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(71) Applicant: **Sunbreak S.r.l.**
31040 Giavera del Montello (TV) (IT)

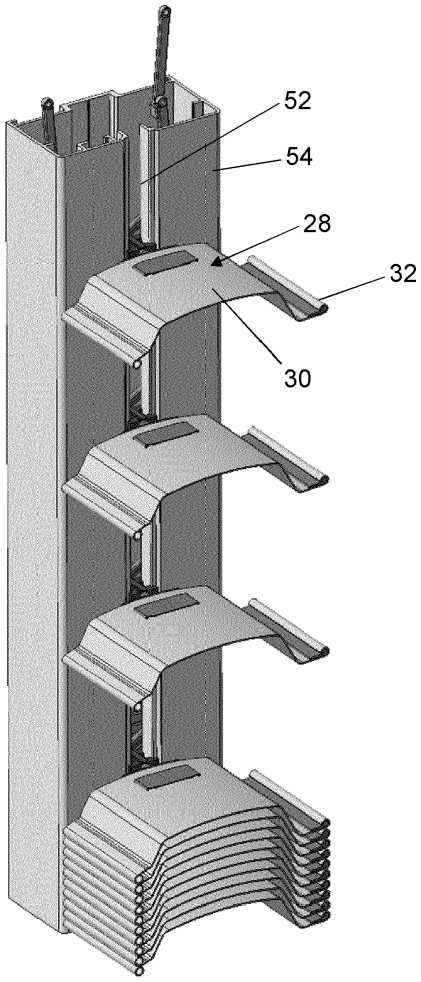
(72) Inventor: **BORSATO, Bruno**
31040 Giavera del Montello (TV) (IT)

(74) Representative: **Piovesana, Paolo et al**
c/o Praxi Intellectual Property S.p.A.- Venezia
Via Francesco Baracca, 5/A
30173 Venezia-Mestre (IT)

(54) **SUNSHADE BLADE**

(57) Sunshade blade comprising a system of constraint and articulation of the lamellae and further comprising at least one lamella in which the constraint and articulation system substantially comprises a plurality of elements (2, 2') to form two hinges (4) at whose articulation nodes are articulated blade holders (14) which have a cross shape and are formed by a cylindrical sleeve (20) to which a substantially quadrangular plate (22) presenting a slot (24) is integral, a blade (28) being attached to said blade holder (14) formed by a central body (30) slightly curved which extends into two lateral fins (32) rolled up at the ends (34), characterized by the fact that said central body (30) presents a slot (36) whose dimensions correspond to the dimensions of the slot (24), the connection of the blade (28) to the blade holder (14) being obtained by means of a clip (40) with curved appendages (42) which engage as undercut in the slots (24, 26), and by the fact that the elements (2, 2'), the blade holder (14), the plate (22), the central body (30) and the clip (40) have a height of less than 7 mm.

FIG. 3



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Description

[0001] The present invention relates to a sunshade blade in a system of constraint and articulation of the blades.

[0002] Sunshades with packable and adjustable blades are known, the ends of which are connected to the blade holders of the movement mechanisms inserted inside vertical lateral guides.

[0003] Said blade holders consist of a C-shaped support whose folded ends are inserted into the hinges of articulation of the blades, said C-shaped supports being integral with a pin whose other end is provided with a plate affected by a substantially rectangular hole.

[0004] However, these known systems for attaching the blade holders to the blades have the drawback of a large bulk in the thickness of the blades, so that the total packing of the blades involves a high loss of light with large-sized sunshades (about 39 cm for compartments with a height of 2.7 m of inter-plane).

[0005] The object of the invention is to eliminate these drawbacks and to provide a fastening system for the blade holders which has a reduced thickness so as to be able to reduce the overall dimensions of the packed blades of the sunshade.

[0006] This object is achieved according to the invention with a system of constraint and articulation of the blades in sunshade with packable blades as described in claim 1.

