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(54) Flexible screening apparatus and corresponding assembling means thereof

(57) Apparatus arranged to be associated with a roller shutter (T) of a building (E), consisting of first bar means (2), associable with a portion (L) of said roller shutter (T), second bar means (3) and flexible screening means (6), said first bar means (2) and said second bar means (3) being connected to end portions (5, 7), which are not adjacent to one another, of said flexible screening means (6), and provided with: assembling means (16; 30; 90; 90a), comprising first assembling means (17; 31; 91; 91a) and second assembling means (18; 32; 92; 92a) reciprocally engageable to assemble said first bar means (2) on said portion (L); fixing means (218; 219; 220) configured in such a way as to alternatively enable said first bar means (2) and said second bar means (3) to be locked close to, or be removed from, edge portions (S; 12) of said opening (F).

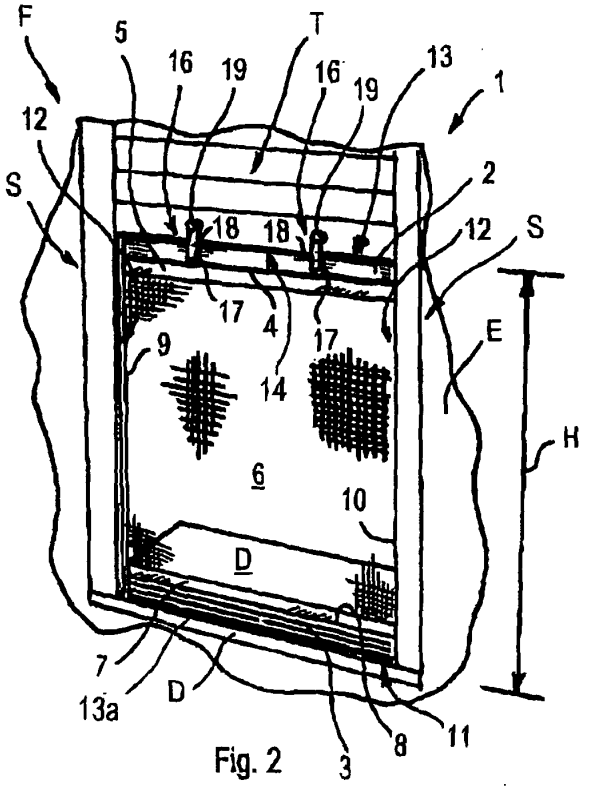

Fig. 2

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Description

[0001] The invention relates to a flexible screening apparatus, such as for example a curtain or an anti-insect net that is applicable to roller shutters of windows and/or French windows of buildings, and assembling means thereof.

[0002] Amongst the flexible screening apparatuses applicable to windows, anti-insect net devices, so-called mosquito nets, are known and widely used. The latter consist of frames, normally rectangle- or square-shaped, on which a net is constrained, the meshes of which have dimensions such that insects, such as for example mosquitoes and flies, cannot pass through them. The net can be made of many various materials, for example nylon.

[0003] Once the mosquito nets have been placed in the spaces of windows and/or French windows of a building, the mosquito nets prevent the insects from penetrating inside the latter, thus allowing the windows and/or French windows to be left open and thus enabling the rooms inside the building to be ventilated.

[0004] In particular, mosquito nets are known the frames of which have a height that is significantly lower than that of the window spaces to which they have to be applied. After inserting the frame uprights into the guide grooves of the roller shutter, the frame is positioned such that its bottom crosspiece rests on the sill of the window. The roller shutter is then lowered until the lower edge of the latter matches the upper crosspiece of the frame. In this way, a portion of the window space is occupied by the roller shutter, whilst the remaining portion is occupied by the frame of the mosquito net, through the net of which light and air can pass, but not insects.

[0005] A drawback of this mosquito net consists of the fact that if a user wishes to access the sill of the window, he is forced to perform a series of operations. In fact, it is first necessary to rewind the roller shutter, then extract the uprights from the guide grooves and lastly remove the frame. In order to again place the mosquito net in position, it is necessary to insert the uprights into the guide grooves, rest the lower crosspiece of the frame on the sill and then lower the roller shutter until the lower edge of the latter again matches the upper crosspiece of the frame.

[0006] This involves an undesirable expenditure of time and/or energy for a user, especially if the latter has to access the sill for a short time, for example in order to lean out.

[0007] Furthermore, as the maximum height extent of the frame is rigidly defined by the preset length of the respective uprights, the user cannot vary at will the area of the portion of space of the window occupied and thus protected by the mosquito net, unless for each window or French window he provides a series of mosquito nets of the known type, provided with frames having pairs of uprights of different lengths.

[0008] This is impracticable because of the additional costs that would arise therefrom for the user and because of the clear inconvenience of having to perform all the aforementioned operations whenever it was desired to vary, even by just a few centimetres, the position of the roller shutter, whilst keeping the window protected by the mosquito net.

[0009] An object of the invention is to improve the known flexible screening apparatuses that are applicable to windows and/or French windows.

[0010] Another object of the invention is to improve known anti-insect net apparatuses that are applicable to windows and/or French windows.

[0011] A further object of the invention is to provide a flexible screening apparatus, applicable to a window and/or French window, that enables a respective user to access the sill and/or terrace in a substantially rapid manner.

[0012] Another further object of the invention is to provide a flexible screening apparatus, which is applicable to a window and/or French window, which, in use, enables a respective user to access the sill and/or the terrace without requiring significant expenditure of effort.

[0013] A still further object is to provide a flexible screening apparatus that can occupy the entire height extent of the space of a window and/or French window.

[0014] Another still further object is to provide a flexible screening apparatus, which is applicable to a window and/or French window, which is provided with a substantially simplified structure that therefore enables the respective production and assembling time and costs to be reduced.

[0015] In a first aspect of the invention, there is provided an apparatus arranged to be associated with a roller shutter of a building, consisting of first bar means, associable with a portion of said roller shutter, second bar means and flexible screening means, said first bar means and said second bar means being connected to end portions, which are not adjacent to one another, of said flexible screening means.

[0016] In a second aspect of the invention, an apparatus is provided, which is arranged to be associated with an opening of a building and consisting of first bar means, second bar means and flexible screening means, said first bar means and said second bar means being fixed to end portions, which are not adjacent to one another, of said flexible screening means and being furthermore provided with fixing means configured in such a way as to enable said first bar means and/or said second bar means to be alternatively locked close to, or removed from, edge portions of said opening.

[0017] In a third aspect of the invention, an apparatus is provided that is arranged to be associated with an end portion of flexible screening means, comprising bar means that is reducible in length in a telescopic manner, said bar means being arranged to alternatively enable said flexible screening means to be inserted into, or extracted from, guide means of a roller shutter.

[0018] Owing to these aspects a flexible screening apparatus is provided, such as an anti-insect net or a cur-

tain, which is applicable to a window and/or French window and enables a user to access the respective sill and/or terrace without removing the apparatus or rewinding the roller shutter, and thus in a substantially rapid and effortless way compared with known apparatuses. Furthermore, the flexible screening means is associated with a frame devoid of rigid uprights and can therefore occupy variable portions of a window space without being subject to the limits of height extent imposed by the frames of known apparatuses.

[0019] The fixing means is made in such a way as to enable the user to insert the latter inside the guide grooves of the roller shutter of the window, or French window, so as to immobilise at a desired height the first bar means and/or the second bar means. In this way it is possible to use the first bar means as a stopping element for the terminal slat of the roller shutter and lower the latter to make the adjacent slats match one another. The slits are thus shut that normally exist between the adjacent slats of a roller shutter when the latter is lifted up and which would allow insects to pass through the window despite the presence of the screening apparatus.

[0020] The fixing means furthermore enables the second bar means to be kept matching a sill of a window, or the threshold of a French window, thus preventing a gust of wind from lifting up the second bar means and accidentally creating an undesired gap in the screening apparatus.

[0021] In an embodiment that is useful for windows or French windows devoid of roller shutters the fixing means is made in such a way as to enable the user to lock the first bar means and/or the second bar means directly against the jambs of the window or French window.

[0022] In another embodiment that is usable for windows or French windows devoid of roller shutters the apparatus comprises profiled elements associable with the jambs of the window or French window space and are provided with guide grooves in which the fixing means can be inserted.

[0023] In a fourth aspect of the invention, assembling means is provided arranged to assemble flexible screening means on a roller shutter of a building, comprising first assembling means and second assembling means, said first assembling means and said second assembling means being engageable with each other by means of respective first Velcro portions and second Velcro portions.

[0024] In a fifth aspect of the invention, assembling means is provided, arranged to assemble flexible screening means on a roller shutter of a building, comprising first assembling means and second assembling means, said first assembling means and said second assembling means being engageable with each other by means of respective first tooth means and second tooth means.

[0025] In a sixth aspect of the invention, assembling means is provided, arranged to assemble flexible screening means on a roller shutter of a building, comprising first assembling means and second assembling means, said first assembling means and said second assembling means being engageable with one another in such a way as to form connecting-rod means.

[0026] Owing to these aspects, assembling means is provided that is suitable for assembling the flexible screening means on the roller shutter of a window and/or French window, which enables the user to access the respective sill and/or terrace in a significantly rapid manner and with reduced expenditure of effort.

[0027] In a seventh aspect of the invention, bar means is provided arranged to be fixed to end portions of flexible screening means, said bar means comprising first half-shell means and second half-shell means arranged to be snap-engaged with each other in such a way that said end portions are at least partially interposed between said first half-shell means and said second half-shell means.

[0028] Owing to this aspect, snap-assemblable bar means is provided, which substantially simplifies the structure of the device, thus reducing the time and costs necessary to produce and assemble the latter.

[0029] The invention can be better understood and implemented with reference to the attached drawings that show exemplifying and non-limitative embodiments thereof, in which:

Figure 1 is an enlarged, fragmentary and incomplete perspective view showing the assembling means of a flexible screening apparatus in an operating phase;
Figure 2 is a schematic, fragmentary and incomplete perspective view showing the assembling means of Figure 1 in a further operating phase;
Figure 3 is a schematic perspective view of a component of further assembling means of a flexible screening apparatus;
Figure 4 is a schematic plan view of another component of the further assembling means in Figure 3;
Figure 5 is a schematic, fragmentary and incomplete front view of the further assembling means of Figures 3 and 4, shown in an operating phase;
Figure 6 is a view like the one in Figure 5, showing the further assembling means in another operating phase;
Figure 7 is a view like the one in Figure 5, showing the further assembling means in a further operating phase;
Figure 8 is a schematic, fragmentary and incomplete front view showing bar means that is reducible in length in a telescopic manner;
Figure 9 is a schematic perspective view showing a constructional detail of the bar means in Figure 8;
Figure 10 is a schematic, fragmentary and incomplete perspective view showing the operation of the bar means in Figure 8;
Figure 11 is a schematic perspective view showing further bar means, during an assembly phase;
Figure 12 is a view like the one in Figure 11, showing the further bar means assembled;

Figure 13 is a perspective, fragmentary and incomplete view showing further other assembling means of the flexible screening apparatus in an operating phase;
Figure 14 is a view like the one in Figure 13, showing the further other assembling means in another operating phase;
Figure 15 is a fragmentary and incomplete perspective view showing another embodiment of the further other assembling means of Figure 13, in an operating phase;
Figure 16 is a schematic, fragmentary and incomplete perspective view showing a component of the further other assembling means in Figure 15;
Figure 16a is a view like the one in Figure 16, showing a further component of the further other assembling means in Figure 15;
Figures 17 to 19 are schematic, fragmentary and incomplete front views that show some configurations of the flexible screening apparatus obtainable by means of the further other assembling means shown in Figures 15, 16 and 16a;
Figure 20 is a schematic, fragmentary and incomplete front view showing a further embodiment of the further other assembling means in Figure 13, in an operating phase;
Figure 21 is a view like the one in Figure 19, showing the further embodiment of the further other assembling means in another operating phase;
Figure 22a is a view like the one in Figure 19, showing the further embodiment of the further other assembling means in a further operating phase;
Figure 22b is a schematic exploded, fragmentary and incomplete view of a constructional detail present in the further embodiment shown in Figures 20 to 22a;
Figures 23 to 25 are schematic, fragmentary and incomplete front views illustrating flexible screening apparatuses comprising frames provided with non-rigid uprights;
Figure 26 is a schematic, fragmentary, incomplete and partially sectioned side view showing an embodiment of the flexible screening apparatus in which dedicated side guides are provided;
Figure 27 is a schematic, fragmentary and incomplete front view showing an embodiment of the flexible screening apparatus devoid of side guides;
Figure 28 is a fragmentary and incomplete perspective view showing a flexible screening apparatus, provided with fixing means, associated with a window;
Figure 29 is a view like the one in Figure 28, showing the flexible screening apparatus removed from the window;
Figure 30 is a view like the one in Figure 29, partially exploded to highlight the structure of the fixing means;
Figure 31 is a partially sectioned schematic plan view of the flexible screening apparatus in Figure 28;
Figure 32 is an enlarged, fragmentary and incomplete view of an end portion of the apparatus in Figure 28, showing the fixing means in an operating phase;
Figure 33 is a view like the one in Figure 32, showing the fixing means in another operating phase;
Figure 34 is a view like the one in Figure 28, showing the flexible screening apparatus in a further configuration;
Figure 35 is a perspective, fragmentary and incomplete section view, showing other further bar means during the assembly phase;
Figure 36 is a view like the one in Figure 35, showing the other further assembled bar means;
Figure 37 is a schematic, fragmentary and incomplete cross section of a dedicated side guide that is usable with the flexible screening apparatus shown in Figure 29;
Figure 38 is a schematic, fragmentary and incomplete front view showing another embodiment of the fixing means in an operating phase;
Figure 39 is a view like the one in Figure 38, showing the fixing means in another operating phase;
Figure 40 is an enlarged schematic side view of a further embodiment of the fixing means;
Figure 41 is an enlarged schematic side view of a component of another embodiment of the further other assembling means shown in Figures 13 and 14;
Figure 42 is a schematic perspective view of a further component of the embodiment of the further other assembling means shown in Figure 41;
Figure 43 is a fragmentary and incomplete schematic side view showing a constructional detail of the further component shown in Figure 42;
Figure 44 is a fragmentary and incomplete perspective view of a flexible screening apparatus provided with the fixing means shown in Figure 40 and with the further other assembling means shown in Figures 41-43.

[0030] With reference to Figures 1 and 2, a flexible screening apparatus 1, for example comprising an anti-insect net 6, is applied internally to a window F of a building E. The apparatus 1 consists of a first bar 2 and a second bar 3, both of which are arranged parallel to a sill D of the window F and are made by using profiled elements of the known type, for example in plastics, extending longitudinally. At a first margin 4 of the first bar 2, facing the sill D and parallel to the latter there is fixed, for example by gluing, a first transverse edge 5, which is parallel to the sill D, of the anti-insect net 6. The latter is for example made of plastics (or of another suitable material) and is quadrilateral-shaped. A second transverse edge 7 of the net 6, parallel to the first transverse edge 5, is fixed to a further first margin 8 of the second bar 3, in turn parallel to the sill D. The net 6 is further delimited by a first side edge 9 and a second side edge 10, which are parallel to each another and arranged orthogonally

to the first transverse edge 5 and the second transverse edge 7. A second margin 14 of the first bar 2, parallel to the first margin 4 and provided with a barrier element 13, for example a brush element, is juxtaposed, in use, to a free margin L1 of a terminal slat L of a roller shutter T. A further barrier element 13a, for example a brush element similar to the one constituting the barrier element 13, is juxtaposed, in use, to the sill D.

[0031] An operating face 15 of the first bar 2, facing the inside of the building E, receives assembling devices 16, two of which are preferably provided. Each assembling device 16, made of synthetic fabric, comprises a rectangular portion 17 and a belt portion 18.

[0032] The rectangular portion 17 is associated, for example by gluing, with the operating face 15 close to a base 19 of a stop, which is not shown, fixed to the terminal slat L of the roller shutter T by screws that are not shown. The rectangular portion 17 is orientated in such a way as to have its longer sides orthogonal to the first bar 2. A plurality of anchoring elements 17a, made in the shape of minute flexible hooks, are associated with a face of the rectangular portion 17 opposite the operating face 15.

[0033] The belt portion 18 (shown raised for the sake of clarity) comprises an end eyelet 20, through which the belt portion 18 can be associated with the base 19 of the stop, and can be rotated in relation to the rectangular portion 17, according to two opposite directions indicated by the arrows F1 and F2, respectively towards and away from the rectangular portion 17. A plurality of further anchoring elements 18a made in the shape of thickly tangled filaments are associated with a face of the belt portion 18 facing the operating face 15 of the first bar 2. In use, the anchoring elements 17a and the further anchoring elements 18a can be mutually connected to one another by exerting a pressure, thus constituting a Velcro closure of the known type.

