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(54) **Supporting means for lamellae**

(57) Screening device, comprising a supporting construction (4), provided with attaching means and at least one screening slat (1) provided with an attaching part, such that the screening slat (1) may be fixed to the attaching means of the supporting construction (4) by means of the attaching part at a predetermined angle, said attaching part comprising a first snapping element (2, 24) intended to be fixed onto the screening slat (1),

and said attaching means comprise a second snapping element (6, 21) being intended to be fixed unto the supporting construction (4), the first (2, 24) and the second snapping element (6, 21) being intended to be snapped together, in order to fix the screening slat (1) to the supporting construction (4), the first snapping element (2) comprising at least one projection (3) which correspond to at least one groove (7) of the second snapping element (6).

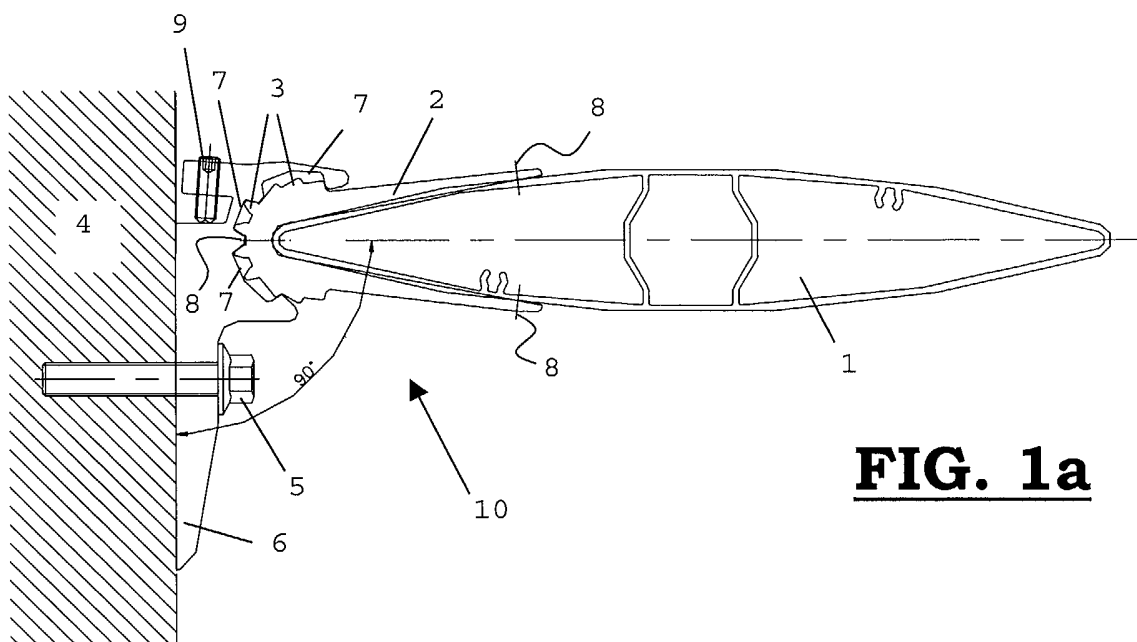


FIG. 1a

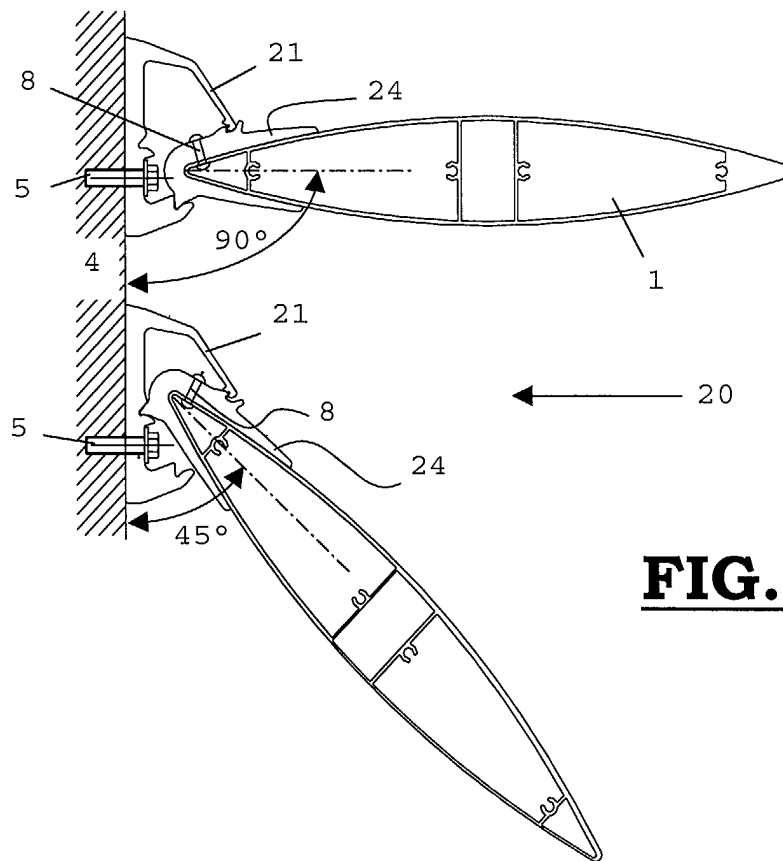


FIG. 2a

Description

[0001] The invention relates to a screening device, comprising a supporting construction, provided with attaching means and at least one screening slat provided with an attaching part, such that the screening slat may be fixed to the attaching means of the supporting construction by means of the attaching part at a predetermined angle, said attaching part comprising a first snapping element intended to be fixed to the screening slat, and said attaching means comprise a second snapping element intended to be fixed to the supporting construction, the first and the second snapping element being intended to be snapped together, in order to fix the screening slat to the supporting construction.

[0002] Up to this moment, screenings are known, where a kind of a fork should first be placed on the slat or on the supporting construction, after which the fork must be placed onto the supporting construction, the slat into the fork respectively.

[0003] The problem of this system is that several persons are needed to fix such a slat system to a supporting construction.

