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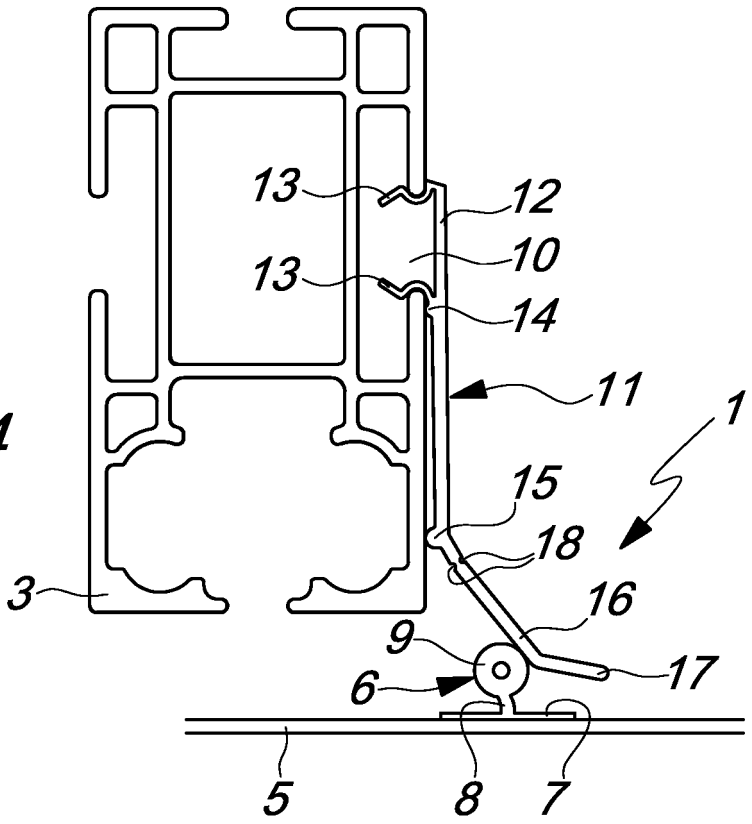
(54) Drip guard for awnings

(57) A drip guard (1) for awnings (2), of the type comprising beams provided with longitudinal guides (3) for cross-members (4) for supporting an optionally continuous sheet (5), comprising at least one band (6), which protrudes upward from the sheet (5), and contoured plates (11), which have an upper portion (12) which is rigidly coupled to a respective beam and a lower portion which is substantially cantilevered and faces the sheet (5) proximate to the protruding band (6).

Fig. 4



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Description

[0001] The present invention relates to a drip guard for awnings.

[0002] Various embodiments of awnings for covering outdoor spaces exist which can use existing structures or require appropriately provided supporting elements.

[0003] This same Applicant is the holder of Italian patent No. 0001299972 entitled "Tendone per esterni impaccabile" ["Collapsible outdoor awning"], which discloses a constructive solution of particular interest.

[0004] This solution has the advantage of providing the covering with a single sheet, allowing to drain rainwater at the front: previously, known awnings drained the water laterally.

[0005] Thanks to this advantage, some problems in use are eliminated which were due to the inability to use the covered area fully, since with draining along the lateral surfaces it is more difficult to arrange gutters which convey the water effectively. Front draining, by being all on a same level, is well-suited for collecting water with an appropriate gutter.

[0006] When the awning is completely stretched, due to small inclinations or due to the wind a small amount of water can seep laterally, leading to dripping along the lateral surfaces of the awning.

[0007] This is an extremely annoying problem for users of this type of awning, since in practice it compromises the performance of such awnings, which differentiates them from traditional awnings.

[0008] The aim of the present invention is to provide a drip guard for awnings in which the rainwater is drained exclusively from the front and in which therefore dripping along the lateral surfaces is not possible.

[0009] Within this aim, an object of the present invention is to provide a drip guard for awnings which has a low cost, is relatively simple to provide in practice, and is safe in application.

[0010] This aim and this and other objects which will become better apparent hereinafter are achieved by the present drip guard for awnings, of the type comprising beams provided with longitudinal guides for cross-members for supporting an optionally continuous sheet, characterized in that it comprises at least one band which protrudes upward from said sheet and contoured plates which have an upper portion which is rigidly coupled to a respective beam and a lower portion which is substantially cantilevered and faces the sheet proximate to said protruding band.

