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

GEHÄUSE FÜR AUFZUGSSCHIENEN UND AUFZUG MIT BESAGTEM GEHÄUSE

BOÎTIER POUR GUIDES D'ASCENSEUR ET ASCENSEUR COMPRENANT LEDIT BOÎTIER

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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] FR2505806 discloses a casing according to the preamble of claim 1.

[0007] WO2011070237A1 discloses a guide shoe arrangement of an elevator, which elevator comprises at least an elevator car, which is fitted to travel in an elevator hoistway essentially vertically guided by guide rails, and also at least one sliding guide shoe per guide rail, which sliding guide shoe comprises at least a frame part and a sliding part disposed to be supported by the frame part.

[0008] FR2558815A1 discloses a sliding guide that follows the rail in an elevator consists of a guide shoe made of low friction, durable material which is mounted in a shoe retainer.

[0009] 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

[0010] With the casing of the invention the resolution of the aforesaid disadvantages is achieved, presenting other advantages that will be described below.

[0011] The casing for elevator runners according to the present invention is defined in claim 1 and it 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.

[0012] 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.

[0013] In addition, the said side portions preferably have the same thickness.

[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.

[0017] 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.

[0018] 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

[0019] 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 an example, not forming part of the present invention, in a first embodiment in its flat position;

Figure 1b is a side view of the casing according to an example, not forming part of the present invention, in a first embodiment in a first position of use;

Figure 1c is a side view of the casing according to an example, not forming part of 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 first embodiment in its flat position;

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

Figure 2c is a side view of the casing according to the present invention, in a first embodiment in a second position of use;
Figure 3a is a side view of the casing according to the present invention, in a second embodiment in its flat position;
Figure 3b is a side view of the casing according to the present invention, in a second embodiment in a first position of use;
Figure 3c is a side view of the casing according to the present invention, in a second embodiment in a second position of use;
Figure 4a is a side view of the casing according to the present invention, in a third embodiment in its flat position;
Figure 4b is a side view of the casing according to the present invention, in a third embodiment in a first position of use; and
Figure 4c is a side view of the casing according to the present invention, in a third embodiment in a second position of use.

Description of a preferred embodiment

[0020] 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.

[0021] 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.

[0022] 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.

[0023] 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.

[0024] In the Figures, one example, not forming part of the present invention and three embodiments, according to the present invention, have been represented.

[0025] Figures 1a to 1c show an example of the casing not forming part of the present invention. According to this example, 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.

[0026] 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.

[0027] 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.

[0028] Thus, the same casing can be used to be placed in supports requiring different widths.

[0029] In Figures 2a to 2b is shown a first embodiment of the casing according to the present invention.

[0030] For simplicity, the same reference numerals are used to indicate the same elements as in the previous example. This will also be the case in the second and third embodiments to simplify the description.

[0031] In this case, unlike the example, 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.

[0032] In this first 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.

[0033] In Figures 3a to 3c is shown a second embodiment of the casing according to the present invention.

[0034] This second embodiment is very similar to the first 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.

[0035] In Figures 4a to 4c is shown a third embodiment of the casing according to the present invention.

[0036] This third embodiment differs from the first 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.

[0037] 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 articulations (4, 5) are a pair of grooves made in the two faces (2, 3) of the body (1), so that said side portions (7, 8) are rotatable towards said central portion (6) in both directions, the central portion (6) is not offset from the side portions (7, 8), so that the inner width of the casing defined between the two side portions (7, 8) is the same when the side portions (7, 8) are rotated in one direction or another, the casing being reversible that allows the alternative use of either of its two faces as a friction surface with the elevator rails.

2. The casing for elevator runners according to claim 1, wherein said side portions (7, 8) have the same thickness.

3. The casing for elevator runners according to any of the preceding claims, wherein the two faces (2, 3) of said body (1) are smooth.

4. The casing for elevator runners according to claims 1 or 2, wherein one of the faces of said body (1) is smooth and the other is grooved.

5. 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).

6. The casing for elevator runners according to claim 5, wherein the layers of the first face (2) and of the second face (3) are of different materials.

7. The casing for elevator runners according to any of the preceding claims, wherein said body (1) is of polymeric material.

