(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 2 492 433 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
29.08.2012 Bulletin 2012/35

(51) Int Cl.:
E06B 9/40 *(2006.01)* ***E06B 9/58*** *(2006.01)*

(21) Application number: **12154940.6**

(22) Date of filing: **10.02.2012**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **25.02.2011 IT PD20110055**

(71) Applicant: **Gibus S.r.l.**
35030 Saccolongo (PD) (IT)

(72) Inventors:
- **Lamon, Edoardo**
  I-35136 Padova (IT)
- **Dell'aglio, Luigi**
  I-35125 Padova (IT)

(74) Representative: **Gallo, Luca**
Gallo & Partners S.r.l.
Via Trieste 49
35121 Padova (IT)

(54) Wind-up-screen

(57) Wind-up screen for closing an opening (A), in particular a doorway, a window or the like, which comprises a roller rotatably housed in a collection box (3) arranged above said opening (A) and able to wind up a flexible sheet (2) fixed on the lower part to a transverse bar (5). Two uprights (9) are provided at the side walls of the opening (A), and are mechanically coupled to respective rails (10) suitable for slidably receiving flexible flaps (8) provided on the side edges (6) of the sheet (2). Also provided are two guide profiles (12), each of which mechanically fixed to a corresponding upright (9), made in a single body and with cross section shaped substantially like a U, obtained with two substantially parallel arms (12A, 12B), joined by a bottom (12C) and defining a through opening for the sheet (14). Each guide profile (12) defines, on the outside through the arms (12A, 12B), a track (15) in which a terminal (7) placed at one end of the transverse bar (5) is slidably engaged; and internally, a seat (16) is defined that is partially closed at the through opening for the sheet (14), in which the rail (10) is housed in a holding relationship.

EP 2 492 433 A1

Description

Field of application

[0001] The present invention regards a wind-up screen, according to the preamble of the main claim.

[0002] The wind-up screen of the present invention is intended to be advantageously used for covering, in an adjustable manner, the openings of buildings such as windows, doorways, skylights and the like or for closing balconies, porches or other spaces that require protection from the wind, from the sun and more generally from the outside environment. The aforesaid screen is preferably of fall type, i.e. intended to close the opening by sliding with vertical movement within guides starting from a winder placed at the top of the opening.

[0003] It is therefore intended to be inserted in the industrial field of the production of home accessories, in the field of doors/windows/shutters and in the field of the production of sheets for sun protection, mosquito nets and similar applications.

State of the art

[0004] Wind-up screens are known on the market for the covering of doorways, windows or other similar openings of building, balconies or porches, provided with a cloth in flexible sheet form, which can be wound on a rotatable roller housed in a collection box arranged above the opening of the building.

[0005] The sheet is usually made of fabric or of synthetic material and it can be transparent (e.g. made of transparent plastic material), e.g. in order to protect from the air, or dark, e.g. for screening part or all of the sunlight.

[0006] More in detail, the sheet is fixed with its upper end to the rotatable roller, and with its lower end to a transverse bar for the user's grip.

[0007] Each side edge of the sheet carries a flexible thickening element associated therewith, usually obtained with a flexible toothing, which is able to slide within a longitudinal guide of a corresponding rail.

[0008] More in detail, the wind-up screen is also known to comprise two vertical uprights, which are rigidly mounted on the inner walls of the opening, for example by means of screw means.

[0009] Each upright has a cross section shaped substantially like a U, with its opening facing the other upright, and it houses a corresponding rail internally between its arms.

[0010] The rail is usually retained in the upright by means of suitable removable listels, mechanically and fittedly connected to the arms of the U-shaped upright. The aforesaid listels simultaneously perform the function of retaining the rails and guiding the ends of the transverse grip bar.

[0011] In practice, the wind-up screen of the type described above does not lack drawbacks. In particular, given the high number of components it is very complex to install and difficult to achieve.

[0012] In order to overcome these drawbacks, a wind-up screen was recently developed composed of a very limited number of components, since the removable listels were substantially eliminated for the benefit of greater mounting convenience. Such screen, described in particular in the patent application IT BO2004-A-000762, comprises two lateral support uprights, each of which defining a half-shoulder for the rail and a first half-guide for the transverse bar, and two panels, each which being removably engageable with the respective upright and defining a second half-shoulder, complementary to the first, in order to retain the rail inside the profile of the upright and define the end stop abutment towards the outlet of the upright.

[0013] The aforesaid wind-up screen also comprises a second half-guide, complementary to the first, for the sliding of the transverse grip bar.

[0014] By assembling the two above-indicated profiles of the L-shaped upright together with the two I-shaped panels, via suitable joining means, one obtains a structure that accomplishes the three required functionalities, i.e.: laterally retaining the rail in the guide; defining an end stop with shoulders facing the rail which prevents the outward exit thereof from the guide; guiding the terminals arranged at the ends of the transverse grip bar.

[0015] Even if it has facilitated mounting, the aforesaid wind-up screen of known type has the drawback of not offering sufficient mechanical seal guarantees; it is also hard to maintain since in the case of wear of the grip guide bars or of the rail holding abutments, it is necessary to dismantle the entire frame formed by the aforesaid wall-fixed uprights and by the panels in order to substitute the worn parts with new ones.

[0016] In addition, the fixing means between the upright and the panel necessarily allow clearances and displacements between the two parts, which involve an imprecise obtainment of the guides that they constitute.

[0017] Also known, from the patent AU 2010100720, is a wind-up screen equipped with two vertical uprights; each upright has cross section shaped like a U and is equipped with two first arms, between which a corresponding rail is housed.

[0018] The latter also has a cross section with U shape, and is equipped with two parallel second arms which together define, inside the rail, a seat in which a corresponding end terminal of the transverse bar of the wind-up screen is slidably inserted.

[0019] In particular, the rail is perfectly inserted inside the corresponding upright, with each second arm of the rail arranged with its outer surface adhering to the inner surface of one of the first arms of the upright, in order to prevent transverse movements of the rail inside the same upright.

[0020] Also the latter wind-up screen of known type does not lack drawbacks. In particular, such wind-up screen is not capable of ensuring a firm retention of the rail in the corresponding upright due to tolerances of the

dimensions of the upright and of the rail connected with the production process of the latter.

Presentation of the invention

[0021] In this situation, the problem underlying the present invention is to provide a wind-up screen which allows easy maintenance of its components that are most subjected to wear.

[0022] Another object of the present invention is to provide a wind-up screen which is simple and quick to install.

[0023] Another object of the present invention is to provide a wind-up screen which is structurally simple to achieve and fully reliable operationally.

[0024] These and still other objects are all attained by the wind-up screen according to the enclosed claims.

