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(54) **HIGH-SPEED DOOR SHEET REINTRODUCTION DEVICE**

(57) A high-speed door sheet reintroduction device to reintroduce a high-speed door sheet which has come loose back into a guide, which device is mountable in line with said guide and comprises an inlet, an outlet and two legs which demarcate a slot which extends between the inlet and the outlet, wherein each of the two legs is provided at a distal outer end with a flange, wherein said two flanges extend toward each other up to a predetermined

distance from each other so that a groove is formed between the two flanges, wherein said two flanges have at the position of an outer end of the device an edge portion having a surface which extends obliquely relative to a direction of movement of the sheet so that the edge portions form a tapering inlet opening of the groove, wherein the distance between the surfaces of the two edge portions decreases, as seen in the direction of movement.

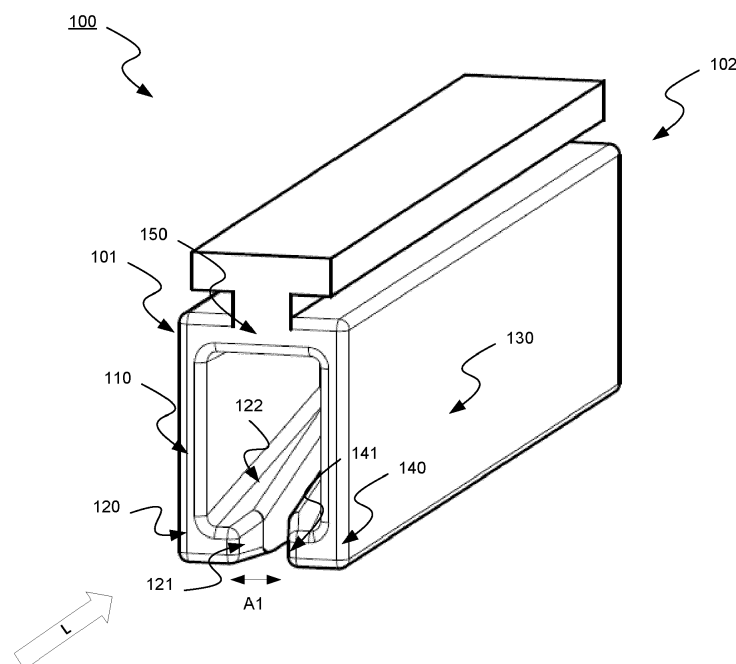


FIG. 1

Description

Field of the invention

[0001] The invention relates to a high-speed door sheet reintroduction device.

Background

[0002] High-speed door sheets are usually applied in industry and public utility construction as indoor application or outdoor application for closing off for instance storage spaces or cooling spaces. A high-speed door sheet is characterized by rapid opening and closing of the high-speed door sheet. This allows an energy-saving, draught-excluding and, more generically, an improved climate control and partitioning of spaces to be realized. A high-speed door sheet is often used to close large doorways through which a transport vehicle such as a forklift truck is movable.

[0003] When a forklift truck collides with a high-speed door sheet, for instance due to inattention on the part of the driver, the high-speed door sheet tends to come out of its guides, rendering opening and closing of the high-speed door sheet impossible or difficult. A solution for the reintroduction of high-speed door sheets is described in EP1454027B1. Such a solution is however complex to construct and requires a great deal of maintenance.

Summary of the invention

[0004] Embodiments of the invention have the object of providing a high-speed door sheet reintroduction device which is simpler and easier to maintain.

[0005] According to a first aspect, a high-speed door sheet reintroduction device is provided which is configured to reintroduce a high-speed door sheet which has come loose back into a high-speed door sheet guide. The high-speed door sheet reintroduction device is mountable in line with said high-speed door sheet guide. The high-speed door sheet reintroduction device comprises an inlet, an outlet and at least two legs. The at least two legs demarcate a slot extending between the inlet and the outlet. Each of the two legs is provided at a distal end with a flange. Said two flanges extend toward each other up to a predetermined distance from each other, so that a groove is formed between the two flanges. Said two flanges have at the position of an outer end of the high-speed door sheet reintroduction device an edge portion having a surface which extends obliquely relative to a direction of movement of the high-speed door sheet so that the edge portions form a tapering inlet opening of the groove, wherein the distance between the surfaces of the two edge portions decreases, as seen in the direction of movement. The high-speed door sheet reintroduction device further comprises a tensioning means which is configured to exert a predetermined tension on the high-speed door so that the high-speed door sheet is

tensioned when the high-speed door is in the slot. This allows the high-speed door to be tensioned and to be given a nicely finished and neat appearance. This however complicates things when the high-speed door sheet has come loose. Because the distance between the surfaces of the two edge portions decreases, the groove forms a funnel. The funnel-like groove guides a movement of the lateral edges of the high-speed door sheet, the funnel-like groove particularly centres the lateral edges of the high-speed door sheet when moving upward. This allows for the high-speed door sheet to be moved upward when the high-speed door sheet has been pushed out of or has exited the guides so that, during movement, the lateral edges of the high-speed door sheet are pulled into the guide in simple manner by the funnel-like groove when moving upward. In this way a high-speed door sheet reintroduction device is provided which is simple and comprises a very small number of or even no moving parts. The high-speed door sheet reintroduction device preferably comprises no wheels or bearings.

