, when a leaf 5, 6 is closed, the closure element 17 moves into the receiving member 27, the momentum of the leaf 5, 6 can be damped since the adjustment means 28, 29 are supported on the damping elements 36, 37 and consequently the leaf 5, 6 is damped.

It can further be seen that the fixing portion 25 has a pin 40 which protrudes from the fixing portion 25 and which is provided in particular for arrangement in a corresponding hole of the strut 21. The pin 40 is located almost in extension of the receiving member 27 and consequently at the location which is most powerfully mechanically loaded when the leaf 5, 6 is closed. The pin 40 is connected to the fixing portion 25 in a materially engaging manner. In the region of the pin 40, the fixing portion 25 has a material reinforcement 41.

The closure element receiving portion 26 is retained on the fixing portion 25 by the adjustment means 28, 29. The walls 38, 39 have slots so that the adjustment means 28, 29 can be introduced. The side of the fixing portion 25 which can be seen in Figure 3 moves after assembly into abutment with the strut 21 so that the adjustment means 28, 29 and the damping elements 36, 37 are retained between the strut 21 and the fixing portion 25. In particular the cross-sectional enlargements 32, 33 are arranged in the chambers 34, 35 and cannot leave them since the slots in the walls 38, 39 are narrower than the cross-sectional enlargements 32, 33. Additional fixing means are consequently not required.

Figure 4 shows the striker 20 in the assembled state, wherein there is shown a view of the lower side or the side which in the assembly position moves into abutment with the strut 21.

Figure 5 is a perspective plan view of the opposing side of the striker 20, that is to say, the visible side. In this instance, it can be seen that the fixing portion 25 has two fixing openings 45, 46 by means of which it can be fixed to a

strut 21 by means of screws. At the location of the material thickening 41, no opening 41 is provided in order not to weaken the striker 20 at this location. Instead, the pin 40 is provided for reasons of stability.

Figure 6 shows the striker 20 in the position thereof mounted on the strut 21. The closure element 17 is in rear engagement via the thickened end 18 thereof with the closure element receiving portion 26. In this instance, it can be seen that the closure element receiving portion 26 is spaced apart from the fixing portion 25 by the gap 50. If the leaf 5, 6 is accordingly closed and the closure element 17 is introduced into the receiving member 27, the leaf 5, 6 can be braked or damped by the closure element receiving portion 26 being able to deviate slightly in the closure direction 51 of the leaf 5, 6 with resilient deformation of the damping elements 36, 37. In particular when the leaf 5, 6 is pushed into the closure position, the closure element 17 moves into the striker 20 and strikes the end of the receiving member 27. The closure element receiving portion 26 is displaceably arranged in the fixing portion 25 and, in the event of an impact, is pressed via the adjustment means 28, 29 against the damping elements 36, 37. The impact is thereby damped. In order to also enable a uniform introduction and damping in all strikers with a plurality of strikers 20, the position of the closure element receiving portion 26 can be adjusted in the fixing portion 25. The strikers can thereby be adapted to each other on a strut in such a manner that they all strike at the same time. The closure impulse of the doors is thereby distributed over a plurality of strikers and the door cannot become tilted. The adjustment range may, for example, be approximately 5 mm. Furthermore, the closure position of the leaf 5, 6 can thereby also be finely adjusted.

The adjustment of the closure element receiving portion 26 is carried out on the assembled striker. An appropriate tool, for example, an Allen key, is inserted into the through-holes in the closure element receiving member 26 and are engaged and adjusted in the hexagon socket receiving member at the end face of the adjustment means 28, 29.

TÖBBRÉSSES ZÁRÓIDOM ÉS TOLÓAJTÓ

SZABADALMI IGÉNYPONTOK

1. Többrészes záróidom (20), amely magában foglal egy oszlopon (21) való rögzítésre egy rögzítőrészt (25) és egy záróelem (17) befogadására egy záróelem-befogadó részt (26), ahol a záróelem-befogadó rész (26) a záróelem (17) számára egy résszerű befogadófészekkel (27) rendelkezik, és a záróelem-befogadó rész (26) és a rögzítőrész (25) között egy csillapítóelem (36, 37) van elhelyezve, amely a záróelemnek (17) a résszerű befogadófészek (27) irányában történő felütközését csillapítja, **azzal jellemezve**, hogy a záróelem-befogadó rész (26) a rögzítőrészhez (25) képest a résszerű befogadófészek (27) irányában legalább egy beállítóeszköz (28, 29) útján a rögzítőrészhez (25) képesti helyzete tekintetében állítható.

2. Az 1. igénypont szerinti záróidom, **azzal jellemezve**, hogy a záróelem-befogadó rész (26) a legalább egy beállítóeszköz (28, 29) útján a rögzítőrészen (25) van tartva.

3. Az előző igénypontok egyike szerinti záróidom, **azzal jellemezve**, hogy legalább egy beállítóeszköz (28, 29) egy szakaszon keresztmetszet-megvastagítással (32, 33) ellátott csavarként van kialakítva, amely csavar a rögzítőrészbe (25) vagy a záróelem-befogadó részbe (26) becsavarható, és a keresztmetszet-megvastagítás (32, 33) a záróidom (20) mindenkor másik részében lévő kamrában (34, 35) van elhelyezve.