Brief description of the drawings

[0025] The technical characteristics of the finding, according to the aforesaid objects, are clearly described in the contents of the claims reported below, and the advantages of the same will be more clearly evident in the following detailed description, given with reference to the enclosed drawings, which represent two merely exemplifying and nonlimiting embodiments thereof, in which:

- Figures 1, 2 and 3 show wind-up screen, object of the present invention, in a perspective view with the sheet respectively completely extended, completely wound and partially extended to close the opening.
- Figure 4 shows a detail of the wind-up screen, object of the present invention, according to a section view achieved at a lateral upright thereof, with different parts seen in exploded view, i.e. with the wind-up screen in mounting step;
- Figure 5 shows the detail of the wind-up screen of Figure 4 with the different parts assembled together;
- Figure 6 shows the detail of the wind-up screen of Figure 4 in accordance with an embodiment variant of the coupling means of the sheet, and with the different parts in exploded view;
- Figure 7 shows the detail of the wind-up screen of Figure 6 with the different parts assembled together;
- Figures 8 and 9 illustrate two perspective views of the detail of Figures 4-6 according to the two abovementioned embodiment variants of the sheet coupling means;
- Figure 10 is a perspective view of a detail of the wind-up screen according to the present invention relative to an upright and to the components associated therewith in accordance with the embodiment of Figure 9, partially exploded and with some parts removed in order to better emphasize other parts.

Detailed description of a preferred embodiment

[0026] With reference to the enclosed drawings, the wind-up screen that is the object of the present invention is indicated in its entirety with 1.

[0027] The present wind-up screen 1 is intended to carry out the closure, in an adjustable manner, of an opening A, such as in particular a doorway, a window or the like, obtained on a building wall or on another load-bearing structure, e.g. a porch, a veranda, a terrace or other similar structures.

[0028] It comprises, in a *per se* fully conventional manner, a flexible sheet 2, made of fabric or plastic material, of dark or transparent type, depending on the function that the flexible sheet 2 is intended to perform, such as for example for protecting an area from the sun and/or from the wind and/or, more generally, from the atmospheric conditions of the outside environment.

[0029] The opening A is defined by two side walls, e.g. masonry, by an upper wall and a lower wall, such as a windowsill; otherwise the opening can be defined as a function of the specific application of the wind-up screen 1, also by columns, uprights or crossbars of a metal framework.

[0030] Above the opening A, for example on the upper wall of the masonry, a roller is mounted (not illustrated), rotatably housed inside a collection box 3. The roller is able to wind-up and unwind the flexible sheet 2, allowing its extension to a different extent in an adjustable manner, for the partial or total closure of the opening A.

[0031] For such purpose, the roller can be driven to rotate by means of a motor or manually, e.g. through the use of a command rod engaged through an articulated joint to the roller shaft.

[0032] With the term "flexible sheet" 2, it is intended below an element in the form of a flexible sheet, able to be wound on the roller and unwound from the roller.

[0033] The flexible sheet 2 has a preferably rectangular shape and is provided, in a manner *per se* known to the man skilled in the art, with an upper end mechanically associated with the roller; with a lower end 4 mechanically associated with a transverse bar 5; and two side edges 6 guided to slide at the side walls of the opening A as will be specified below.

[0034] More in detail, the transverse bar 5 is obtained with an extruded profile, preferably made of aluminum, equipped with a longitudinal slot parallel to the extension of the same transverse bar 5, open towards the outside by means of a longitudinal slit suitable to receive a thickening prearranged at the lower end 4 of the flexible sheet 2. Advantageously, such thickening is obtained with a pocket made at the aforesaid lower end 4, at whose interior a rod is housed with diameter slightly less than the slot; in such a manner, the rod can be inserted inside the slot once it is inserted in the pocket, with the flexible sheet 2 arranged to cross through the aforesaid slit of the slot.

[0035] At the lateral ends of the transverse bar 5, two terminals 7 are mounted, for example by means of screws

or other analogous fixing means, which are able to close the ends of the transverse bar 5, and in particular of the aluminum extrusion, and slide in a guided manner along the side walls of the opening A, as will be better specified below.

[0036] Each of the side edges 6 of the flexible sheet 2 is in turn provided with a flexible flap 8 capable of sliding in a guided manner along the side walls of the opening A, as will be better specified below.

[0037] The wind-up screen 1 also comprises two uprights 9, which are intended to be vertically fixed starting from the collection box 3, on the side walls that define the opening A covered by the sheet 2 and in positions facing each other.

[0038] Each upright 9 has a rail 10 mechanically associated thereto, and such rail defines a longitudinal groove 11 having a slit 17. The longitudinal groove 11 is capable of slidably receiving, at its interior, the flexible flap 8 of one of the two side edges 6 of the sheet 2 with the latter arranged to cross through the slit 17.

[0039] According to the idea underlying the present invention, the wind-up screen 1 also comprises two guide profiles 12, each of which mechanically fixed to a corresponding upright 9 through first fixing means 13, e.g. constituted by screws or dowels as indicated in the enclosed figures. Each guide profile 12 is also obtained in a single body, preferably via extrusion in aluminum, and has a cross section shaped substantially as a U. Such shape of the guide profile 12 is obtained with two substantially parallel arms 12A, 12B, connected to each other by a bottom 12C. The two arms 12A, 12B define at their free ends, on the side opposite the bottom 12C, a through opening 14 of the flexible sheet 2. This latter opening 14 faces that of the other guide profile 12 fixed to the facing upright 9 in order to maintain the planarity of the flexible sheet 2.

[0040] In addition, according to the present invention, each guide profile 12 defines, by means of the outer surfaces of its aforesaid arms 12A, 12B, a track 15, in which a terminal 7 of the transverse bar 5 is slidably engaged. Each guide profile 12 also internally defines a seat 16, which is partially closed at its through opening for the sheet 14 and in which the corresponding rail 10 is housed in a holding relationship.

[0041] Advantageously, the two terminals 7 are provided with two guide wings 30, parallel to each other, laterally projecting as an extension of the transverse bar 5, and able to be employed outside the arms 12A and 12B of the guide profile 12. For such purpose, the distance D1 between the inner surfaces of the aforesaid two guide wings 30 is slightly greater than that between the outer faces D2 of the two arms 12A and 12B (in order to define the sliding clearance).

[0042] The guide profile 12 presents the through opening for the sheet 14 with a reduced width D3 with respect to the distance D4 between the inner faces of the two arms 12A, 12B (internal width of the seat 16). This in order to retain the rail 10 inside its seat 16 in a holding relationship, such rail 10 having size greater than the opening 14 but less than the seat 16.

[0043] Advantageously, such through opening for the sheet 14 has reduced width by means of the two terminal portions 12A' and 12B' of the arms 12A, 12B folded inwardly, as is clearly seen in figures 4-7 enclosed with the present description.

[0044] The rail 10 is then advantageously mounted in the seat 16 of the guide profile 12, by making it slide starting from one end thereof as can be inferred from the embodiment of figure 10.

[0045] The width D5 of the rail 10 is advantageously slightly less than the width D4 of the seat 16 in order to limit the forward/backward movements of the rail 10 orthogonal to the surface of the sheet 2, allowing the seat 16 to maintain the rail 10 with the flexible sheet 2 in a substantially median and centered position with respect to the opening 14 of the guide profile 12.