[0011] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a preferred but not exclusive embodiment of a drip guard for awnings, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a perspective view of an awning provided with a drip guard according to the invention;

Figure 2 is an enlarged-scale perspective view of a portion of an awning provided with the drip guard according to the invention;

Figure 3 is an enlarged-scale perspective view of a portion of an awning provided with the drip guard according to the invention;

Figure 4 is a sectional front view, taken along a vertical plane, of the drip guard according to the invention in a first extreme configuration;

Figure 5 is a sectional front view, taken along a vertical plane, of the drip guard according to the invention in a second extreme configuration;

Figure 6 is a sectional front view, taken along a vertical plane, of an alternative embodiment of the drip guard according to the invention;

Figure 7 is a sectional front view, taken along a vertical plane, of the contoured plate of the alternative embodiment of the drip guard according to the invention.

[0012] With reference to the figures, the reference numeral 1 generally designates a drip guard for awnings.

[0013] Awnings 2 comprise beams provided with longitudinal guides 3 for cross-members 4 for supporting a continuous sheet 5.

[0014] The sliding of the cross-members 4 (by way of the action of an appropriately provided motor or of a manually-operated winch) moves the sheet 5 from a gathered configuration (packed upstream of the awning 2) to a flat extended configuration (stretched sheet 5) whose front is at a lower level than the upstream portion.

[0015] The sheet 5 comprises a band 6 which protrudes upward and has a lower tape 7 which is rigidly coupled to the upper surface of the sheet 5. The material of which the tape 7 is made is conveniently soft and deformable in order to ensure that the sheet 5 can be folded up normally without any damage thereto or to the band 6. The coupling between the sheet 5 and the tape 7 can occur by sewing (in this case, a subsequent waterproofing process is necessary), heat sealing and/or adhesive bonding.

[0016] The tape 7 is surmounted by a rib 8, which is perpendicular thereto and protrudes substantially from its central portion: at the upper end of the rib 8 there is a substantially cylindrical element 9 which has a large diameter (with respect to the thickness of the rib 8).

[0017] Conveniently, the cylindrical element 9 can be hollow, in order to reduce its rigidity, thus facilitating the packing of the sheet 5.

[0018] According to a preferred embodiment (shown in the figures), the protruding band 6 is arranged proximate to the area of the sheet 5 that lies below the longitudinal guides 3. Of course, the bands 6 must be arranged symmetrically with respect to the sheet 5, at the guides 3, so as to delimit laterally the sheet 5.

[0019] At least one longitudinal slot 10 for the detachable coupling of an upper portion of an appropriately provided contoured plate 11 is provided along the lateral

surface of the guides 3.

[0020] The plate 11 is longitudinally elongated (and runs alongside the guide 3 along its entire length) and has an upper portion 12 for coupling to the slot 10 and at least one lower portion which is substantially cantilevered and faces the sheet 5 proximate to the protruding band 6.

[0021] According to an embodiment which is not shown in the figures, the contoured plates 11 can be coupled detachably to the front surface of the rear beam, which is rigidly coupled to the wall (which is intended to provide rear support for the entire awning 2).

[0022] In this case, an appropriately provided protruding band must be arranged transversely at the top of the sheet 5 substantially below the rear beam: the rear band and the rear plate in practice prevent splashes of water upstream of the awning 2.

[0023] The plates 11, in their portion 12, comprise two elastically deformable flaps 13, which are substantially perpendicular to the surface of the portion 12 and are S-shaped (have a double curvature). The flaps 13 are at a mutual distance which is at least equal to the width of the longitudinal slot 10: in particular, the facing bottoms of the arc-like regions of the S-shape are at a mutual distance which is substantially equal to (or even slightly greater than) the width of the slot 10. When the plate 11 is engaged in the slot 10, the edges of the slot 10 engage in the bottoms of the arc-like regions of the S-shape and the subsequent expansion contributes to stable locking (by elastic forcing) of the flaps 13 in the slot 10. The ends of the flaps 13 instead mutually converge in order to constitute a guide during the interlocking of the plate 11 in the slot 10.

