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(54) **CASING FOR ELEVATOR RUNNERS AND ELEVATOR COMPRISING SAID CASING**

(57) The casing for elevator runners comprising a body (1) defining a first face (2) and a second face (3), said body (1) comprising two articulations (4, 5) defining a central portion (6) and two side portions (7, 8), and

characterised in that said side portions (7, 8) are rotatable towards said central portion (6) in both directions in order to obtain different functions in one single casing.

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Description

[0001] The present invention relates to a casing for elevator runners, which is reversible and can alternatively use either of its two sides as a friction surface with the elevator rails.

Background of the invention

[0002] A conventional elevator runner comprises at least three components: A rigid base that permits joining the runner to the elevator car, a support that prevents movement of the casing in the longitudinal direction of the elevator rail, and a low friction polymeric casing, which is in contact with the rail.

[0003] The usual casings can be of two types: injected casings, which have complex geometries and do not need the support piece, as the two sides are usually injected in one, and mechanised casings that have a less complex geometry, and have support.

[0004] The casing is the element that allows the elevator to slide along the rails, due to the fact that it is normally made of a materials showing low friction in contact with the steel rails.

[0005] A standard mechanised casing comes from a plate in which two grooves are machined by way of articulations that can be folded and has three sides that may be in contact with the rail. Conventional casings can only be folded in one direction, so that only one face of the plate can be used as a friction surface.

[0006] Therefore, the objective of the casing according to the present invention is to provide a casing for elevators that is reversible and multifunctional, as will be explained later, that allows the alternative use of either of its two faces as a friction surface with the elevator rails.

Description of the invention

[0007] With the casing of the invention the resolution of the aforesaid disadvantages is achieved, presenting other advantages that will be described below.

[0008] The casing for elevator runners according to the present invention comprises a body defining a first face and a second face, said body comprising two articulations defining a central portion and two side portions, being said side portions rotary towards said central portion in both directions.

[0009] Advantageously, the width of the interior of the casing defined by the two side portions is greater when the side portions are in their position of use rotated in one direction than when the side portions are in their position of use rotated in the other direction.

[0010] Preferably, these articulations are areas thinner than the rest of the body, for example such thinner areas are polygonal cross-sectional grooves, preferably V-shaped, or of any suitable shape arranged on the first face and the second face.

[0011] In addition, the said side portions preferably

have the same thickness.

[0012] According to two alternative embodiments, the two faces of said body are smooth, or one face of said body is smooth and the other face is grooved.

[0013] According to an embodiment, said central portion of the body is offset from the side portions, so that the longitudinal central plane defined by the central portion is substantially offset from the central longitudinal plane defined by either of the side portions.

[0014] If desired, this body may consist of at least two layers, one for the first face and one for the second face, and the layers of the first face and the second face can be of different materials.

[0015] Preferably, said body is of polymeric material, for example, said body is made of polyethylene.

[0016] The main advantage of the casing according to the present invention is to enable different functions and/or services in a single casing, from which the following advantages result:

It allows the use of a single casing in two different uses (for the movement of the car or car chassis during the assembly stage of the elevator until its first time put into service, as well as the use of the elevator in normal operation), with the surfaces (with the same or different properties) intact at the beginning of each of the two uses.

It allows for the reduction of reference numbers, as a casing can be designed that serves for, for example, two different rails regarding geometry, two different contact materials, etc.

It allows for deciding which of the two positions to use in the very moment of assembly (for example, for reasons of comfort, level of friction between the casing and the rail) without the need of transporting twice the number of casings to the site and then taking the discarded ones back to the warehouse.

Brief description of the drawings

[0017] For better understanding of what has been disclosed, some drawings are attached in which, schematically and solely by way of non-limiting example, a practical case of embodiment is represented.

Figure 1 a is a side view of the casing according to the present invention, in a first embodiment in its flat position;

Figure 1b is a side view of the casing according to the present invention, in a first embodiment in a first position of use;

Figure 1c is a side view of the casing according to the present invention, in a first embodiment in a second position of use;

Figure 2a is a side view of the casing according to the present invention, in a second embodiment in its flat position;

Figure 2b is a side view of the casing according to

the present invention, in a second embodiment in a first position of use;

Figure 2c is a side view of the casing according to the present invention, in a second embodiment in a second position of use;

Figure 3a is a side view of the casing according to the present invention, in a third embodiment in its flat position;

Figure 3b is a side view of the casing according to the present invention, in a third embodiment in a first position of use;

Figure 3c is a side view of the casing according to the present invention, in a third embodiment in a second position of use;

Figure 4a is a side view of the casing according to the present invention, in a fourth embodiment in its flat position;

Figure 4b is a side view of the casing according to the present invention, in a fourth embodiment in a first position of use; and

Figure 4c is a side view of the casing according to the present invention, in a fourth embodiment in a second position of use.