[0046] Such rail 10 can assume different forms, so that it can be coupled in a sliding relationship with different embodiments of flexible flaps 8, available on the market, fixed to the side edges 6 of the flexible sheet 2.

[0047] In accordance with a first embodiment illustrated in figures 4, 5 and 8, flap 8 of the sheet 2 is obtained with a flexible toothing 8' laterally projecting from the side edges 6 of the sheet 2 suitably reinforced with a support tape. Correspondingly, the rail 10 is shaped in the form of an elongated box-like body, advantageously obtained via extrusion in plastic material, e.g. with quadrangular shape section, which internally defines the groove 11 open towards the outside due to the aforesaid slit 17 for the passage of the sheet 2. In this case, the rail 10 is provided with at least two lateral wings 10', which are intended to come into abutment against the terminal portions 12A', 12B' of the arms 12A, 12B in order to prevent the rail 10 from exiting outward from the seat 16 of the guide profile 12. Advantageously, between the lateral wings 10' of the rail 10 and the terminal portions 12A', 12B' of the arms 12A, 12B, damping dowels 18 are interposed, advantageously obtained with spongy bodies, adapted to prevent the wind from transmitting impulsive stress to the teeth engaged in the rail 10 constrained in the seat 16 of the guide profile 12. Such stress is usually due to the action of the wind on the sheet 2; it can have excessive force capable of causing the breakage of the teeth or the tearing of the sheet 2.

[0048] Such damping dowels 18 at the same time allow compensating for possible shrinkage of the sheet 2.

[0049] In accordance with a different second embodiment illustrated in the enclosed figures 6, 7, 9 and 10, the flap 8 of the sheet 2 is obtained with a flexible strap 8", preferably made of plastic material, laterally projecting from the side edges of the sheet 2, comprising a connection portion 8A, fixed with a first longitudinal margin thereof to the sheet 2, e.g. via gluing, and an engagement portion 8B having one free margin and one margin fixed to the second longitudinal margin of the connection portion 8A with an acute angle. Correspondingly, the rail 10

is shaped in the form of an elongated listel, advantageously obtained via extrusion and in plastic material, substantially having a C shape with two opposite cavities separated by the slit 17 crossing the sheet 2, having a width D6 less than the width D7 of the aforesaid flexible strip 8" in order to retain the latter constrained to the rail 10 in a slidable relationship.

[0050] The two guide profiles 12 thus advantageously define a seat 16, which is shaped such to receive at its interior different types of rails 10, in turn shaped to be connected in a slidable engagement relationship with different corresponding flexible flaps 8.

[0051] Such versatility is achieved by means of a guide profile 12 according to the present invention, which does not require internal tabs or other means for the composition of the guides of the rail or for its fixing to the upright, as is instead provided in the solutions of the prior art. The guide profile 12 can thus act as a connector element, of substantially multipurpose type, between the different types of rails 10 and the upright 9, defining seats 16 capable of housing different types of rails 10.

[0052] As is clearly explained above, the mechanical connection of the guide profiles 12 to the uprights 9 indeed occurs, according to an advantageous embodiment of the present invention, by means of tabs 19, 20 and with first fixing means 13 which are outside the seat.

[0053] Advantageously, the seat 16 of the two guide profiles 12 is defined by the inner faces of the two arms 12A, 12B which have flat and parallel surfaces. Due to such characteristics, the seats are able to receive different types of rails 10, conferring to the guide profiles 12, and thus to the wind-up screen object of the present invention, a versatility of use that cannot be found in any other wind-up screen known up to now. For such purpose, the inner faces of the two arms 12A, 12B are extended in flat form for at least a majority section of the height L1 of the two arms 12A, 12B and preferably also of the height L2 of the connection wall 9A of the upright 9.

[0054] Preferably, the inner faces of the two arms 12A, 12B are flat for their entire extension. The seat 16 is thus defined, as indicated above, by a bottom 12C orthogonal to the two arms 12A, 12B, it too having a flat inner surface.

[0055] In accordance with a preferred embodiment of the present invention, each upright 9 is provided with a cross section shaped substantially as an L. Such L shape is obtained with a connection wall 9A, intended to be anchored, with its inner face, parallel on the outer face of the first arm 12A of the guide profile 12, and with a base wall 9B, which is obtained in a single body with the connection wall 9A. On the latter wall 9B, the through holes of the screws 40 are advantageously obtained, such screws aimed to fix the upright 9 to the side wall that defines the opening A to be covered.

[0056] The anchorage between the parallel opposite faces of the connection wall 9A of the upright 9 and the first arm 12A of the guide profile 12 is obtained by means of coupling between the first and second tabs 19 and 20 obtained on the aforesaid opposite faces. Preferably, the first fixing means 13 comprise a third tab 21, extended as a projection from the base wall 9B and shaped with the free end folded towards the same base wall 9B in order to define an abutment portion 21'; the means 13 also comprise a fourth shaped tab 22, extended outside the guide profile 12 at its bottom 12C (i.e. preferably, and more precisely, at an edge between the bottom 12C and the second arm 12B) and able to define with the base wall 9B at least one recess 23 for the insertion of a fixing dowel 24 suitable for locking the guide profile 12 to the upright 9, with the connection wall 9A anchored to the first arm 12A.

[0057] More in detail, the aforesaid fourth shaped tab 22 of the guide profile 12 is provided with a foot 22', able to abut against the abutment portion 21' of the third tab 21 of the base wall 9B when the fixing dowel 24 is inserted under pressure inside the recess 23, so as to firmly anchor the guide profile 12 to the upright 9.

[0058] Advantageously, the aforesaid fixing dowel 24 is obtained by means of a seal made of elastically deformable material, inserted along the entire extension of the recess 23 which is equal to the extension of the upright 9.

[0059] In accordance with a preferred embodiment of the present invention, the wind-up screen 1 also comprises a coating cover 25, advantageously obtained with a further aluminum extrusion, intended to be anchored with its inner face parallel to the outer face of the second arm 12B of the guide profile 12.

[0060] The anchorage between the parallel opposite faces of the coating cover 25 and of the second arm 12B of the guide profile 12 is obtained by means of the coupling between fifth and sixth tabs 26 and 27 obtained on the aforesaid opposite faces.

[0061] Preferably, the coating cover 25 is provided with a seventh shaped tab 28, which is interposed between the fixing dowel 24 and the fourth tab 22 of the guide profile 12. In this manner, the insertion of the fixing dowel 24 in the recess 23 causes the fixing not only of the guide profile 12 on the upright 9, with the connection wall 9A anchored to the first arm 12A, but also the fixing of the coating cover 25 on the second arm 12B of the guide profile 12.

[0062] For the mounting of the wind-up screen 1 at an opening A, it is necessary to first fix the uprights 9, below the collection box 3 on the side walls that define the opening A that one wishes to close with the sheet 2.

[0063] Previously, the ends of the uprights 9 were closed with suitable plugs, preferably made of plastic.