[0004] Further, a system is described in GB 2 126 708 in which a screening unit for ventilation openings is described, a supporting construction being provided for onto which elements are applied for supporting screening slats, these elements being provided with attaching means for attaching an attaching part, which has been provided for on a screening slat. The attaching means and the attaching part have been arranged in such a manner that the screening slats may be applied to the supporting construction at a certain angle, which is selected from several predetermined angles. A cylindrical rib with a hollow part being slid onto a star-shaped rail, alternatively an elastic arm may be pushed onto the supporting part in a channel of the screening slat. In addition, separating walls of variable length are slid into their positions.

[0005] The disadvantage of such a system is that sliding the screening slats onto a supporting construction may cause problems, for instance, when a wall of screening slats should be installed between two walls. Then there is no room sideways to hold the screening slats when commencing the sliding on. Further, some clearance must be provided for when installing by sliding in order to be able to slide the screening slat onto the supporting construction. There is a risk here that the whole will start to rattle when the screening slat has been installed.

[0006] An additional disadvantage of this system is that a partition should be slid in between the screening slat and the supporting construction to put the whole system under strain.

[0007] These disadvantages are solved in EP 1 130 210, in which a sunshade device is described which is provided with holders for slats, the holders comprising a holder part which may be attached to a sectional sup-

porting part, and comprising a wing part which may be attached to the holder part at different angles, this wing part having at least one mounting arm for the slat to be fixed.

[0008] In this construction a connecting piece has been provided on the wing part, which has been further provided with a central gudgeon which fits into a corresponding central opening provided for in the holder part. Further, smaller gudgeons have been provided for along the circumference of the connecting piece, which fit in corresponding smaller recesses of the holding part. In this manner, the slat may be attached to the holders at different angles.

[0009] The disadvantage of this device is, that providing gudgeons, which fit into corresponding openings is not very strong, because there is only a small contact surface between the holding part and the wing part and that a shear load occurs.

[0010] The objective of the invention is to provide for a screening device not having the disadvantages mentioned above.