8. An elevator, comprising a rail and a runner, the runner comprising a rigid base that joins the runner to an elevator car, a support that prevents movement of a casing in the longitudinal direction of the rail, and a low friction polymeric casing, which is in contact with the rail, **characterised in that** it comprises a casing according to any of the preceding claims.

Patentansprüche

1. Gehäuse für Aufzugsläufer mit einem Körper (1), der eine erste Fläche (2) und eine zweite Fläche (3) definiert, wobei der Körper (1) zwei Gelenkverbindungen (4, 5) aufweist, die einen zentralen Abschnitt (6) und zwei Seitenabschnitte (7, 8) definieren,
dadurch gekennzeichnet, dass
die Gelenkverbindungen (4, 5) ein Paar von Nuten sind, die in den beiden Flächen (2, 3) des Körpers (1) ausgebildet sind, so dass die Seitenabschnitte (7, 8) in Richtung des zentralen Abschnitts (6) in beide Richtungen drehbar sind, wobei der zentrale Abschnitt (6) nicht von den Seitenabschnitten (7, 8) versetzt ist, so dass die Innenbreite des Gehäuses, die zwischen den beiden Seitenabschnitten (7, 8) definiert ist, die gleiche ist, wenn die Seitenabschnitte (7, 8) in einer Richtung oder einer anderen Richtung gedreht werden, wobei das Gehäuse umkehrbar ist, so dass alternativ eine der beiden Fläche als Reibungsfläche mit den Aufzugsschienen verwendet werden kann.

2. Gehäuse für Aufzugsläufer nach Anspruch 1, wobei die Seitenabschnitte (7, 8) die gleiche Dicke haben.

3. Gehäuse für Aufzugsläufer nach einem der vorstehenden Ansprüche, wobei die beiden Flächen (2, 3) des Körpers (1) glatt sind.

4. Gehäuse für Aufzugsläufer nach Anspruch 1 oder 2, wobei eine der Flächen des Körpers (1) glatt ist und die anderen genutet ist.

5. Gehäuse für Aufzugsläufer nach einem der vorstehenden Ansprüche, wobei der Körper (1) aus mindestens zwei Schichten besteht, eine für die erste Fläche (2) und eine für die zweite Fläche (3).

6. Gehäuse für Aufzugsläufer nach Anspruch 5, wobei die Schichten der ersten Fläche (2) und der zweiten Fläche (3) aus verschiedenen Materialien bestehen.

7. Gehäuse für Aufzugsläufer nach einem der vorstehenden Ansprüche, wobei der Körper (1) aus Polymermaterial besteht.

8. Aufzug, der eine Schiene und einen Läufer aufweist, wobei der Läufer eine starre Basis, die den Läufer mit einer Aufzugskabine verbindet, einen Träger, welche die Bewegung eines Gehäuses in der Längsrichtung der Schiene verhindert, und ein Polymergehäuse mit geringer Reibung aufweist, das mit der Schiene in Kontakt steht,
dadurch gekennzeichnet, dass
der Aufzug ein Gehäuse nach einem der vorstehenden Ansprüche aufweist.

Revendications

1. Boîtier pour guides d'ascenseur comprenant un corps (1) définissant une première face (2) et une seconde face (3), ledit corps (1) comprenant deux articulations (4, 5) définissant une partie centrale (6) et deux parties latérales (7, 8), **caractérisé en ce que** lesdites articulations (4, 5) sont une paire de rainures créées dans les deux faces (2, 3) du corps

(1), de telle sorte que lesdites parties latérales (7, 8) peuvent tourner vers ladite partie centrale (6) dans les deux directions, la partie centrale (6) n'est pas décalée des parties latérales (7, 8), de telle sorte que la largeur interne du boîtier définie entre les deux parties latérales (7, 8) est la même quand les parties latérales (7, 8) tournent dans une direction ou une autre, le boîtier étant réversible, ce qui permet l'utilisation alternative de l'une ou l'autre de ses deux faces comme surface de frottement avec les rails d'ascenseur.

2. Boîtier pour guides d'ascenseur selon la revendication 1, dans lequel lesdites parties latérales (7, 8) présentent la même épaisseur.

3. Boîtier pour guides d'ascenseur selon l'une quelconque des revendications précédentes, dans lequel les deux faces (2, 3) dudit corps (1) sont lisses.