[0064] The plug 31 intended to be fixed below the collection box 3 is provided with a slit 32 for allowing the passage of the side edge 6 of the flexible sheet 2 and with alignment abutments 33 (e.g. shaped as projections) able to be coupled in form relationship with corresponding abutments (e.g. shaped as recesses) obtained below the collection box 3 in order to allow the positioning of the upright 9 in the correct position on the side wall that defines the opening A.

[0065] Furthermore, the upright 9 is mounted with its base wall 9B aligned with the side wall of the collection box 3 in order to also ensure a correct lateral positioning of the upright 9.

[0066] Therefore, the flexible sheet 2 is defined in its final position due to the correct positioning of the uprights 9 and without the need for any adjustment thereof.

[0067] Once the uprights 9 are centered below the collection box 3, they are fixed by means of screws or dowels to the side wall.

[0068] The rail 10 is then inserted in the seat 16 of the guide profile 12, and the flexible sheet 2 is then partly lowered, with the transverse bar 5 mounted on its lower end 4, moving it from the vertical in order to allow its facilitated insertion in the longitudinal groove 11 of the rail 10.

[0069] At this point, the guide profile 12 is positioned on the upright 9 with its first arm 12A anchored on the inner face of the wall 9A of the upright 9. The two parts are fixed together by inserting the fixing dowel 24 in the recess 23 and in such a manner locking the guide profile 12 to the upright 9.

[0070] Advantageously, before inserting the fixing dowel 24 in the recess 23, it is possible to also arrange the coating cover 25 by anchoring it on the outer face of the second arm 12B of the guide profile 12, such that the insertion of the dowel 24 causes the fixing not only of the guide profile 12 on the upright 9 but also the fixing of the coating cover 25 on the second arm 12B of the guide profile 12.

[0071] The wind-up screen 1, object of the present invention, allows through a single component constituted by the guide profile 12 to limit the movements of the rail 10 and hence of the sheet 2, in particular achieving the abutment end stop for the movements of the rail 10 towards the opening 14 of the guide profile 12, as well as achieving the guide for the terminals 7 of the transverse bar 5.

[0072] Unlike the wind-up awnings/curtains of known type which require assembling the guides for the transverse bar and for the sheet, according to the present invention such guides are obtained without any assembly of parts, with the single component constituted by the guide profile 12. Since the latter is made of a single body, there is no risk of clearances between its parts, which could compromise the precision of its guides. In addition, the wind-up screen 1 that is the object of the present invention is particularly simple to assemble, since the flexible sheet 2 is easily inserted in the rail 10 in turn inserted in the seat 16 of the guide profile 12 which, being a rigid section, can be easily fit on the upright 9 and then be easily fixed with the fixing dowel 24.

[0073] The finding thus conceived therefore attains the pre-established objects.

Claims

1. Wind-up screen for closing an opening (A), in particular a doorway, a window or the like, which comprises:

- a flexible sheet (2);
- a roller rotatably housed in a collection box (3) arranged above said opening (A) and able to wind up said flexible sheet (2); said flexible sheet (2) being provided: with an upper end mechanically associated with said roller; with a lower end (4) mechanically associated with a transverse bar (5) carrying two terminals (7) mounted at the ends; and with two side edges (6), each equipped with a flexible engagement flap (8);
- at least two uprights (9), intended to be fixed in a position facing one another at the side walls of said opening (A);
- at least two rails (10), each mechanically associated with one said corresponding upright (9) and provided with a longitudinal groove (11) suitable for slidably receiving the flexible flap (8) of one said side edge (6) of said sheet (2);

characterized in that it comprises:

two guide profiles (12), each of which mechanically fixed to a corresponding upright (9) through first fixing means (13), made in a single body with cross section substantially shaped like a U, obtained with two substantially parallel arms (12A, 12B), joined by a bottom (12C) and defining a through opening for the sheet (14) facing that of the guide profile (12) fixed to the other upright (9);
each of said guide profiles (12) defining: on the outside through said arms (12A, 12B), a track (15), in which a terminal (7) of said transverse bar (5) is slidably engaged; and
internally a seat (16), partially closed at said through opening for the sheet (14), in which said rail (10) is housed in a holding relationship.

2. Wind-up screen according to claim 1, **characterized in that** each of said uprights (9) is provided with a cross section substantially shaped like an L with a connection wall (9A), intended to be anchored with its inner face parallel to the outer face of a first arm (12A) of said guide profile (12), and with a base wall (9B), in particular intended to be fixed to the side wall defining said opening (A) made in a single body with said connection wall (9A).

3. Wind-up screen according to claim 2, **characterized in that**: the connection wall (9A) of said upright (9) is provided with first tabs (19); the first arm (12A) of said guide profile (12) is provided with second tabs

(20); said first and second tabs (19, 20) being able to be anchored together with said connection wall (9A) substantially parallel to the first arm (12A) of said guide profile (12).

4. Wind-up screen according to claim 2, **characterized in that** said first fixing means (13) comprise:

- at least one third shaped tab (21) extended as a projection from said base wall (9B);
- at least one fourth shaped tab (22) extended from said guide profile (12) towards the outside of its seat (16), at its bottom (12C) and able to define, with said base wall (9B), at least one recess (23) for the insertion of a fixing dowel (24) suitable for locking said guide profile (12) to said upright (9) with the connection wall (9A) anchored to the first arm (12A).

5. Wind-up screen according to claim 1, **characterized in that** it comprises a coating cover (25) intended to be anchored with its inner face parallel on the outer face of a second arm (12b) of said guide profile (12).

6. Wind-up screen according to claims 4 and 5, **characterized in that** said coating cover (25) is provided with at least one seventh shaped tab (28) that is arranged between said fixing dowel (24) and the fourth tab (22) of said guide profile (12) in order to lock said coating cover (25) on the second arm (9B) of said guide profile (12).

7. Wind-up screen according to claim 5, **characterized in that**: the coating cover (25) is provided with fifth tabs (26); the second arm (12B) of said guide profile (12) is provided with sixth tabs (27); said fifth and sixth tabs (26, 27) being able to be anchored together with said coating cover (25) substantially parallel to the second arm (12B) of said guide profile (12).

8. Wind-up screen according to claim 1, **characterized in that** each terminal (7) of said transverse bar (5) is provided with two guide wings (30), parallel to one another and projecting as an extension of said transverse bar (5), and able to be engaged outside the arms (12A, 12B) of said guide profile (12).

9. Wind-up screen according to claim 1, **characterized in that** the distance (D4) between the inner faces of the arms (12A, 12B) of said guide profile (12) limits the movements of said rail (10) perpendicular to the plane of the flexible sheet (2).

10. Wind-up screen according to claim 1, **characterized in that** said guide profile (12) is shaped to receive in its seat (16) different forms of rails (10), suitable for being connected in a slidable engagement relationship with corresponding different flexible flaps (8).