[0006] The high-speed door sheet reintroduction device preferably further comprises a base portion from which the at least two legs extend, which base portion is configured to mount the high-speed door sheet reintroduction device movably on a frame of the biased high-speed door. This allows the reintroduction device to be integrated in the high-speed door construction in simple manner, and to be easily replaced or modified if necessary. The use of a base portion also allows the reintroduction device to function more effectively and to centre the lateral edges of the door sheet during the upward movement, this improving operation of the high-speed door.

[0007] The high-speed door sheet reintroduction device preferably further comprises a mounting profile which is configured to be arranged between the base portion and the tensioning means, wherein the mounting profile comprises on one side a first coupling means configured to couple the base portion to the mounting profile and on the other side comprises a second coupling means configured to be fastened via the tensioning means to the frame. This allows the reintroduction device to be mounted firmly on the high-speed door and enables it to function properly during use. The mounting profile can be adapted to suit different types of high-speed door and, if necessary, can be replaced or modified.

[0008] The tensioning means further preferably has a first outer end and a second outer end, wherein the first outer end is coupled to the second coupling means and wherein the second outer end extends through the frame and comprises a stop, wherein the tensioning means further comprises a spring-mounted element which is arranged between the stop and the frame so that the spring-mounted element pushes against the frame and the stop in order to tension the high-speed door sheet reintroduction device.

[0009] The flanges preferably each have at the position

of an inlet segment of the high-speed door sheet reintroduction device a first surface which is directed toward the slot and forms an angle, preferably an acute angle, with the direction of movement of the high-speed door sheet so that a cross-sectional area of the slot decreases, as seen in the direction of movement. In this way the inlet opening of the high-speed door sheet reintroduction device is larger than the opening area of the further slot. The cross-sectional area further also decreases from the inlet to the further slot. Due to the decrease of the cross-sectional area, the lateral edges of the high-speed door sheet are guided outward so that the high-speed door sheet is tensioned during upward movement. The angle is preferably at least 20°, and a maximum of 60°.

[0010] An outlet segment of the high-speed door sheet reintroduction device, which outlet segment is located downstream of the inlet segment as seen in the direction of movement, preferably has a substantially constant cross-sectional area.

[0011] Preferably further comprising a fastening means which comprises a base leg which extends from said two flanges in a direction away from the flanges and is provided with at least one hook profile extending at an angle relative to the base leg.

[0012] According to a further aspect, a high-speed door sheet is provided which is configured to close and open an opening in a wall, the high-speed door sheet comprising:

a high-speed door sheet which is movable between a closing position and an opening position, so that in the closing position the high-speed door sheet closes the opening and in the opening position the opening is at least partially open, wherein the high-speed door sheet has two lateral edges;

at least two high-speed door sheet guides which are mountable on upright sides of the wall at said opening and are configured to receive the two lateral edges for the purpose of guiding the high-speed door sheet between the closing position at the opening position;

a high-speed door sheet reintroduction device configured to reintroduce a high-speed door sheet which has come loose back into a high-speed door sheet guide, which high-speed door sheet reintroduction device is mounted in an upper segment of at least one of the at least two high-speed door sheet guides and lies in line with said high-speed door sheet guide of at least one of the at least two high-speed door sheet guides, wherein the high-speed door sheet reintroduction device comprises an inlet, an outlet and at least two legs which demarcate a slot which extends between the inlet and the outlet, wherein each of the two legs is provided at a distal outer end with a flange, wherein said two flanges extend toward each other up to a predetermined distance from each other so that a groove is formed between the two flanges, wherein said two flanges have at the posi-

tion of an outer end of the high-speed door sheet reintroduction device an edge portion having a surface which extends obliquely relative to a direction of movement of the high-speed door sheet so that the edge portions form a tapering inlet opening of the groove, wherein the distance between the surfaces of the two edge portions decreases, as seen in the direction of movement.

[0013] The flanges preferably each have at the position of an inlet segment of the high-speed door sheet reintroduction device a first surface which is directed toward the slot and forms an angle with the direction of movement of the high-speed door sheet, so that a cross-sectional area of the slot decreases as seen in the direction of movement. The angle is more preferably at least 20°, and a maximum of 60°.

[0014] An outlet segment of the high-speed door sheet reintroduction device, which outlet segment is located downstream of the inlet segment as seen in the direction of movement, preferably has a substantially constant cross-sectional area.

[0015] Preferably further comprising a fastening means which comprises a base leg which extends from said two flanges in a direction away from the flanges and is provided with at least one hook profile extending at an angle relative to the base leg.

Brief description of the figures

[0016] The above stated and other advantageous features and objects of the invention will become more apparent, and the invention better understood, on the basis of the following detailed description when read in combination with the accompanying drawings, in which:

Figure 1 shows a perspective view of a high-speed door sheet reintroduction device according to an exemplary embodiment;

Figure 2 shows a side view of the high-speed door sheet reintroduction device shown in figure 1;

Figure 3 shows a section along the direction of movement of the high-speed door sheet reintroduction device shown in figure 1;

Figure 4 shows a side view of a section of the exemplary embodiment shown in figures 1, 2 and 3 which lies in line with a guide;

Figure 5 shows a top or bottom view of a section of a high-speed door with a high-speed door sheet reintroduction device.

Detailed embodiments

[0017] The following detailed description relates to determined specific embodiments. The teaching hereof can however be applied in different ways. The same or similar elements are designated in the drawings with the same reference numerals.

[0018] The present invention will be described with reference to specific embodiments. The invention is however not limited thereto, but solely by the claims.

[0019] As used here, the singular forms "a" and "the" comprise both the singular and plural references, unless clearly indicated otherwise by the context.