[0011] This objective is obtained by providing for a screening device, comprising a supporting construction provided with attaching means and at least one screening slat provided with an attaching part, such that the screening slat may be fixed to the attaching means of the supporting construction, by means of the attaching part at a predetermined angle, said attaching part comprising a first snapping element intended to be fixed on to the screening slat and said attaching means comprise a second snapping element being intended to be fixed onto the supporting construction, the first and the second snapping elements being intended to be snapped together, in order to fix the screening slat onto the supporting construction, but the first snapping element comprising at least one projection corresponding to at least one groove of the second snapping element.

[0012] In a first preferred embodiment of a screening device according to the invention, the first snapping element comprises several projections, which correspond to several grooves of the second snapping element, in order to be able to snap the first snapping element onto the second snapping element in different positions.

[0013] Preferably, the snapping connection between the first and second snapping element may be strengthened by means of a screwed connection.

[0014] In a second preferred embodiment of a screening device according to the invention, the first snapping element is provided with at least one tooth and a first groove, and the second snapping element is provided with at least one second groove, an arm and a hook, the tooth being intended to be introduced into the second groove and the hook being intended to be snapped into the first groove by elastic deformation of the arm.

[0015] In a more specific second preferred embodiment of a screening device according to the invention, several second grooves are provided, such that the first snapping element may be snapped into the second

snapping element in different positions.

[0016] In a screening device according to the invention, the supporting construction may be placed both in a vertical and in a horizontal position as well as at any angle.

[0017] Preferably, the screening device according to the invention is made of aluminium.

[0018] This invention is further clarified in the following nonlimiting description of two preferred embodiments of a screening device according to the invention.

[0019] In this description reference is made, by means of reference numbers, to the attached figures where:

- figure 1a represents a side view of a first embodiment of a screening device according to the invention, where the screening slats are placed onto the supporting construction at an angle of 90°;
- figure 1b represents a side view of a first embodiment of a screening device according to the invention, where the screening slats are placed onto the supporting construction at an angle of 67,5°;
- figure 1c represents a side view of a first embodiment of a screening device according to the invention, where the screening slats are placed onto the supporting construction at an angle of 45°;
- figure 2a represents a side view of a second embodiment of a screening device according to the invention, where the screening slats are placed onto the supporting construction at an angle of 90° and 45°;
- figure 2b represents a perspective view of a second embodiment of a screening device according to the invention, where the screening slats are placed onto the supporting construction at an angle of 45°;
- figure 2c represents a perspective view of a second embodiment of a screening device according to the invention, where the screening slats are placed onto the supporting construction at an angle of 90°;
- figure 3a is a side view of a second snapping element of the second embodiment which is fixed onto the supporting construction;
- figure 3b is a side view of a first snapping element of the second embodiment, which is fixed onto the screening snapping.

[0020] In a first preferred embodiment of a screening device (10) according to the invention, such as represented in the figures 1a, 1b and 1c, a first snapping element (2) in the shape of a fork section with several projections (3) is fixed onto a screening slat by means of rivets (8). A second snapping element (6) having grooves (7) which correspond to the projections (3) of the first snapping element (2) is fixed onto the supporting construction (4) by means of a bolt or screw (5). The screening slat (1) may be fixed onto the supporting construction (4) at an angle of 90°, as represented in figure 1a, at an angle of 67,5°, as represented in figure 1b or

at an angle of 45°, as represented in figure 1c, by snapping the first snapping element (2) into the second snapping element (6). The snapping connection between the first (2) and the second snapping element (6) is strengthened by tightening a setscrew (9).

[0021] In a second embodiment (20) of a screening device according to the invention as represented in the figures 2a, 2b and 2c, a first snapping element (24) in the shape of a sectional fork is fixed to the screening slat (1) by means of a rivet (8). The second snapping element (21) is fixed to the supporting construction (4) by means of a bolt or screw (5).

[0022] Such as represented in figure 3a, the second snapping element (21) has been provided with two second grooves (31a, 31b), an arm (32) with a hook (33), while the first snapping element (24) has been provided with a tooth (34) and a first groove (35), as represented in figure 3b. When snapping together, the tooth (34) is brought into one of the two second grooves (31a, 31b), depending on the installing position desired. The screening slat (1) may be snapped onto the supporting construction at an angle of 45°, as represented in figure 2b and at an angle of 90°, as represented in figure 2c.