4. Az előző igénypontok egyike szerinti záróidom, **azzal jellemezve**, hogy a csillapítóelem (36, 37) egy beállítóeszköz (28, 29) és a rögzítőrész (25) vagy a záróelem-befogadó rész (26) között van elhelyezve.

5. Az előző igénypontok egyike szerinti záróidom, **azzal jellemezve**, hogy a csillapítóelem (36, 37) gumilütközőként van kialakítva.

6. Az előző igénypontok egyike szerinti záróidom, **azzal jellemezve**, hogy a csillapítóelem (36, 37) a rögzítőrészbe (25) vagy a záróelem-befogadó részbe (26) be van ragasztva.

7. Az előző igénypontok egyike szerinti záróidom, **azzal jellemezve**, hogy a rögzítőrésznek (25) van egy csapja (40), ami a záróelem-befogadó rész (26) befogadófészekének (27) térségében van elhelyezve.

8. A 7. igénypont szerinti záróidom, **azzal jellemezve**, hogy a csap (40) a rögzítőrészen (25) központosan van elhelyezve.

9. Tolóajtó (1) vagy tolóablak, amely az előző igénypontok egyike szerinti záróidommal (20) rendelkezik.



SZTNH-100077829

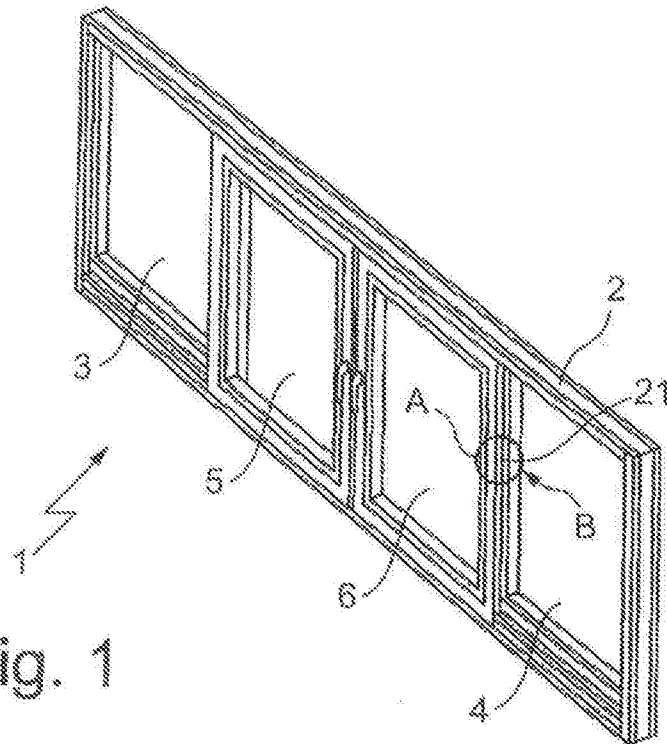


Fig. 1

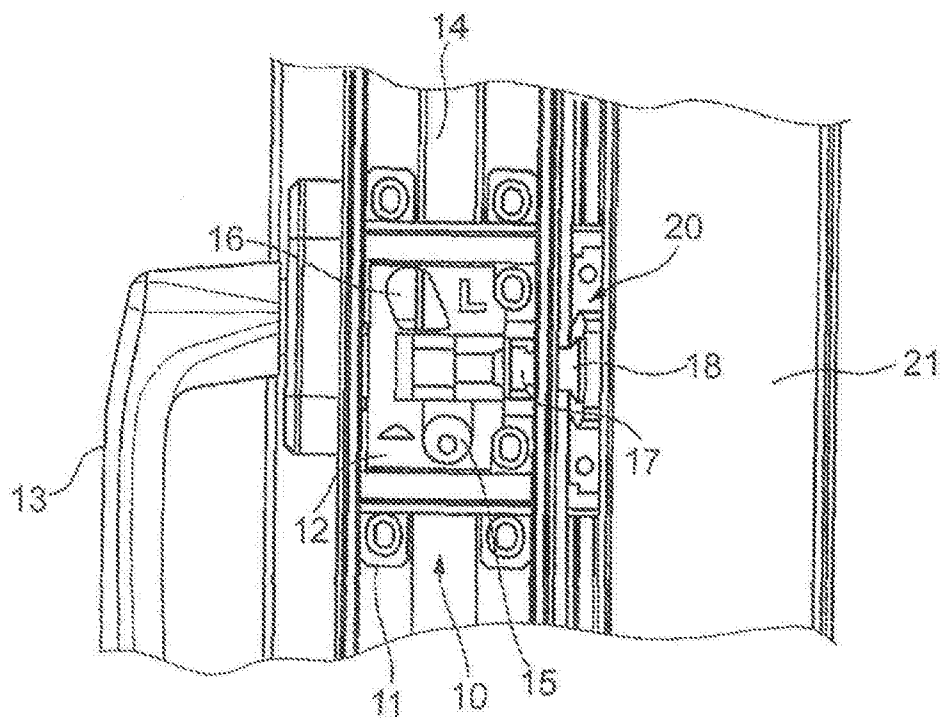


Fig. 2