[0020] The terms "comprising", "comprises" and "composed of" as used here are synonymous with "including". The terms "comprising", "comprises" and "composed of" when referring to stated components, elements or method steps also comprise embodiments which "consist of" the components, elements or method steps.

[0021] The terms first, second, third and so on are further used in the description and in the claims to distinguish between similar elements and not necessarily to describe a sequential or chronological order, unless this is specified. It will be apparent that the thus used terms are mutually interchangeable under appropriate circumstances and that the embodiments of the invention described here can operate in an order other than described or illustrated here.

[0022] Reference in this specification to "one embodiment", "an embodiment", "some aspects", "an aspect" or "one aspect" means that a determined feature, structure or characteristic described with reference to the embodiment or aspect is included in at least one embodiment of the present invention. The manifestations of the sentences "in one embodiment", "in an embodiment", "some aspects", "an aspect" or "one aspect" in different places in this specification thus do not necessarily all refer to the same embodiment or aspects. As will be apparent to a skilled person in this field, the specific features, structures or characteristics can further be combined in any suitable manner in one or more embodiments or aspects. Although some embodiments or aspects described here comprise some but no other features which are included in other embodiments or aspects, combinations of features of different embodiments or aspects are further intended to fall within the context of the invention and to form different embodiments or aspects, as would be apparent to the skilled person. In the appended claims all features of the claimed embodiments or aspects can for instance be used in any combination.

[0023] The same or similar elements are designated in the drawing with the same reference numerals.

[0024] Figure 1 shows a perspective view of a high-speed door sheet reintroduction device 100 according to an exemplary embodiment. The high-speed door sheet reintroduction device 100 is configured to reintroduce a high-speed door sheet which has come loose back into a high-speed door sheet guide. The high-speed door sheet reintroduction device 100 is intended for use with a high-speed door sheet. More specifically, the high-speed door sheet reintroduction device is intended to lie in line with a guide of the high-speed door sheet. Such a high-speed door sheet is configured to close and open an opening in the wall. The figure shows only a high-

speed door sheet reintroduction device. The opening and the wall are not shown in the figure. A high-speed door comprises a high-speed door sheet which is movable between a closing position and an opening position, so that in the closing position the high-speed door sheet closes the opening in the wall and in the opening position the opening is at least partially open. A high-speed door sheet is typically manufactured from flexible material. In this way vehicles, for instance a forklift truck, can drive through the opening when the high-speed door sheet is in the opening position. The high-speed door sheet is provided to close, and typically consists of a cloth. The high-speed door sheet typically has two lateral edges. These two lateral edges are mountable in two respective high-speed door sheet guides which are mounted in the wall on either side of said opening. The two lateral edges are typically provided with a thickened seam which extends through the guides so that the freedom of movement of the wall is substantially exclusively upward and downward. Nevertheless, when the high-speed door sheet exits the high-speed door sheet guides, the high-speed door sheet reintroduction device 100 allows the high-speed door sheet which has come loose to be reintroduced back into the high-speed door sheet guide.

[0025] For this purpose the high-speed door sheet reintroduction device 100 is configured to lie in line with said high-speed door sheet guide. In other words, the high-speed door sheet reintroduction device 100 forms an extension of the high-speed door sheet guide, which is placed between the high-speed door sheet guide and an actuator. The high-speed door sheet reintroduction device 100 comprises an inlet 101, an outlet 102 and at least two legs 110, 130. In the mounted position the at least two legs 110 and 130 extend over a distance greater than the high-speed guides. The at least two legs thus extend beyond the high-speed guides. In this way the inlet 101 is easily accessible to a high-speed door which has come loose. The two legs 110, 130 further demarcate a slot extending between inlet 101 and outlet 102. The legs 110, 130 preferably extend from a base portion 150 of the high-speed door sheet reintroduction device 100. In this way the high-speed door sheet reintroduction device 100 is substantially U-shaped. The base portion 150 is configured to mount the high-speed door sheet reintroduction device movably on a frame of the biased high-speed door.

[0026] Each of the two legs is provided at a distal end with a flange 120, 140. In the exemplary embodiment shown in figure 1 and figure 2 the first leg 110 comprises the first flange 120 and the second leg 120 the second flange 140. Said two flanges 120, 140 extend toward each other up to a predetermined distance A1, so that a groove is formed between the two flanges. This means that the flanges do not touch each other and that there is space between the outer ends of the flanges 120, 140. During reintroduction this space is partially taken up by the edge of the high-speed door sheet. Said two flanges 120, 140 have at the position of an outer end, the inlet

101 according to figure 1 and figure 2, of the high-speed door sheet reintroduction device an edge portion 121, 141 having a surface which extends obliquely relative to a direction of movement of the high-speed door sheet so that the edge portions form a tapering inlet opening of the groove, wherein the distance between the surfaces 121, 141 of the two edge portions decreases as seen in the direction of movement. The direction of movement is illustrated in figures 1 and 2 by the arrow with reference symbol L. Because the distance between the surfaces 121, 141 of the two edge portions decreases, the groove forms a funnel. The funnel-like groove guides a movement of the lateral edges of the high-speed door sheet, the funnel-like groove particularly centring the lateral edges of the high-speed door sheet during upward movement. This allows for the lateral edges of the high-speed door sheet to be pulled into the guide in simple manner by the funnel-like groove when moving upward when the high-speed door sheet has been pushed out of or has exited the guides. In this way a high-speed door sheet reintroduction device 100 is provided which is simple and comprises a very small number of or even no moving parts.