11. Wind-up screen according to claim 1, **characterized in that** the inner faces of the two arms (12A, 12B) of said guide profiles (12), which define said seat (16), have surfaces that are flat and parallel for at least a majority section of their height (L1), and in particular for the entire extension of their height (L1).

12. Wind-up screen according to claim 11, **characterized in that** the inner faces of the two arms (12A, 12B) of said guide profiles (12) are joined together by the bottom (12C) in a perpendicular manner.

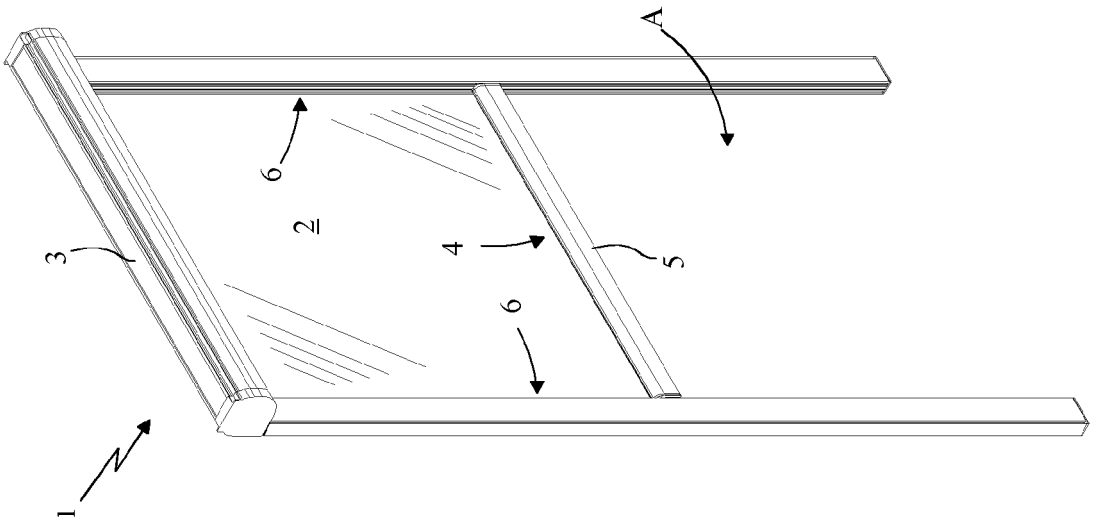