[0034] In order to apply the apparatus 1 to the window F, after the roller shutter T has been partially wound, the bases 19 of the stops are unscrewed from the terminal slat L so as to enable the eyelets 20 of the belt portions 18 to be inserted therein, and are then again screwed onto the slat L. Then the first side edge 9 and the second side edge 10 of the net 6, together with corresponding end portions of the first bar 2 and of the second bar 3, are inserted into guide grooves 12 of the roller shutter T obtained in the opposite jambs S of the window F. At this point, either by lowering the roller shutter T to the first bar 2 or by manually raising the latter to the terminal slat L, the second margin 14 is made to match the free margin L1 of the terminal slat L. It is thus possible, in each assembling device 16, to rotate the belt portion 18 according to the direction F1 so as to connect the belt portion 18 with the respective rectangular portion 17, in such a way as to assemble the apparatus 1 on the roller shutter T. By winding the latter in such a way as to completely extend the net 6, the apparatus 1 extends for a distance H comprised between the sill D and the free margin L1 of the terminal slat L. The window F can thus be left open inasmuch as the apparatus 1 enables light and air to enter through the window F and simultaneously prevents insects from penetrating inside the building E. Furthermore, the absence of rigid uprights at the first side edge 9 and the second side edge 10 of the net 6 enable the apparatus 1 to passively decrease and/or increase (up to a maximum the same as distance H) its vertical dimension so as to enable a user to lower and/or raise the roller shutter T, while keeping the apparatus 1 assembled on the latter.

[0035] To disassemble the apparatus 1 from the roller shutter T, it is sufficient to act on the belt portions 18, by pulling the latter in the direction F2 so as to disconnect the belt portions 18 from the respective rectangular portions 17.

[0036] With reference to Figures 3 and 4, a further assembling device 30 is provided for associating the first bar 2 with the roller shutter T. Each further assembling device 30, made for example of plastics, comprises a further rectangular portion 31 and a further belt portion 32. The further rectangular portion consists of a plate 33, which is substantially C-shaped with a concavity turned, during use, to the second bar 3 of the apparatus 1. In the plate 33 there is an anchoring face 33a, arranged to come into contact during use with the operating face 15 of the first bar 2. End portions of the two parallel branches of the C are connected by a shelf projection 35, which is arranged orthogonally to the end portions and has a semicircular cross section. From a substantially central region of the shelf projection 35 a further shelf projection 37 protrudes, having a cross section that is approximately overturned L-shaped with the vertical branch turned towards the anchoring face 33a. From a side of the anchoring face 33a opposite the shelf projection 35 a pair of side projections 36 protrude, each one of which is approximately parallelepiped-shaped. In a substantially intermediate position of the anchoring face 33a, comprised between the concavity of the C and the side projections 36, a rectangular seat 40 is obtained, having a shorter side that has a length 2L. One half of the seat 40, close to one of the side projections 36, is occupied by a plurality of teeth 38 having a longitudinal extent, arranged parallel to one another and in relation to the shelf projection 35. Still in the seat 40, close to the teeth 38, a through hole 39 is obtained.

[0037] The further belt portion 32 consists of a tab which is substantially rectangle-shaped and has a shorter side that has a length L. In a further anchoring face 45 of the further belt portion 32, arranged to interact, during use, with the anchoring face 33a of the further rectangular portion 31, a plurality of further teeth 42 are obtained that occupy more than half of the further anchoring face 45. The further teeth 42, having a longitudinal extent, are arranged parallel to one another and are orthogonal to a longitudinal axis of the further belt portion 32. In use, the further teeth 42, having a length L, engage the teeth 38 of the further rectangular portion 31, the latter also having a length L (inasmuch as they have a length that is half

of the side 2L of the seat 40).

[0038] In a region of the further anchoring face 45 opposite the further teeth 42, a slot 41 is obtained that enables the further belt portion 32 to be associated with the base 19 of the stop of the roller shutter T.

[0039] With reference to Figures 5 and 6, the further rectangular portion 31 of the further assembling element 30 is associated with the operating face 15 of the first bar 2 using the side projections 36, the shelf projection 35 and the further shelf projection 37. In fact, the side projections 36 are inserted into a groove 44 obtained in the operating face 15 of the first bar 2, whereas the shelf projection 35 matches the first margin 4 of the first bar 2, which is further kept in position by the effect of the further shelf projection 37. Between the rectangular seat 40 and the operating face 15 a gap is formed that is not shown inside which the further belt portion 32 can be inserted such as to enable the teeth 38 and the further teeth 42 to interact with one another. In this way, after assembling the further rectangular portion 31 on the first bar 2 and after connecting the further belt portion 32 to the base 19 of the stop of the roller shutter T it is possible to insert and slide the further belt portion 32 between the anchoring face 33a of the further rectangular portion 31 and the internal face 15 of the first bar 2, according to a direction, identified by the arrow F3, which is orthogonal to the first bar 2. As the anchoring face 33a of the further rectangular portion 31 and the further anchoring face 45 of the further belt portion 32 face each other, the respective teeth 38 and further teeth 42 can engage with one another, temporarily fixing the first bar 2 and thus the apparatus 1 on the roller shutter T. By sliding the further belt portion 32 into the gap, it is possible to bring the further rectangular portion 31 and therefore the first bar 2 progressively nearer the free margin L1 of the terminal slat L of the roller shutter T until the first bar 2 is made to match the terminal slat L. In this way, the roller shutter T is temporarily fixed to the apparatus 1 with an efficacy that is similar to that obtainable using the assembling device 16 disclosed previously.

[0040] With reference to Figure 7, in which the first bar 2 and the terminal slat L have been omitted for the sake of clarity, to disassemble the apparatus 1 from the roller shutter T it is sufficient to slide the further rectangular portion 31 according to a direction identified by the arrow F20 that is orthogonal to the further belt portion 32. In this way, the teeth 38, shown by a broken line, are disengaged from the respective further teeth 42, and at the latter the portion of seat 40 devoid of teeth is positioned. As the teeth 38 and the further teeth 42 no longer interact with one another, it is possible to remove the further rectangular portion 31 according to a direction identified by the arrow F21 parallel to the further belt portion 32. In this way, the apparatus 1 is disassembled from the roller shutter T.

[0041] With reference to Figures 13 and 14, a connecting-rod assembling device 90 is provided for assembling the first bar 2 on the roller shutter T. The connecting-rod assembling device 90 comprises a cursor portion 91 and a connecting-rod portion 92. The cursor portion 91 is shaped in a manner similar to the further rectangular portion 31 disclosed previously, and comprises a further plate 93, which is substantially C-shaped and has a concavity facing, during use, the second bar 3 of the apparatus 1. In the further plate 93 there is an anchoring face, which is not shown and is arranged to interact, in use, with the operating face 15 of the first bar 2. End portions of the two parallel branches of the C are connected by a shelf projection that is not shown, arranged orthogonally to the end portion and having a semicircular cross section. From a substantially central region of the shelf projection a further shelf projection protrudes that is not shown, having a cross section that approximately has the shape of an overturned L with the vertical branch facing the anchoring face.

[0042] Also from the shelf projection, but in a position opposite the further shelf projection, a handle element 94 protrudes. The handle element 94 is substantially trapezium-shaped, a larger base of which is fixed to the shelf projection, and is arranged orthogonally to the further plate 93. From a side of the anchoring face opposite the shelf projection a pair of side projections protrude that are not shown, each of which is approximately parallelepiped-shaped. In the further plate 93, between the side projections, a through hole 95 is obtained, arranged to receive a pivot 99.

[0043] The connecting-rod portion 92 comprises a first slot end 96 that is circular and a second slot end 97 that is substantially rectangle-shaped, between which a connecting segment 98 is interposed that is substantially trapezium-shaped, the smaller base of which faces the first slot end 96. The cursor portion 91 and the connecting-rod portion 92 are hinged on one another by a pivot 99 that passes through the through hole 95 and the first slot end 96.

[0044] In use, the second slot end 97 of the connecting-rod portion 92 is associated with the base 19 of the stop of the roller shutter T, whereas the cursor portion 91 is associated with the operating face 15 of the first bar 2 in a similar way to what has been previously disclosed for the further rectangular portion 31. In this way, the connecting-rod assembling device 90 is in an open configuration A, in which a longitudinal axis Z of the connecting-rod portion 92 is arranged in such a way as to define a right angle that is not shown with the cursor portion 91. In the configuration A, the first bar 2 is already fixed to the terminal slat L of the roller shutter T, but the free margin L1 of the slat L and the second margin 14 of the first bar 2 are not matching, as required for correct operation of the apparatus 1. To make the latter match, and thus complete assembling of the apparatus 1, the user, who is not shown, has to act on the handle element 94, by gripping and moving the latter horizontally in a direction identified by the arrow F9 so as to move the cursor portion 91 towards the guide groove 12. The cursor portion 91 can move in the direction F9 owing to the side

projections, which are slidably inserted into the groove 44 of the operating face 15 of the first bar 2, and owing to the shelf projection and the further shelf projection that can slide along the first margin 4 of the first bar 2.

[0045] In this way, the connecting-rod assembling device 90 moves from the open configuration A to a closed configuration B, in which the longitudinal axis Z of the connecting-rod portion 92 defines a further angle Y that is significantly less than 90°. In the closed configuration B, the free margin L1 of the slat L and the second margin 14 of the first bar 2 match and the apparatus 1 can thus operate in an optimal manner.

[0046] To return the connecting-rod assembling device 90 from the closed configuration B to the open configuration A, the user simply has to grip the handle element 94 and move the latter obliquely in a direction identified by the arrow F10, parallel to and opposite the preceding direction F9.

[0047] In an embodiment that is not shown, using a pair of the connecting-rod assembling devices 90 is provided for, by associating the latter with the first bar 2 close to opposite ends of the operating face 15. Each connecting-rod assembling device 90 can then be associated with the base 19 of the respective side stop of the roller shutter T. To pass from the open configuration A to the closed configuration B, the user has to move the two handle elements 94 horizontally to opposite ends of the first bar 2. In this way, the two cursor portions 91 are moved parallel to the first bar 2 in opposite directions, i.e. each in the direction of the nearest guide groove 12 and simultaneously the longitudinal axes of the two connecting-rod portions 92 rotate similarly in opposite directions, i.e, each in the direction of the nearest guide groove 12.

[0048] To take the assembling elements from the closed configuration B to the open configuration A, the user has to grip the handle elements 94 and move the latter horizontally in directions opposite those disclosed above.

[0049] With reference to Figures 15 to 16a, to assemble the second bar 2 on the terminal slat L of the roller shutter T an embodiment of the connecting-rod assembling device 90 is provided in the cursor portion 91 of which the handle elements 94 are replaced by fork elements 100. Each fork element 100 comprises a plate having an approximately quadrilateral plan shape, in a substantially central portion of which an incision 101 is obtained. In combination with the cursor portion 91, a hooking device 102 is furthermore provided, comprising a fixed portion 103, an anchoring portion 104 and a cord 105. The fixed portion 103 is made into an approximately cilindrical-conical shape and at opposite ends thereof it is provided with projection elements 106, 107 that are respectively engageable on the further second margin 11 of the second bar 2 and on a further groove 108. The further groove 108 is obtained in a face of the second bar that in use faces inside the window F. The fixed portion 103 is hollow and is traversed internally by the cord 105, that has a first end 110 and a second end 111, which are opposite each other. The first end 110 is fixed to the fixed portion 103, whereas the second end 111 is fixed to the anchoring portion 104.

[0050] If a user wishes to raise the net 6, for example in order to lean out of the window F, he simply has to grip the anchoring portion 104 and move the latter in a vertical direction away from the sill D thus raising in sequence the cord 109, the corresponding fixed portion 103 and the second bar 3. The second bar 3 drags with itself the anti-insect net 6, folding and lifting the latter. The user, by further lifting the anchoring portion 104, can bring the cord 109 close to the fork element 100 and can insert the cord 109 in the incision 101. At this point, the user can abandon the anchoring portion 104 that locks the second end 111 of the cord 109 in the notch 101, thus keeping the anti-insect net 6 raised for a desired time.

[0051] To lower the anti-insect net 6, the user can remove the cord 109 from the notch 101, and lower the anchoring portion 104 in the direction of the sill D. By doing so, also the second bar 3 is lowered to the sill D, dragging with itself the anti-insect net 6.

[0052] In an embodiment that is not shown, associating with the apparatus a pair of connecting-rod assembling devices 90 is provided for, each of which is provided with a fork element 100, and a pair of respective hooking devices 102.

[0053] As shown in Figures 17 to 19, by coupling the connecting-rod assembling devices 90, provided with fork elements 100, and the respective hooking devices 102 to the apparatus 1, the user can take advantage of many various configurations that may be assumed by the apparatus 1.

[0054] By completely lifting up the roller shutter T, the space of the window F can be entirely occupied by the anti-insect net 6, which is completely extended between the first bar 2 and the second bar 3, that is between the terminal slat L and the sill D, thus ensuring effective protection from insects together with an appropriate passage of light and air (Figure 17).

[0055] If, for any reason, the user wishes to open the anti-insect net 6, he can do so by performing the operations disclosed above and thus creating a gap having a height v (Figure 18) through which it is possible to access freely the space of the window F.

[0056] Lastly, if the user wishes to shut the window F completely using the roller shutter T, he can do so without first having to disassemble the apparatus 1. As the latter is devoid of rigid uprights, the first bar 2 can in fact passively follow the descent of the roller shutter T to the sill D, making the anti-insect net 6 fold on itself until the latter rests on the second bar 3 (Figure 19).

[0057] With reference to Figures 20 to 22b, a further embodiment of the connecting-rod assembling device 90 is provided, in which the cursor portion 91 is devoid of the handle element 94 whereas an eccentric element 120 is associated with the connecting-rod portion 92.

[0058] The eccentric element 120 comprises a semi-

circular portion 121, a lever portion 122 and a disc portion 123, which are connected with one another. The lever portion 122 comprises a flat face 124, which faces, during use, the roller shutter T and in which a pivot 125 is present, arranged to slide along an annular portion 126 obtained in a peripheral portion of the second slot end 97. In the semicircular portion 121 an annular seat 127 is obtained, arranged to partially receive the base 19 (shown by a broken line) of the stop, which is not shown, of the roller shutter T. The annular seat 127 is delimited in the direction of the roller shutter T by the disc portion 123, in which an eccentric through hole 128 is obtained. The eccentric through hole 128 is obtained in such a way as to be aligned on the central through hole, which is not shown, of the base 19 of the stop. In the second slot end 97 of the connecting-rod portion 92, the slot has a diameter such as to be able to completely receive the disc portion 123.

[0059] In order to associate this further embodiment of the connecting-rod assembling device 90 with the roller shutter T, once the cursor portion 91 has been associated with the first bar 2 in the manner disclosed previously, it is sufficient to use a screw 129 sufficiently long to traverse successively the central through hole of the base 19 of the stop, the eccentric through hole 128, and a pair of through holes 130, 131 obtained on opposite faces of the terminal slat L. The stop, which is not shown, of the roller shutter T is lastly screwed onto the screw 129. Once the second bar 2 has been fixed to the terminal slat L, the connecting-rod assembling device 90 has to be moved from an open configuration A, in which the terminal slat T and the first bar 2 do not match each other, to a closed configuration B in which the free margin L1 of the terminal slat L and the second margin 14 of the first bar 2 are juxtaposed to each other. To obtain this, a user, who is not shown, may act on the lever portion 122 by rotating the latter. This rotation, which may at most be 180°, is limited by the pivot 125. The latter in fact, by following the lever portion 122, can slide along the annular portion 126 in two opposite directions identified by the arrows F30 and F31, each one of which runs between a first abutment surface 200 and a second abutment surface 201, both obtained at opposite ends of the annular portion 126. When the user rotates the lever portion 122, simultaneously the entire eccentric element 120 rotates eccentrically in relation to a longitudinal axis, which is not shown, of the screw 129. This eccentric rotation moves the connecting rod formed by the cursor portion 91 and by the connecting-rod portion 92 and enables the connecting-rod assembling device 90 to pass from the open configuration A to the closed configuration B, thus moving the first bar 2 in a direction, identified by the arrow F40, orthogonal to the latter, until it is juxtaposed to the terminal slat L.

[0060] With reference to Figures 8 and 9 an apparatus 1 is provided in which with the second bar 3 a telescopic bar 50 is associated that is arranged to come into contact in use with the sill D of the window F. The telescopic bar 50 comprises an intermediate portion 51 that is made in the shape of an internally hollow profiled element, which is substantially parallelepiped-shaped, and is arranged parallel to the second bar 3, which is made in such a way as to have a length substantially less than the first bar 2. The intermediate portion 51 is interposed between a fixed end portion 52 and a movable end portion 53. The movable end portion 53 comprises a movable element 54, which is parallelepiped-shaped and extends longitudinally, interposed between a pair of plates 55, arranged parallel to each other and having respective longitudinal axes positioned parallel to the movable element 54. Each plate 55 is substantially quadrilateral-shaped, and is fixed to the opposite plate 55 and to an end plate 59 of the movable element 54 by a crosspiece 56, shown by a broken line. The length of the crosspiece 56 is such that a pair of longitudinal slits 66 is defined between two internal faces 57, which are opposite each other, of the plates 55 and the interposed movable element 54. A first face 60 of the movable element 54 faces, during use, the first bar 2 of the apparatus 1, and the two internal faces 57 of the two plates 55 together define an end seat 58, arranged to receive during use a corresponding end portion of the bar 3. From a second face 61 of the movable element 54, next to the first face 60 and opposite the end face 59, a cylindrical stem 62 protrudes that is coaxial with the movable element 54 and terminates with a stopping disc 63. An end portion of the stem 62, opposite the second face 61 of the movable element 54, traverses, at a through hole that is not shown, an abutment element 64, which has a cross section that is the same as that of the movable element 54 and is parallelepiped-shaped. The stopping disc 63 prevents the stem 62 from completely exiting from the abutment element 64 by moving in the direction of the second face 61. On a portion of the stem 62, comprised between the abutment element 64 and the second face 61 of the movable element 54, a coil spring 65 is inserted.