Description of a preferred embodiment

[0018] The casing according to the present invention is formed from a substantially flat body 1 defining a first face 2 and second face 3. To bend said body 1 to form the casing in a U-profile and to enable its placing inside its support (not shown in the figures) the casing comprises articulations 4, 5, defining a central portion 6 and two side portions 7, 8.

[0019] According to the present invention, these articulations 4, 5 allow the side portions 7, 8 to be folded or be rotated 90° in either direction towards said central portion 6.

[0020] Said articulations 4, 5 are preferably a pair of grooves, for example of a V-shaped cross section, made in the two faces 2, 3 of the body 1. Thus, the thickness of the body 1 in said articulations 4, 5 is less than in the central portion 6 and that in the side portions 7, 8.

[0021] In this way, the first and second faces 2, 3 can be used, so that the casing is reversible and multifunctional, since the faces 2, 3 may have different features and/or services, as described below.

[0022] In the Figures, four embodiments, according to the present invention, have been represented.

[0023] Figures 1a to 1c show a first embodiment of the casing according to the present invention. According to this first embodiment, the central portion 6 is offset from the side portions 7, 8, so that the longitudinal central plane X defined by the central portion 6 is substantially offset from the central longitudinal plane Y or Y' defined by any one or both of the side portions 7, 8. It should be noted that said longitudinal planes Y, Y' are independent and could also be offset from each other.

[0024] With this arrangement of embodiment 1, the

width of the inner part defined by the side portions 7, 8 of the casing in its position of use varies if said side portions 7, 8 are bent in one direction or the other.

[0025] For example, when the side portions 7, 8 are rotated downwards from the position of Figure 1 a (see Figure 1 b), the width A of the inner part of the casing is, for example, 9 mm, while if the side portions 7, 8 are rotated upward (see Figure 1 c), the width B of the inner part of the casing is, for example, 16 mm.

[0026] Thus, the same casing can be used to be placed in supports requiring different widths.

[0027] In Figures 2a to 2b is shown a second embodiment of the casing according to the present invention.

[0028] For simplicity, the same reference numerals are used to indicate the same elements as in the first embodiment. This will also be the case in the third and fourth embodiments to simplify the description.

[0029] In this case, unlike the first embodiment, the central portion 6 is not offset from the side portions 7, 8, as can be seen in Figure 2a, the remainder of the features being the same as the first embodiment. As the central portion 6 is not offset, in this case the inner width of the casing defined between the two side portions will be the same as when the side portions 7, 8 are rotated in one direction or another, as can be seen in the Figures 2b and 2c.

[0030] In this second embodiment, the two faces 2, 3 are useful for use as a friction surface with the rails of the elevator, so that when one of the faces does not fulfil its function (for example, for reasons of wear, damage and/or performance loss), the casing may still be useful by withdrawing it from its support, changing the position of the side portions 7, 8 and placing it back in the support.

[0031] In Figures 3a to 3c is shown a third embodiment of the casing according to the present invention.

[0032] This third embodiment is very similar to the second embodiment, with the only difference being that one face 2 is grooved, while the other face 3 is smooth. This allows obtaining different features on both faces.

[0033] In Figures 4a to 4c is shown a fourth embodiment of the casing according to the present invention.

[0034] This fourth embodiment differs from the second embodiment in that the body 1 is formed by two layers of different materials. For example, one of the layers may be of a polymeric material harder than the polymeric material of the other layer. This also allows obtaining different features on both faces.

[0035] Although reference has been made to a specific embodiment of the invention, it is apparent to one skilled in the art that the casing described is susceptible to numerous variations and modifications, and that all the details mentioned can be replaced by others technically equivalent, without departing from the scope of protection defined by the appended claims.