[0027] As shown in figures 3 and 4, the flanges can each have at the position of an inlet segment 104 of the high-speed door sheet reintroduction device a second surface 122 which is directed toward the slot. In other words, it can be stated that the second surface is directed toward an inner side of the slot. The second surface 122 forms an angle α with the direction of movement of the high-speed door sheet, so that a cross-sectional area of the slot decreases, as seen in the direction of movement. The angle is preferably at least 20° , and a maximum of 60° . In this way the inlet opening of the high-speed door sheet reintroduction device is larger than the opening area of the further slot. The cross-sectional area further also decreases from the inlet to the further slot. Due to the decrease of the cross-sectional area, the lateral edges of the high-speed door sheet are guided outward so that the high-speed door sheet is tensioned during upward movement. An outlet segment 105 of the high-speed door sheet reintroduction device, which outlet segment is located downstream of the inlet segment as seen in the direction of movement, can further have a substantially constant cross-sectional area.

[0028] Figure 4 shows a side view of a section of the exemplary embodiment shown in figures 1, 2 and 3. The high-speed door sheet reintroduction device is illustrated in an assembled position wherein the high-speed door sheet reintroduction device 100 lies in line with a guide G of the high-speed door. The high-speed door sheet reintroduction device 100 and guide G are mounted in a substantially vertical direction. Figure 4 illustrates that the first leg 110 of the at least two legs extends to a position beyond the guide so that the inlet 101 of the high-speed door sheet reintroduction device is easily accessible to the high-speed door sheet. The insertion direction of the high-speed door sheet is illustrated with arrow L.

[0029] Figure 5 shows a top or bottom view of a section of a high-speed door with a high-speed door sheet reintroduction device. The high-speed door sheet reintroduction device 100 further comprises a tensioning means 160 which is configured to exert a predetermined tension on the high-speed door so that, when the high-speed door 180 is in the slot, the high-speed door sheet is tensioned. This allows the high-speed door to be tensioned and to be given a nicely finished and neat appearance. This however complicates things when the high-speed door sheet has come loose. The high-speed door sheet reintroduction device preferably further comprises a mounting profile 170 which is configured to be arranged between the base portion and the tensioning means. The mounting profile 170 has two coupling means, i.e. the first coupling means 171 and the second coupling means 172. The first coupling means is designed to couple the base portion to the mounting profile so that the high-speed door sheet reintroduction device can be mounted firmly on the mounting profile. The second coupling means 172 is designed to be mounted on the frame via the tensioning means so that the high-speed door sheet reintroduction device functions properly during use. There are different ways in which the first coupling means can be designed in order to couple the base portion to the mounting profile. For instance by means of screwing, clamping or welding. In the shown situation the coupling means is a groove in which the base body can be arranged. The second coupling means can also be designed in different ways, such as by means of screws, bolts or clamps which fasten the tensioning means to the frame. The second coupling means can also be integrated in the tensioning means itself, whereby the tensioning means can be mounted directly on the frame. The tensioning means 160 further has a first outer end 161 and a second outer end 162, wherein the first outer end is coupled to the second coupling means and wherein the second outer end extends through the frame and comprises a stop, wherein the tensioning means further comprises a spring-mounted element which is arranged between the stop and the frame so that the spring-mounted element pushes against the frame and the stop in order to tensioning the high-speed door sheet reintroduction device.

[0030] The skilled person will appreciate on the basis of the above description that the invention can be embodied in different ways and on the basis of different principles. The invention is not limited here to the above described embodiments. The above described embodiments and the figures are purely illustrative and serve only to increase understanding of the invention. The invention will not therefore be limited to the embodiments described herein, but is defined in the claims.

Claims

1. A high-speed door sheet reintroduction device (100)

configured to reintroduce a high-speed door sheet, configured to close a biased high-speed door, which has come loose back into a high-speed door sheet guide, which high-speed door sheet reintroduction device is mountable in line with said high-speed door sheet guide and comprises an inlet (101), an outlet (102) and at least two legs (110, 130) which demarcate a slot which extends between the inlet and the outlet, wherein each of the two legs is provided at a distal outer end with a flange (120, 140), wherein said two flanges (120, 140) extend toward each other up to a predetermined distance (A1) from each other so that a groove is formed between the two flanges, wherein said two flanges have at the position of an outer end of the high-speed door sheet reintroduction device an edge portion (121, 141) having a first surface which extends obliquely relative to a direction of movement of the high-speed door sheet so that the edge portions form a tapering inlet opening of the groove, wherein the distance between the surfaces of the two edge portions decreases, as seen in the direction of movement, wherein the high-speed door sheet reintroduction device further comprises a tensioning means (160) which is configured to exert a predetermined tension on the high-speed door so that the high-speed door sheet is tensioned when the high-speed door is in the slot.

2. The high-speed door sheet reintroduction device (100) according to claim 1, further comprising a base portion (150) from which the at least two legs (110, 130) extend, which base portion (150) is configured to mount the high-speed door sheet reintroduction device movably on a frame of the biased high-speed door.

3. The high-speed door sheet reintroduction device (100) according to claim 2, further comprising a mounting profile (160) which is configured to be arranged between the base portion and the tensioning means, wherein the mounting profile comprises on one side a first coupling means (171) configured to couple the base portion to the mounting profile and on the other side comprises a second coupling means (172) configured to be fastened via the tensioning means to the frame.

4. The high-speed door sheet reintroduction device (100) according to claim 3, wherein the tensioning means has a first outer end and a second outer end, wherein the first outer end is coupled to the second coupling means and wherein the second outer end extends through the frame and comprises a stop, wherein the tensioning means further comprises a spring-mounted element which is arranged between the stop and the frame so that the spring-mounted element pushes against the frame and the stop in order to tension the high-speed door sheet reintroduction device.

duction device.