[0061] When the telescopic bar 50 is assembled, the movable end portion 53 is in a rest position A, in which part of the movable element 54, the stem 62 and the abutment element 64 are inserted into a cavity that is not shown of the intermediate portion 51, whilst the pair of plates 55, owing to the pair of longitudinal slits 66, clasps a corresponding end portion of the intermediate portion 51. Inside the intermediate portion 51, the abutment element 64 is locked in a position such as to prevent the movable element 54 from penetrating completely into the cavity of the intermediate portion 51. The movable element 54 then exits from the latter by a distance W that is sufficient to enable the end face 59, clasped by the respective plates 55, to be received in the respective guide groove 12 of the window F. As the abutment element 64 is locked inside the intermediate portion 51, by acting on the end face 59 of the movable element 54 according to a direction identified by the arrow F4, parallel to the latter, the stem 62 is moved in the direction of the abutment element 64 and the second face 61 of the mov-

able element 54 compresses the spring 65, loading the latter. As a result, as long as the action exerted on the end face 59 continues, the movable end portion 53 remains in a work position B (shown by a broken line) in which the distance W is substantially eliminated. When the above-mentioned action ceases and the spring 65 is no longer compressed, the latter expands, unloading itself, and takes the movable end portion 53 to the initial rest position A.

[0062] The fixed end portion 52, applied to a corresponding end portion of the intermediate portion 51, consists of a pair of further plates 67, substantially having the same shape as the plates 55 and being joined together by a crosspiece, which is not shown.

[0063] In an embodiment of the telescopic bar 50, which is not shown, the fixed end portion 52 is replaced by a further movable end portion.

[0064] With reference to Figure 10, if a user, who is not shown, acts on the fixed end portion 52 according to a direction identified by the arrow F5, parallel to the length of the sill D in such a way as to compress the helical spring 65, the fixed end portion 52 is moved in the direction F5 by a further distance X, which increases in proportion to the reduction of the distance W between the end face 59 and the corresponding end of the second bar 3. As a result, the user can remove the end of the second bar 3 corresponding to the fixed end portion 52 from the corresponding guide groove 12 of the window F, together with the first side edge 9 of the anti-insect net 6, and simultaneously leaving the second side edge 10 of the net 6 inserted in the guide groove 12 opposite. In this way, the user can open the net 6 from the side, for example to lean out of the window F, and this is obtained in a manner which is substantially rapid and which does not require significant expenditure of effort.

[0065] With reference to Figures 28 to 30, an embodiment of the flexible screening apparatus 1 is provided that is applicable to the window F without being assembled on the roller shutter T.

[0066] In the operating face 15 of the first bar 2 and/or of the second bar 3 a longitudinal guide 217 is obtained that is made in the shape of a groove, which is respectively parallel to the first margin 4 of the first bar 2 and to the further first margin 8 of the second bar 3. The longitudinal guide 217 is arranged to receive a pair of fixing elements 218, each of which comprises a rectangular plate 119, in turn comprising a visible face 150 that in use faces the user, namely faces the inside of the building in which the window F is obtained. From an end of the visible face 150 that is opposite, during use, the respective jamb S of the window F, a grip appendage 21 protrudes, which is substantially quadrilateral-shaped and is arranged orthogonally in relation to the rectangular plate 119. From an end of the visible face 150 facing, during use, the jamb S, a locking appendage 22 protrudes, which is rectangular-shaped and is made of an elastically deformable material. The locking appendage 22 is arranged in relation to the rectangular plate 119 in such a way as to define an angle that is not shown that is significantly less than 90 °C and is such as to give a wedge conformation to the fixing element 218. From a free end of the locking appendage 22 an abutment appendage 46 protrudes, facing the visible face 150 and orthogonal to the latter. In a face of the rectangular plate 119 opposite the visible face 150 of the latter a cursor is comprised that is not shown, which is received in the longitudinal guide 217 and enables the rectangular plate 119 and therefore the fixing element 218 to slide along the longitudinal guide 217 until a respective end portion of the first bar 2 and/or of the second bar 3 is locked in the adjacent guide groove 12, in a manner that will be disclosed in greater detail below.

[0067] Both the first bar 2 and the second bar 3 furthermore comprise a pair of end elements 140, each of which is fitted on a respective end of the profiled element constituting the first bar 2, or the second bar 3, and is shaped in such a way as to adapt to the shape of the cross section of the latter. The end element 140 comprises a rectangular portion 141 from a face 47 of which, facing the profiled element 50, a pair of parallelelepiped-shaped appendages 142 and a cross-shaped appendage 43 lead away that are positioned at opposite ends of the face 47 and arranged orthogonally in relation to the latter. Close to the cross-shaped appendage 43, the rectangular portion 141 has a pair of side incisions 145.

[0068] As shown in Figure 28, the first bar 2 and the second bar 3 can be positioned and locked in such a way as to be respectively juxtaposed to the free margin L1 of the terminal slat L of the roller shutter T, raised to a desired height, and to the sill D of the window F. The position of the first bar 2 in relation to the second bar 3 can be selected in such a way as to extend the anti-insect net 6 completely, which makes an opening available that has a height H and is comprised between the first margin 4 of the first bar 2 and the further first margin 8 of the second bar 3. This opening enables air and light to enter through the window F and at the same time, owing to the presence of the anti-insect net 6, prevents any insects from penetrating inside the building E.

[0069] Furthermore, after positioning and locking the first bar 2 so as to make the latter match the free margin L1, it is possible to unwind the roller shutter T slightly. In this way, the first bar 2 acts as a stop to the terminal slat L, and the remaining slats (not shown) of the roller shutter T are made to match one another. In this way, the slits are shut that are normally present between the adjacent slats of the roller shutter T when the latter is raised, and which could allow insects to penetrate through the window F despite the presence of the apparatus 1.

[0070] Owing to the absence of rigid uprights, it is possible to reduce or increase (up to a maximum that is the same as the aforementioned height H) the vertical dimension of the apparatus 1, such as to be able to adapt the latter to any space of window or French window.

[0071] With reference to Figures 31 to 33, to position

the apparatus 1 between the sill D and the roller shutter T (not shown in figures 31-33 for the sake of clarity) of the window F, the user rewinds the roller shutter T, even only partially, in order to obtain a free space, comprised between the free margin L1 of the terminal slat L and the sill D, that is sufficient to operate the first bar 2 and the second bar 3. The user, owing to the absence of rigid uprights in the apparatus 1, can easily handle and orientate the first bar 2 and the second bar 3 in relation to the jambs S so as to insert opposite end portions of the latter into the guide grooves 12, at a desired height. In this way, each of the opposite end portions of the first bar 2 and/or of the second bar 3 can be juxtaposed to a first wall 170 of the guide groove 12. In use, the first wall 170 is opposite the operating face 15 of the first bar 2 and/or of the second bar 3.

[0072] With particular reference to Figures 32 and 33, the user can act on each of the two fixing elements 218 comprised in the first bar 2 and in the second bar 3 by gripping the grip appendage 21 and sliding the fixing element 218 along the longitudinal guide 217 towards the respective guide groove 12, in a direction F11 that is orthogonal to the jamb S. In this way, the wedge formed by the locking appendage 22 and by the corresponding end of the rectangular plate 119 enters a gap comprised between the first bar 2 and/or the second bar 3 and a second wall 71 of the guide groove 12, opposite the first wall 170. The user can slide the fixing element 218 in the direction F11 until the locking appendage 22 knocks against a corner 72, comprised between the second wall 71 and an adjacent vertical face 73 of the jamb S. The locking appendage 22, as it is made in an elastically deformable material, consequently tends to bend towards the visible face 150 of the rectangular plate 119. The abutment appendage 46, following the bending undergone by the locking appendage 22, moves towards the visible face 150 until it comes to stop against the latter. In this way, the wedge formed by the locking appendage 22 and by the rectangular plate 119 locks the fixing element 218 inside the guide groove 12, thus preventing the corresponding end portion of the first bar 2 and/or second bar 3 from moving and keeping the latter in a desired position in relation to the jamb S of the window.

[0073] By repeating the operations disclosed above for each of the fixing elements 218 comprised in the apparatus 1, the latter is applied to the window F so as to take on the configuration illustrated in Figure 28.

[0074] To unlock the first bar 2 and/or the second bar 3, it is sufficient to slide each fixing element in a direction that is not shown, which is parallel to and opposite the aforementioned direction F11, so as to extract from the respective guide groove 12 the wedge formed by the locking appendage 22 and by the rectangular plate 119. In this way, the opposite end portions of the first bar 2 and/or of the second bar 3 can slide freely in the guide groove 12 and/or be extracted from the latter.

[0075] In an embodiment that is not shown the locking appendage 22 is made of a rigid material and does not comprise the abutment appendage 46.

[0076] With reference to Figure 34, the user, after assembling the apparatus 1 to the window F, is not obliged to completely remove the apparatus 1 to access the sill D. In fact, the user only has to unlock the second bar 3 and remove the latter from the sill D. The second bar 3 can then be positioned and locked again close to the first bar 2. By means of this operation, the anti-insect net 6 is folded on itself in such way as to produce a gap, having a height W, through which the user can access the sill D, for example to lean out of the window F.

[0077] With reference to Figure 40, a further fixing element 219 is provided, which operates in a similar way to the fixing element 218 disclosed previously. Below, the parts of the further fixing element 219 having a similar structure and/or function to that of corresponding parts of the fixing element 218 are indicated by the same name and reference number.

[0078] The further fixing element 219 comprises a cursor element 119a, which protrudes from a face of the rectangular plate 119 opposite the visible face 150. The cursor element 119 is substantially rectangular and elongated and is provided with a first projecting end 160 and with a second projecting end 161, both having an approximately trapezium-shaped cross section. The first projecting portion 160 and the second projecting end 161 enable the cursor element 119a to adapt to the shape of the cross section of the longitudinal guide 217.

[0079] The grip appendage 21, having a substantially quadrilateral plan shape, has an approximately butterfly-shaped cross section and protrudes orthogonally from an end of the visible face 150 which, in use, faces the jamb S of the window F. An incision 21a, obtained in an approximately middle portion of the grip appendage 21, enables the further fixing element 219 to be used in combination with the hooking device 102 disclosed previously. The incision 21a can in fact receive the cord 105 and thus retain the anchoring portion 104 on the grip appendage 21.

[0080] The locking appendage 22, made of an elastically deformable material, has the shape of a curved rectangular lamina, a convex face 23 of which, in use, is opposite the longitudinal guide 217. The locking appendage 22 has an end fixed to the visible face 150 close to the grip appendage 21, whereas the opposite end is free and protrudes beyond the second projecting end 161. From a concave face 24 opposite the convex face 23, a plurality of tooth elements 22a protrude, arranged to make the locking appendage 22 more flexible.

[0081] From the rectangular plate 119, near to the second projecting end 161, a convex abutment 22b protrudes, facing the concave face 24. A peripheral margin 26 of the locking appendage 22 is interrupted by a notch 180, which is substantially circle-shaped.

[0082] In an embodiment that is not shown the concave face 24 has, instead of the plurality of tooth elements 22a, a single tooth element facing the convex abutment 22b.

[0083] The further fixing element 219 can be used in a similar way to the fixing element 218 disclosed previously. In fact, the locking appendage 22 is able to penetrate the gap comprised between the first bar 2 and/or the second bar 3 and the second wall 71 of the guide groove 12. The user can then slide the further fixing element 218 according to the direction F11 until the locking appendage 22 knocks against the corner 72. The locking appendage 22, as it is made in an elastically deformable material, bends towards the visible face 150 of the rectangular plate 119. The tooth elements 22a are consequently moved towards the visible face 150 until they stop against the convex abutment 22b. In this way, the fixing element 218 remains locked inside the guide groove 12, preventing the corresponding end portion of the first bar 2 and/or second bar 3 from moving and thus keeping the latter in a desired position in relation to the jamb S of the window.

[0084] With reference to Figures 41 to 43, a further connecting-rod assembling device 90a for assembling the first bar 2 on the roller shutter T is provided. The further connecting-rod assembling device 90a comprises a further cursor portion 91a and a further connecting-rod portion 92a.

[0085] As the further cursor portion 91a is shaped in a similar manner to the further fixing element 219, the parts of the further cursor portion 91a having a similar structure and/or function to that of corresponding parts of the further fixing element 219 are indicated below by the same name and reference number.

[0086] The further cursor portion 91a comprises the rectangular plate 119 from a face of which, opposite the visible face 150, the cursor element 119a protrudes, arranged to slide inside the longitudinal guide 217 and provided with the first projecting end 160 and with the second projecting end 161. From the visible face 150, orthogonally to the latter, the grip appendage 21 protrudes, in which the incision 21a is obtained that enables the further fixing element 219 to be used in combination with the hooking device 102. A peripheral margin 26a of the rectangular plate 119 is interrupted by the notch 180, which is approximately circle-shaped and is obtained at an end of the rectangular plate 119 opposite the grip appendage 21.

[0087] The further connecting-rod portion 92a comprises a slot portion 97a and a pivot portion 96a, both rectangle-shaped and finishing with a rounded free end. Between the slot portion 97a and the pivot portion 96a a connecting portion 98a is interposed, which is rectangle-shaped.

[0088] In the slot portion 97a a through hole 97b is obtained through which, in use, it is possible to fix the slot portion 97a and therefore the further connecting-rod portion 92a to the base 19 of the stop of the roller shutter T.

[0089] In the pivot portion 96a a pivot 99a is comprised that is provided with an end disc 99b. The pivot 99a protrudes from a face of the pivot portion 96a that, in use, faces the operating face 15 of the first bar 2.

[0090] The connecting portion 98a is arranged orthogonally in relation to the slot portion 97a and to the pivot portion 96a and in such a way that the opposite ends of the connecting portion 98a are fixed to the corresponding ends of the slot portion 97a and of the pivot portion 96a. In this way, the further connecting-rod portion 92a has a "step" conformation, owing to which the further cursor portion 91a and the further connecting-rod portion 92a can be easily hinged together by the pivot 99a that, in use, is received in the notch 180 of the further cursor portion 91a. The latter, owing to the respective cursor element 119a, can slide in the longitudinal guide 217, and then acts in a similar manner to the cursor portion 91 of the connecting-rod assembling device 90 disclosed previously.

[0091] As the operation and the structure of the further connecting-rod assembling device 90a are substantially similar to the operation and the structure of the connecting-rod assembling device 90 disclosed previously, reference is made below to Figures 13 and 14 illustrating the operation of the connecting-rod assembling device 90.

[0092] In use, when the further connecting-rod portion 92a is fixed to the base 19 of the stop of the roller shutter T and is arranged in a substantially orthogonal manner to the first bar 2, the further cursor portion 91a is inserted into the longitudinal guide 217 of the first bar 2 and the further connecting-rod portion 92a and the further cursor portion 91a are hinged together, the further connecting-rod assembling device 90a is in the open configuration A (Figure 13).

[0093] In configuration A, the first bar 2 is fixed to the terminal slat L of the roller shutter T, but the free margin L1 of the slat L and the second margin 14 of the first bar 2 are not juxtaposed to one each other, as is required for correct operation of the apparatus 1. The user therefore has to act on the further cursor portion 91a, gripping the grip appendage 21 and moving the latter horizontally in the direction F9, such as to move the further cursor portion 91a towards the guide groove 12. In this way, the further connecting-rod assembling device 90a passes from the open configuration A to the closed configuration B (Figure 14), in which the free margin L1 of the slat L and the second margin 14 of the first bar 2 match and the apparatus 1 can thus operate in an optimal manner.

[0094] To return the further connecting-rod assembling device 90a from the closed configuration B to the open configuration A, the user has to grip the grip appendage 21 and move the latter horizontally in the direction F10, parallel to and opposite the preceding direction F9.

[0095] An embodiment that is not shown provides for using a pair of the further connecting-rod assembling devices 90a, by associating the latter with the first bar 2 close to opposite ends of the operating face 15. In this case, to pass from the open configuration A to the closed configuration B, the user has to move the two grip ap-

pendages 21 horizontally in two opposite directions, i.e. to opposite ends of the first bar 2. Consequently, the two further cursor portions 91a are moved parallel to the first bar 2 in opposite directions, i.e. each in the direction of the nearest guide groove 12.

[0096] Simultaneously, the longitudinal axes of the two further connecting-rod portions 92a rotate similarly in opposite directions, i.e. each in the direction of the nearest guide groove 12.

[0097] To take the assembling elements from the closed configuration B to the open configuration A, the user has to grip the grip appendages and move the latter horizontally in directions opposite those disclosed above.

