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(54) **Covering for facades**

(57) The invention relates to a covering for facades comprising a series of vertical footing pieces (1) which are fixed to the façade and covering panels (12) which are secured in the footing pieces by means of connection elements formed by a series of runners (5) which are fixed to the footing pieces at different heights and two

approximately parallel supports (8) which are fixed on each runner from which they project in portions provided with fixing means (9) for fixing to the panels. The runners bear a hanging horizontal bolt (7) in which each pair of supports (8) is assembled, these supports having means for adjusting their height and depth with respect to the mentioned hanging horizontal bolt.

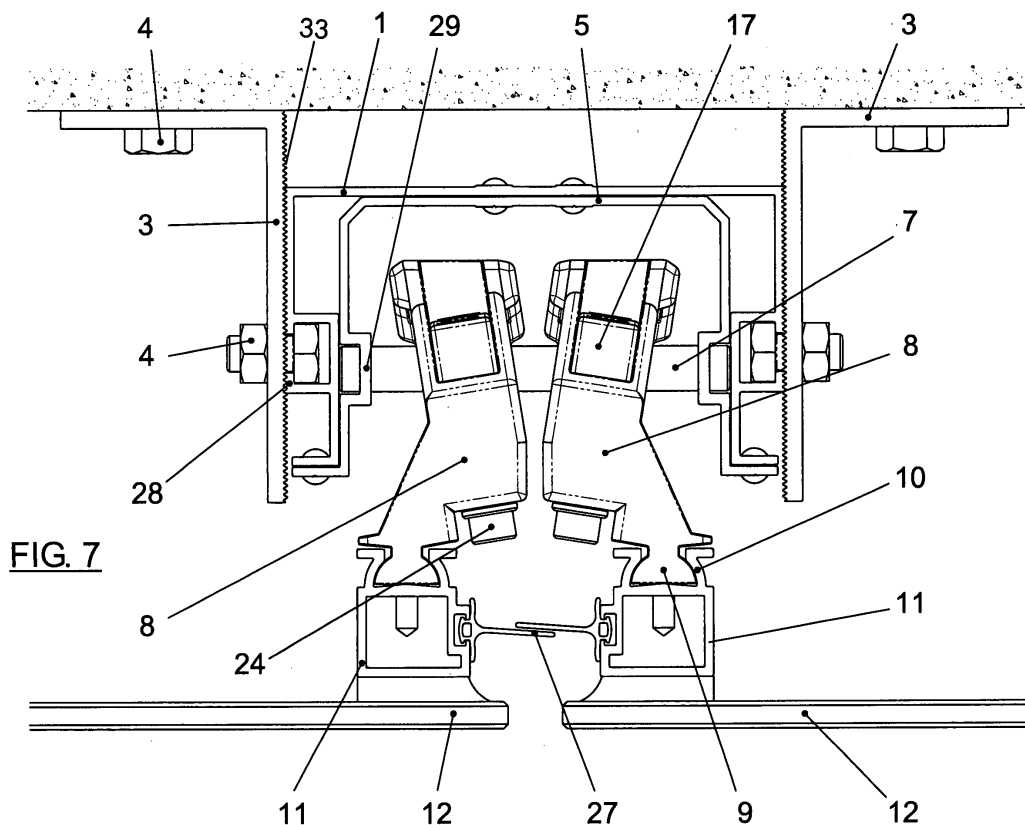


FIG. 7

Description

Field of the Invention

[0001] The present invention relates to a covering for facades comprising a series of vertical footing pieces which are fixed to the facades, and covering panels which are assembled in the footing pieces by means of connection elements.

Background of the Invention

[0002] In the coverings for facades of the type set forth, the connection elements of the panels are normally formed by pins, catches or screws which are directly secured in the footing pieces or in crosspieces fixed to said footing pieces, with little or no adjustment possibilities, which makes it necessary for said connection elements to be located accurately both in the footing pieces and in the panels so as to obtain a continuous visible surface in said panels. However, this is always possible, giving rise to slight differences of depth and height between consecutive panels, creating slight misadjustments or steps that are perfectly visible in the surface of the covering.

[0003] So as to solve these problems, coverings are known in which the connection elements are formed by parts or runners fixed to the footing pieces at different heights, each of which carries a horizontal pin or bolt on which the covering panels are hanged, either directly or by means of supports which are hanged from the horizontal bolts and project frontally from the footing pieces and runners in portions provided with fixing means for the panels, all of this for the purpose of being able to adjust the height and depth of the securing points of the panels and thus obtaining the maximum adjustment and coplanarity between the covering panels. EP 0180837, EP 0979334 and DE 29704183 can be mentioned in this sense. In all cases, the adjustment possibilities mentioned are reduced or are achieved by means of complicated mechanisms or mechanisms of that are difficult to adjust.

Description of the invention

[0004] The object of the present invention is a covering for facades of the type described in which the covering panels are hanged through supports allowing a perfect adjustment of the position between panels, both in height and in depth, which allows achieving continuous and planar covering surfaces. Furthermore, the supports through which the panels are hanged have a robust structure and the adjustment means can be easily accessed and offer complete safety against unwanted movements.

[0005] The covering of the invention is of the type set forth, made up of footing pieces which are fixed to the facade and of covering panels which are secured to the footing pieces of connection elements.