Claims

1. A casing for elevator runners comprising a body (1) defining a first face (2) and a second face (3), said body (1) comprising two articulations (4, 5) defining a central portion (6) and two side portions (7, 8), **characterised in that** said side portions (7, 8) are rotatable towards said central portion (6) in both directions. 5
2. The casing for elevator runners according to claim 1, wherein the width of the inner part of the casing defined by the side portions (7, 8) is greater when the side portions (7, 8) are in their position of use rotated in one direction than when the side portions (7, 8) are in their position of use rotated in the other direction. 10
3. The casing for elevator runners according to claim 1, wherein said articulations (4, 5) are thinner areas than the rest of the body (1). 15
4. The casing for elevator runners according to claim 3, wherein said thinner areas are grooves arranged on the first face (2) and on the second face (3). 20
5. The casing for elevator runners according to any of the preceding claims, wherein said side portions (7, 8) have the same thickness. 25
6. The casing for elevator runners according to any of the preceding claims, wherein the two faces (2, 3) of said body (1) are smooth. 30
7. The casing for elevator runners according to any of the claims 1 to 5, wherein one of the faces of said body (1) is smooth and the other is grooved. 35
8. The casing for elevator runners according to any one of the preceding claims, wherein said central portion (6) of the body (1) is offset from the side portions (7, 8) so that the longitudinal central plane (X) defined by the central portion (6) is substantially offset from the central longitudinal plane (Y, Y') defined by either of the side portions (7, 8). 40
9. The casing for elevator runners according to any of the preceding claims, wherein said body (1) consists of at least two layers, one for the first face (2) and one for the second face (3). 45
10. The casing for elevator runners according to claim 9, wherein the layers of the first face (2) and of the second face (3) are of different materials. 50
11. The casing for elevator runners according to any of the preceding claims, wherein said body (1) is of polymeric material. 55