[0098] Another embodiment that is not shown provides for using the further fixing element 219 instead of the further cursor portion 91a to make the further connecting-rod assembling device 90a. This is made possible by the presence in the locking appendage 22 of the notch 180, which can receive the pivot, 99a, thus enabling the further fixing element 219 and the further connecting-rod portion 92a to be hinged together.

[0099] It should be noted that owing to the further connecting-rod assembling device 90a, the operations required for assembling and/or disassembling the apparatus 1 are significantly rapid and simple. In fact, when the further connecting-rod assembling device 90a is in the open configuration A, it is possible to disassemble the first bar 2 from the terminal slat L by simply gripping the grip appendage 21 and moving the latter in an opposite direction to the sill D. In this way, the pivot 99a is removed from the notch 180, and this enables the further cursor portion 91a to be separated from the further connecting-rod portion 92a and the first bar 2 to be disassembled from the roller shutter T.

[0100] Furthermore, the presence of the end disc 99b in the pivot 99a means that in use the latter can be removed from the respective notch 180 only by means of the aforementioned operation, thus preventing the pivot 99a from exiting from the notch 180 as a result of other movements accidentally performed by the operator.

[0101] With reference to Figure 44, the flexible screening apparatus 1 can be simultaneously equipped with the further assembling device 90 and the further fixing element 219. More precisely, a pair of further connecting-rod assembling devices 90a are provided, in each of which the further connecting-rod portion 92a is associated with one of the two bases 19 of the stops of the roller shutter Ts and is hinged on the respective further cursor portion 91a. The further fixing elements 219 are associated with opposite portions of both the first bar 2 and of the first bar 3. The flexible screening apparatus 1 shown in Figure 44 enables numerous advantages to be exploited that are associated with the devices and elements with which the apparatus 1 is provided.

[0102] In fact, the presence of the further assembling device 90a enables the height H of the opening comprised between the first margin 4 of the first bar 2 and the further first margin 8 of the second bar 3 to be modified rapidly and easily.

[0103] The presence of the further fixing elements 219 in the first bar 2 enables the latter to be used as a stopping element for the terminal slat L of the roller shutter T. The latter can then be lowered until the adjacent slats thereof match one another, thus shutting the slits that normally exist between the adjacent slats of a raised roller shutter and which would enable insects to pass through the window F despite the presence of the apparatus 1.

[0104] Furthermore, the presence of the further fixing elements 219 in the second bar 3 furthermore enables the latter to be kept juxtaposed to the sill D, thus preventing, for example, a gust of wind from being able to lift the second bar 3 and accidentally create a gap in the screening apparatus 1.

[0105] With reference to Figure 37, a pair of dedicated guides 305 are provided that are usable for associating the apparatus 1 with a window devoid of a roller shutter, and consequently devoid of guide grooves 12. Each dedicated guide 305 is made in the form, for example, of a profiled element having a substantially "C"-shaped cross section and defining a seat 165. Each dedicated guide 305 extends longitudinally and is fixed to a corresponding jamb S through fixing means of a known type, for example a screw 66, in such a way as to turn the respective seat 165 towards the opposite jamb S and therefore towards the seat 165 of the opposite dedicated guide 305. In this way, two parallel and opposite guide grooves are available, namely the two seats 165, inside which the first side edge 9 and the second side edge 10 of the anti-insect net 6 can be placed and the first bar 2 and/or the second bar 3 of the apparatus 1 can be locked in a desired position.

[0106] With reference to Figure 26, an embodiment of the pair of dedicated guides 305 is provided that is usable in a window F provided with a roller shutter and therefore also with guide grooves 12. Each dedicated guide 305 is arranged at a certain distance from the respective guide groove 12, and is fixed to the latter by a square support 304. The square support 304 consists of a first segment 308 and of a second segment 309, that are fixed together. The first segment 308 is orthogonally interposed between the guide groove 12 and the respective dedicated guide 305, and the second segment 309 is orthogonally arranged on the first segment 308 and parallel to the dedicated guide 305.

[0107] In an embodiment that is not shown, the use of dedicated guides equipped with telescopic ends is provided, which telescopic ends can be made as is, for example, disclosed in Italian utility model no. BO2003U000120 and in Italian patent application no. MO2004A000079.

[0108] With reference to Figures 38 and 39, an embodiment of the apparatus 1 is provided that is usable for a window F that is devoid of a roller shutter, in which the first bar 2 and the second bar 3 are each provided with a pair of elastic fixing elements 220. Below, the parts of the elastic fixing element 220 having a similar structure

and/or function to that of corresponding parts of the fixing element 218 are indicated by the same name and reference number.

[0109] The rectangular plate 119 of the elastic fixing element 220 comprises a movable locking appendage 60, opposite the grip appendage 21 and facing, during use, the respective jamb S. An incision 61 is obtained between the movable locking appendage 60 and the remaining portion of the rectangular plate 119, so that the latter remain connected by a connecting portion 62, made of elastically deformable material. The rectangular plate 119 is provided, on a face opposite the visible face 150, with a cursor element that is not shown, which can slide in the longitudinal guide 217.

[0110] The user, when wishing to lock an end portion of the first bar 2 and/or of the second bar 3 juxtaposed against the corresponding jamb S, grips the grip appendage 21 and slides the rectangular plate 119 and therefore the movable locking appendage 60 in a direction F12 that is orthogonal to the jamb S, until the movable locking appendage 60 knocks against the jamb S. As a result, owing to the presence of the incision 61, the connecting portion 62 bends and the movable locking appendage 60 moves in a direction F13, parallel to and opposite the direction F12, thus locking by friction the corresponding end portion of the first bar 2 and/or of the second bar 3 against the jamb S.

[0111] The elastic fixing element 220 enables the apparatus 1 to be associated with a window devoid of a roller shutter without using the dedicated guides 305. This can be particularly convenient if it is not desired, or is not possible, to assemble the dedicated guides 305 on the jambs S.

[0112] In Figures 23 to 25, embodiments of the apparatus 1 are provided comprising non-rigid uprights, used to enable the anti-insect net 6 to extend in an optimal manner close to the space of the window F.

[0113] With particular reference to Figure 23, a pair of hinged uprights 300 are provided, which are interposed between the first bar 2 and the second bar 3. Each of the uprights 300 can alternatively bend at a hinge 306, when the second bar 3 is taken near to the first bar 2, and extend, when the latter are distanced from each other.

[0114] With particular reference to Figure 24, a pair of telescopic uprights 301 are provided, each of which consists of a plurality of coaxial cylindrical segments 307.

[0115] With particular reference to Figure 25, a pair of flexible uprights 302 are provided that are able to follow, by respectively flexing and/or extending, the first bar 2 and the second bar 3 moving towards and away from each other.

[0116] With reference to Figure 27, an embodiment of the apparatus 1 is provided in which both the first transverse edge 5 and the second transverse edge 7 of the anti-insect net 6 are of a greater length than a transverse distance K comprised between the opposite jambs S of the window F. In this way, when the apparatus 1 is associated with the window F and the anti-insect net 6 is completely extended, the first side edge 9 and the second side edge 10, placed against portions of internal wall P adjacent to the window F, curl to form a pair of opposite crimped edges 303.

[0117] In Figures 11 and 12, a profiled element 70 is provided by means of which it is possible to make the first bar 2 and/or the second bar 3 of the apparatus 1. The profiled element 70 comprises a first half-shell 71 and a second half-shell 72, both extending longitudinally. The first half-shell 71 has, on an internal face 74 thereof, a pair of longitudinal projections 73, running parallel to each other along the entire length of the profiled element 70, and defining a longitudinal groove 76. In the first half-shell 71 there is a first sheet margin 78 and a second concave margin 79 that are parallel to and opposite one another. From the concave margin 79 a sheet 81 originates in a position opposite the internal face 74, which sheet 81 is parallel to the pair of longitudinal projections 73 and which has a cross section that is substantially orthogonal to the cross section of the longitudinal projections 73.

[0118] A further pair of longitudinal projections 77 is obtained in a further internal face 75 of the second half-shell 72, arranged to face the internal face 74 of the first half-shell 71 when the profiled element 70 is assembled. In this further pair of longitudinal projections 77 a first further longitudinal projection 77a is nearer to the concave margin 79 and is provided with a cross section that extends further in height than does a second further longitudinal projection 77b. In the second half-shell 72 there is a further first sheet margin 80 and a further second margin 83 that are parallel to and opposite each other.

[0119] To assemble the first bar 2 or the second bar 3 starting with the profiled element 70, it is sufficient to position the anti-insect net 6 in such a way that the first transverse edge 5 thereof or the second transverse edge 7 thereof is interposed between the internal face 74 and the further internal face 75 of the piece half-shell 71 and of the second half-shell 72. The first transverse edge 5, or the second transverse edge 7, of the net 6 can be fixed inside the first sheet margin 78 and/or inside the further first sheet margin 80 by adhesive means of a known type, for example glue. Thus, by moving the first half-shell 71 and the second half-shell 72 in two directions, respectively identified by the arrows F6 and F7, that are opposite each other and orthogonal to the first half-shell 71 and the second half-shell 72, it is possible to snap-engage the latter reciprocally by inserting the further longitudinal projection 77 into the longitudinal groove 76, interposing the further second margin 83 between the sheet 81 and the internal face 74, and juxtaposing the further longitudinal projection 77a to a corresponding region of the internal face 74.

[0120] With reference to Figures 35 and 36, a further profiled element 70a is provided that is usable for making the first bar 2 and/or the second bar 3, in particular when the latter have to be equipped with the fixing element

218, the further fixing element 219 or the elastic fixing element 220.

[0121] The further profiled element 70a comprises a further first half-shell 223 and a further second half-shell 224, both extending in a longitudinal direction. The first half-shell 223 comprises a sheet portion 223a connected to a body 223b as well as a rectilinear margin 225 and a grooved margin 233, that are opposite and parallel to one other. In the body 223b a peripheral wall 231 defines an internal cavity 229 that extends in a longitudinal direction and has a cross section substantially having the shape of an irregular polygon. The sheet portion 223a, after shaping the rectilinear margin 225, curves, defining a concave face from which a pair of longitudinal projections 227, 227a protrude that run parallel to each other along the entire length of the first half-shell 223 and delimit a longitudinal groove 228. Close to the latter, the sheet portion 223a continues in the peripheral wall 231 that first defines a step 230 and subsequently a longitudinal sheet 226 parallel to the rectilinear margin 225.

[0122] Between the longitudinal sheet 226 and the step 230 a longitudinal slit 232 remains, facing the rectilinear margin 225. In a substantially rectilinear portion of the peripheral wall 231 interposed between the longitudinal sheet 226 and the grooved margin 233 the longitudinal guide 217 is obtained, having a cross section shaped in such a way as to be able to receive, in use, the fixing element 218, or the further fixing element 219 or the elastic fixing element 220.

[0123] In use, the grooved margin 233 corresponds to the second margin 14 of the first bar 2, or to the further second margin 11 of the second bar 3, consequently receiving the barrier element 13 or the further barrier element 13a.

[0124] The second half-shell 224 is sheet-shaped, having a partially curved cross section and being provided with a further rectilinear margin 236 and with a sheet margin 235, which are parallel to each other. Between the further rectilinear margin 236 and the sheet margin 235 a concave face is comprised that during use faces the first half-shell 223 and from which a first projection 234a and a second projection 234b protrude, which extend in a longitudinal direction and are parallel to each other. The sheet margin 235 emerges from a base portion of the second projection 234b and it is arranged orthogonally to the latter.

[0125] In order to obtain the first bar 2, or the second bar 3, by means of the further profiled element 70a, it is sufficient to position reciprocally the second half-shell 224 and the first half-shell 223 in such a way that the first projection 234a faces the longitudinal groove 228, and subsequently interpose the first transverse edge 5 or the second transverse edge 7 of the anti-insect net 6 between the first projection 234a and the longitudinal groove 228. The first transverse edge 5 (or the second transverse edge 7) can be glued inside the rectilinear margin 225 and/or the further rectilinear margin 236 by adhesive means of a known type. Then, by moving the second half-shell 224 and the first half-shell 223 respectively in the two opposite directions F6 and F7, that are orthogonal in relation to the first half-shell 223 and the second half-shell 224, it is possible to snap-engage the latter reciprocally by inserting the first projection 234a into the longitudinal groove 28, juxtaposing the second projection 234b to the step 230 and inserting the sheet margin 235 into the longitudinal slit 232. The rectilinear margin 225 and the further rectilinear margin 236, are juxtaposed to each other and form the first margin 4 of the first bar 2, or the further first margin 8 of the second bar 3.

[0126] From what has been disclosed above, by using the profiled element 70, or the further profiled element 70a, it is substantially rapid and cheap to obtain the first bar 2 and/or the second bar 3 required to make the apparatus 1.

[0127] The profiled element 70 and the further profiled element 70a, as they are of plastics, can easily be cut to measure, which enables the first bar 2 and/or the second bar 3 to be made to a desired length according to the transverse dimension of the window space or French window space for which the apparatus 1 is intended.

[0128] In particular, the conformation of the cross section of the profiled element 70 enables the latter to withstand, within a certain limit, mechanical compression, which makes locking of the first bar 2 and/or of the second bar 3 more effective.

Claims

1. Apparatus arranged to be associated with a roller shutter (T) of a building (E), consisting of first bar means (2), associable with a portion (L) of said roller shutter (T), second bar means (3) and flexible screening means (6), said first bar means (2) and said second bar means (3) being connected to end portions (5, 7), which are not adjacent to one another, of said flexible screening means (6) .

2. Apparatus according to claim 1, wherein assembling means (16; 30; 90; 90a) is provided comprising first assembling means (17; 31; 91; 91a) and second assembling means (18; 32; 92; 92a) reciprocally engageable to assemble said first bar means (2) on said portion (L).

3. Apparatus according to claim 2, wherein said assembling means (16; 30; 90; 90a) comprises connecting-rod assembling means (90; 90a).

4. Apparatus according to claim 3, wherein said connecting-rod assembling means (90; 90a) comprises a connecting rod (92; 92a) hinged on cursor means (91; 91a) that is slidable along said first bar means (2) and/or said second bar means (3).

5. Apparatus according to claim 4, wherein said con-

necting rod (92; 92a) comprises a slot end portion (97; 97a) arranged to be associated with a base portion (19) of a stop of said roller shutter (T).

6. Apparatus according to claim 4, or 5, wherein said cursor means (91; 91a) is provided with protruding elements (119a, 160, 161) slidingly insertable in said first bar means (2) and/or said second bar means (3).

7. Apparatus according to any one of claims 3 to 6, wherein said connecting-rod assembling means (90; 90a) is shaped in such a way as to be able to alternatively pass from a closed configuration (B), wherein said first bar means (2) and said portion (L) are reciprocally juxtaposed, to an open configuration (A), wherein said first bar means (2) and said portion (L) are spaced from one another, and vice versa.

8. Apparatus according to any one of claims 3 to 7, wherein said connecting-rod assembling means (90; 90a) is provided with eccentric driving means (120).

9. Apparatus according to claim 8, wherein said eccentric driving means (120) comprises lever means (122), arranged to be operated by a user and connected with annular seat means (127) arranged to receive said base portion (19).

10. Apparatus according to claim 9, wherein said annular seat means (127) comprises a disc portion (7.23), arranged to be received in a shapingly coupled manner in said slot end portion (97; 97a) and to be placed in an eccentric position in relation to screw means (129) arranged to associate said base portion (19) with said portion (L).

11. Apparatus according to any one of claims 4 to 10, wherein said cursor means (91; 91a) comprises fork means (100; 21) situated opposite said first bar means (2) and cooperating with hooking means (102) arranged to alternatively hook said first bar means (2) to or unhook said first bar means (2) from said second bar means (3).

12. Apparatus according to claim 11, wherein said hooking means (102) is associated with said second bar means (3) through fitting means (103).

13. Apparatus according to claim 12, wherein said hooking means (102) furthermore comprises anchoring means (104), associated with said fitting means (103) through connecting means (105) and arranged to engage said fork means (100; 21).

14. Apparatus according to any one of claims 2 to 13, wherein said assembling means (16; 30; 90; 90a) comprises first Velcro assembling means (17) and second Velcro assembling means (18).

15. Apparatus according to claim 14, wherein said second Velcro assembling means (18) comprises end eyelet means (20) arranged to be associated with a base portion (19) of a stop of said roller shutter (T).

16. Apparatus according to any one of claims 2 to 15, wherein said assembling means (16; 30; 90; 90a) comprises tooth assembling means (30).

17. Apparatus according to claim 16, wherein said tooth assembling means (30) comprises first tooth assembling means (31) having first anchoring face means (33a) wherein first tooth means (38) is obtained, said first anchoring face means (33a) being arranged to interact with an opposite operating face (15) of said first bar means (2) and/or of said second bar means (3).

18. Apparatus according to claim 17, wherein in said first anchoring face means (33a) gripping means (35, 36, 37) is obtained arranged to keep said first assembling means (31) and said first bar means (2) and/or said second bar means (3) associated with one another.