[0006] According to the present invention, the connection elements are formed by a series of runners which are fixed to the footing pieces at different heights and by two approximately parallel supports which are fixed on each runner and project from the footing pieces in portions provided with fixing means of the panels.

[0007] In the covering of the invention, the footing pieces are formed by C-shaped section profiles with certain conformations in their walls. The runners are formed in turn by pieces of section that is approximately equal to the inner section of the footing pieces, and are coupled therein by sliding, being fixed to the footing pieces at the selected height by means of rivets, screws, etc.

[0008] Each of the runners carries a hanging horizontal bolt in which each pair of supports is assembled. These supports are provided with means which allow adjusting their height and depth with respect to the hanging horizontal bolt of the runner. Since the panels are fixed to the supports, the position of the panels will also be able to be adjusted in depth and height, thus allowing locating all the covering panels with the outer surface being coincident or coplanar.

[0009] The fixing means for fixing the panels consist of vertical guides which the supports have in the portion in which they project from the footing pieces. Grooves are coupled by sliding and fixed in these vertical guides, which grooves have frames or profiles which are secured to the panels on the reverse side thereof for their securing.

[0010] Behind the guides serving as securing means for the panels, each support has two parallel vertical walls between which there are assembled, with the ability to move, two adjustment parts, a lower part which is assembled on the hanging horizontal bolt of the runner without the possibility of transverse movement thereupon, and another upper part which is assembled between inclined guides of the walls of the support. These two adjustment parts are connected to each other by means of a runner allowing the relative horizontal movement between said parts. The runner can consist of a channel with a restricted mouth which one of the parts has and of an also longitudinal ridge which the other part has, both of them with the same section and along their adjacent edges, the channel and the ridge being able to be coupled to each other with the freedom of relative longitudinal sliding. The two parts are further linked to the support by means of other horizontal screws passing freely through the support from the front part thereof and are screwed in the parts, the screw which is screwed to the upper part serving as a vertical adjustment means, whereas the screw screwed to the lower part serves as horizontal or depth adjustment means.

[0011] The inclined guides of the support consist of inclined slits which the walls of said support have, from the vertical edge of the walls, penetrating in such slits there are as many other elongated ribs projecting from an opposite position and with the same inclination from the upper adjustment part.

Brief Description of the Drawings

[0012] The constitution, features and advantages of the covering of the invention will be better understood from the following description made with reference to the attached drawings, in which a non-limiting embodiment is shown.

[0013] In the drawings:

Figure 1 is a perspective view of a footing piece fixed to the façade, with two runners assembled thereupon.

Figure 2 is a perspective view of a pair of supports assembled on a runner.

Figure 3 is a front perspective view of one of the supports forming part of the connection elements, with the two adjustment parts.

Figure 4 is a view similar to Figure 3, showing a support without the adjustment parts.

Figure 5 is a perspective view of the lower adjustment part.

Figure 6 is a perspective view of the upper adjustment part.

Figure 7 is a cross-sectional view of a façade covering formed according to the invention and taken according to section line VII-VII of Figure 1.

Figure 8 is a section similar to Figure 7, taken according to section line VIII-VIII of Figure 1.

Figure 9 shows a perspective view of the securing of one of the supports to the profiles integral with the covering panels.

Detailed Description of an Embodiment

[0014] As can be seen in Figure 1, the covering for facades of the invention is formed from a series of vertical footing pieces 1 which are fixed on the façade 2 to be covered. These footing pieces are formed by C-shaped section profiles, the side branches of which have longitudinal conformations. The fixing of the footing pieces 1 on the façade 2 can be carried out by means of squares 3 and screws 4 for securing the squares 3 to the façade and the footing pieces 1 to the squares.

[0015] Runners 5 are assembled inside the footing pieces 1, which runners are formed by parts of an outer section that is approximately equal to the inner section of the footing pieces 2, so as to allow their coupling therein by sliding. The fixing of the runners 5 to the footing pieces 1 can be carried out by means of rivets or screws 6.

[0016] Each runner 5 carries a hanging horizontal bolt 7 of a circular section for example.

[0017] As can be seen in Figure 2, in each runner 5 there are assembled two approximately parallel supports 8, which project from the runners and footing pieces in portions provided with fixing means for fixing to the panels, means which can consist of vertical guides 9 of an approximate dovetail section for example, so as to be coupled by sliding in grooves 10, Figures 7 and 8, having

frames or profiles 11 fixed in the reverse side of the covering panels 12.

[0018] As can be seen better in Figure 4, each support 8 has, behind the guide or vertical ridge 9, two parallel vertical walls 13 having two inclined slits 14 in their upper part, whereas they have a notch 15 from the lower edge.

[0019] As shown in Figure 3, two adjustment parts, a lower part 16 and an upper part 17, are assembled between the walls 13 of each support with the ability to move.

[0020] The lower adjustment part 16 is shown in Figure 5 and adopts a fork shape in its lower part so as to be assembled straddling the hanging horizontal bolt 7 of the runners. The surface of this hanging horizontal bolt can be knurled so as to prevent the sliding of the part 16. The branches of the fork have corresponding aligned openings 18 through which a blocking screw 19 will be introduced, Figure 3. Parallel to the axis of these openings 18 the part 16 has in its upper part a partially threaded through borehole 20 for receiving an adjusting screw 21, Figure 3. The part 16 will be limited by two larger planar and parallel surfaces, so as to allow its movement between the walls 13 of the support.