5. The high-speed door sheet reintroduction device (100) according to any one of the foregoing claims, wherein the flanges each have at the position of an inlet segment (104) of the high-speed door sheet reintroduction device a first surface (122) which is directed toward the slot and forms an angle (α) with the direction of movement of the high-speed door sheet, so that a cross-sectional area of the slot decreases as seen in the direction of movement.
6. The high-speed door sheet reintroduction device (100) according to the foregoing claim, wherein the angle is at least 20°, and a maximum of 60°.
7. The high-speed door sheet reintroduction device (100) according to any one of the foregoing claims 5-6, wherein an outlet segment (105) of the high-speed door sheet reintroduction device, which outlet segment is located downstream of the inlet segment as seen in the direction of movement, has a substantially constant cross-sectional area.
8. The high-speed door sheet reintroduction device (100) according to any one of the foregoing claims, further comprising a fastening means which comprises a base leg which extends from said two flanges in a direction away from the flanges and is provided with at least one hook profile extending at an angle relative to the base leg.
9. A high-speed door sheet configured to close and open an opening in a wall, the high-speed door sheet comprising:
 - a high-speed door sheet which is movable between a closing position and an opening position, so that in the closing position the high-speed door sheet closes the opening and in the opening position the opening is at least partially open, wherein the high-speed door sheet has two lateral edges;
 - at least two high-speed door sheet guides which are mountable on upright sides of the wall at said opening and are configured to receive the two lateral edges for the purpose of guiding the high-speed door sheet between the closing position at the opening position;
 - a high-speed door sheet reintroduction device (100) configured to reintroduce a high-speed door sheet which has come loose back into a high-speed door sheet guide, which high-speed door sheet reintroduction device is mounted in an upper segment of at least one of the at least two high-speed door sheet guides and lies in line with said high-speed door sheet guide of at least one of the at least two high-speed door

- sheet guides, wherein the high-speed door sheet reintroduction device comprises an inlet (101), an outlet (102) and at least two legs (110, 130) which demarcate a slot which extends between the inlet and the outlet, wherein each of the two legs is provided at a distal outer end with a flange (120, 140), wherein said two flanges (120, 140) extend toward each other up to a predetermined distance (A1) from each other so that a groove is formed between the two flanges, wherein said two flanges have at the position of an outer end of the high-speed door sheet reintroduction device an edge portion (121, 141) having a surface which extends obliquely relative to a direction of movement of the high-speed door sheet so that the edge portions form a tapering inlet opening of the groove, wherein the distance between the surfaces of the two edge portions decreases as seen in the direction of movement, wherein the high-speed door sheet reintroduction device further comprises a tensioning means (160) which is configured to exert a predetermined tension on the high-speed door so that the high-speed door sheet is tensioned when the high-speed door is in the slot.
10. The high-speed door sheet reintroduction device (100) according to claim 9, further comprising a base portion (150) from which the at least two legs (110, 130) extend, which base portion (150) is configured to mount the high-speed door sheet reintroduction device movably on a frame of the biased high-speed door, optionally further comprising a mounting profile (160) which is configured to be arranged between the base portion and the tensioning means, wherein the mounting profile comprises on one side a first coupling means (171) configured to couple the base portion to the mounting profile and on the other side comprises a second coupling means (172) configured to be fastened via the tensioning means to the frame.
11. The high-speed door sheet reintroduction device (100) according to claim 10, wherein the tensioning means has a first outer end and a second outer end, wherein the first outer end is coupled to the second coupling means and wherein the second outer end extends through the frame and comprises a stop, wherein the tensioning means further comprises a spring-mounted element which is arranged between the stop and the frame so that the spring-mounted element pushes against the frame and the stop in order to tension the high-speed door sheet reintroduction device.
12. The high-speed door sheet according to any one of the foregoing claims 9-11, wherein the flanges each have at the position of an inlet segment (104) of the high-speed door sheet reintroduction device a first surface (122) which is directed toward the slot and forms an angle (α) with the direction of movement of the high-speed door sheet, so that a cross-sectional area of the slot decreases as seen in the direction of movement.
13. The high-speed door sheet according to the foregoing claim, wherein the angle is at least 20°, and a maximum of 60°.
14. The high-speed door sheet according to any one of the foregoing claims 9-13, wherein an outlet segment (105) of the high-speed door sheet reintroduction device, which outlet segment is located downstream of the inlet segment as seen in the direction of movement, has a substantially constant cross-sectional area.
15. The high-speed door sheet according to any one of the foregoing claims 9-14, further comprising a fastening means which comprises a base leg which extends from said two flanges in a direction away from the flanges and is provided with at least one hook profile extending at an angle relative to the base leg.