19. Apparatus according to claim 18, or 17, wherein said tooth assembling means (30) comprises second tooth assembling means (32), having second anchoring face means (45) arranged to interact with said first anchoring face means (33a) and wherein second tooth means (42) is obtained.

20. Apparatus according to claim 19, wherein said second tooth assembling means (32) comprises end slot means (41) arranged to be associated with a base portion (19) of a stop of said roller shutter (T).

21. Apparatus according to any preceding claim, comprising fixing means (218; 219; 220) configured in such a way as to alternatively enable said first bar means (2) to be locked close to, or to be removed from, edge portions (S; 12) of an opening (F) of said building (E).

22. Apparatus according to claim 21, wherein said fixing means (218; 219; 220) is configured in such a way as to alternatively enable said second bar means (3) to be locked close to, or to be removed from, said edge portions (S; 12).

23. Apparatus according to claim 21, or 22, wherein said fixing means (218; 219; 220) comprises a movable portion (119) and a locking portion (22; 60, 62) reciprocally associated, said locking portion (22; 60, 62) being shaped in such a way as to become elastically deformed when said movable portion (119) is brought into contact with said edge portions (S; 12).

24. Apparatus according to claim 23, wherein said movable portion (119) comprises cursor means (119a) that is slidingly insertable in groove means (217).

25. Apparatus according to claim 24, as appended to claim 21, wherein said groove means (217) is received in said first bar means (2),

26. Apparatus according to claim 24, as appended to claim 22, or according to claim 25, wherein said groove means (217) is received in said second bar means (3).

27. Apparatus according to any one of claims 21 to 26, wherein said fixing means (218; 219; 220) comprises a grip portion (21) arranged to be gripped by a user.

28. Apparatus according to any one of claims 21 to 27, wherein said opening (F) is a window (F).

29. Apparatus according to claim 28, wherein said edge portions (S; 12) comprise a jamb (S) of said window (F).

30. Apparatus according to claim 29, wherein said edge portions (S; 12) comprise guides (12) associated with said window (F).

31. Apparatus arranged to be associated with an opening (F) of a building and consisting of first bar means (2), second bar means (3) and flexible screening means (6), said first bar means (2) and said second bar means (3) being fixed to end portions (5, 7), which are not adjacent to one another, of said flexible screening means (6) and furthermore being provided with fixing means (218; 219; 220) configured in such a way as to alternatively enable said first bar means (2) and/or said second bar means (3) to be locked close to, or to be removed from, edge portions (S; 12) of said opening (F).

32. Apparatus according to claim 31, wherein said fixing means (218; 219; 220) comprises a movable portion (119) and a locking portion (22; 60, 62) reciprocally associated, said locking portion (22; 60, 62) being shaped in such a way as to become elastically deformed when said movable portion (119) is brought into contact with said edge portions (S; 12).

33. Apparatus according to claim 32, wherein said movable portion (119) comprises cursor means (119a) slidingly insertable in groove means (217).

34. Apparatus according to claim 33, wherein said groove means (217) is obtained in said first bar means (2).

35. Apparatus according to claim 33, or 34, wherein said groove means (217) is obtained in said second bar means (3).

36. Apparatus according to any one of claims 31 to 35, wherein said fixing means (218; 219; 220) comprises a grip portion (21) arranged to be gripped by a user.

37. Apparatus according to any one of claims 31 to 36, wherein said opening (F) is a window (F).

38. Apparatus according to claim 37, wherein said edge portions (S; 12) comprise a jamb (S) of said window (F).

39. Apparatus according to claim 38, wherein said edge portions (S; 12) comprise guides (12) associated with said window (F).

40. Apparatus arranged to be associated with end portions (5, 7) of flexible screening means (6), comprising bar means (50) reducible in length in a telescopic manner, said bar means (50) being arranged to alternatively enable said flexible screening means (6) to be inserted into, or extracted from, guide means (12, 305).

41. Apparatus according to any preceding claim, wherein said end portions (5, 7) that are not adjacent to one another of said flexible screening means (6) are of a greater length than a transverse distance (κ) comprised between jambs (400) of a window (F) of said building (E), in such a way as to produce undulations (303) on opposite edges (9, 10) of said flexible screening means (6), said opposite edges (9, 10) being interposed between said end portions (5, 7).

42. Apparatus according to any preceding claim, wherein non-rigid upright means (300; 301; 302) is interposed between said first bar means (2) and said second bar means (3).

43. Apparatus according to claim 42, wherein said non-rigid upright means (300; 301; 302) comprises hinged upright means (300).

44. Apparatus according to claim 42, or 43, wherein said non-rigid upright means (300; 301; 302) comprises telescopic upright means (301).

45. Apparatus according to any one of claims 42 to 44, wherein said non-rigid upright means (300; 301; 302) comprises flexible upright means (302).

46. Apparatus according to any preceding claim, wherein dedicated guide means (305) is provided that is arranged to receive said flexible screening means (6).

47. Apparatus according to claim 462, wherein said dedicated guide means (305) is connected with said guide means (12) by square support means (308).

48. Assembling means (16), arranged to assemble flexible screening means (6) on a roller shutter (T) of a building (E), comprising first assembling means (17) and second assembling means (18), said first assembling means (17) and said second assembling means (18) being reciprocally engageable by means of respective first Velcro portions (17a) and second Velcro portions (18a).

49. Assembling means according to claim 48, wherein said second assembling means (18) comprises an end eyelet means (20) arranged to be associated with a base portion (19) of a stop of said roller shutter (T).

50. Assembling means (30), arranged to assemble flexible screening means (6) on a roller shutter (T) of a building (E), comprising first assembling means (31) and second assembling means (32), said first assembling means (31) and said second assembling means (32) being engageable with each other by means of respective first tooth means (38) and second tooth means (42).

51. Assembling means according to claim 50, wherein said tooth assembling means (30) comprises first tooth assembling means (31) having first anchoring face means (33a) wherein there is obtained first tooth means (38), said first anchoring face means (33a) being arranged to interact with an opposite operating face (15) of said first bar means (2) and/or of said second bar means (3).

52. Assembling means according to claim 51, wherein in said first anchoring face means (33a) gripping means (35, 36, 37) is obtained that is arranged to keep said first assembling means (31) and said first bar means (2) and/or said second bar means (3) reciprocally associated.

53. Assembling means according to claim 51, or 52, wherein said tooth assembling means (30) comprises second tooth assembling means (32), having second anchoring face means (45) arranged to interact with said first anchoring face means (33a) wherein second tooth means (42) is obtained.

54. Assembling means according to claim 53, wherein said second assembling means (32) comprises end slot means (41) arranged to be associated with a base portion (19) of a stop of said roller shutter (T).

55. Assembling means (90; 90a), arranged to assemble flexible screening means (6) on a roller shutter (T) of a building (E), comprising first assembling means (91; 91a) and second assembling means (92; 92a), said first assembling means (91; 91a) and said second assembling means (92; 92a) being engageable with each other in such a way as to form connecting-rod means.

56. Assembling means according to claim 55, wherein said first assembling means (91; 91a) comprises cursor means (91; 91a) that is slidable along said first bar means (2) and/or said second bar means (3) and said second assembling means (92; 92a) comprises a connecting rod (92; 92a), said connecting rod (92; 92a) being hinged on said cursor means (91, 91a).

57. Assembling means according to claim 56, wherein said connecting rod (92; 92a) comprises a slot end portion (97; 97a) arranged to be associated with a base portion (19) of a stop of said roller shutter (T).

58. Assembling means according to claim 56, or 57, wherein said cursor means (91; 91a) is provided with protruding elements (119a, 160, 161) slidingly insertable in said first bar means (2) and/or said second bar means (3).

59. Assembling means according to any one of claims 55 to 58, wherein said connecting-rod assembling means (90; 90a) is provided with eccentric driving means (120).

60. Assembling means according to claim 59, wherein said eccentric driving means (120) comprises lever means (122), arranged to be operated by a user and connected with annular seat means (127) arranged to receive said base portion (19).

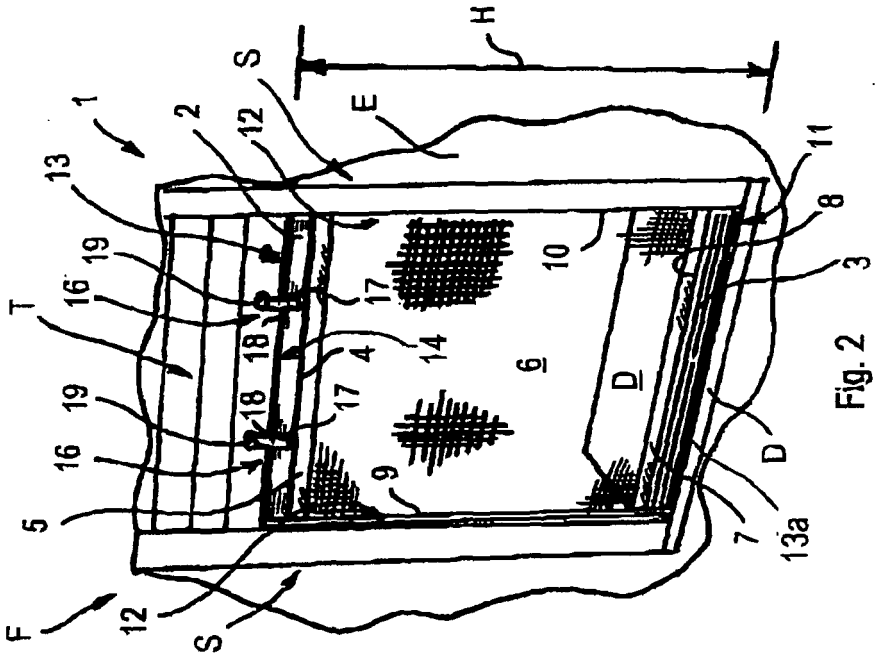
61. Assembling means according to claim 60, as appended to claim 57, wherein said annular seat means (127) comprises a disc portion (123), arranged to be received in a shapingly coupled manner in said slot end portion (97) and located in an eccentric position in relation to screw means (129) arranged to associate said base portion (19) with said portion (L).

62. Assembling means according to any one of claims 56 to 61, wherein said cursor means (91; 91a) comprises fork means (100; 21) situated opposite said first bar means (2) and cooperating with hooking means (102) arranged to alternatively hook said second bar means (3) onto or unhook said second bar means (3) from said first bar means (2).

63. Assembling means according to claim 62, wherein said hooking means (102) is associated with said second bar means (3) by fitting means (103).

64. Assembling means according to claim 63, wherein said hooking means (102) furthermore comprises anchoring means (104) associated with said fitting means (103) through connecting means (105) and arranged to engage said fork means (100).

65. Bar means (70; 70a) arranged to be fixed to end portions (5, 7) of flexible screening means (6), said bar means (70; 70a) comprising first half-shell means (71; 223) and second half-shell means (72; 224), arranged to be snap-engaged with one another in such a way that said end portions (5, 7) are at least partially interposed between said first half-shell means (71; 223) and said second half-shell means (72; 224).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13a
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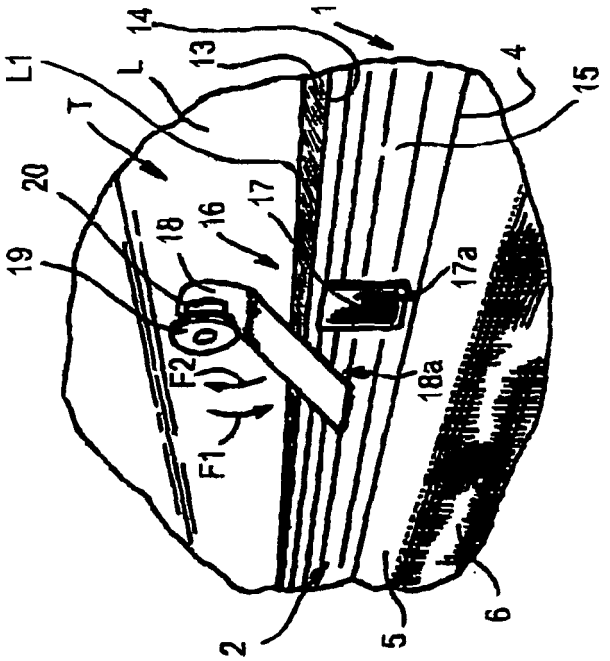
12
S

Fig. 2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6

Fig. 1

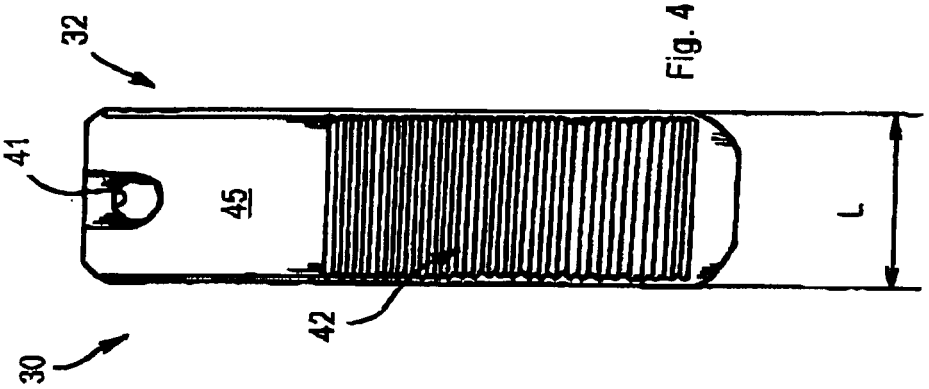


Fig. 4

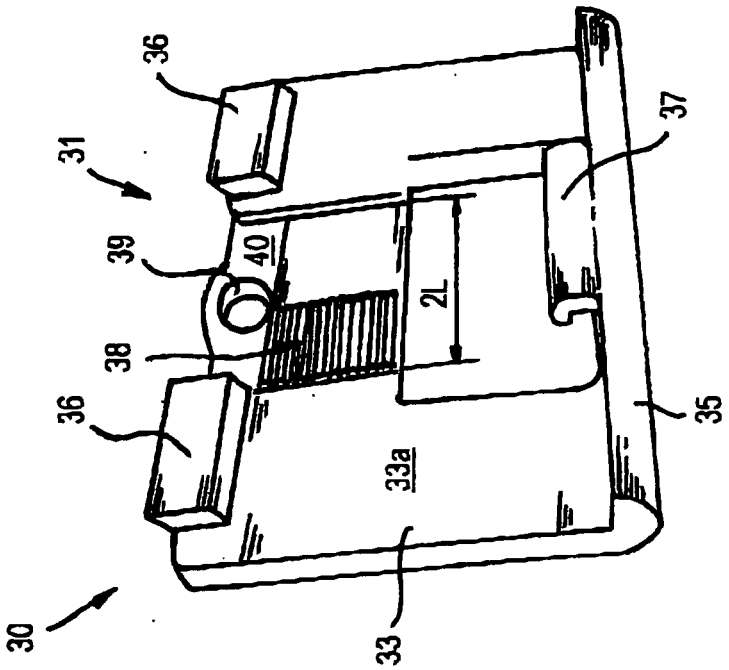


Fig. 3

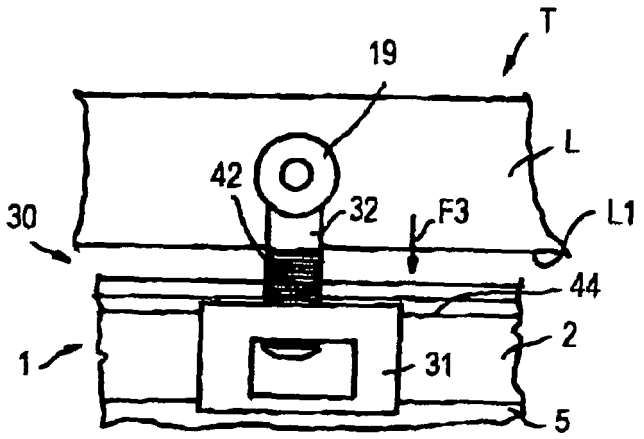


Fig. 5

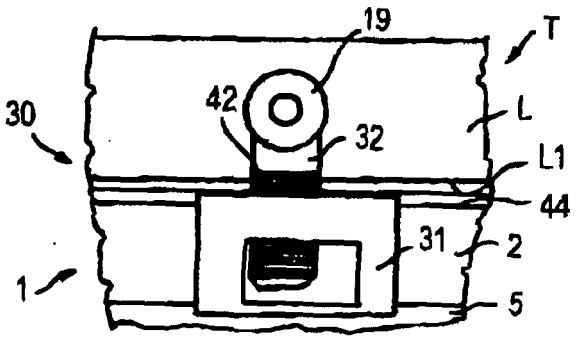


Fig. 6

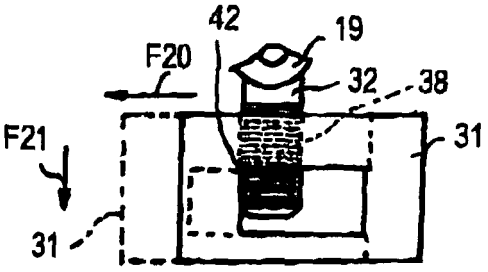
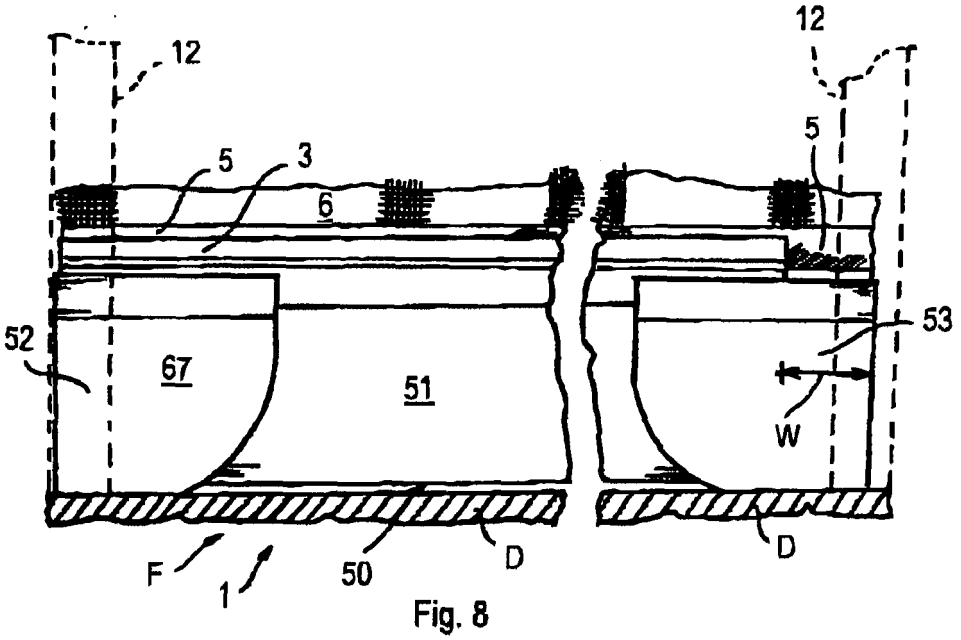