[0024] Each plate has at least one tooth which protrudes in the cantilevered portion beyond the lower flap 13: in particular, a first tooth 14, which protrudes slightly, is arranged very close to the lower flap 13 which rests on the lateral surface of the respective guide 3 for the elastic forcing of the plate 11 against the surface of the guide 3, while a second more protruding tooth 15 is arranged at a change of inclination of the plate 11.

[0025] The plate 11, in addition to the second protruding tooth 15, in fact has at least one surface 16, 17 which is inclined toward the outside of the respective guide 3: this inclined surface 16, 17 substantially surmounts the band 6 which protrudes upward.

[0026] The first portion of the inclined surface 16 reaches the vicinity of the top of the element 9, while the second end portion 17, when the assembly 1 is mounted on the respective awning 2, is almost parallel (extreme case) to the sheet 5, constituting a barrier against splashes of rainwater.

[0027] The plate 11, at the connection between its surface suitable for resting on the guide 3 (the surface that lies below the portion 12) and its inclined surface 16, 17, has at least one longitudinal groove 18; the corresponding thickness reduction facilitates the deformations of the inclined surfaces 16, 17.

[0028] Depending on the assembly tolerances, the band 6 can be spaced with respect to the surfaces 16 and 17 or can interfere with them: the elastic deformability of the surfaces 16 and 17 (ensured also by the presence of the weakening groove 18) allows the plate to always surmount correctly the band 6, ensuring optimum watertightness.

[0029] By adopting this solution, seepage of rainwater from the sides of the awning 2 no longer occur, thus optimizing its functionality.

[0030] It has thus been shown that the invention achieves the intended aim and objects.

[0031] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0032] For example, as shown in Figures 6 and 7, it is possible to use the plate 11 which comprises a substantially curved region 19 which is comprised between the upper portion 12 and the longitudinal groove 18. The curvature of the region 19 ensures the elastic forcing of the plate 11 on the surface of the respective guide 3 without requiring the teeth 14 and 15.

[0033] Of course, it is also possible to provide simultaneously both the teeth 14 and 15 and the curvature of the region 19 or, as an alternative, arrange shims on the lateral surface of the guide 3 (with a function which is equivalent to the teeth 14 and 15).

[0034] All the details may further be replaced with other technically equivalent ones.

[0035] In the exemplary embodiments shown, individual characteristics, given in relation to specific examples, may actually be interchanged with other different characteristics that exist in other exemplary embodiments.

[0036] Moreover, it is noted that anything found to be already known during the patenting process is understood not to be claimed and to be the subject of a disclaimer.

[0037] In practice, the materials used, as well as the shapes and dimensions, may be any according to requirements without thereby abandoning the scope of the protection of the appended claims.

[0038] The disclosures in Italian Patent Application No. BO2006A000265 from which this application claims priority are incorporated herein by reference.

[0039] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A drip guard for awnings (2), of the type comprising beams provided with longitudinal guides (3) for cross-members (4) for supporting an optionally con-

tinuous sheet (5), **characterized in that** it comprises at least one band (6) which protrudes upward from said sheet (5) and contoured plates (11) which have an upper portion (12) which is rigidly coupled to a respective beam and a lower portion which is substantially cantilevered and faces the sheet (5) proximate to said protruding band (6).

2. The drip guard according to claim 1, **characterized in that** said at least one protruding band (6) is arranged proximate to the area of the sheet (5) that lies below said longitudinal guides (3).

3. The drip guard according to claim 1, **characterized in that** said contoured plates (11) are detachably coupled to a lateral surface of said longitudinal guides (3).

4. The drip guard according to claim 1 and as an alternative to claim 3, **characterized in that** said contoured plates (11) are detachably coupled to a lateral surface of said beams.

5. The drip guard according to claim 4, **characterized in that** one of said plates (11) is rigidly coupled to the front surface of the rear beam which is fixed to the wall, an appropriately provided protruding band (6) being arranged transversely on the top of the sheet (5) substantially below said rear beam, said rear band (6) and said rear plate preventing the spread of water splashes upstream of the awning.