[0023] Snapping occurs by elastic deformation of the arm (32), until the hook (33) snaps into the first groove (35). When these two snapping elements (21, 24) have been snapped together, there is no more clearance. The arm (32) even remains under a light strain.

[0024] The supporting construction (4) may be installed both in a vertical and in a horizontal way as well as at any angle. Preferably, the screening device (10, 20) is made of aluminium, but this does not prevent any other materials from being used as well.

[0025] The advantages of such a screening device (10, 20) is that it may be easily installed by only one person, and that all fixing materials such as bolts, screws, rivets, etc. are concealed.

[0026] Such a screening device (10, 20) may be applied, among others, for sunshades, but there are other fields of application as well.

Claims

1. Screening device, comprising a supporting construction (4), provided with attaching means and at least one screening slat (1) provided with an attaching part, such that the screening slat (1) may be fixed to the attaching means of the supporting construction (4) by means of the attaching part at a predetermined angle, said attaching part comprising a first snapping element (2, 24) intended to be fixed onto the screening slat (1), and said attaching means comprise a second snapping element (6, 21) being intended to be fixed onto the supporting construction (4), the first (2, 24) and the second snapping elements (6, 21) being intended to be snapped together, in order to fix the screening slat (1) to the

supporting construction (4), **characterized in that** the first snapping element (2) comprises at least one projection (3) corresponding to at least one groove (7) of the second snapping element (6).

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2. Screening device according to claim 1, **characterized in that** the first snapping element (2) comprises several projections (3), corresponding to several grooves (7) of the second snapping element (6), in order to be able to snap the first snapping element (2) onto the second snapping element (6) in different positions. 10
3. Screening device according to claim 1 or 2, **characterized in that** the snapping connection between the first (2) and the second snapping element (6) may be strengthened by means of a screwed connection (9). 15
4. Screening device according to claim 1, **characterized in that** the first snapping element (24) is provided with at least one tooth (34) and a first groove (35), and the second snapping element (21) is provided with at least one second groove (31a or 31b), an arm (32) and a hook (33), the tooth (34) being intended to be introduced into the second groove (31a or 31b) and the hook (33) being intended to be snapped into the first groove (35) by elastic deformation of the arm (32). 20 25 30
5. Screening device according to any one of the claims 1 up to and including 4, **characterized in that** several second grooves (31a, 31b) are provided, such that the first snapping element (24) may be snapped into the second snapping element (21) in different positions. 35
6. Screening device according to any one of the claims 1 up to and including 5, **characterized in that** the supporting construction (4) may be placed both in a vertical and in a horizontal position as well as at any angle. 40
7. Screening device according to any one of the preceding claims, **characterized in that** the screening device (10, 20) is made of aluminium. 45

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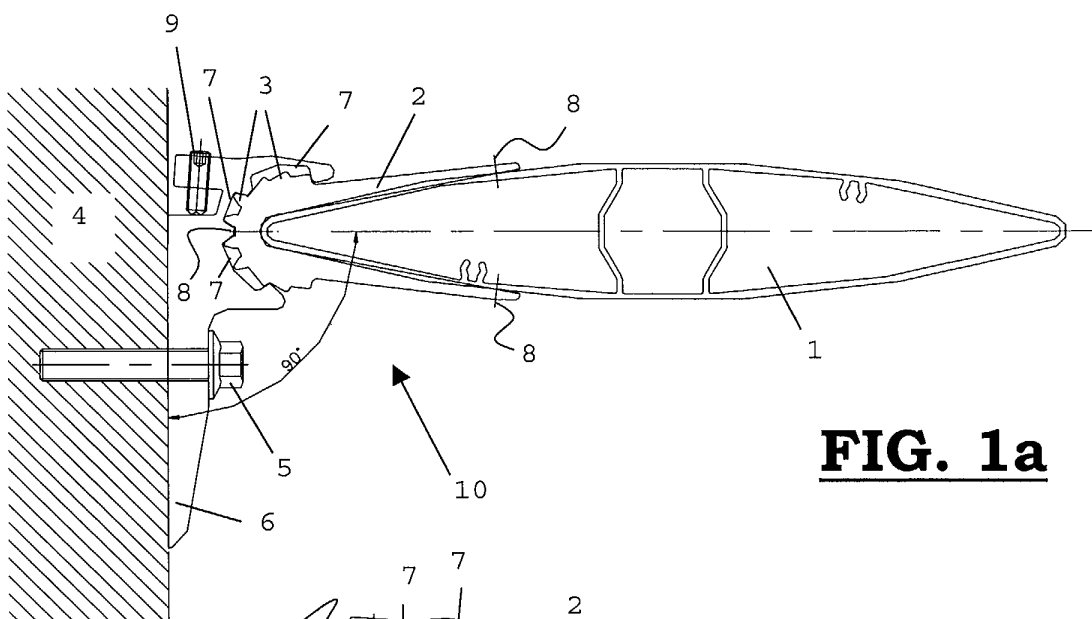