Fig. 7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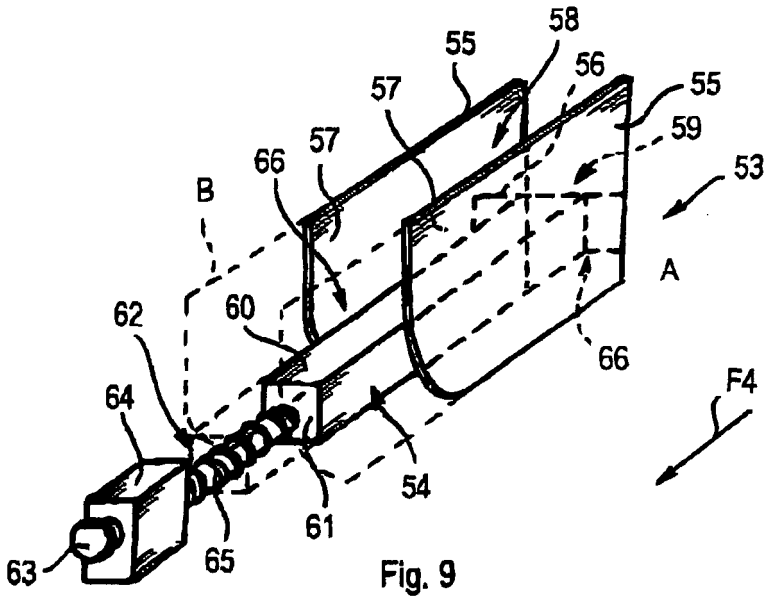
1
50
D
D

Fig. 8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65

Fig. 9

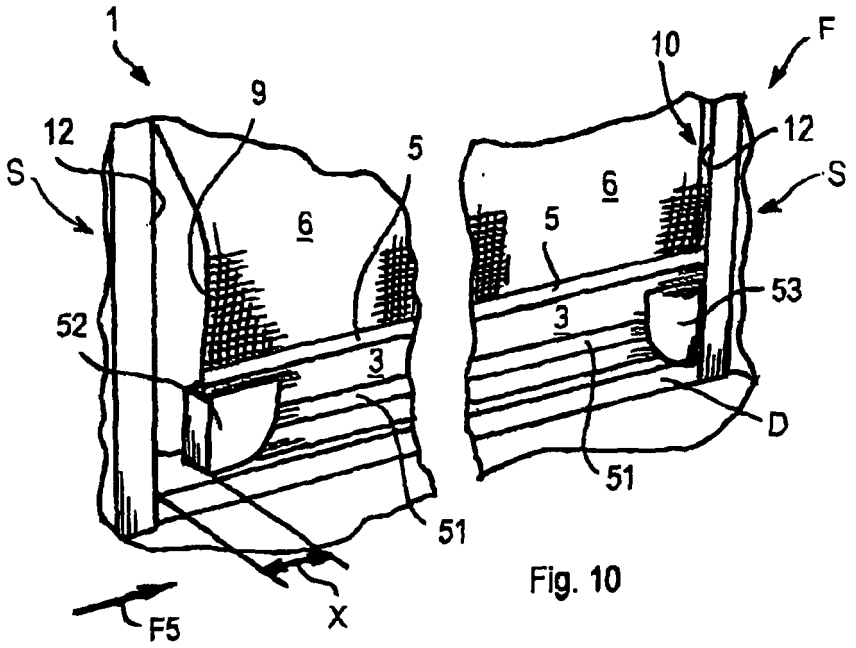

Fig. 10

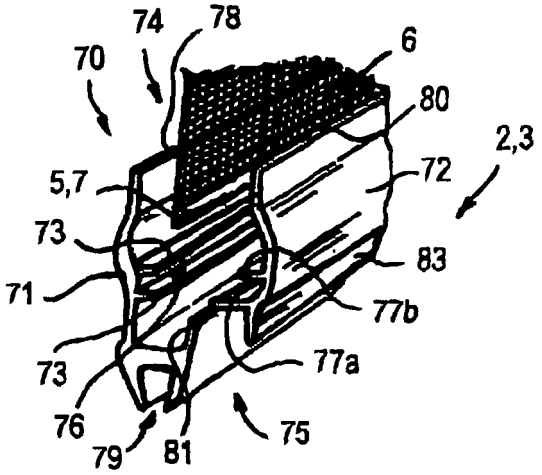

Fig. 11

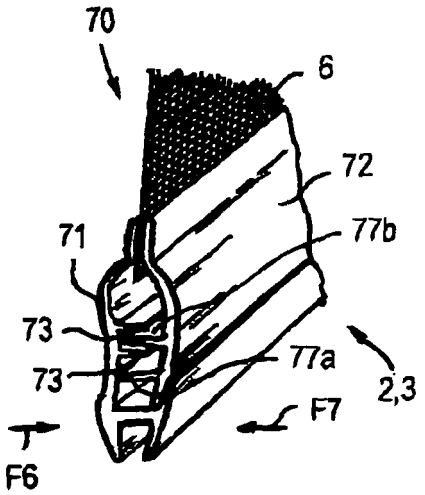

Fig. 12

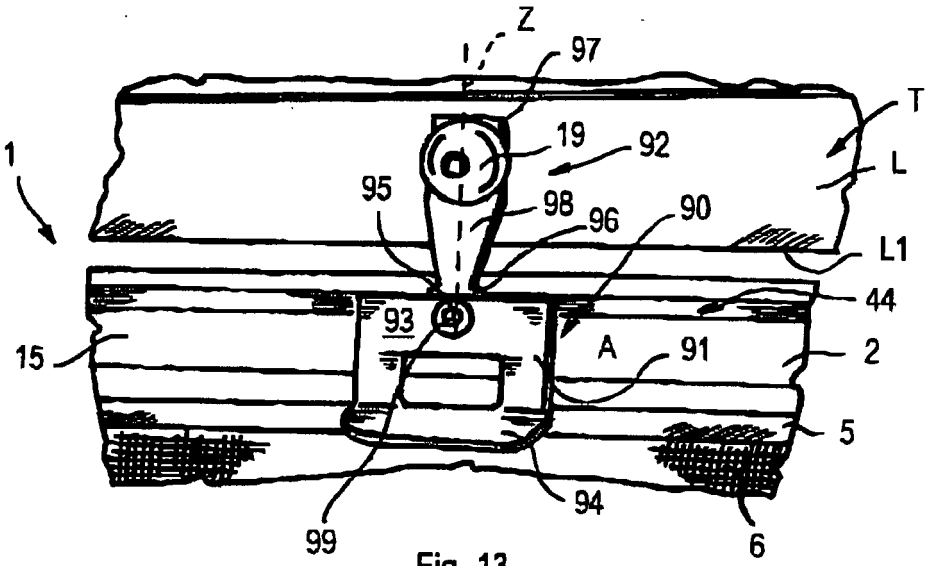
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Fig. 13

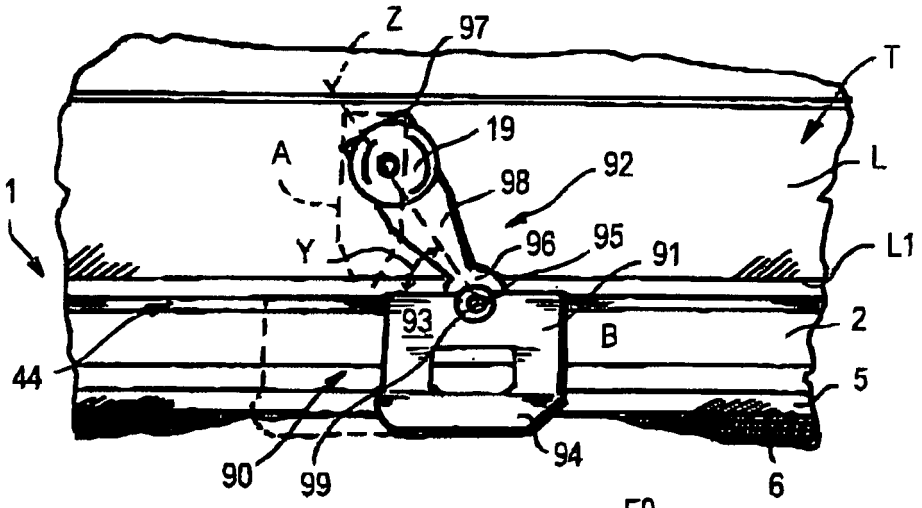
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Fig. 14