[0021] As can be seen in Figure 6, the upper adjustment part 17 also has two larger planar and parallel surfaces so as to allow its movement between the walls 13 of the support. Elongated ribs 22 project from these walls, which ribs are located in an opposite position and with the same inclination as the slits 14 of the support, having a width that is approximately equal to that of said slits but with a smaller length, such that they can be moved partially along these slits.

[0022] The upper adjustment part 17 further has a through borehole 23 parallel to the borehole 20 of the lower adjustment part 16 for receiving an adjusting screw 24, Figure 3.

[0023] The two adjustment parts, the lower part 16 and the upper part 17, are further linked by means of a runner that can be formed by an upper longitudinal ridge 24 projecting from the lower adjustment part 16, and by a longitudinal channel 25 of the same section as the upper adjustment, from the lower base.

[0024] With the constitution discussed, when acting on the adjusting screw 21, since the lower adjustment part 16 is transversely blocked by the hanging horizontal bolt 7 of the corresponding runner, the support 8 will be the one that moves horizontally, in depth, with respect to the runners.

[0025] When acting on the adjusting screw 24, the upper adjustment part 17 will be moved inwards or outwards, which part will move with respect to the lower adjustment part 16 and will force the support 8 to move vertically due to the effect of the guides defined by the slits 14 and ridges 22.

[0026] In this way, by acting on the screw 21 of a support 8, said support is moved horizontally inwards or outwards, whereas by acting on the screw 24, the support 8 is moved vertically. Since the panels 12, Figures 7 and

8, are fixed to the supports 8, the movements of these supports will lead to the movement in the same direction of the panels 12, thus allowing the consecutive panels to be in a coplanar position with the outer surface.

[0027] Closing parts 27 can be assembled between the profiles 11 supporting the panels 12. 5

[0028] Figures 7 and 8 show the section of the footing pieces 1 with outer longitudinal grooves 28 in its walls for receiving the head of the screws 4, and also show the section of the runners 5 with outer grooves 29 for securing the hanging horizontal bolts 7. It can also be observed how the support surface between the squares 3 and the footing pieces 1 have a toothing 33 preventing unwanted sliding between said parts. 10

[0029] The frames or profiles 11 fixed in the reverse side of the covering panels are secured to the supports 8 by means of screws 30 for example, as shown in Figures 8 and 9, introduced through indentations 31 of the supports 8, Figures 4 and 9. 15

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Claims

1. A covering for facades, comprising a series of footing pieces which are fixed to the façade; a series of runners which are fixed to the footing pieces at different heights and each of which bears a hanging horizontal bolt ; and two supports fixed to each bolt projecting frontally from the footing pieces and runners in portions provided with fixing means for fixing the panels; said supports having means for adjusting their height and depth with respect to the hanging horizontal bolt, **characterized in that** each support comprises, behind the fixing means for fixing the panels, two parallel vertical walls between which there are assembled two adjustment parts with the ability to move, a lower part which is assembled on the hanging horizontal bolt of the runner without the possibility of transverse movement thereupon, and another upper part which is assembled between inclined guides of the walls of the support; the two adjustment parts further being connected to each other by means of a runner allowing the relative horizontal movement between said parts, whereas the two parts are linked to the support by means of corresponding horizontal screws passing freely through said support from the front part thereof and are screwed in the parts. 25 30 35 40 45
2. A covering according to claim 1, **characterized in that** the inclined guides of the support consist of corresponding inclined slits which the walls of said support have, penetrating in such slits there are as many other elongated ribs projecting in an opposite position and with the same inclination from the upper adjustment part. 50 55
3. A covering according to claim 1, **characterized in that** the runner connecting the two adjustment parts

is formed by a channel with a restricted mouth and by a ridge, both of the same section, which said parts have along their adjacent edges, the channel and the ridge being able to be coupled to each other with the freedom of relative longitudinal sliding between the two parts.