[0007] The present invention is further clarified hereinafter in a preferred embodiment shown purely by way of example and non-limiting with reference to the attached drawing tables in which:

Figure 1a shows an exploded perspective view of the articulation system of the holder,
Figure 1b shows it in assembled form
Figure 2 shows a cross-section of a shading blade constrained at the ends to the blade holder,
Figure 3 shows in perspective view the blades in an open and packed configuration,
Figure 4 shows a blade attached to a blade holder in frontal front view,
Figure 5 shows it in a rear perspective view,
Figure 6 shows the clip that secures the blade holder to the flap,
Figure 7 shows the blade and the clip in an exploded perspective view,
Figure 8 shows the sliding shoe.

[0008] As can be seen from the figures, the constraint and articulation system of the sunshade blades in packable blades substantially comprises a plurality of elements 2, 2' in zamak to form two hinges 4.

[0009] In particular, the elements 2 are articulated by a brass eyelet 6, while the elements 2' are articulated to each other by means of steel or plastic pegs 8 which also engage in a hole 10 provided at the end of a wing 12 of a zamak blade holder 14 and in a sleeve 16 present at the other end of the wing 18 of the blade holder 14.

[0010] The blade holder 14 has a cross shape and is formed by a cylindrical sleeve 20 to which a substantially quadrangular plate 22 is integral with a slot 24 and two reliefs 26.

[0011] The system according to the invention comprises a blade 28 in aluminum with a thickness between 0.7 mm and 1.20 mm, formed by a central body 30 slightly curved which extends into two lateral fins 32 folded towards the bottom and rolled up at the ends 34.

[0012] The central body 30 presents a slot 36 whose dimensions correspond to the dimensions of the slot 24 and two further slots 38 whose dimensions correspond to those of the reliefs 26.

[0013] The elements 2, 2', the blades holder 14, the plate 22, the central body 30 and the clip 42 have a height of less than 7 mm.

[0014] The connection between the central body 30 of the blade 28 and the blade holder 16 is obtained by inserting the reliefs 26 of the central body 30 in the slots 38 of the blade 28 and subsequently inserting a clip 40 with curved appendages 42 which snap into undercut slots 36. A runner 50 made of thermoplastic material sliding along a vertical slot 52 provided is snapped onto the cylindrical sleeve 20 in a cylindrical seat 48 in the case 54 housing the hinge. The runner 50 has, in correspondence with two surfaces, two vertical appendages 56 facing downwards which, when the runner is superimposed in contact with the lower runner, is engaged in corresponding seats 58 of the underlying runner.

[0015] From what has been said it is clear that the constraint and articulation system of the blades in packable blade holders with folding blades allows, thanks to the materials used and the heights of the elements 2, 2', blade holders 14, plate 22, central body 30 and clips 42 which have height of less than 7 mm to reduce the overall dimensions of the packed blades of the sunshade.

[0016] Moreover, thanks to the presence of the two reliefs 26 which are inserted in the two slots 38, the constraint system has a greater torsional rigidity.

Claims

1. Sunshade blade comprising a system of constraint and articulation of the lamellae and further comprising at least one lamella in which the constraint and articulation system substantially comprises a plurality of elements (2, 2') to form two hinges (4) at whose articulation nodes are articulated blade holders (14) which have a cross shape and are formed by a cylindrical sleeve (20) to which a substantially quadrangular plate (22) presenting a slot (24) is integral, a blade (28) being attached to said blade holder (14) formed by a central body (30) slightly curved which extends into two lateral fins (32) rolled up at the ends (34), **characterized by** the fact that said central body

(30) presents a slot (36) whose dimensions correspond to the dimensions of the slot (24), the connection of the blade (28) to the blade holder (14) being obtained by means of a clip (40) with curved appendages (42) which engage as undercut in the slots (24, 26), and by the fact that the elements (2, 2'), the blade holder (14), the plate (22), the central body (30) and the clip (40) have a height of less than 7 mm.