F9
F10

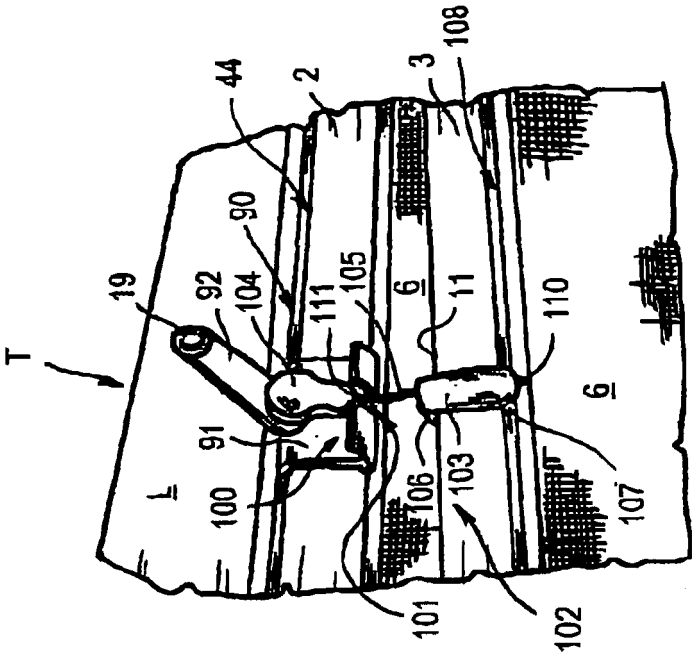

Fig. 15

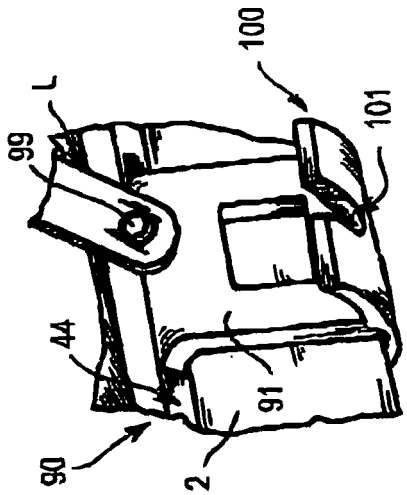

Fig. 16a

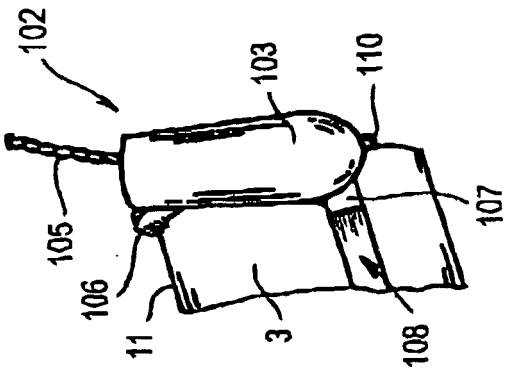

Fig. 16

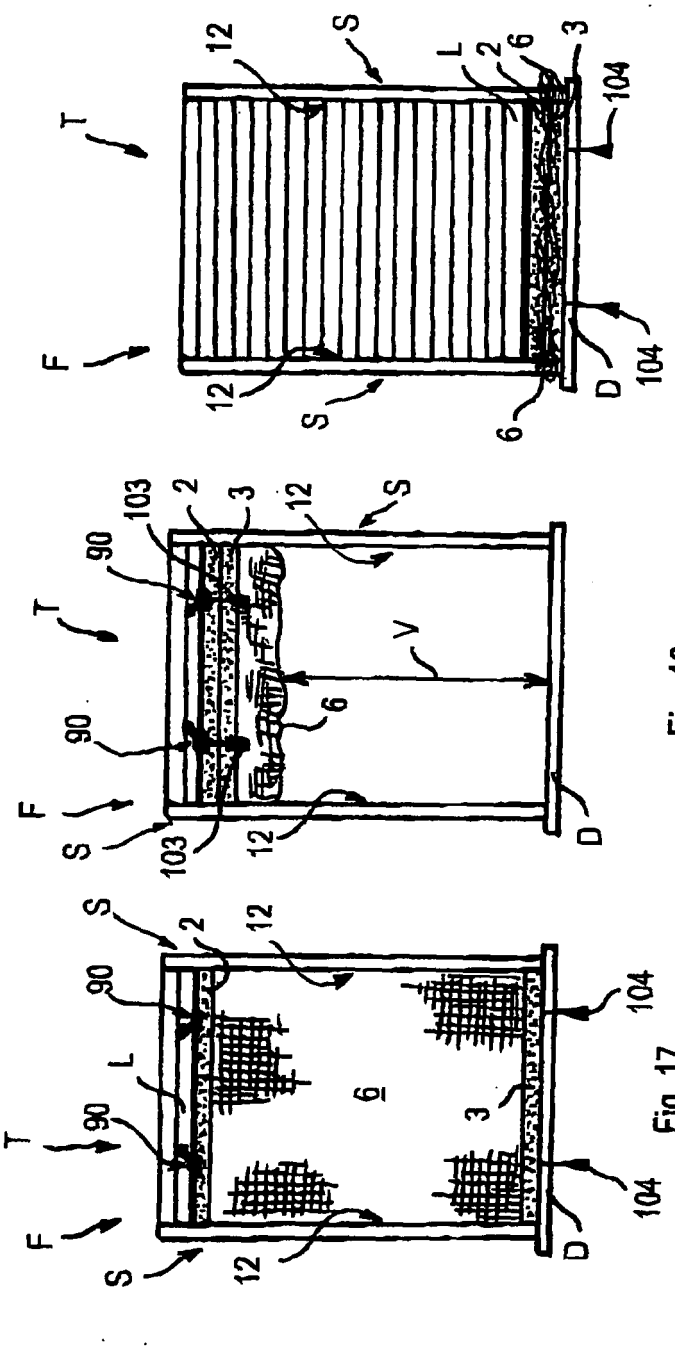

Fig. 19

Fig. 18

Fig. 17

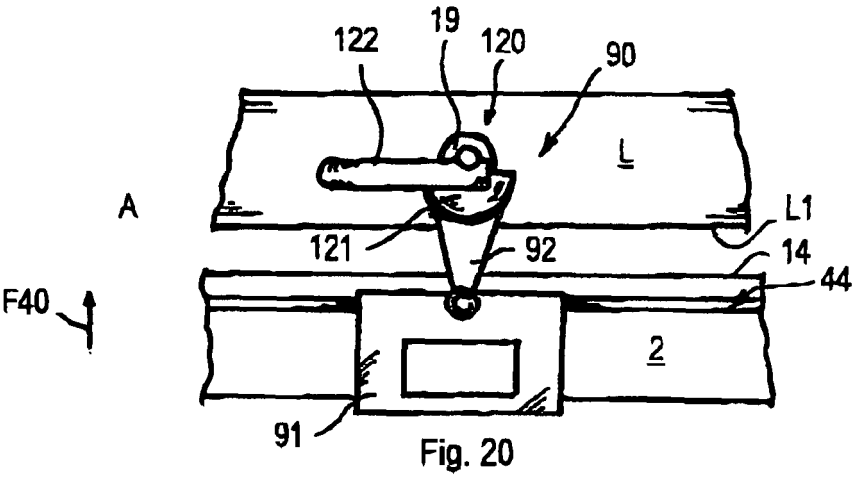

Fig. 20

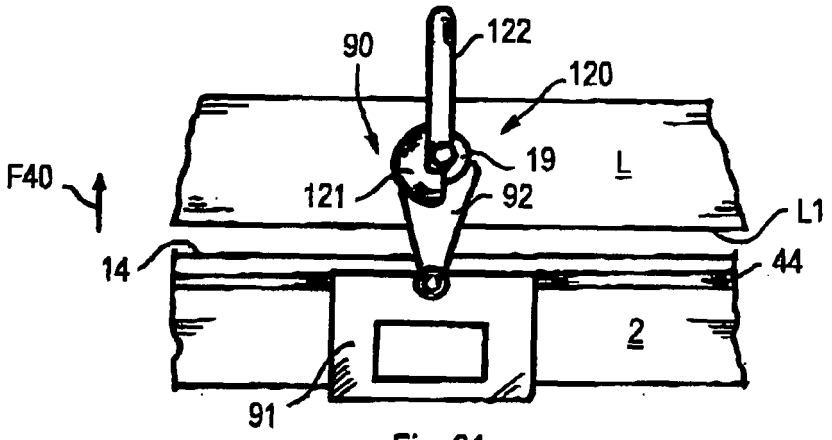

Fig. 21

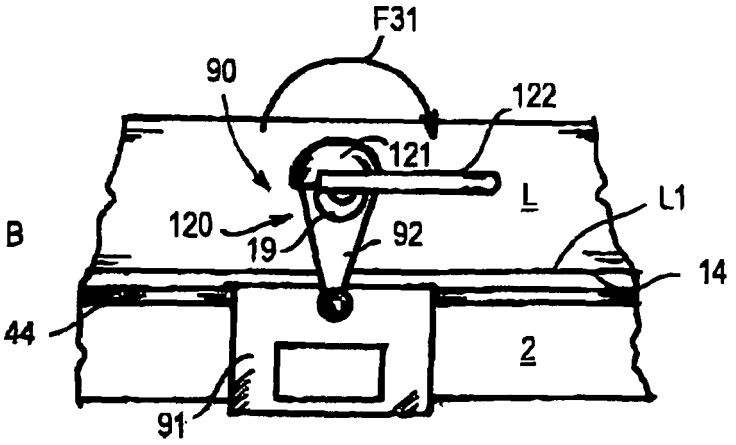

Fig. 22a

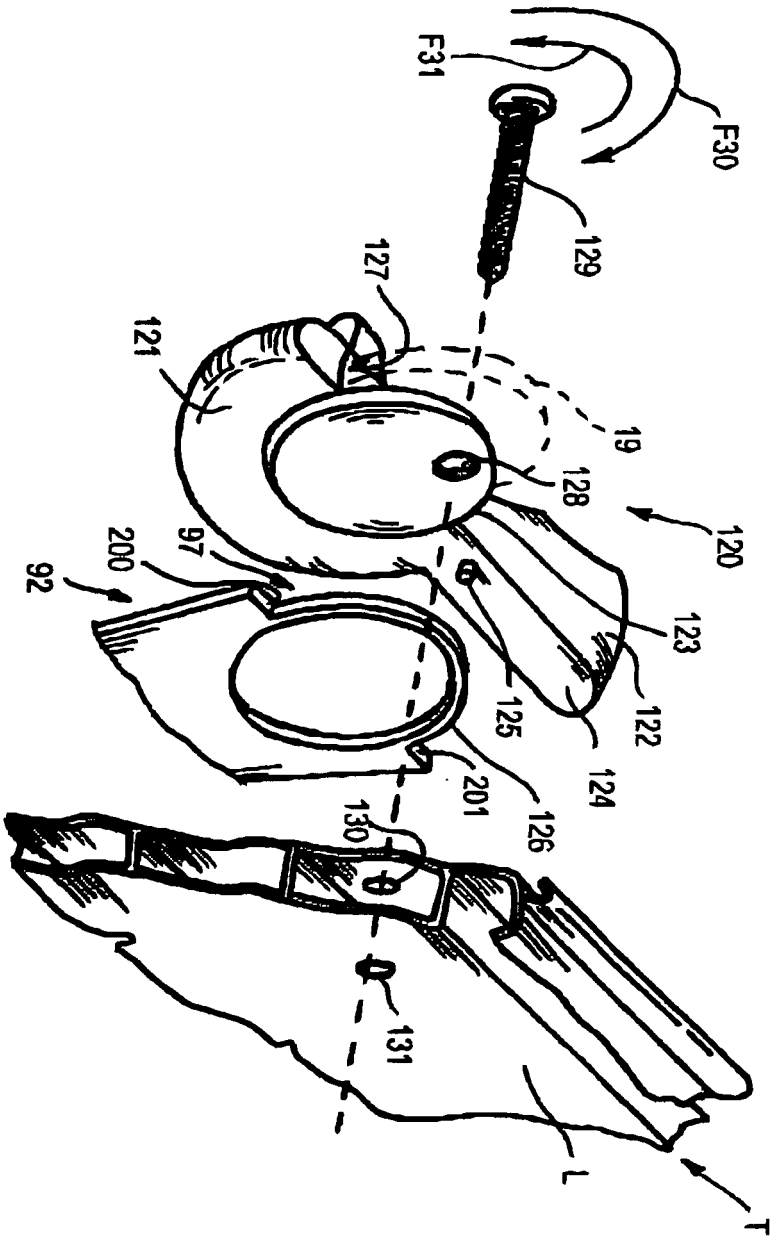
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Fig. 22b

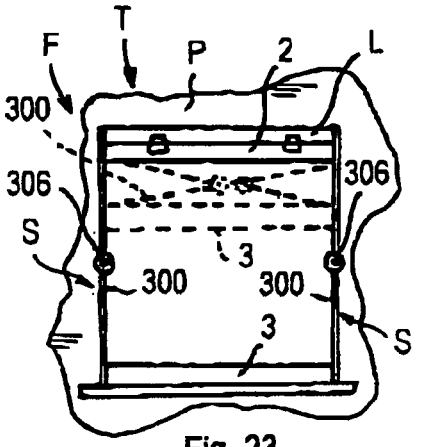

Fig. 23

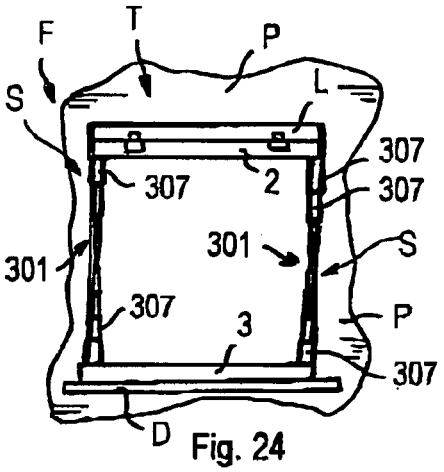

Fig. 24

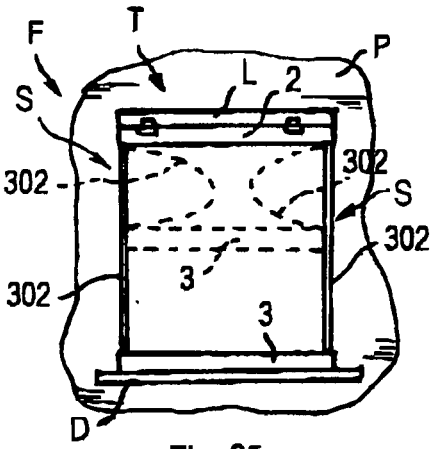

Fig. 25

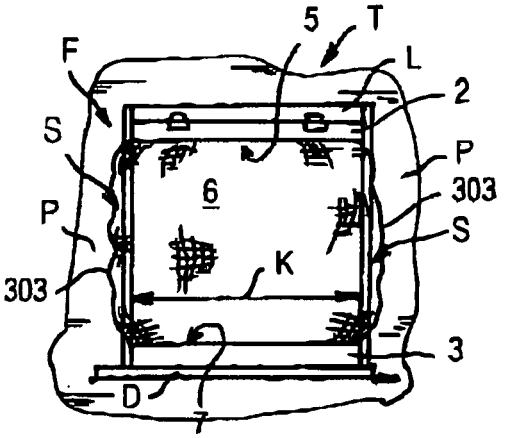

Fig. 27

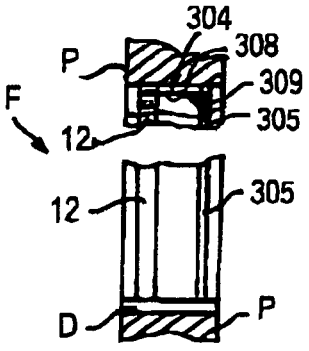

Fig. 26

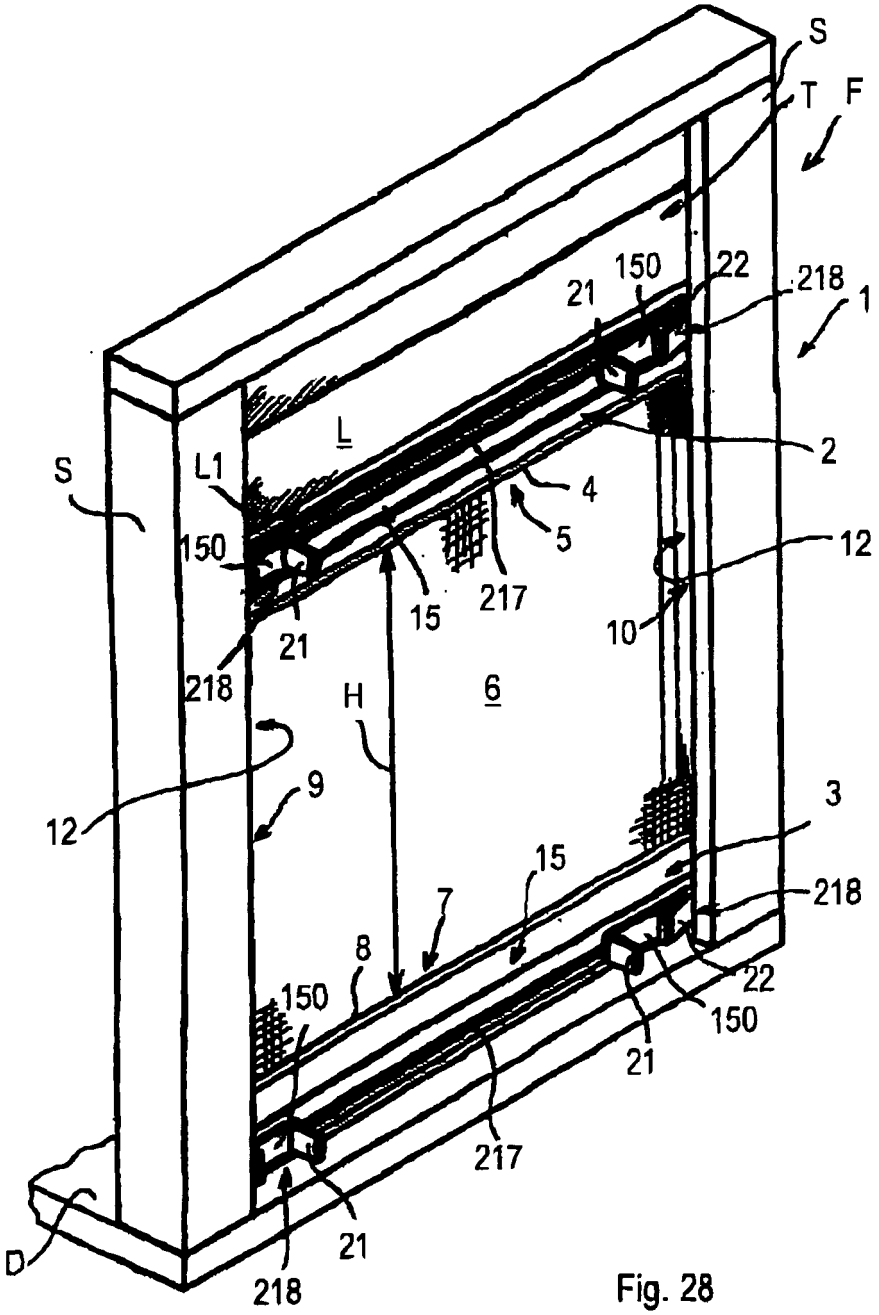
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Fig. 28

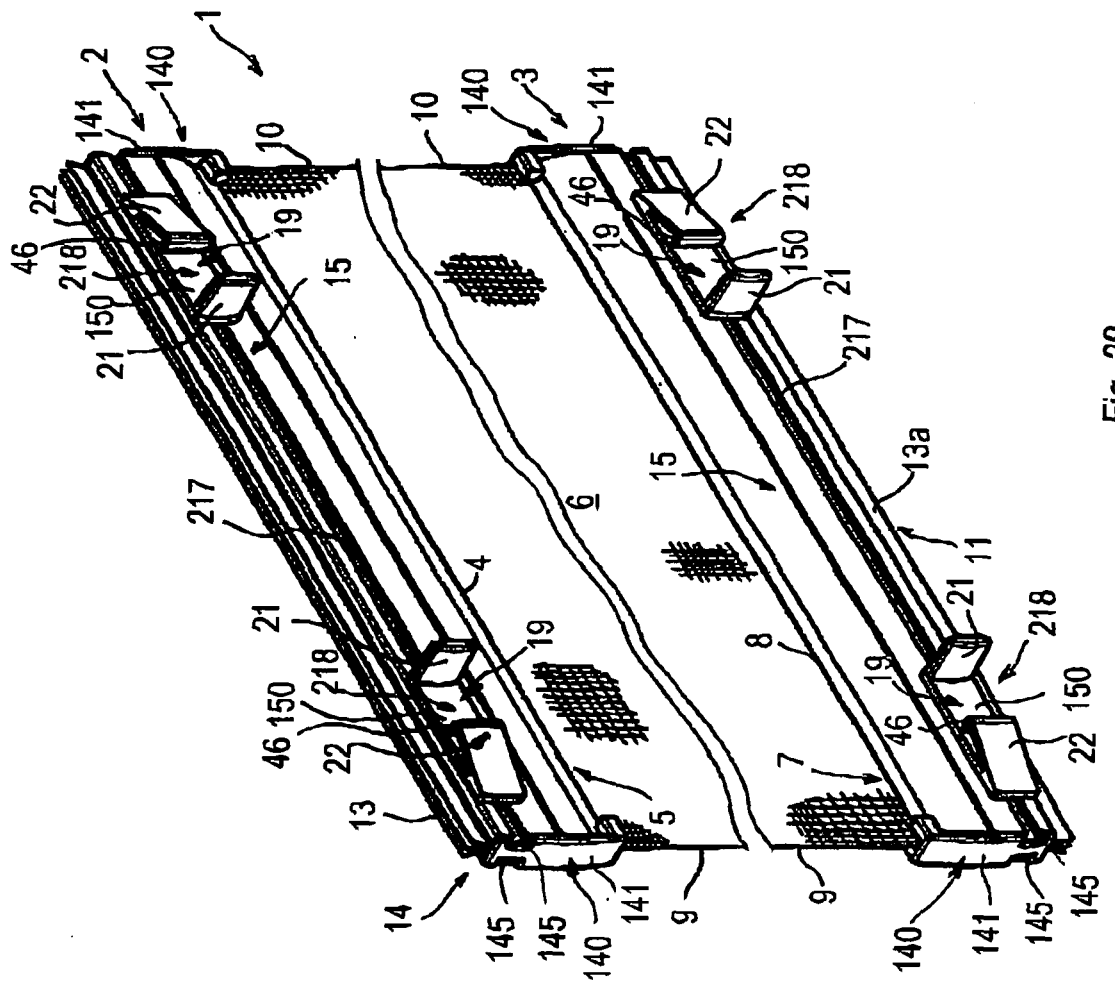
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Fig. 29