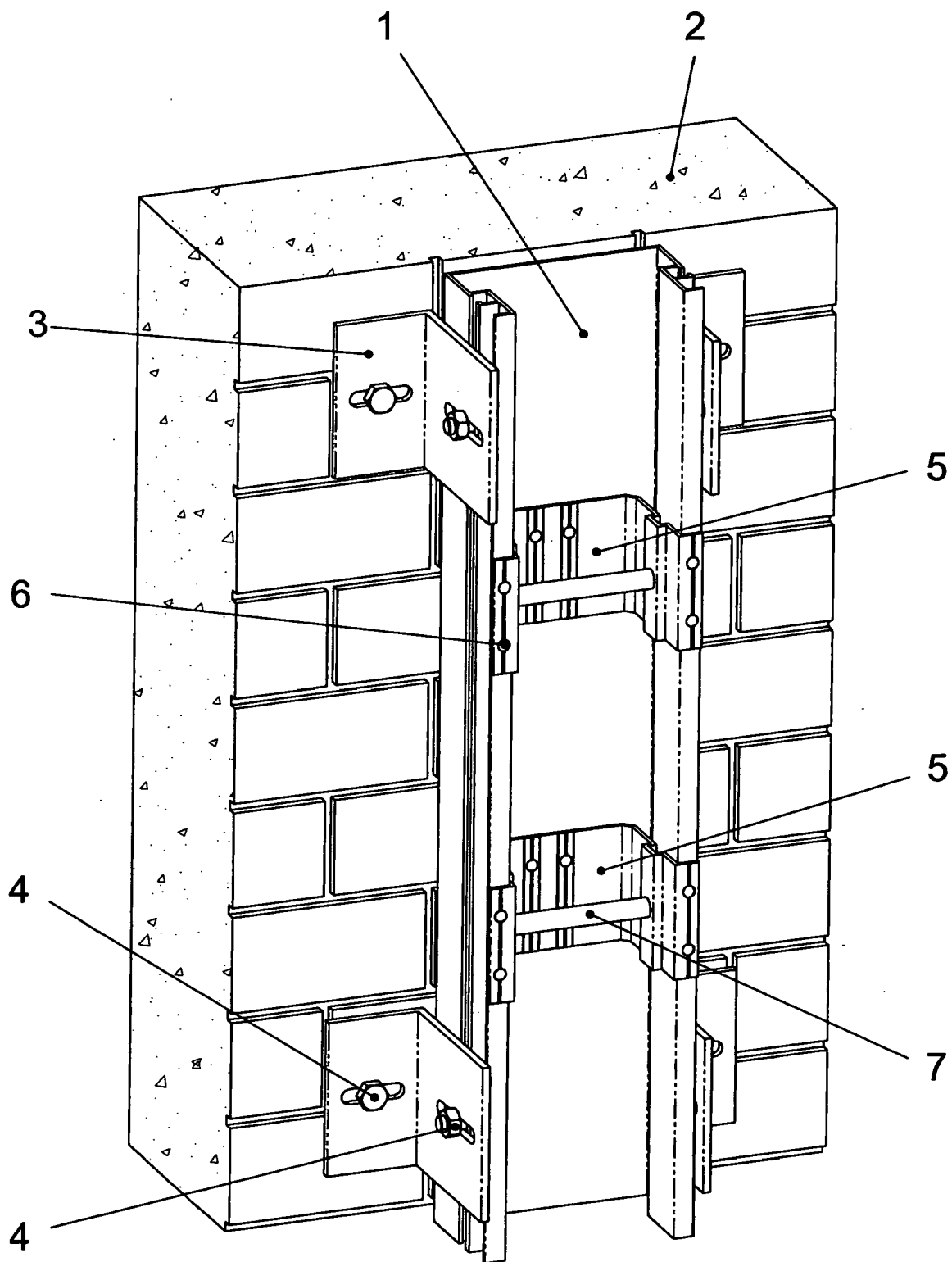


FIG. 1

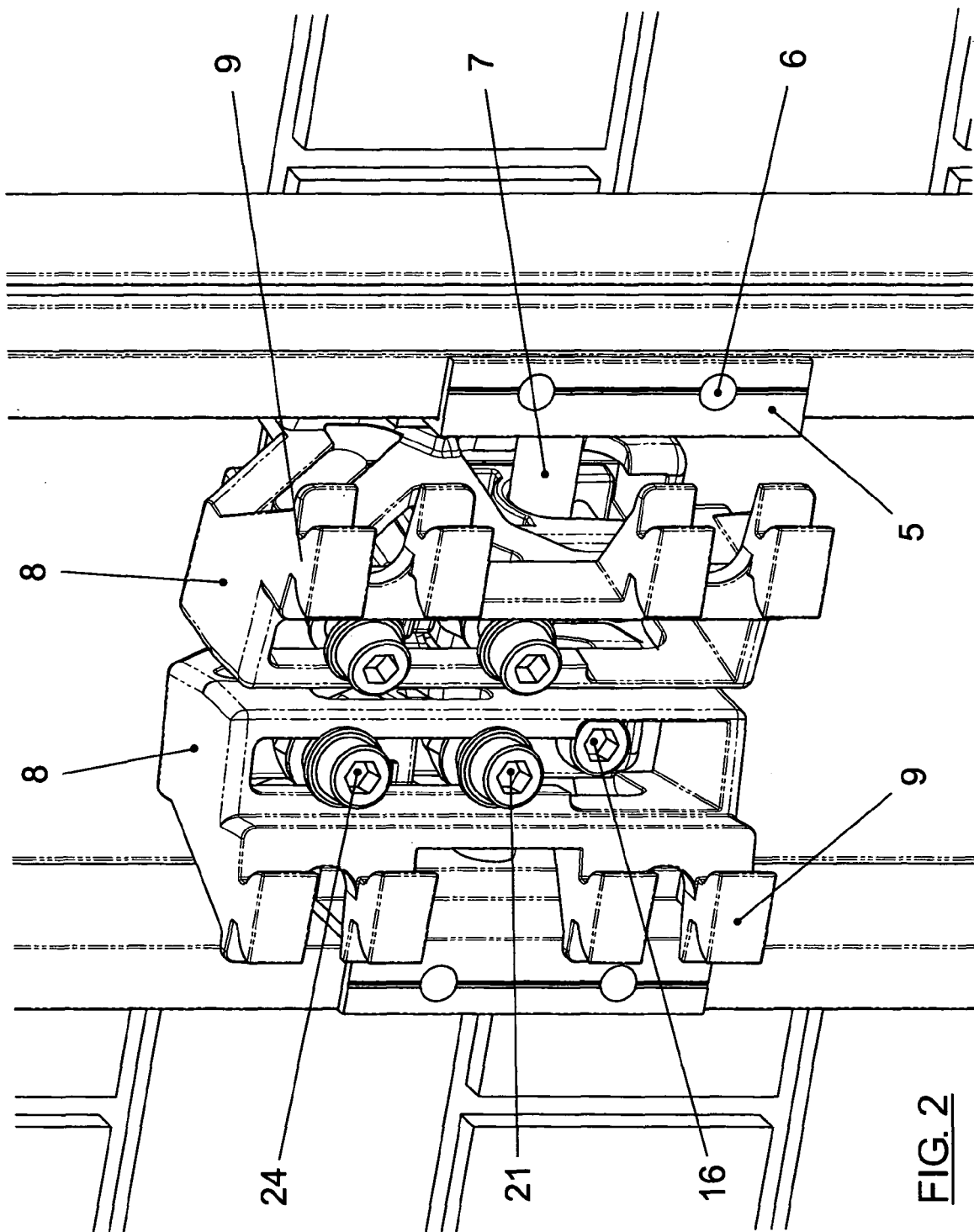