6. The drip guard according to claim 1, **characterized in that** said guides (3) comprise at least one longitudinal slot (10) and **in that** said plates (11) comprise two elastically deformable flaps (13) at a mutual distance which is at least equal to the width of said longitudinal slot (10), said flaps (13) being able to interlock detachably, due to elastic deformation, within said slot (10).

7. The drip guard according to claim 6, **characterized in that** said plates have at least one protruding tooth (14, 15) in the portion which cantilevers beyond the lower flap (13), at least one tooth (14, 15) for resting against the surface of the respective guide (3) for the elastic forcing of the plate (11) against the surface of said guide (3).

8. The drip guard according to one or more of the preceding claims, **characterized in that** said plate (11) has, in addition to a protruding end tooth (15), at least one surface (16, 17) which is inclined toward the outside of the respective guide (3), and surmounts said band (6) which protrudes upward.

9. The drip guard according to one or more of the preceding claims, **characterized in that** said plate (11), at the connection between its surface suitable for resting on said guide and its inclined surface (16), has at least one longitudinal groove (18), the thickness reduction which corresponds to it facilitating elastic deformations.

10. The drip guard according to one or more of the preceding claims, **characterized in that** said plate (11) has at least one second inclined end portion (17) which, when the drip guard (1) is fitted on the respective awning (2), is also almost parallel to said sheet (5).

11. The drip guard according to one or more of the preceding claims, **characterized in that** said plate (11) comprises a substantially curved region (19) which is comprised between the upper portion (12) and the longitudinal groove (18), said region (19) being adapted to ensure the elastic forcing of said plate (11) against the surface of the respective guide (3).