4. Boîtier pour guides d'ascenseur selon les revendications 1 ou 2, dans lequel l'une des faces dudit corps (1) est lisse et l'autre est rainurée.

5. Boîtier pour guides d'ascenseur selon l'une quelconque des revendications précédentes, dans lequel ledit corps (1) consiste en au moins deux couches, l'une pour la première face (2) et l'une pour la seconde face (3).

6. Boîtier pour guides d'ascenseur selon la revendication 5, dans lequel les couches de la première face (2) et de la seconde face (3) sont de matériaux différents.

7. Boîtier pour guides d'ascenseur selon l'une quelconque des revendications précédentes, dans lequel ledit corps (1) est d'un matériau polymère.

8. Ascenseur, comprenant un rail et un guide, le guide comprenant une base rigide qui relie le guide à une cabine d'ascenseur, un support qui empêche un déplacement d'un boîtier dans la direction longitudinale du rail, et un boîtier polymère à faible frottement, qui est en contact avec le rail, **caractérisé en ce qu'**il comprend un boîtier selon l'une quelconque des revendications précédentes.

FIG. 1a

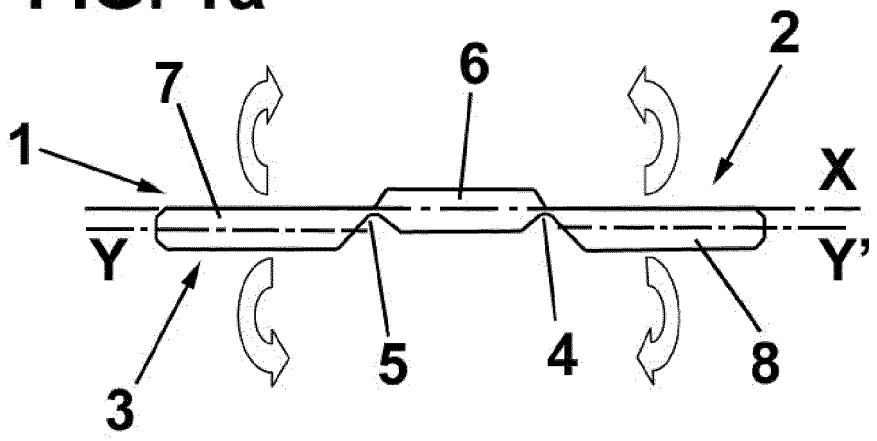


FIG. 1b

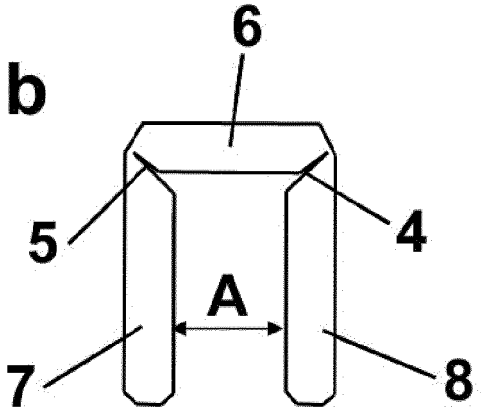


FIG. 1c