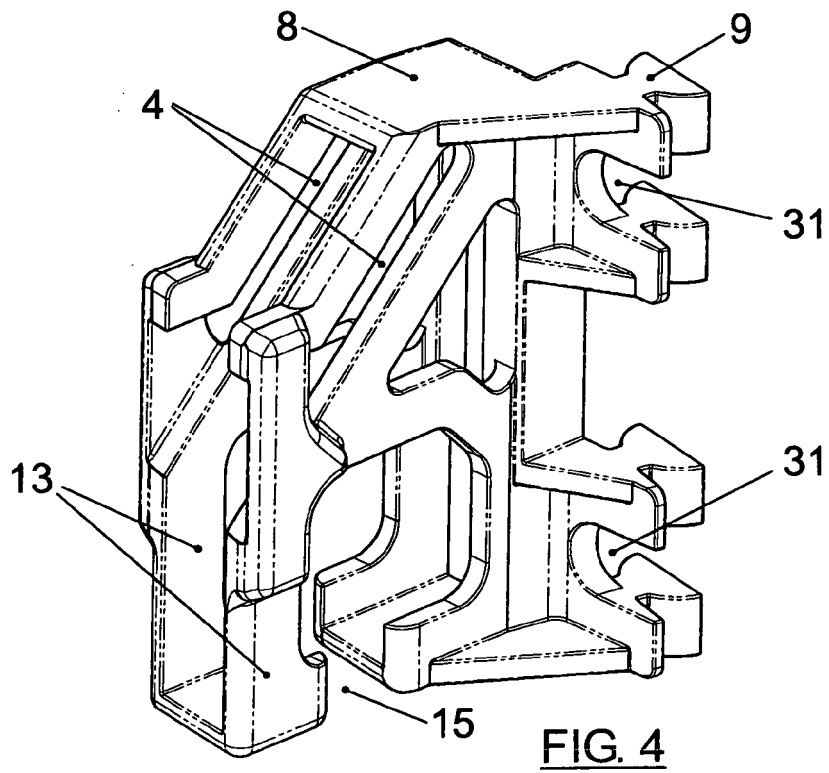
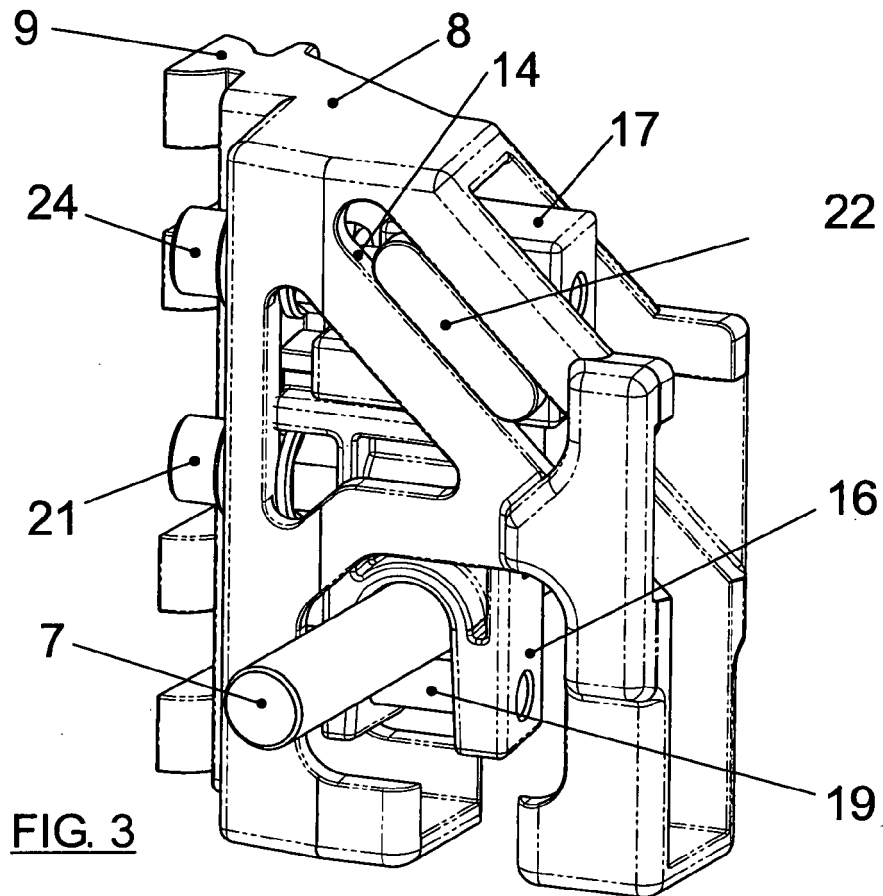