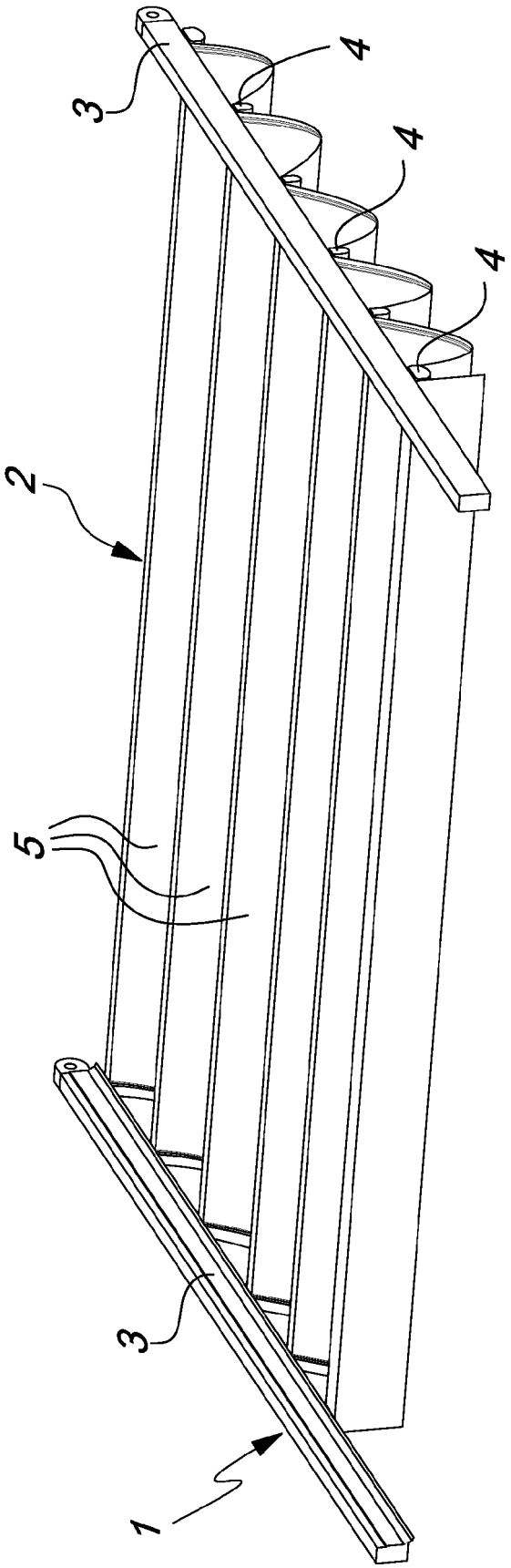

Fig. 1

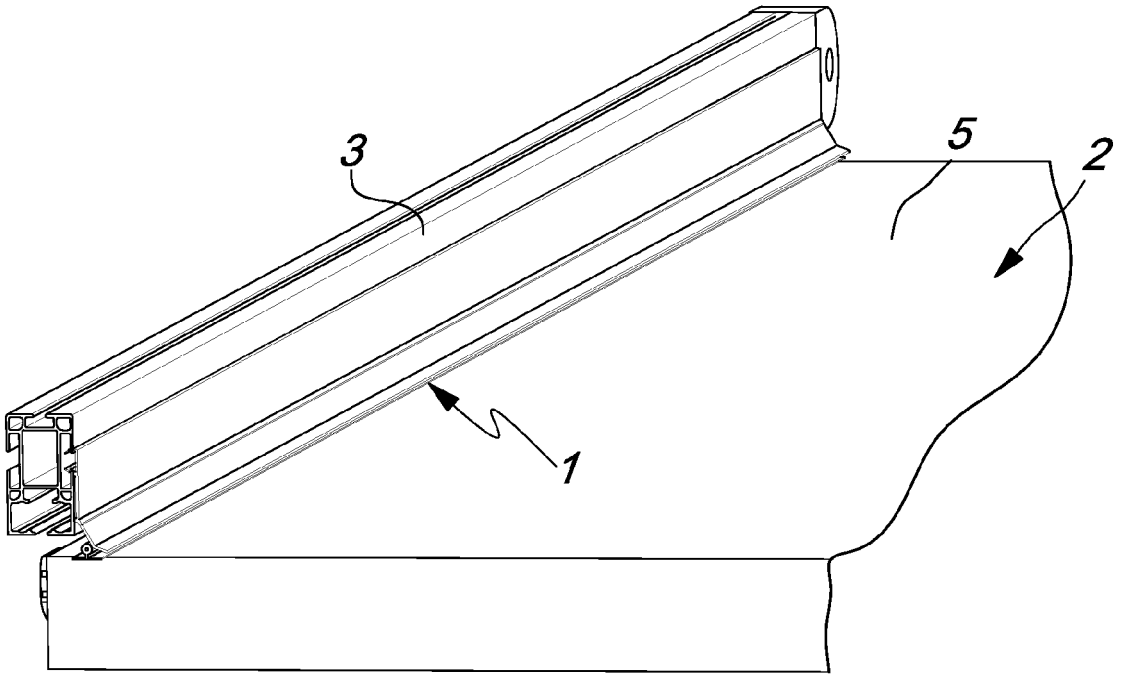

Fig. 2

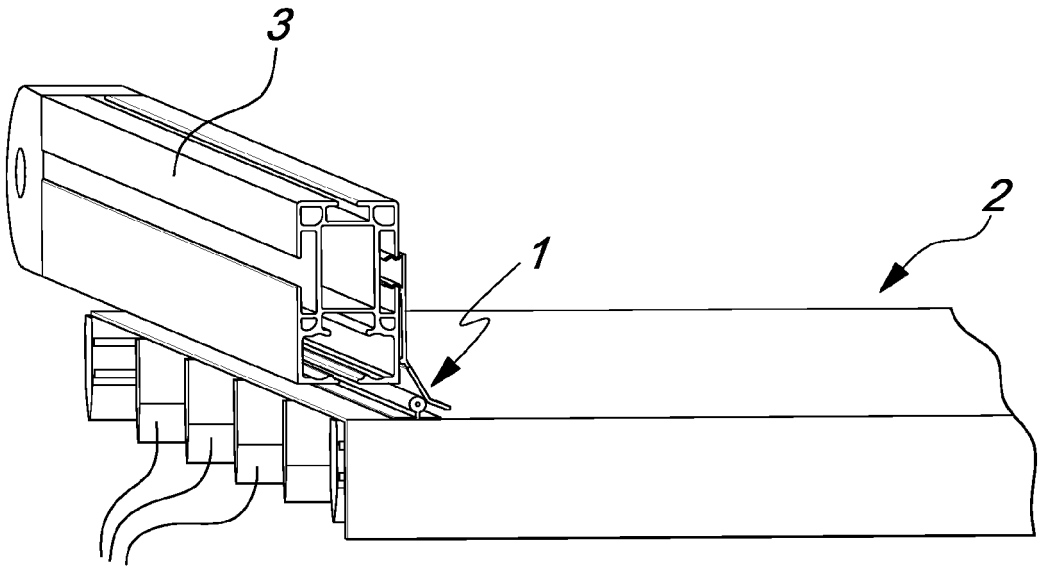

Fig. 3

Fig. 4

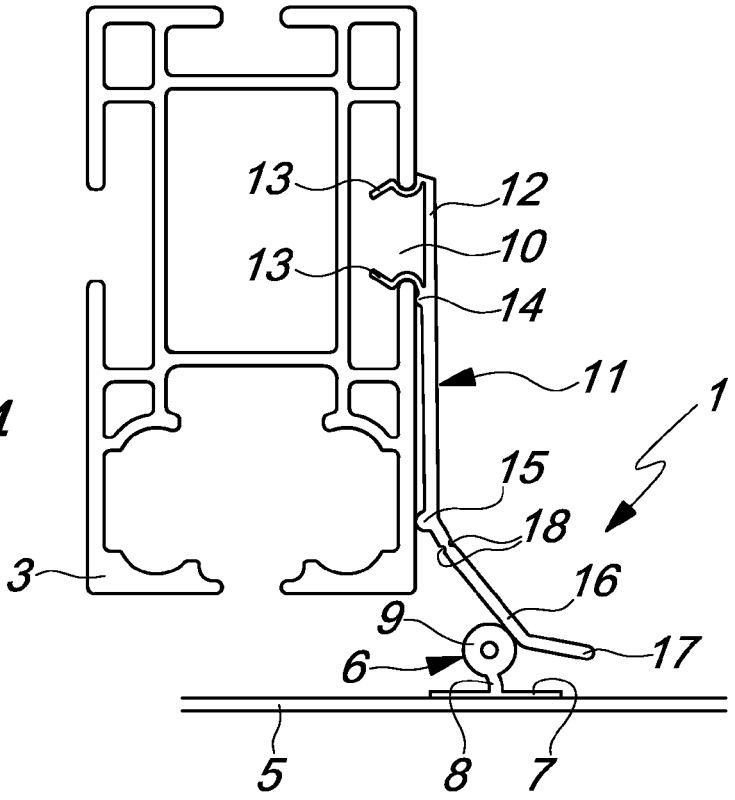