Fig. 3

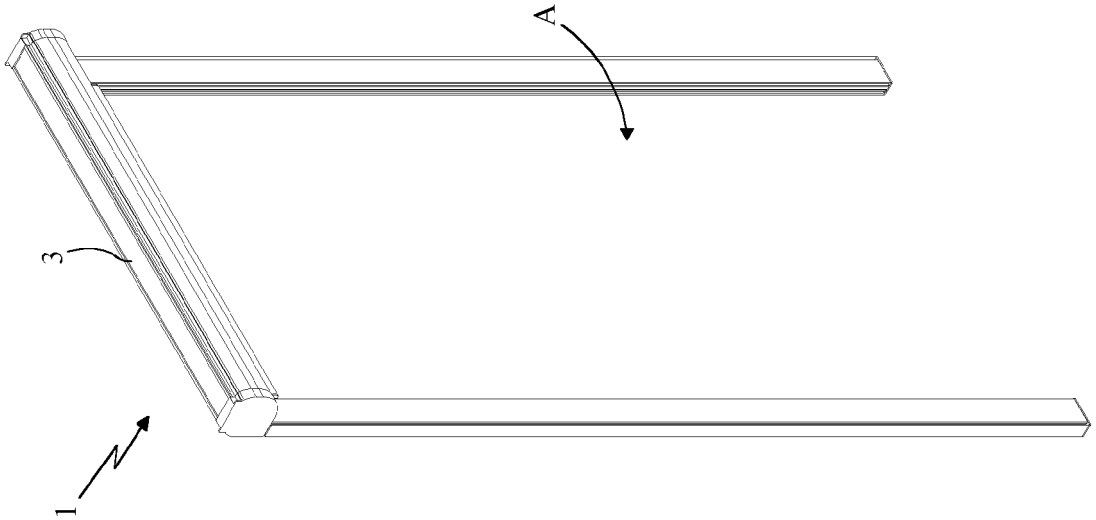

Fig. 2

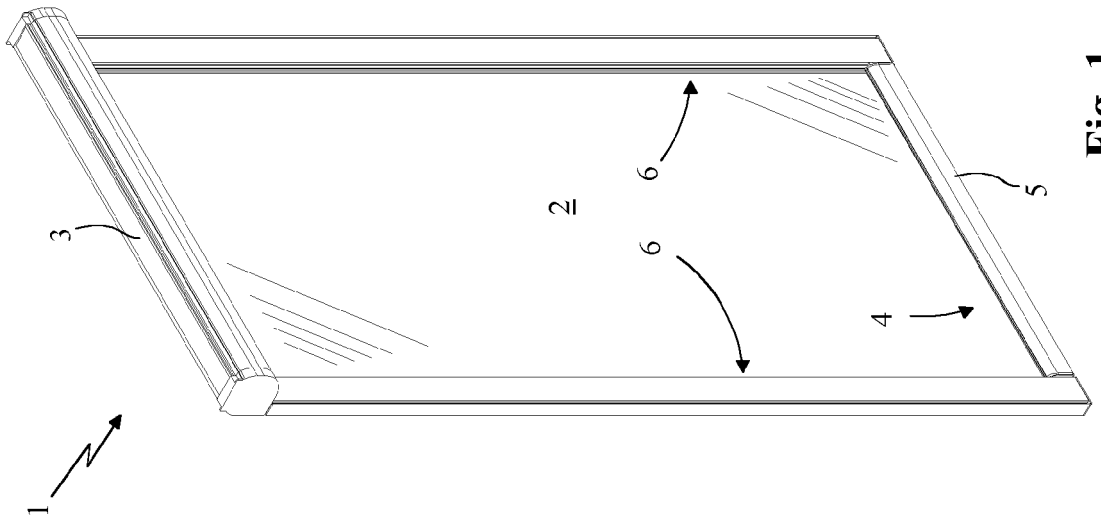

Fig. 1

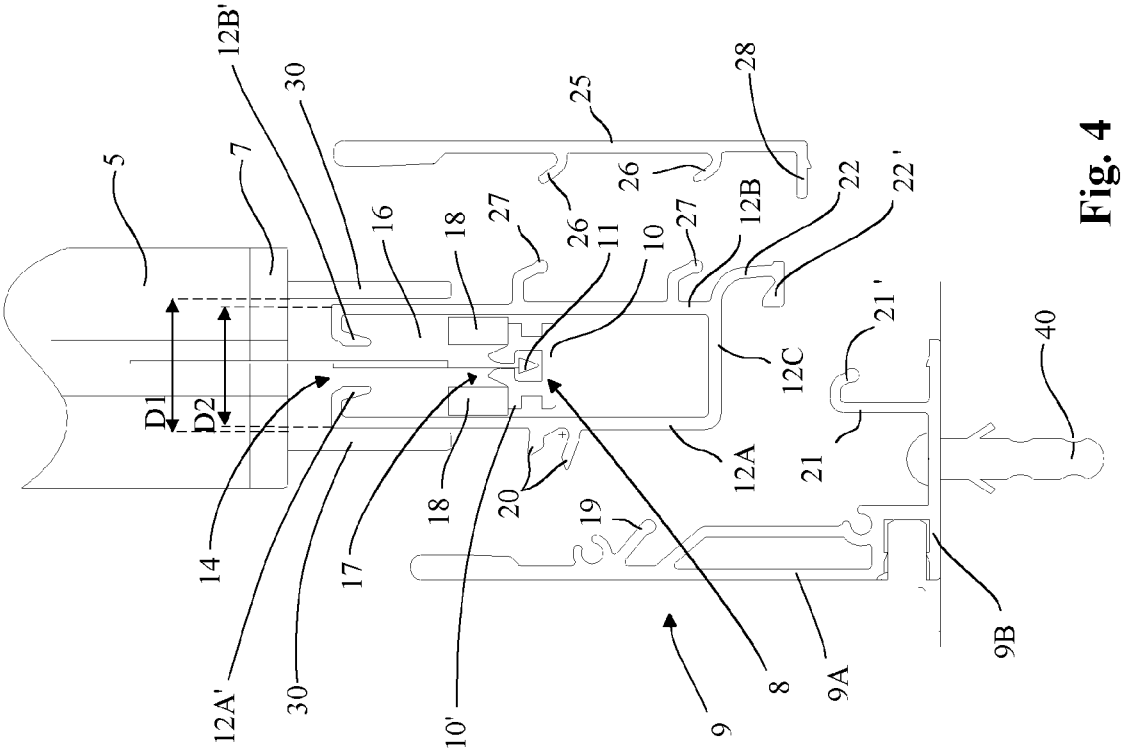
12B'
30
25
28
5
7
16
18
27
26
11
10
27
12B
22
22'
D1
D2
21'
40
12C
21
12A
20
19
14
17
18
12A'
30
10'
9
8
9A
9B

Fig. 4

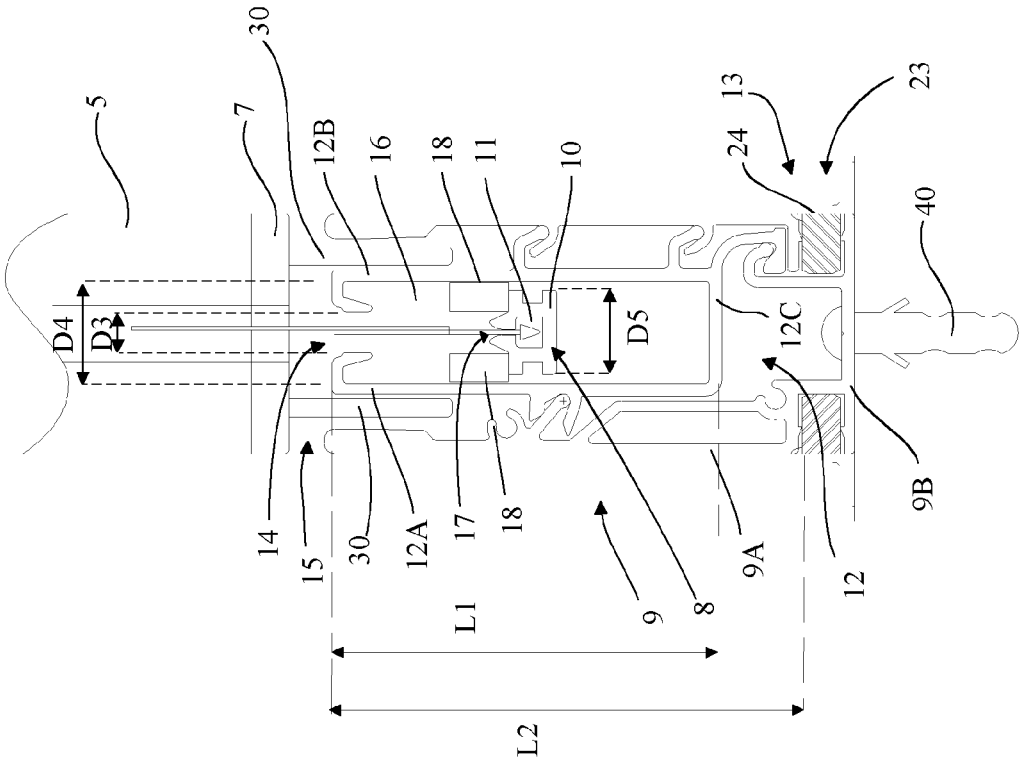
30
5
7
12B
16
18
11
10
13
24
23
40
D4
D3
D5
12C
14
15
30
12A
17
18
9
8
9A
9B
12
L1
L2

Fig. 5

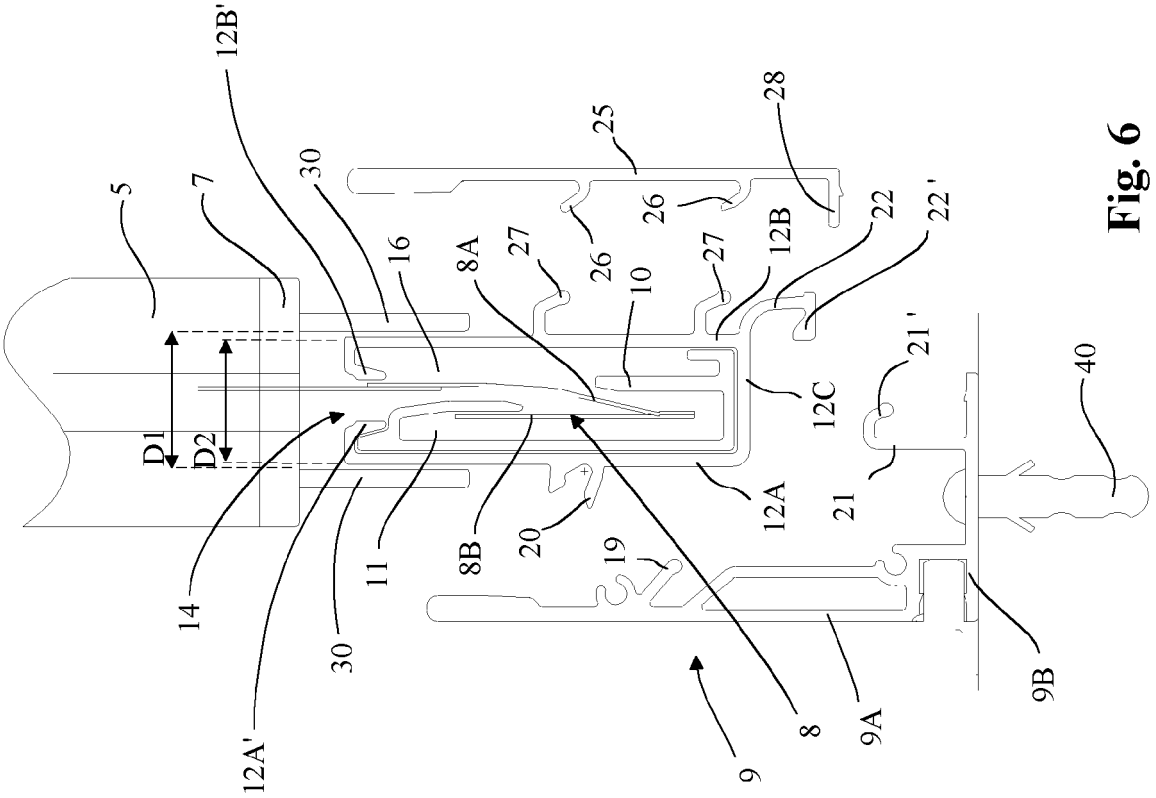
12B'
30
5
7
16
8A
27
25
28
26
26
27
12B
22
22'
10
D1
D2
21'
12C
40
21
12A
14
20
19
11
8B
30
12A'
9
8
9A
9B