FIG. 2



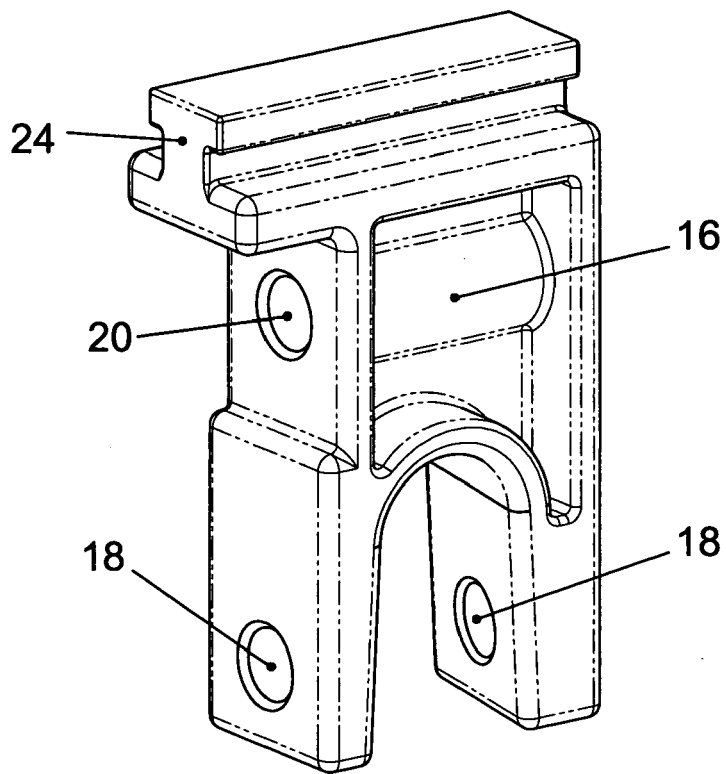


FIG. 5

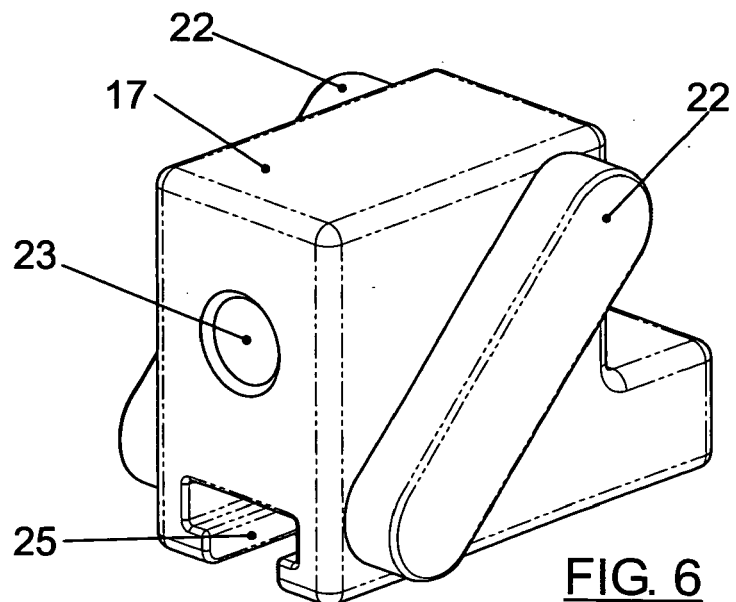
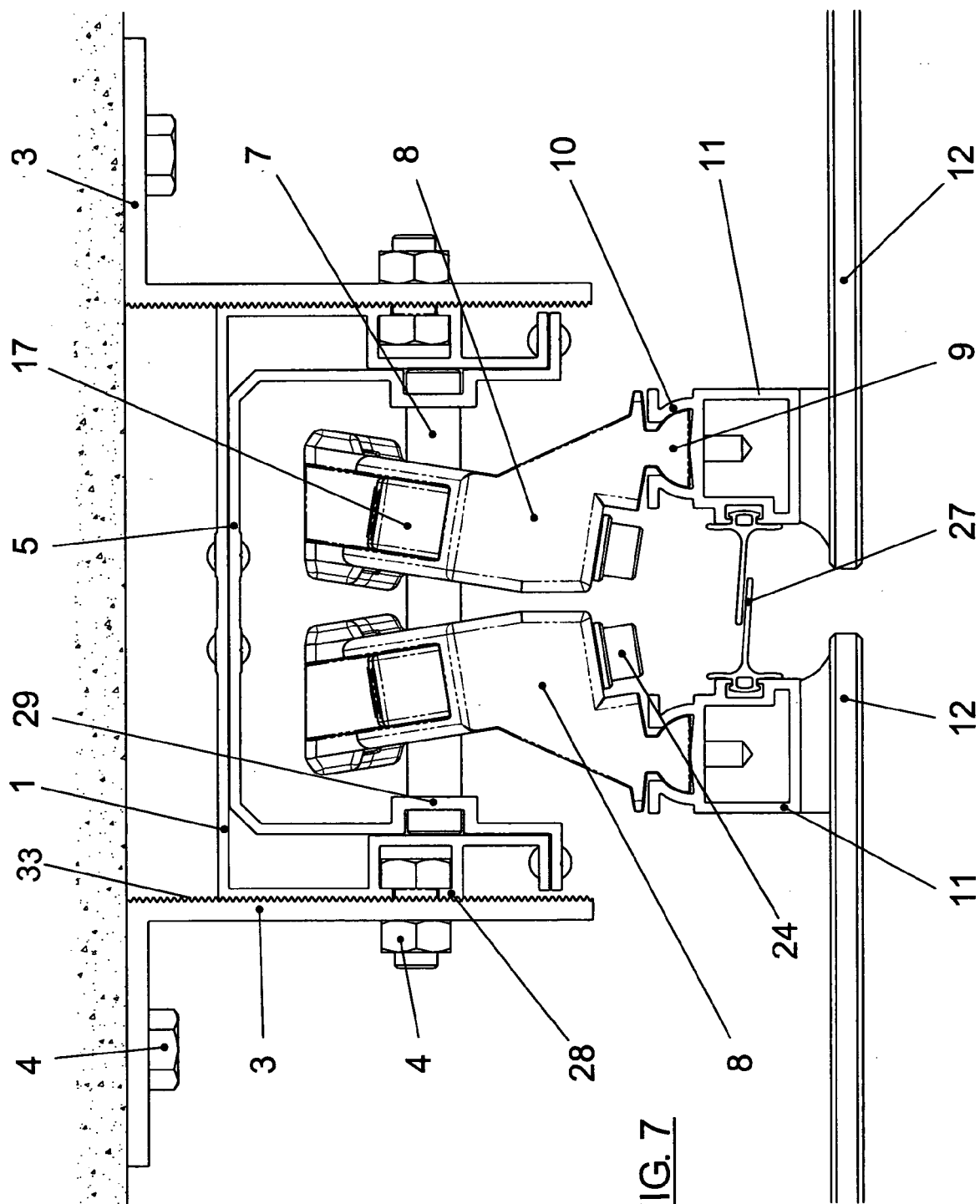