12. A elevator **characterised in that** it comprises a casing according to any of the preceding claims.

FIG. 1a

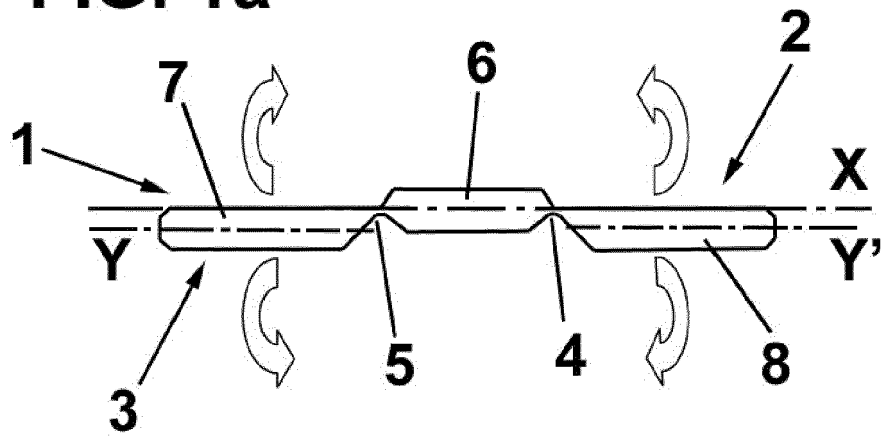


FIG. 1b

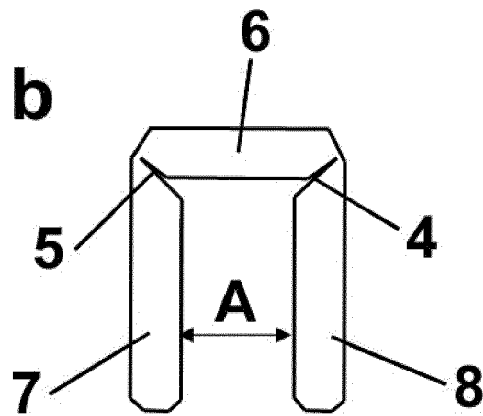


FIG. 1c

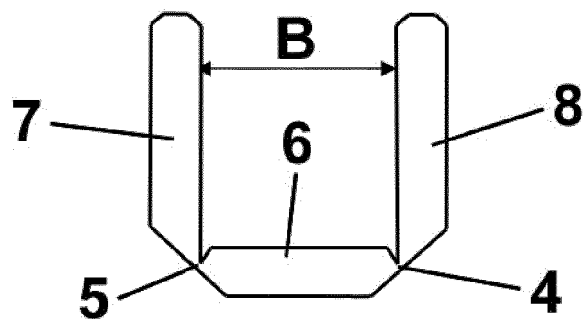


FIG. 2a

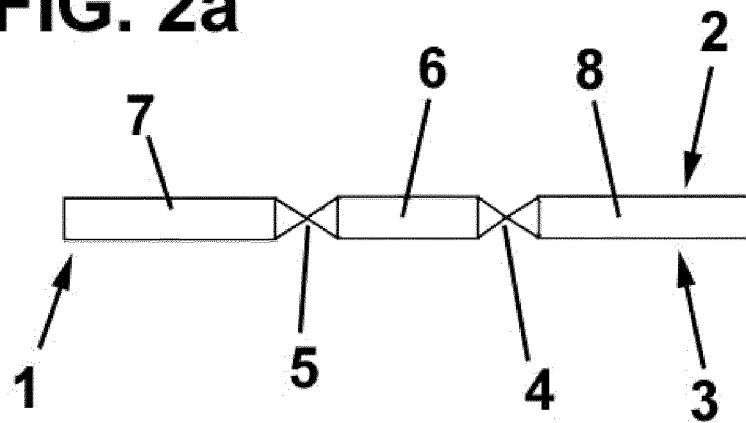


FIG. 2b

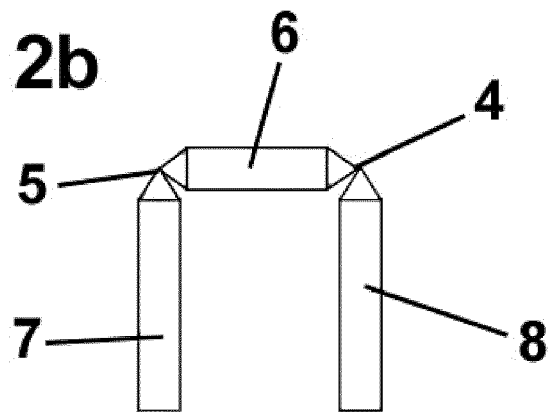
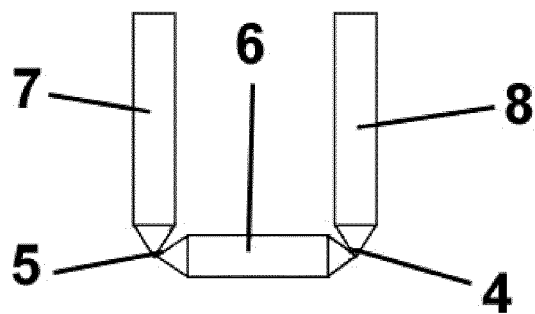


FIG. 2c



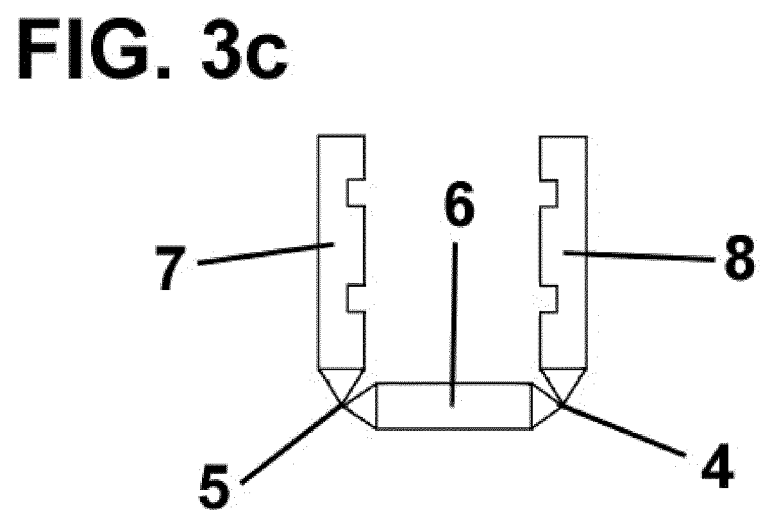
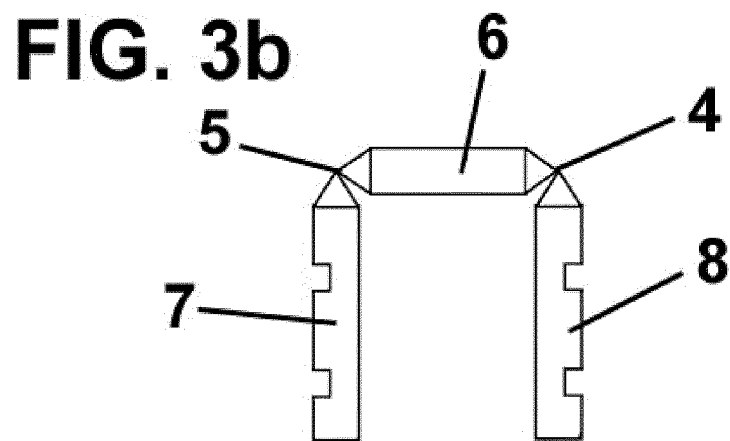
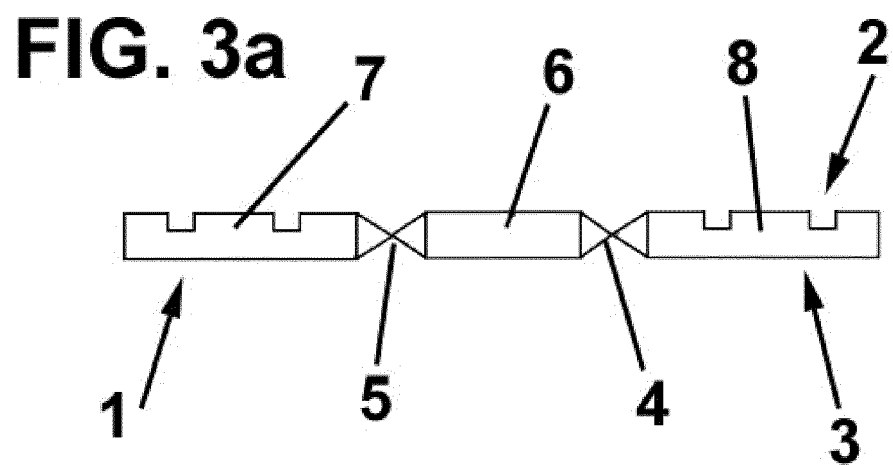