Fig. 6

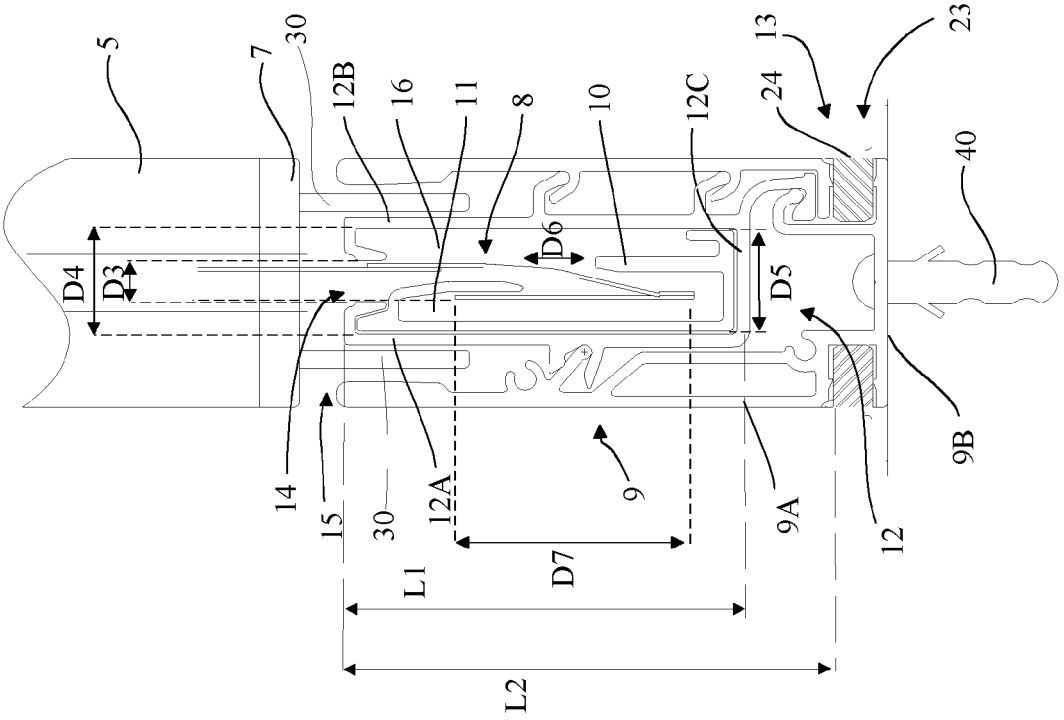
5
7
30
12B
16
11
8
10
12C
13
23
24
40
D4
D3
D6
D5
14
15
30
12A
9
9A
9B
12
L1
D7
L2