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Fig. 5

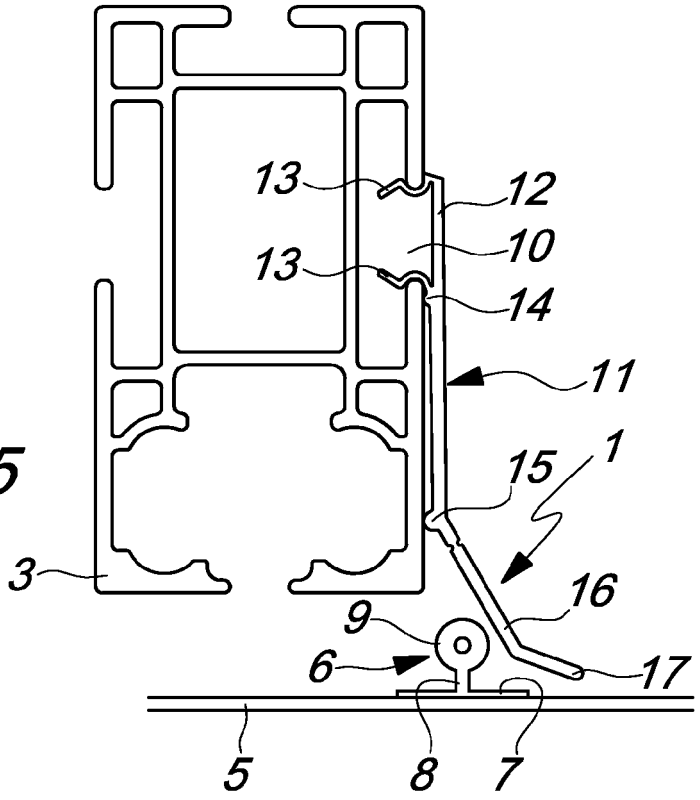
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Fig. 6