FIG. 4a

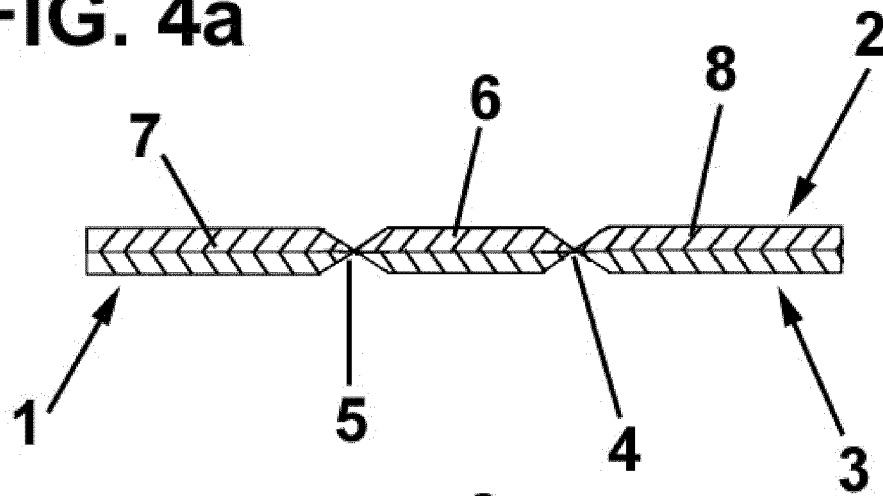


FIG. 4b

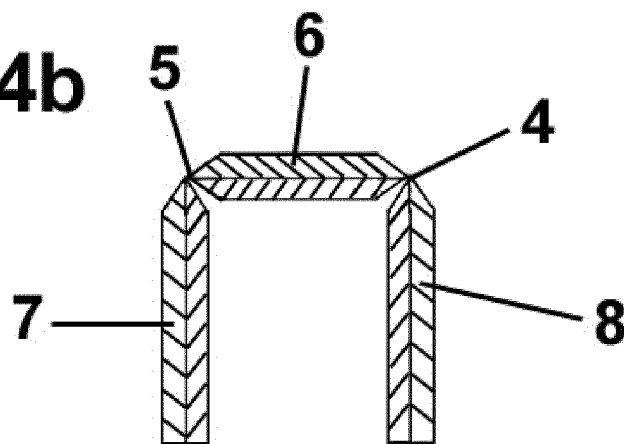
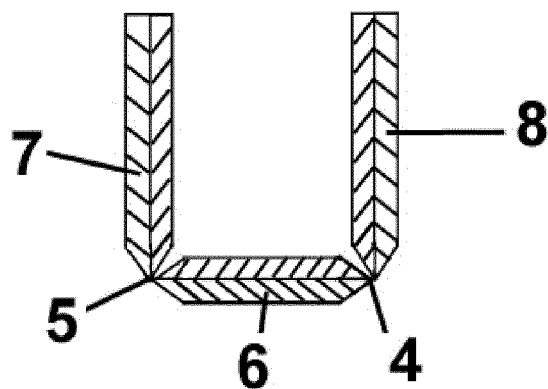


FIG. 4c





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Application Number
EP 15 38 2480

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CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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