FIG. 1a

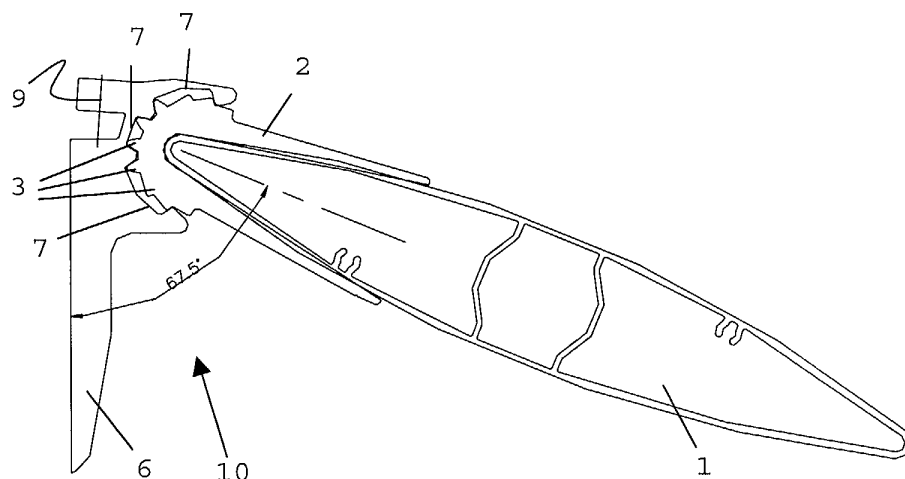


FIG. 1b

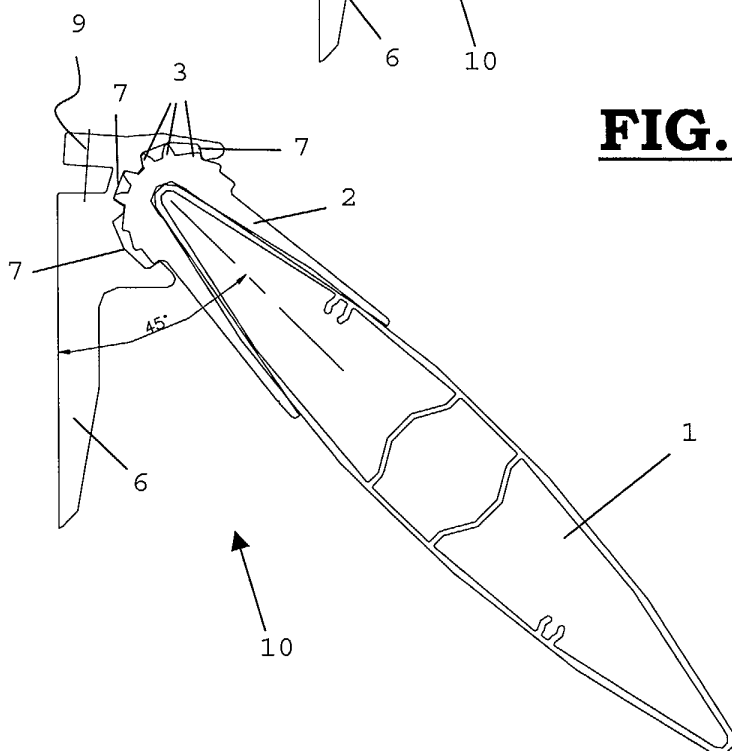


FIG. 1c

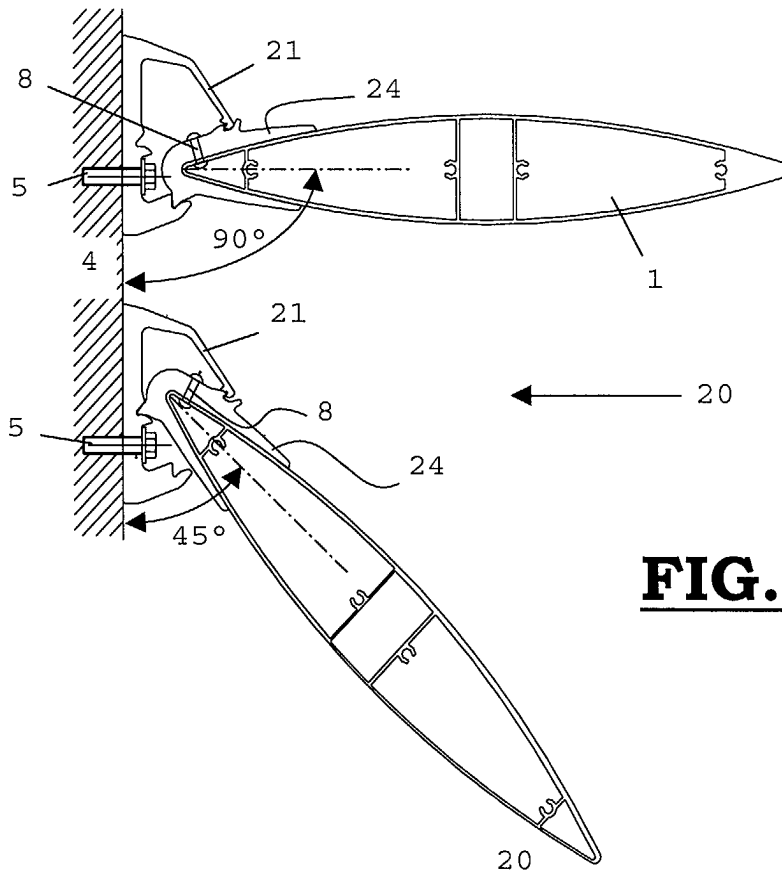


FIG. 2a

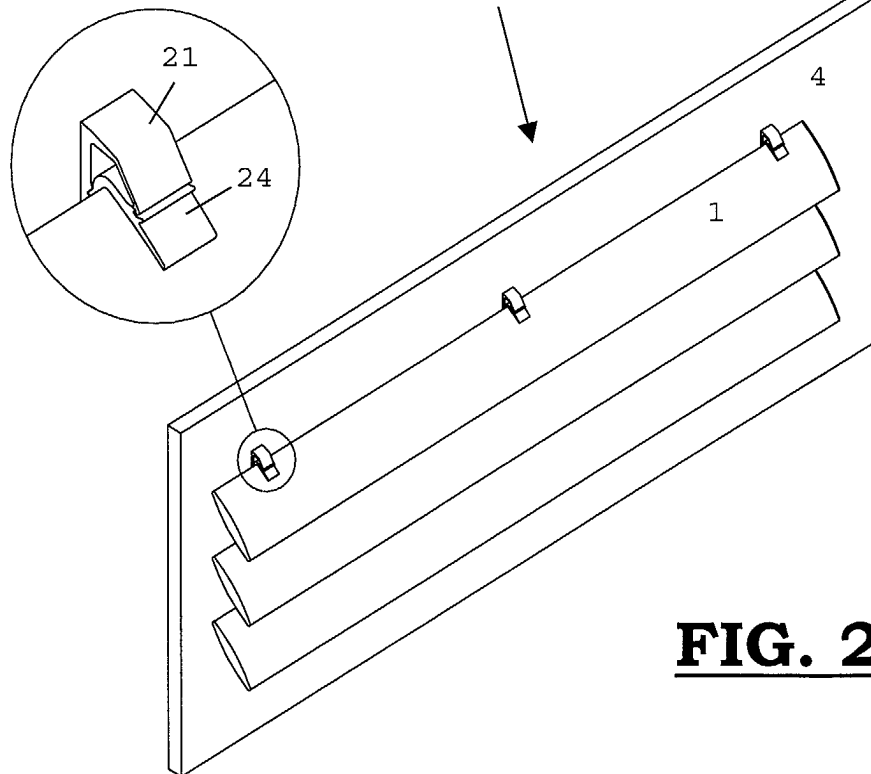


FIG. 2b

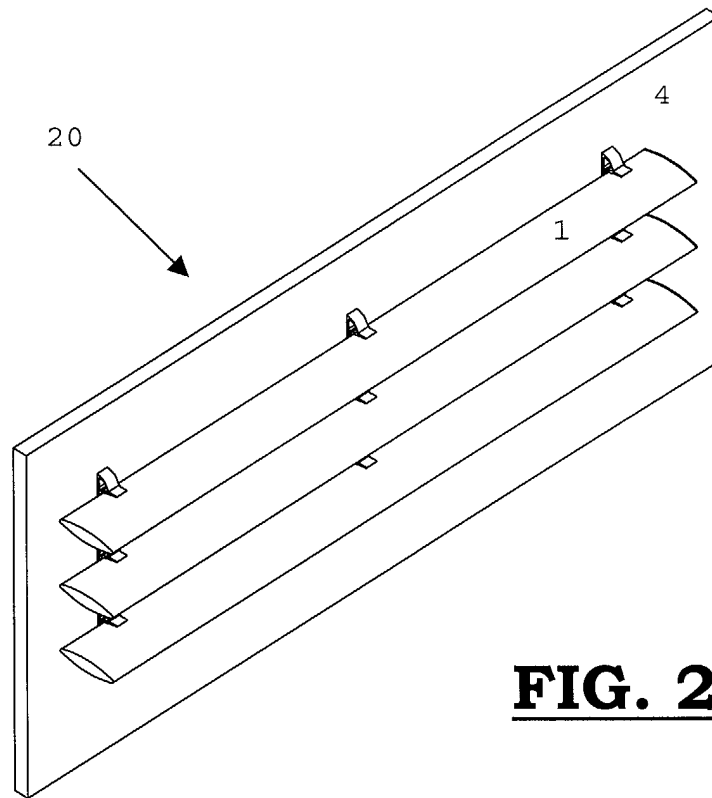


FIG. 2c

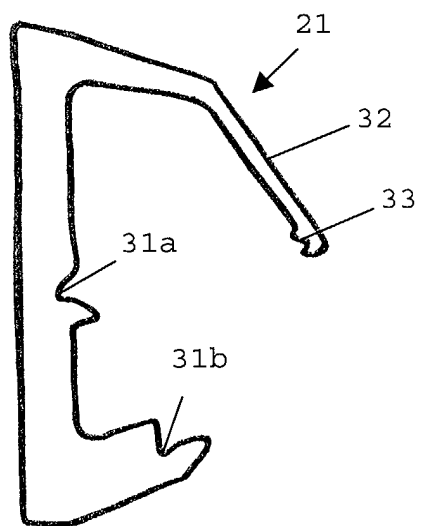


FIG. 3a

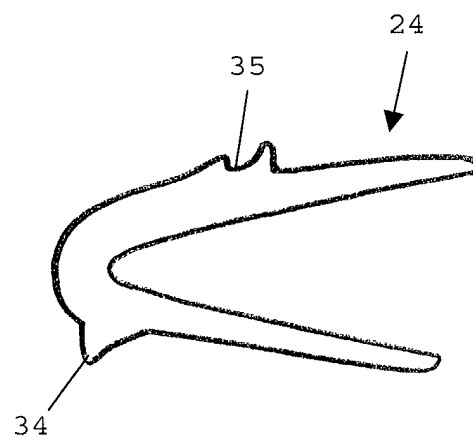


FIG. 3b



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 02 07 9136

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,A	EP 1 130 210 A (COLT INTERNAT HOLDINGS AG) 5 September 2001 (2001-09-05) * paragraph '0010! - paragraph '0011! * * figures 1-3 * -----	1	E06B9/28 E06B7/082
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E06B E04F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 30 January 2003	Examiner Geivaerts, D
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 07 9136

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1130210 A	05-09-2001	DE 10009565 A1 EP 1130210 A2	30-08-2001 05-09-2001

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82