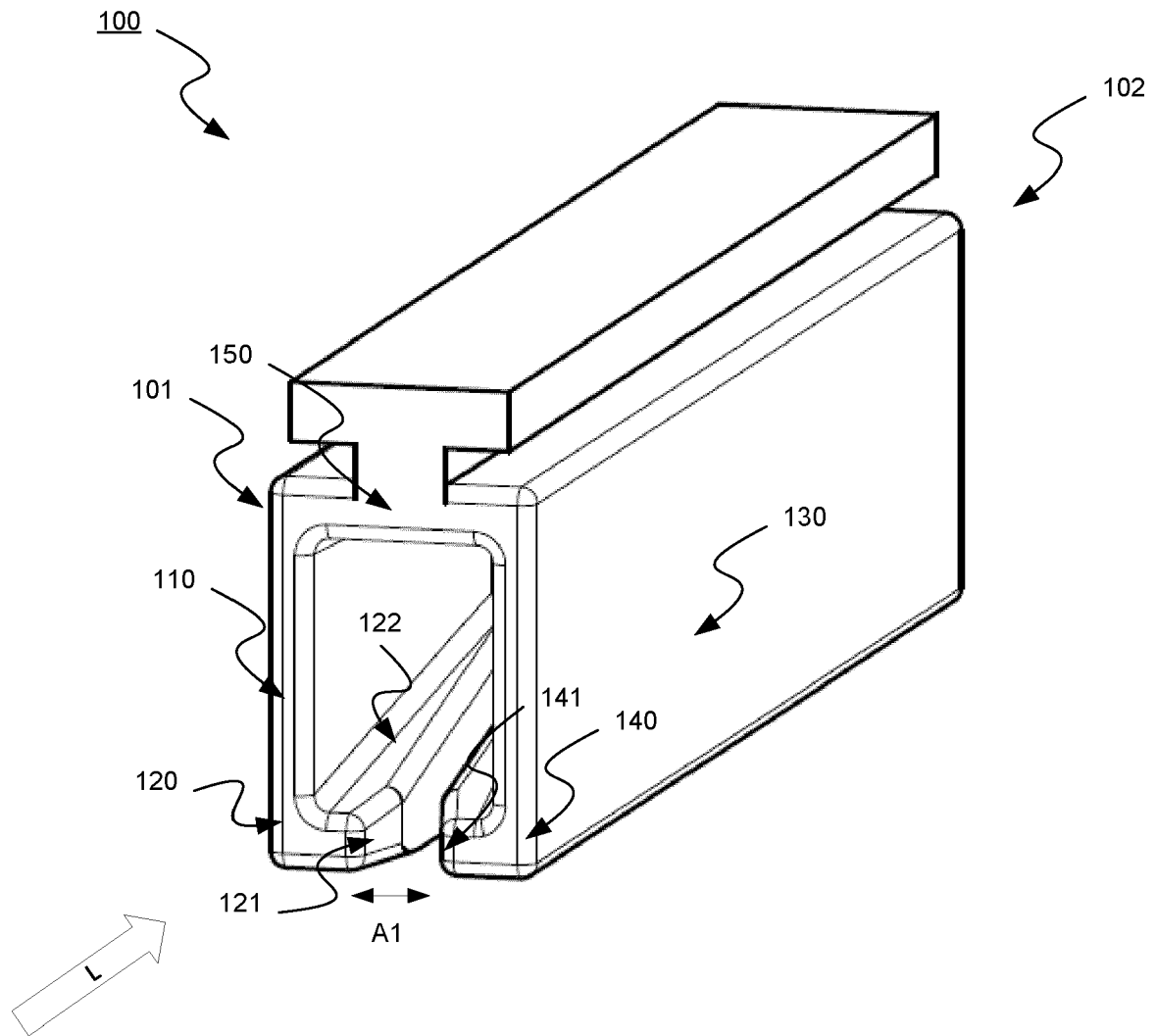


FIG. 1

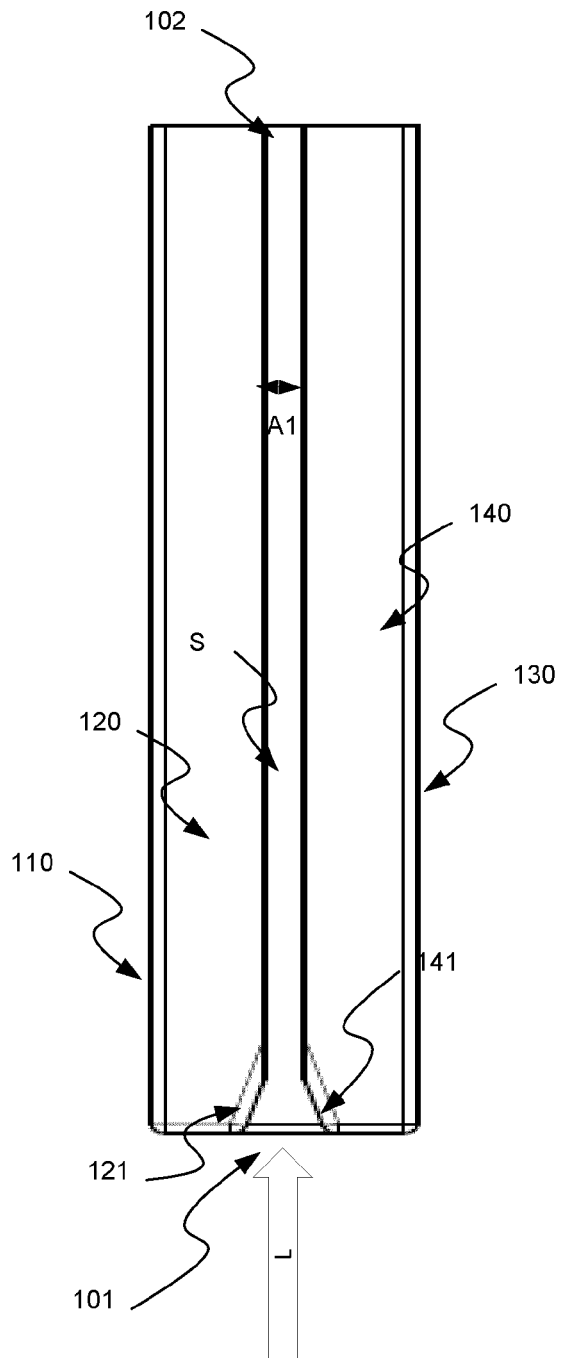


FIG. 2

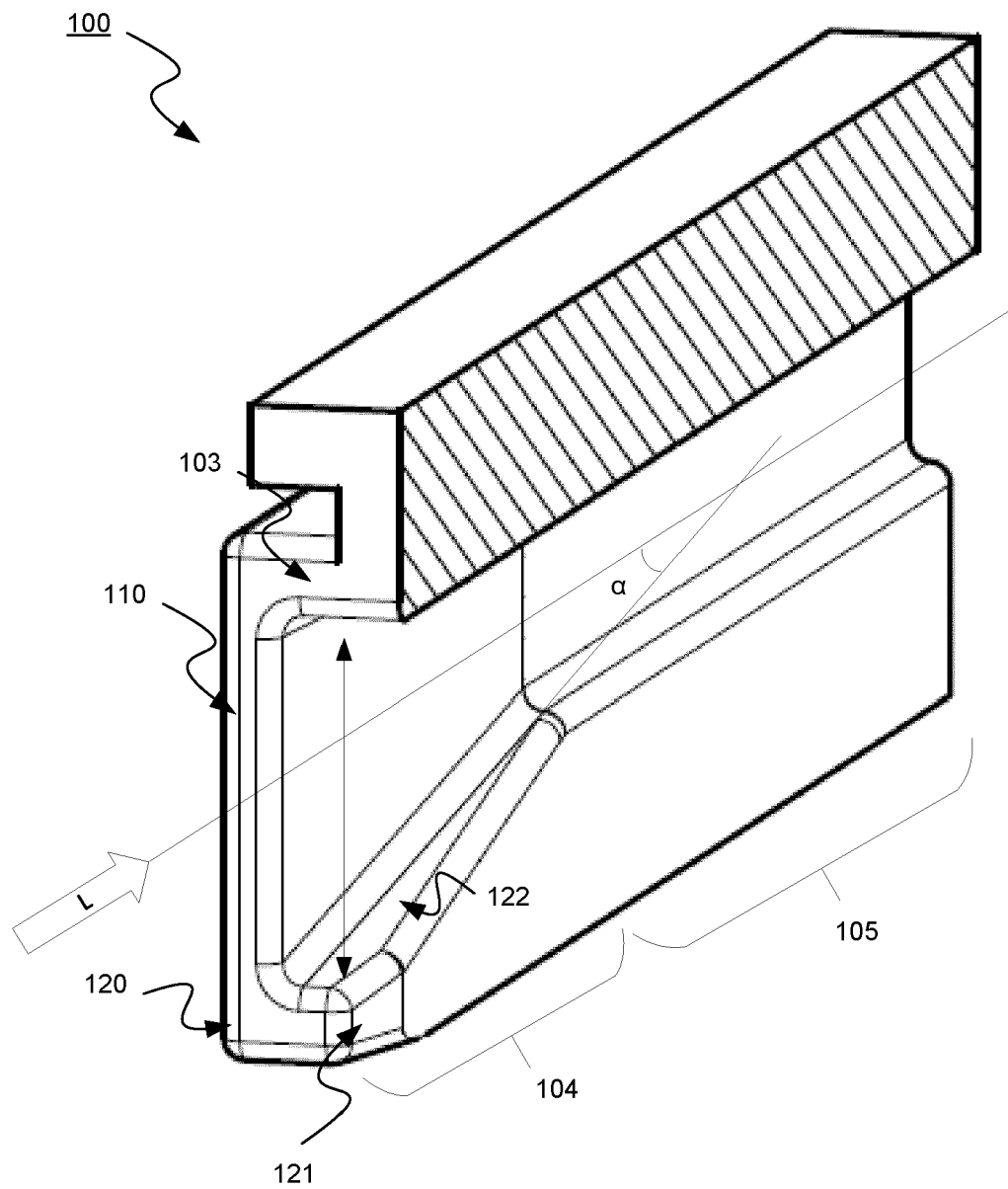


FIG. 3

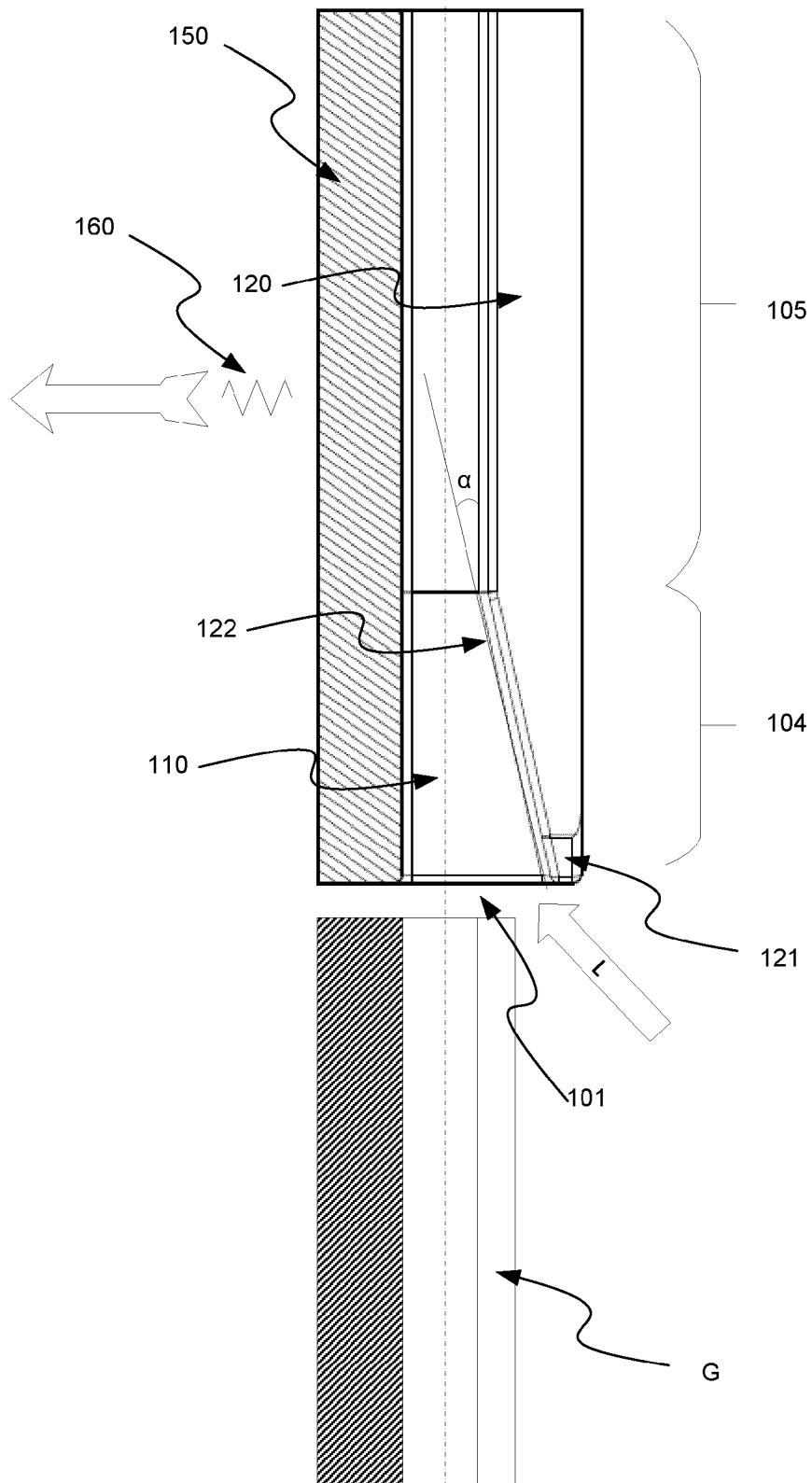


FIG. 4

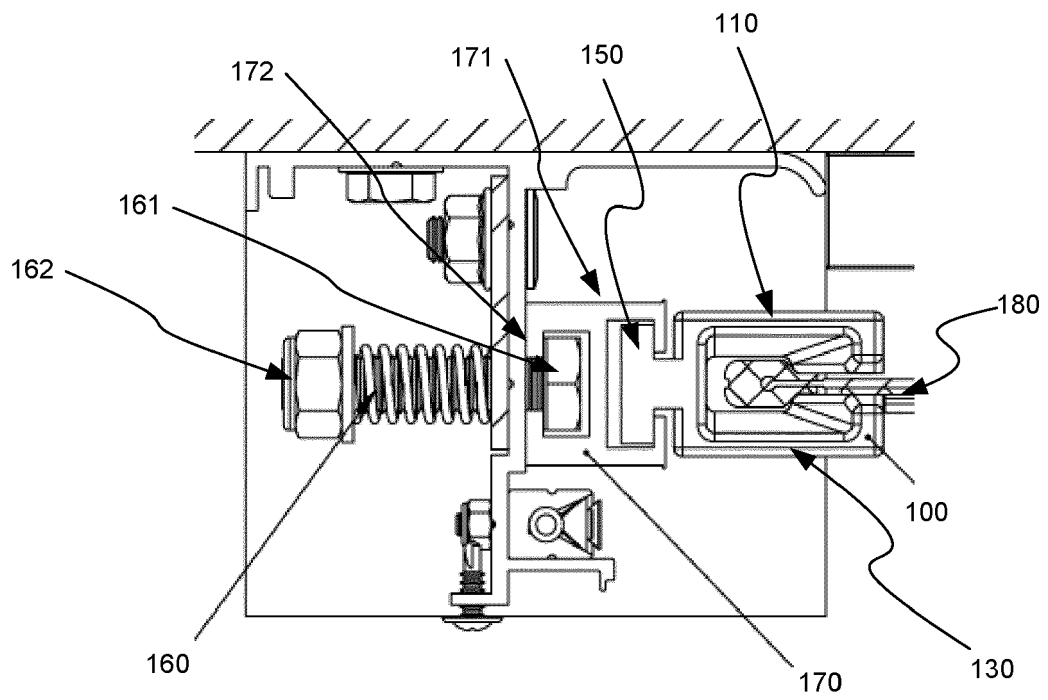


FIG. 5



EUROPEAN SEARCH REPORT

Application Number

EP 24 17 5457

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EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 2006/144530 A1 (NAGARE TOYOHIDE [JP] ET AL) 6 July 2006 (2006-07-06) * figures 1,2,5,6,7A,7B,7C * * paragraphs [0001], [0050], [0053], [0054], [0060], [0067], [0071] * -----	1-15	INV. E06B9/58
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			TECHNICAL FIELDS SEARCHED (IPC)
			E06B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 September 2024	Examiner Tänzler, Ansgar
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