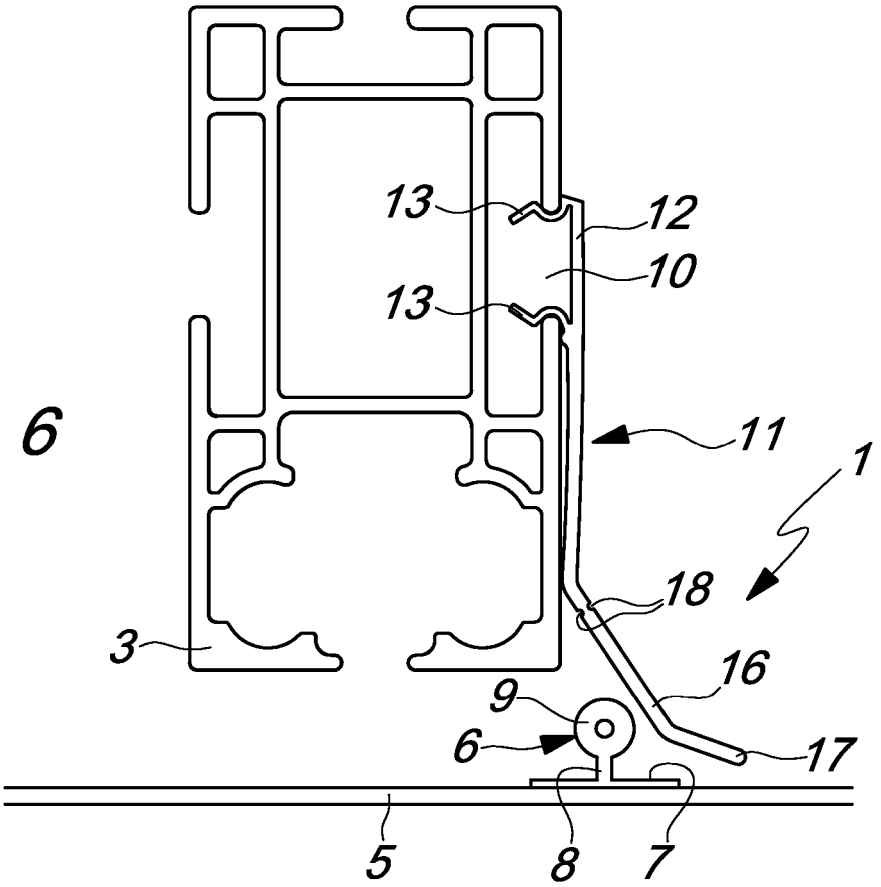
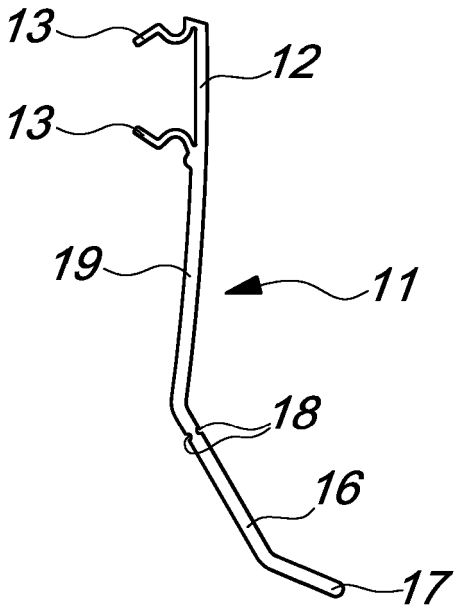


Fig. 7



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- IT 0001299972 **[0003]**
- IT BO20060265 A **[0038]**