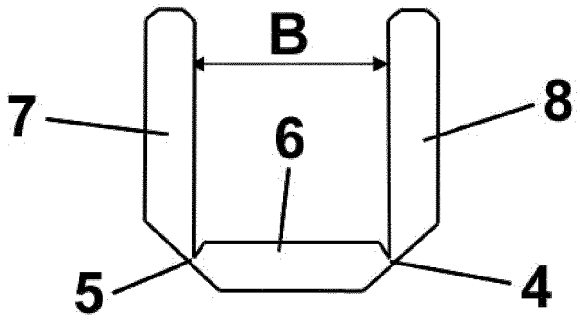


FIG. 2a

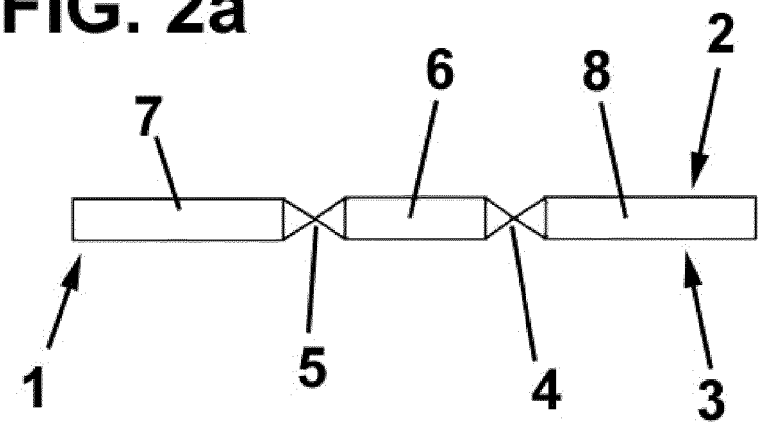


FIG. 2b

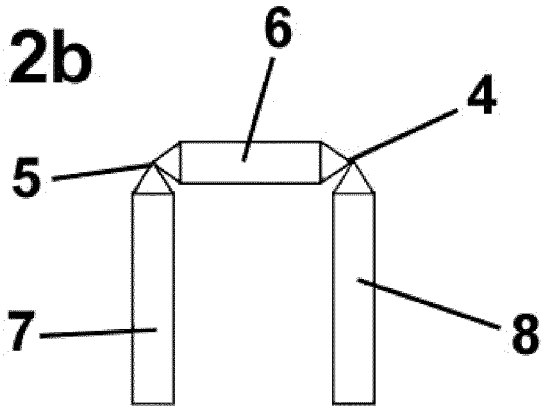


FIG. 2c

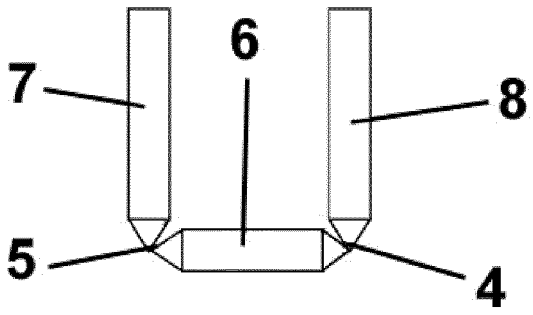


FIG. 3a

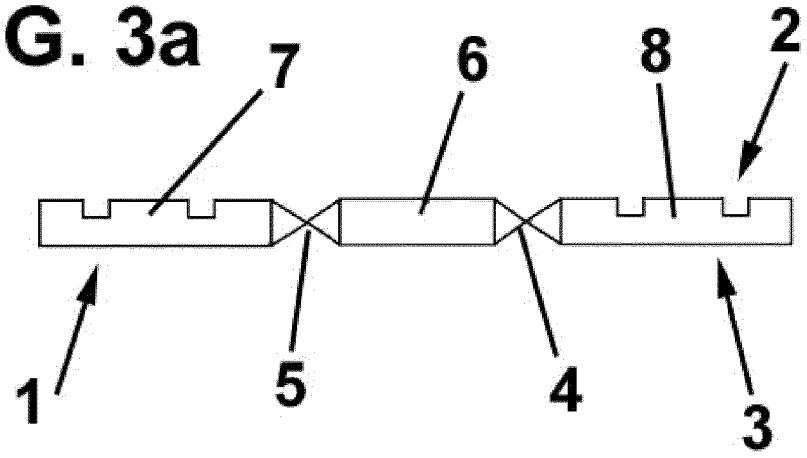


FIG. 3b

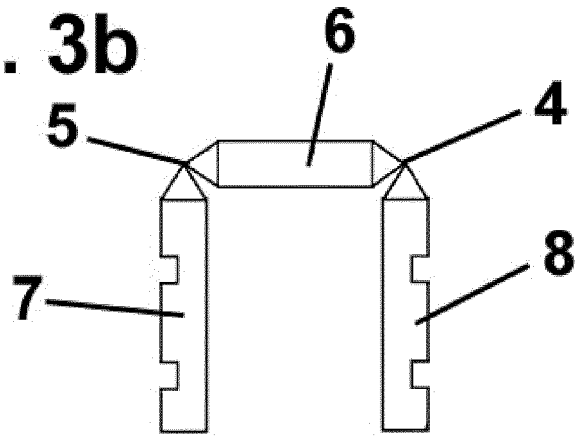


FIG. 3c

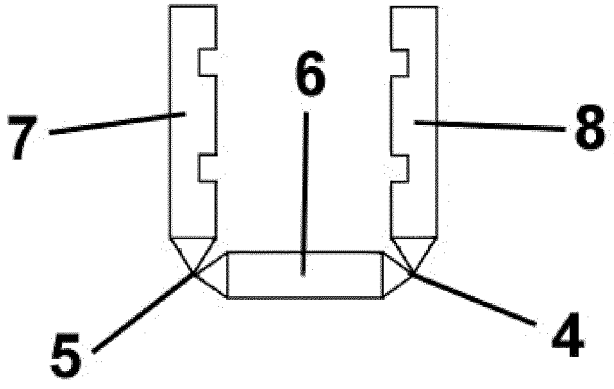


FIG. 4a

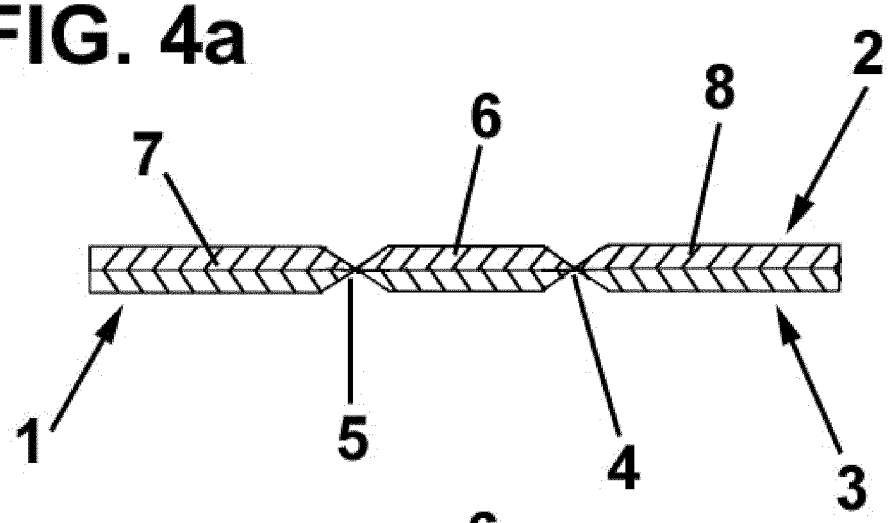


FIG. 4b

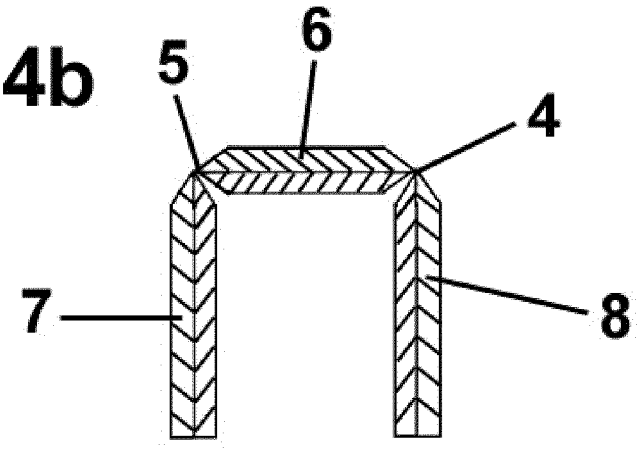
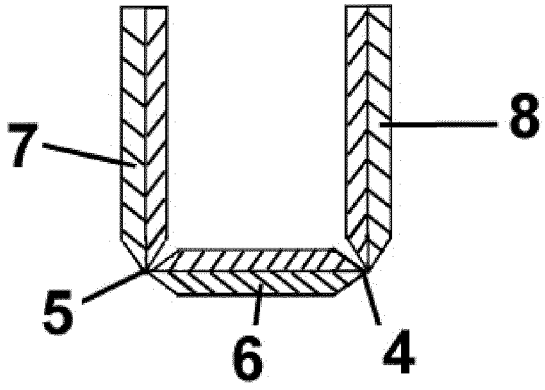


FIG. 4c



REFERENCES CITED IN THE DESCRIPTION

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- FR 2558815 A1 **[0008]**