2. Sunshade blade according to claim 1 **characterized in that** the plate (22) presents two reliefs (26).

3. Sunshade blade according to claim 1 **characterized in that** the blade (28) is made of stainless steel or aluminum with a thickness of between 0.7 mm and 1.35 mm.

4. Sunshade blade according to claim 1 **characterized in that** the blade (28) is formed by a slightly curved central body (30) which extends into two lateral fins (32) folded down and rolled up at the ends (34).

5. Sunshade blade according to claims 1 and 2 **characterized in that** the central body (30) presents two further slots (38) whose dimensions correspond to those of the reliefs (26).

6. Sunshade blade according to claim 1 **characterized in that** a thermoplastic slide (50) sliding along a vertical slot (52) provided in a cylindrical seat (48) is snapped onto the cylindrical sleeve (20) a case (54) housing the hinge (4).

7. Sunblind blade according to claim 6 **characterized in that** the shoe (50) has two vertical appendages (56) facing downwards in correspondence with two surfaces which, when the shoe is superimposed in contact with the lower shoe, engage in corresponding seats (58) in the slide below.

FIG. 1a

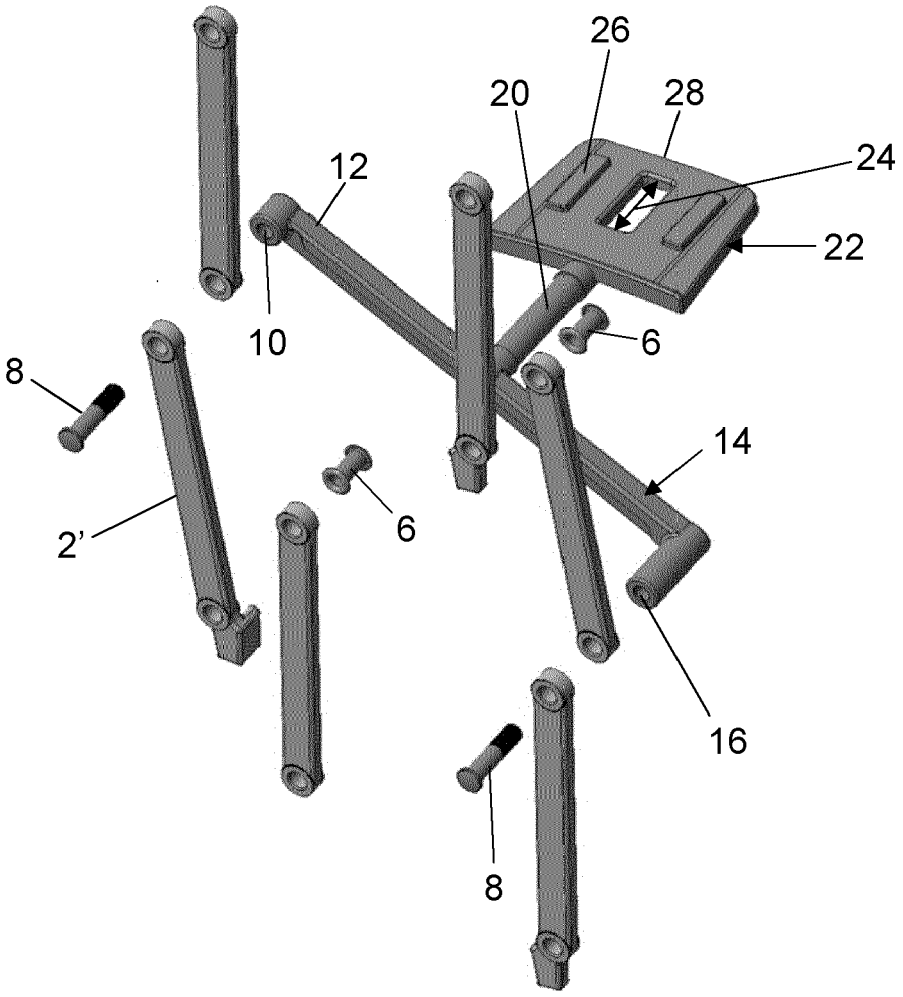


FIG. 1b

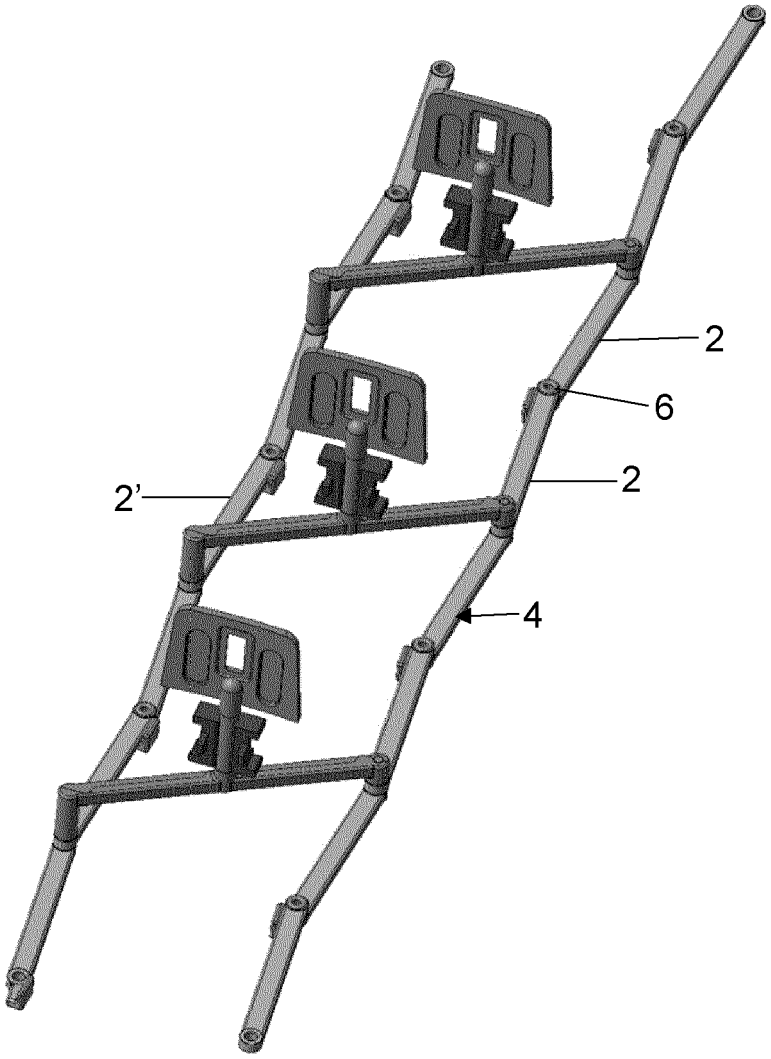


FIG. 2

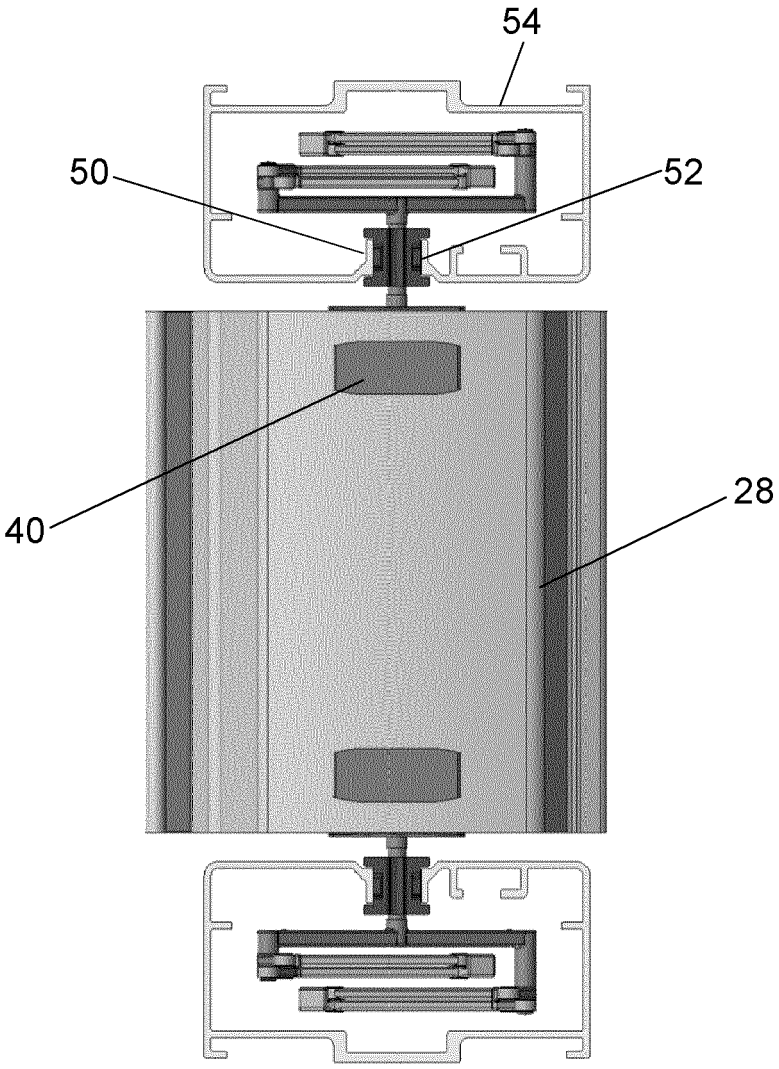


FIG. 3

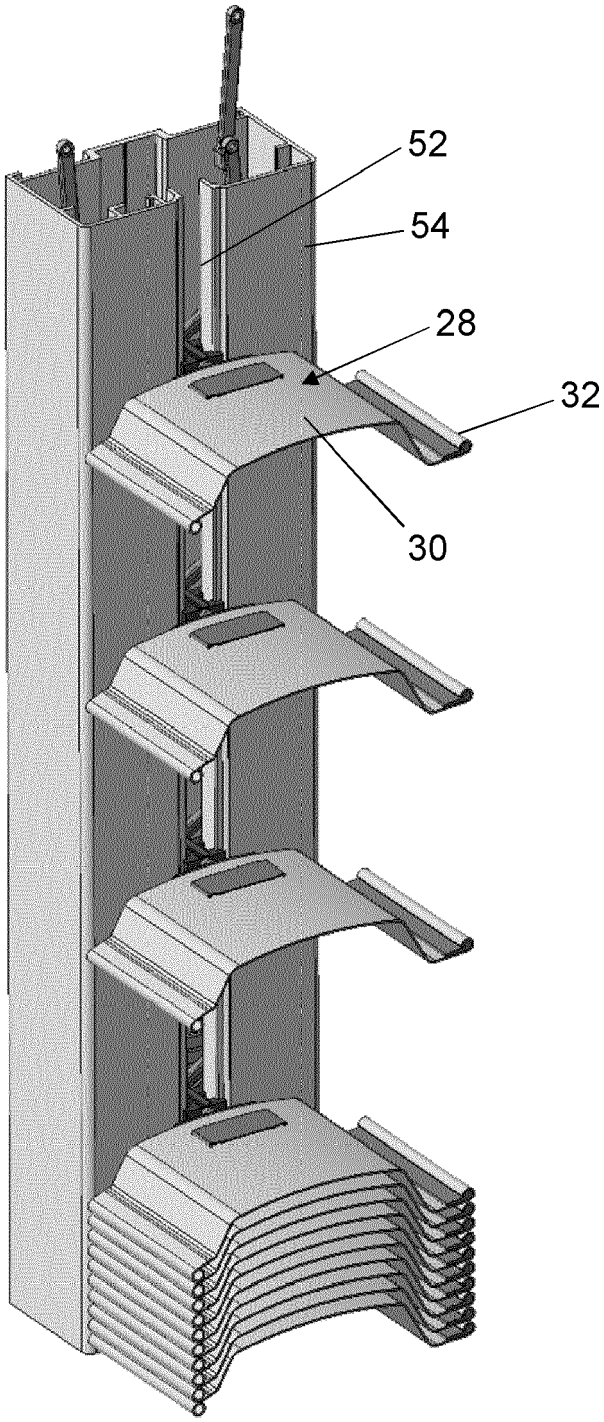


FIG. 4

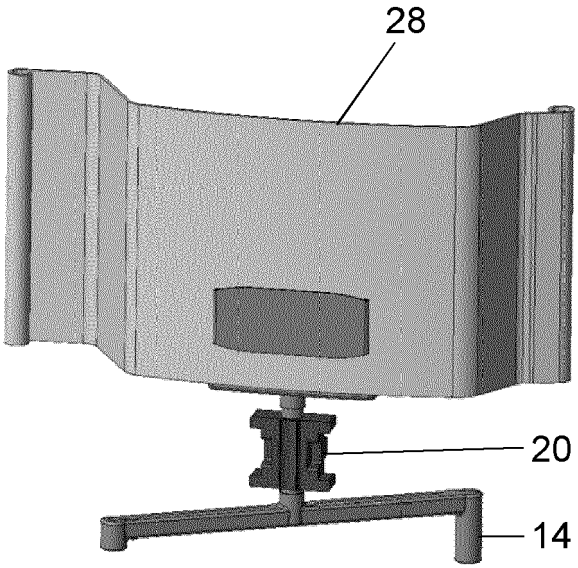


FIG. 5

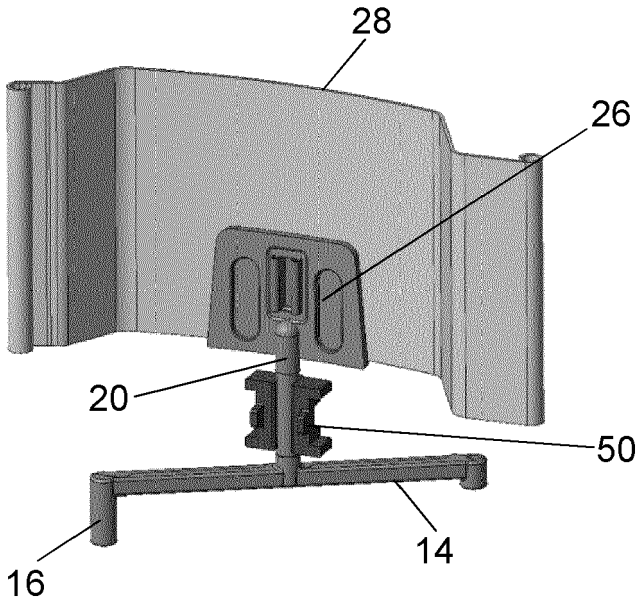


FIG. 6

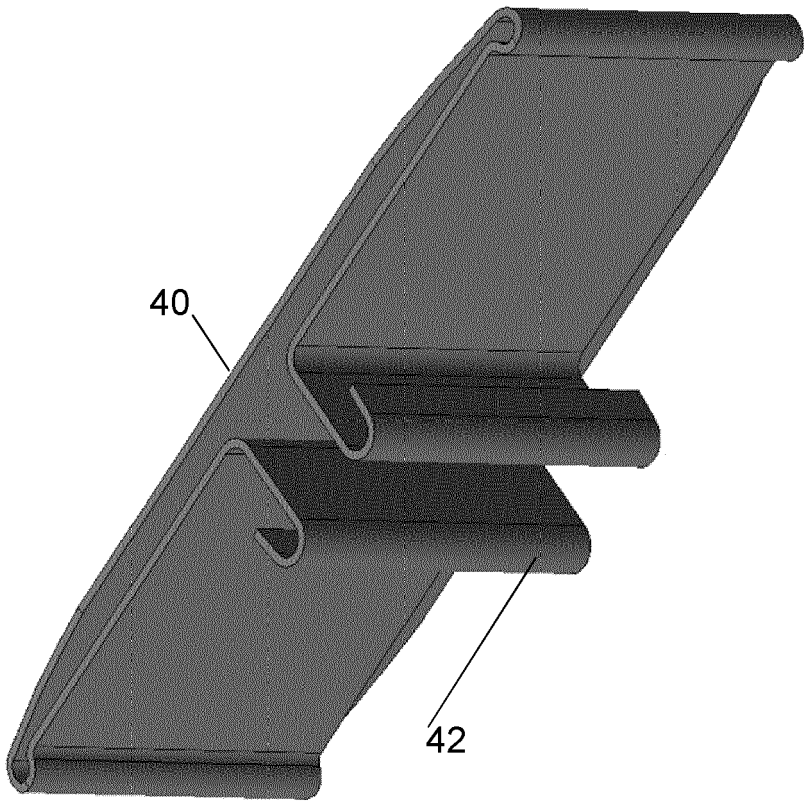


FIG. 7

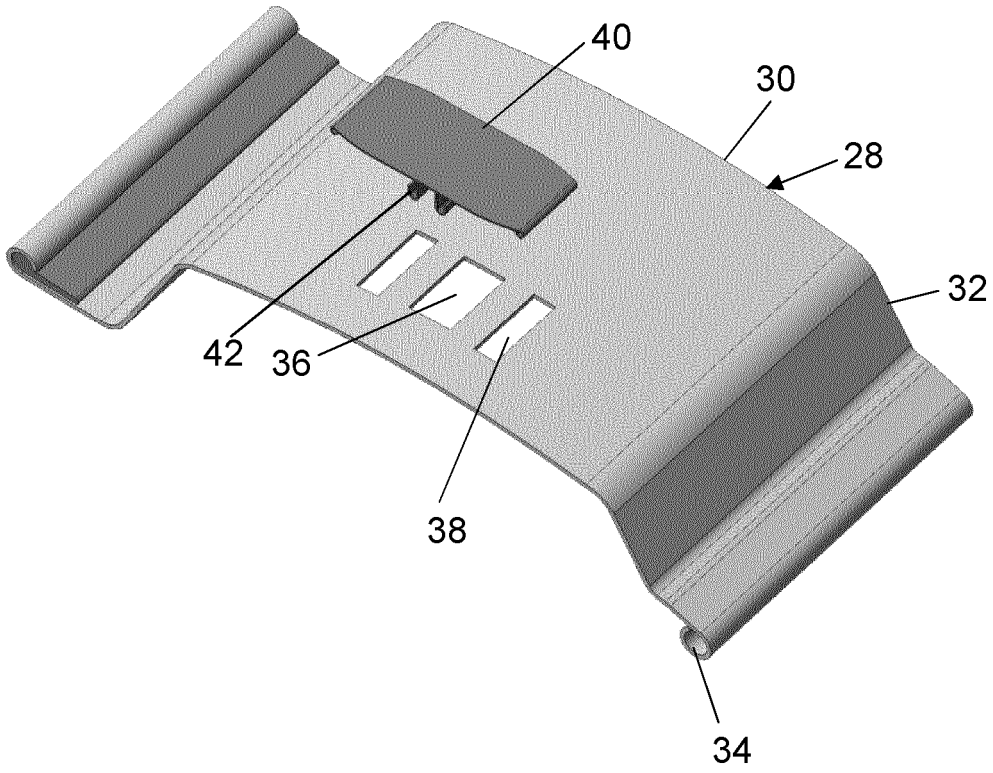
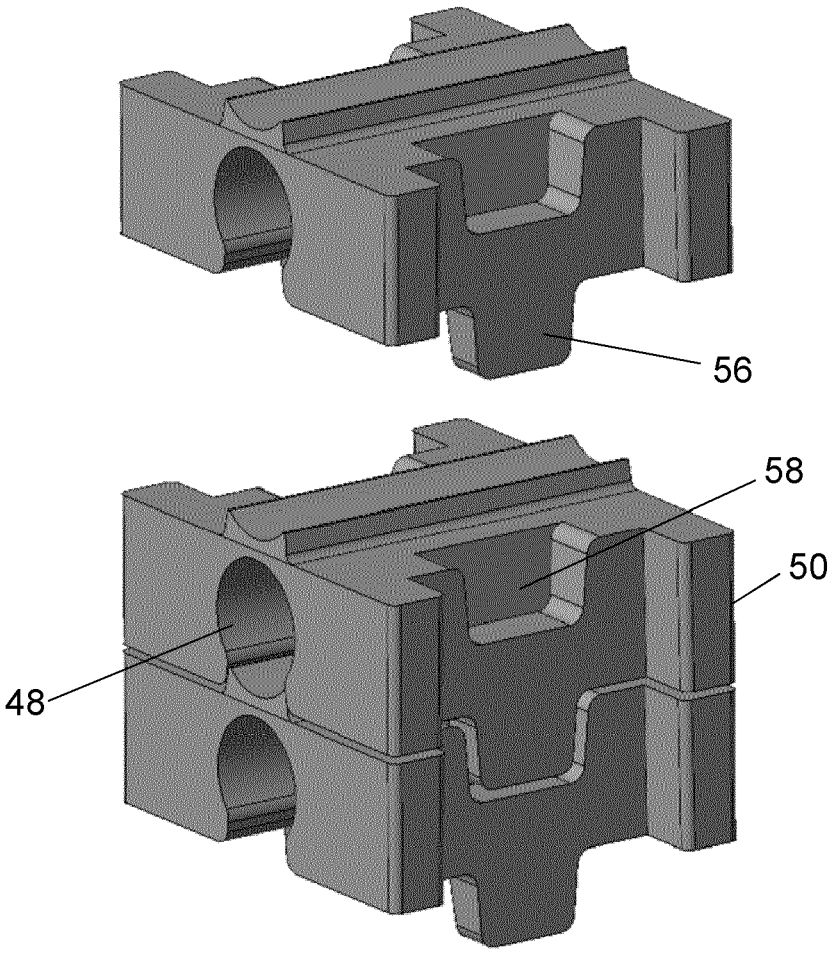


FIG. 8



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EUROPEAN SEARCH REPORT

Application Number
EP 21 21 3856

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	WO 2016/103123 A1 (LUPAK METAL S R L [IT]) 30 June 2016 (2016-06-30) * figures 1,3,3a,5,6,7,9,10 * * page 2, line 5 - line 9 * * page 10, line 2 - page 15, line 2 *	1-7	INV. E06B9/302 E06B9/327
A	US 3 651 852 A (NERI LOUIS) 28 March 1972 (1972-03-28) * figures 1,2,4,5 * * column 1, line 38 - line 49 * * column 2, line 18 - line 40 *	1	
A	AT 298 758 B (CHEVEAUX JEAN [CH]) 25 May 1972 (1972-05-25) * figures 2-4 * * page 1, line 30 - page 2, line 18 *	1	

TECHNICAL FIELDS SEARCHED (IPC)

E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	13 April 2022	Tänzler, Ansgar

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