FIG. 6



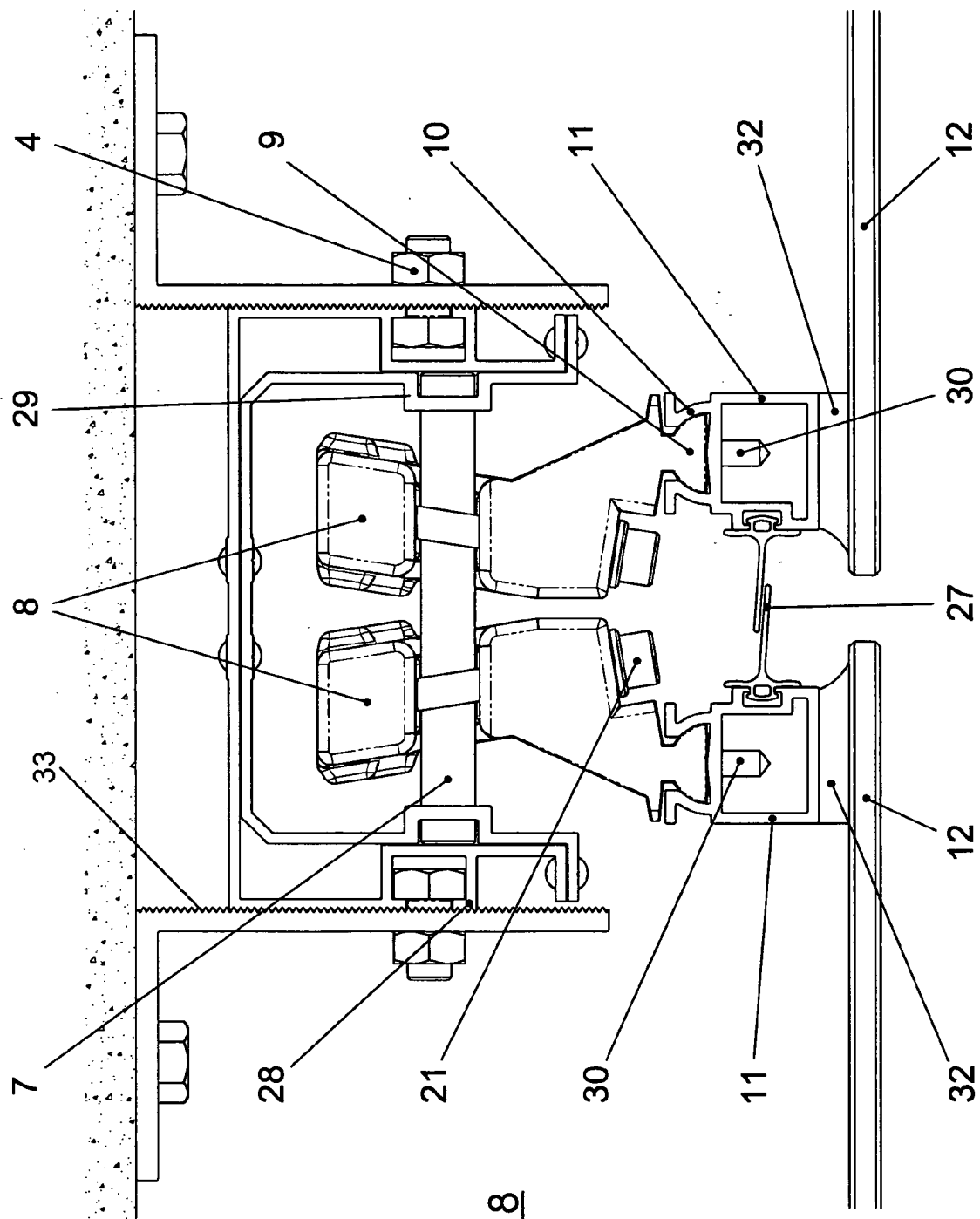


FIG. 8

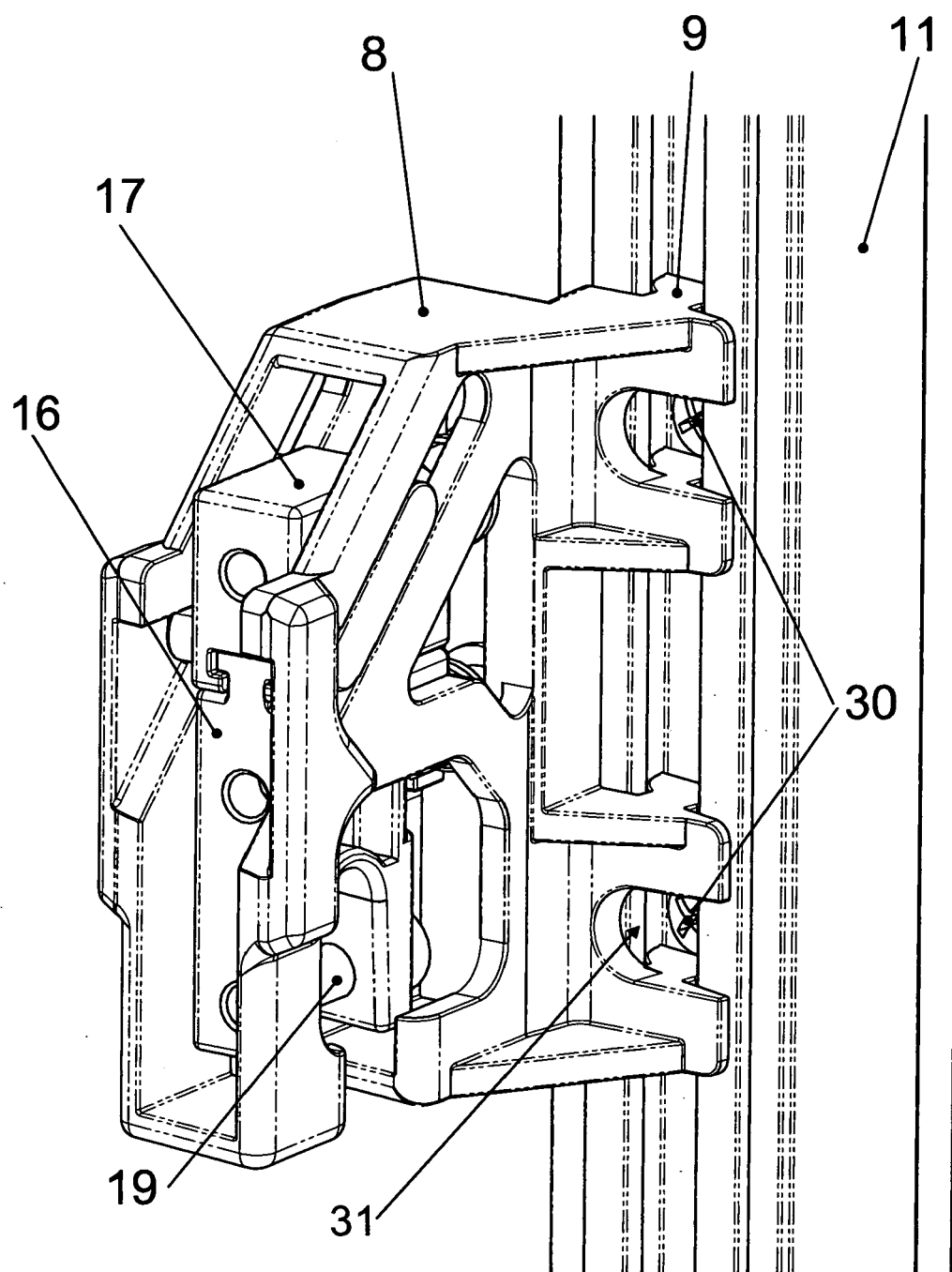


FIG. 9



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 06 38 0250

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,D	EP 0 180 837 A2 (HAASE WALTER) 14 May 1986 (1986-05-14) * figures 1,2 *	1-3	INV. E04B2/90 E04F13/08 E04B2/88
A	FR 2 668 523 A1 (LAURENT OLIVIER) 30 April 1992 (1992-04-30) * figure 3 *	1-3	
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			TECHNICAL FIELDS SEARCHED (IPC)
			E04B E04F
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 November 2006	Examiner Rosborough, John
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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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23-11-2006

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