Fig. 7

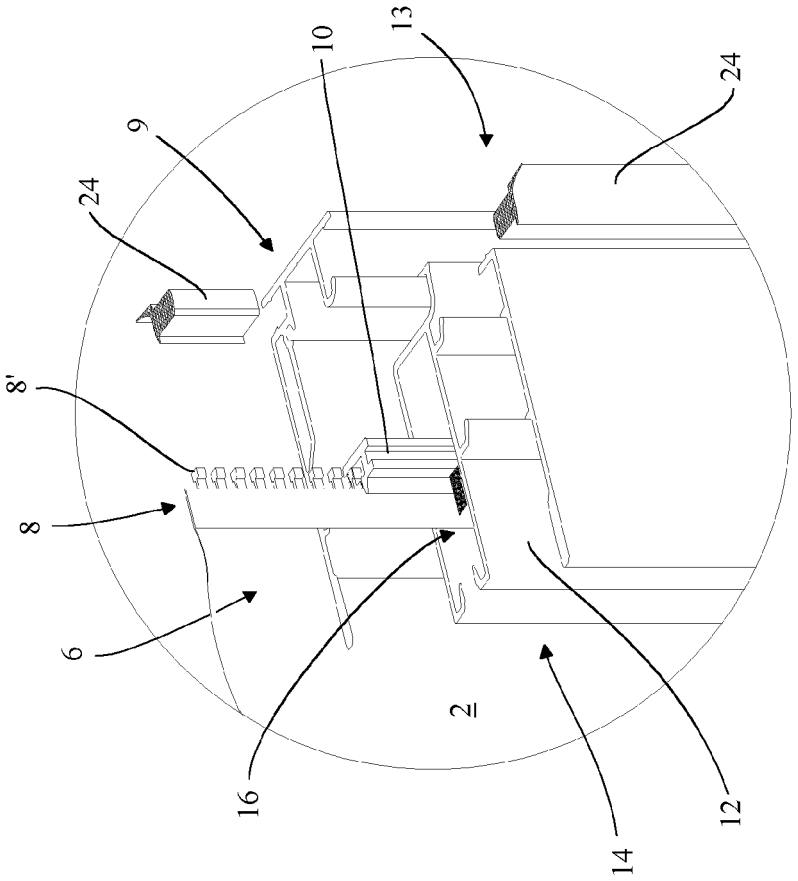

Fig. 8

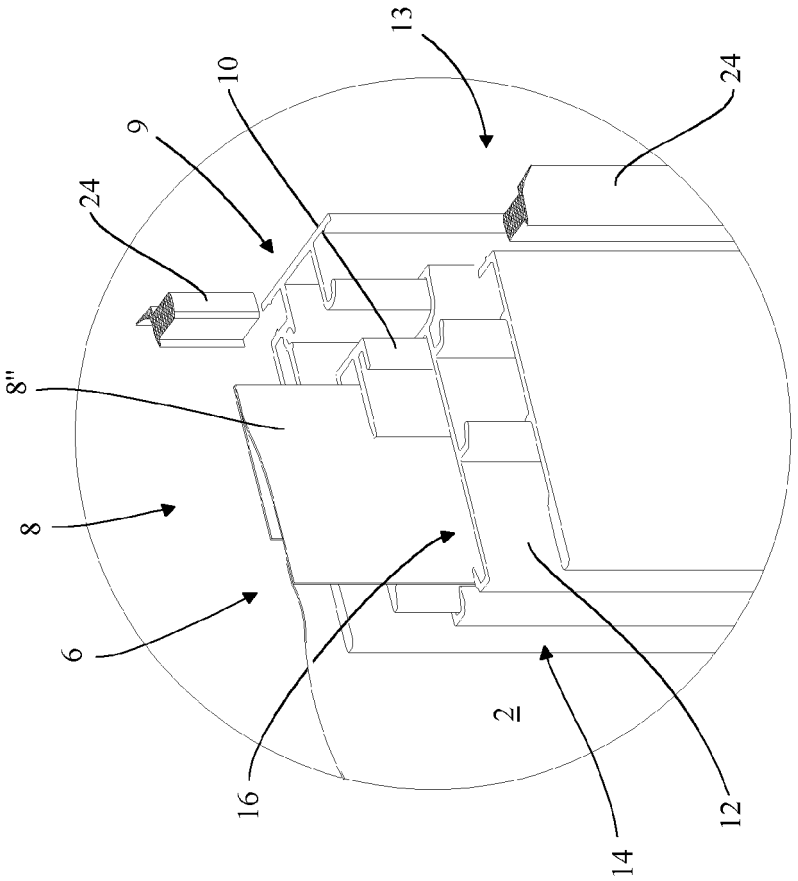

Fig. 9

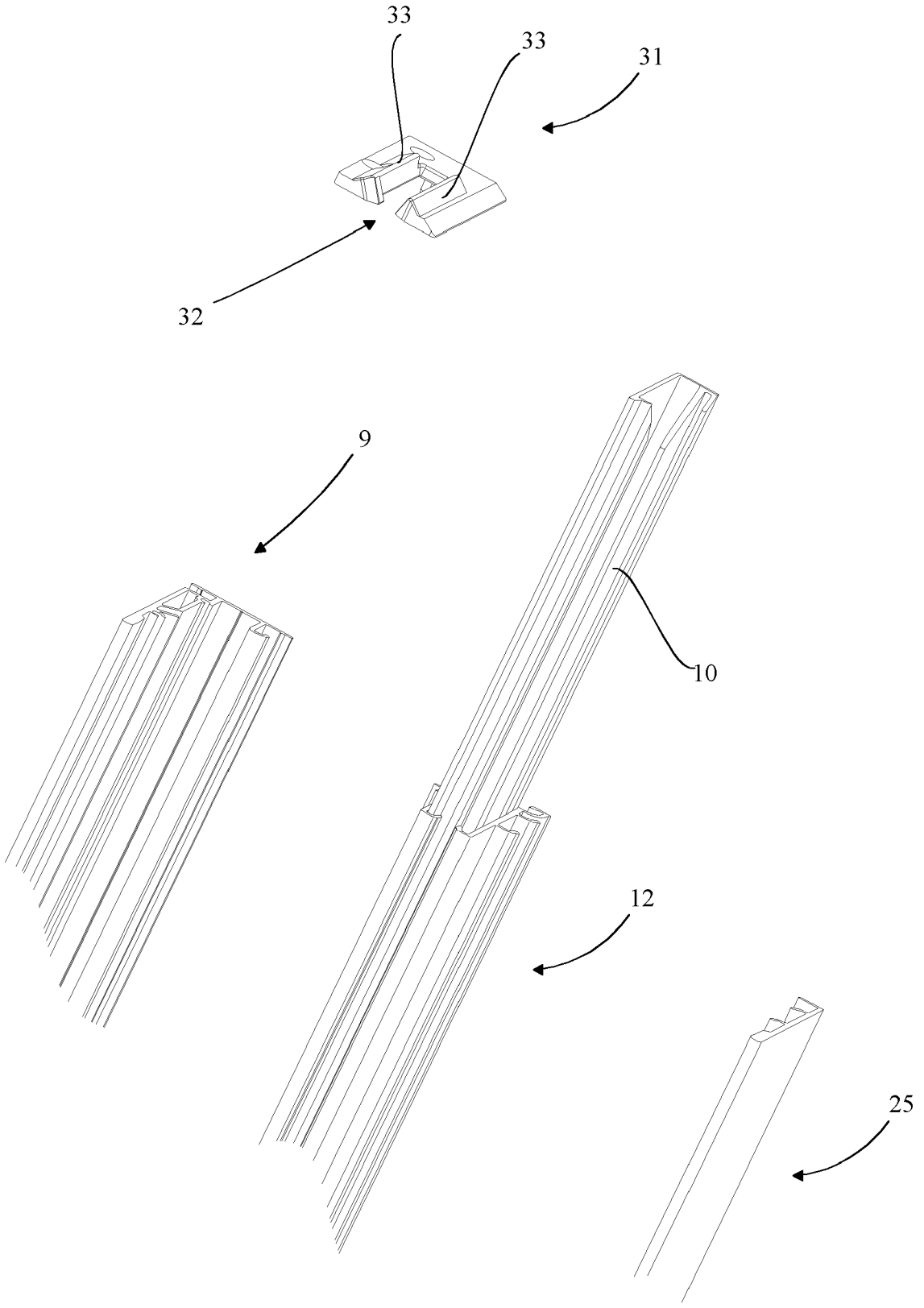

Fig. 10

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 12 15 4940

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	AU 2010 100 720 A4 (CARMELO DI STEFANO) 5 August 2010 (2010-08-05) * figures 1, 5 and 6 *	1-12	INV. E06B9/40 E06B9/58
A	EP 2 216 486 A2 (ROMA ROLLADENSYSTEME GMBH [DE]) 11 August 2010 (2010-08-11) * figures 1, 7 and 8 *	1-12	
A	DE 37 21 921 C1 (HAYASHIGUCHI SEIZO) 16 February 1989 (1989-02-16) * figure 1 and 5 *	1-12	

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
The Hague	4 June 2012	Bauer, Josef

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons
.....
& : member of the same patent family, corresponding document

1

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 12 15 4940

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04-06-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
AU 2010100720 A4	05-08-2010	AU 2010100720 A4	05-08-2010
		CN 201786221 U	06-04-2011
		EP 2317062 A1	04-05-2011
		NZ 587020 A	31-03-2011
		US 2011100570 A1	05-05-2011
EP 2216486 A2	11-08-2010	DE 102009007682 A1	19-08-2010
		EP 2216486 A2	11-08-2010
DE 3721921 C1	16-02-1989	AU 598354 B2	21-06-1990
		AU 1382088 A	23-11-1989
		DE 3721921 C1	16-02-1989
		NL 8701594 A	01-02-1989

EPO FORM P0459

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

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- IT BO20040762 A **[0012]**
- AU 2010100720 **[0017]**