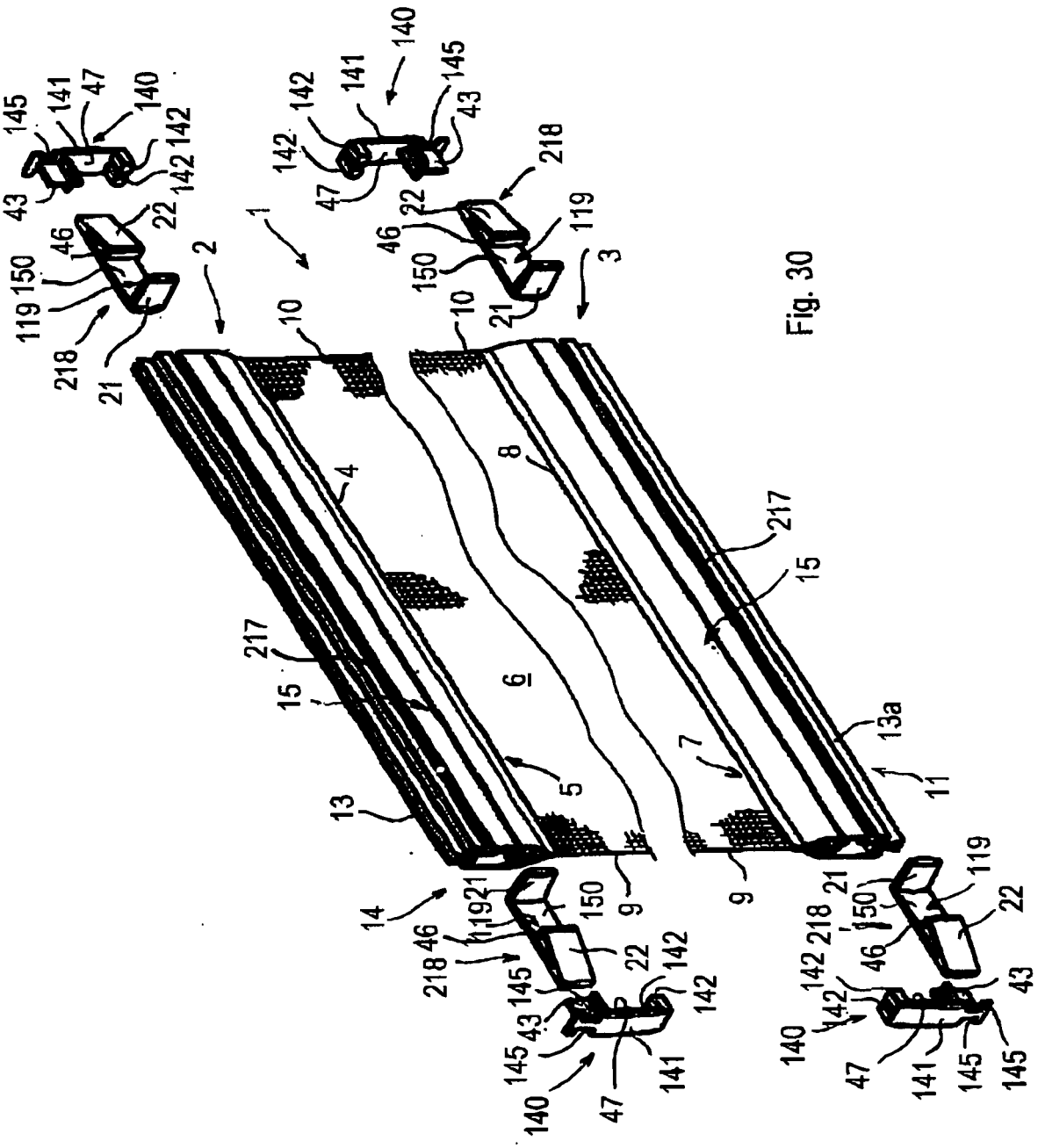
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Fig. 30

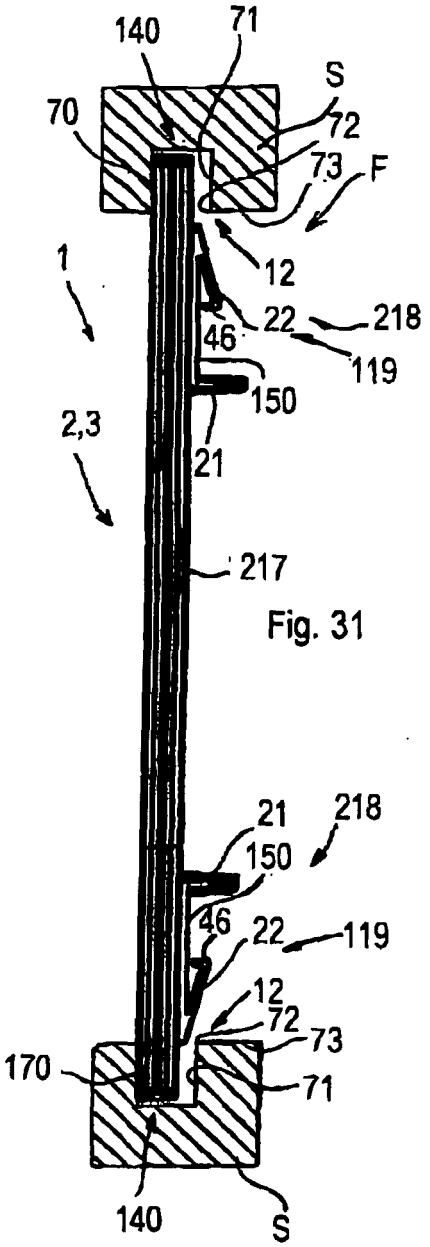

Fig. 31

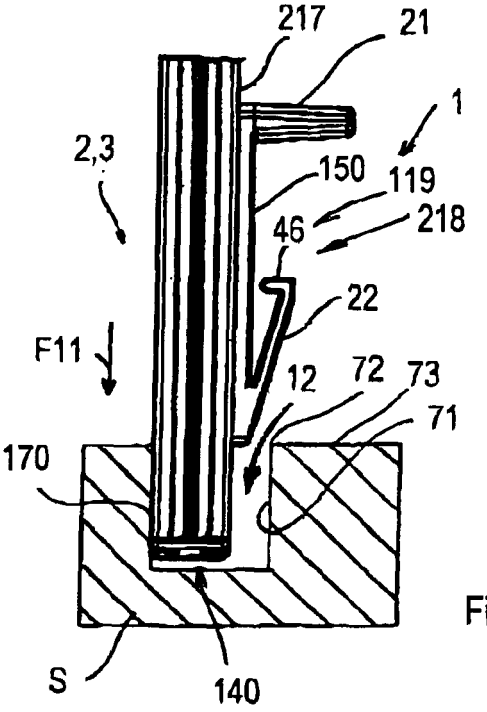

Fig. 32

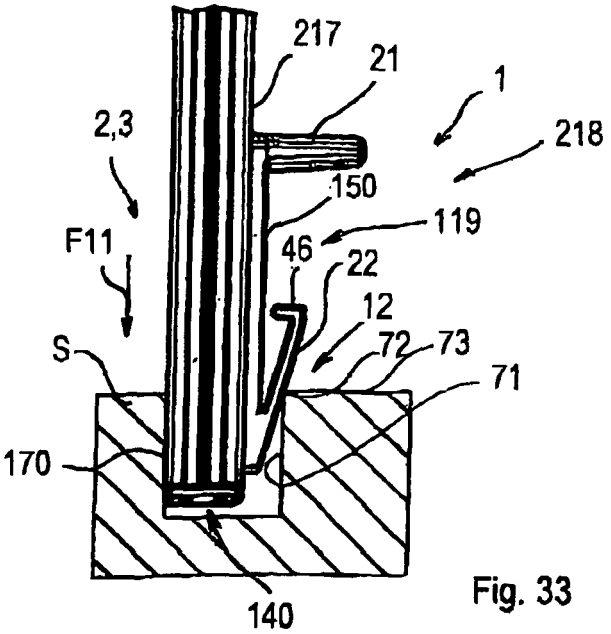

Fig. 33

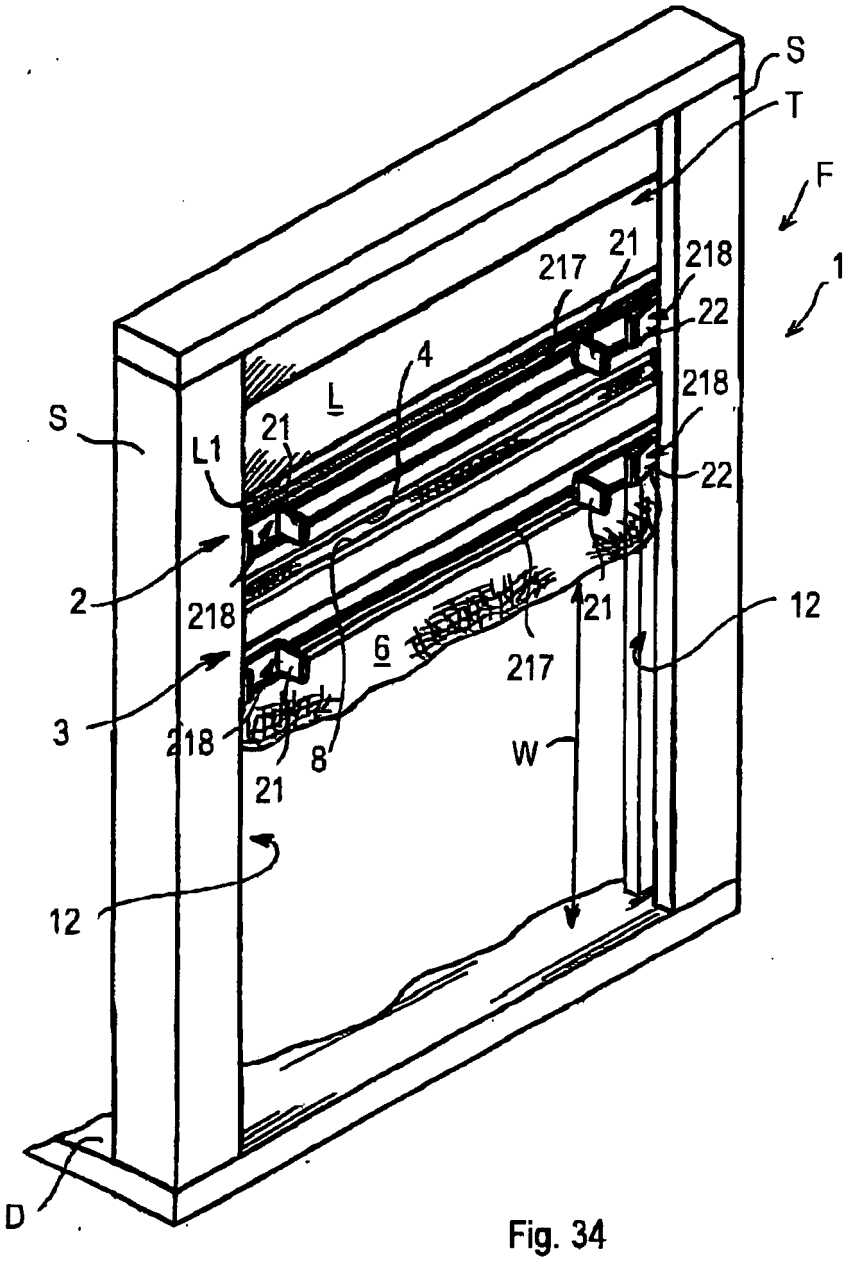

Fig. 34

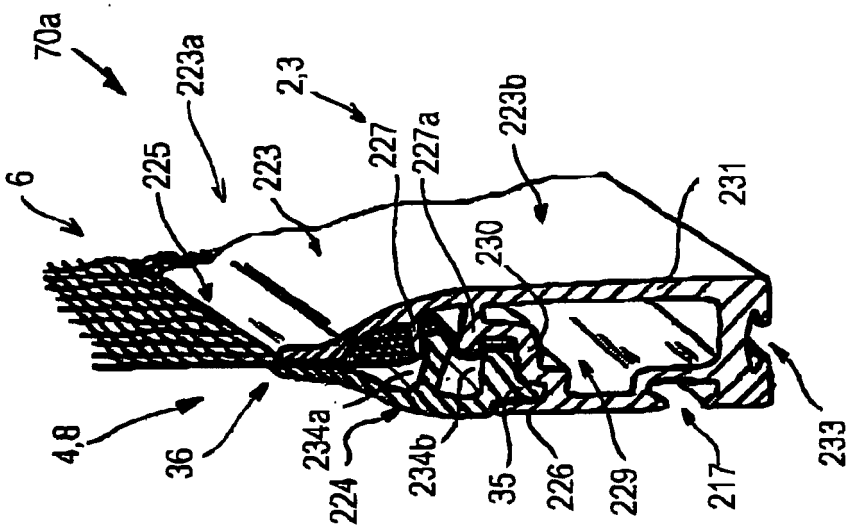
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Fig. 36

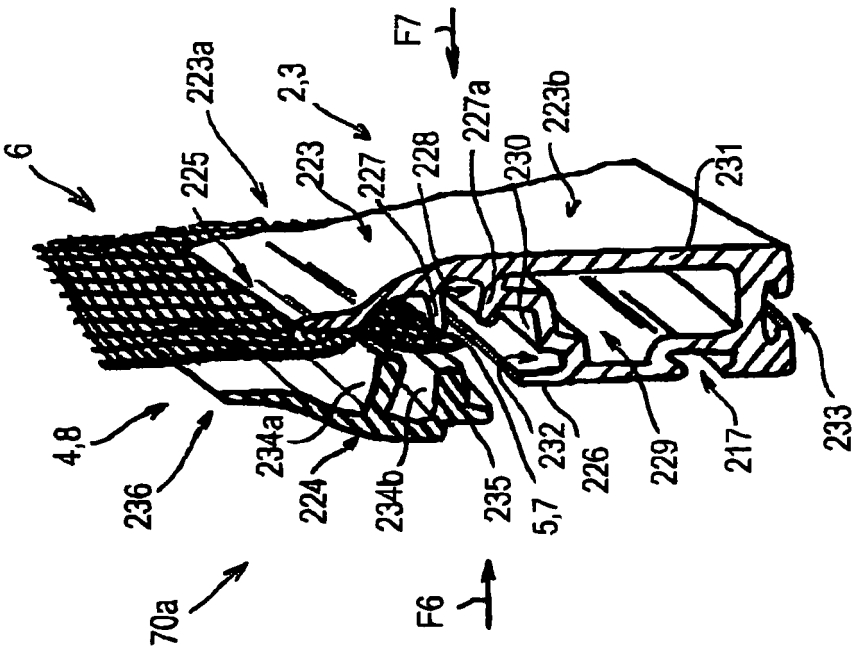
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Fig. 35

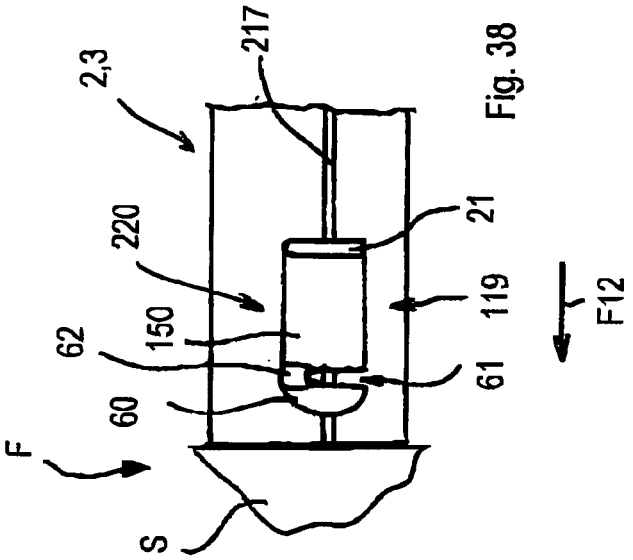

Fig. 38

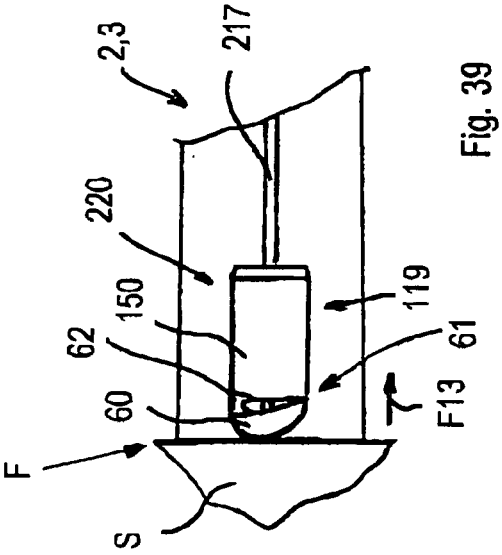

Fig. 39

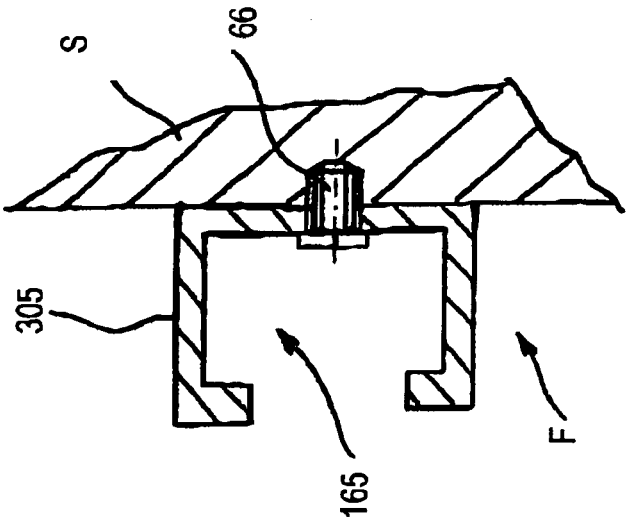

Fig. 37

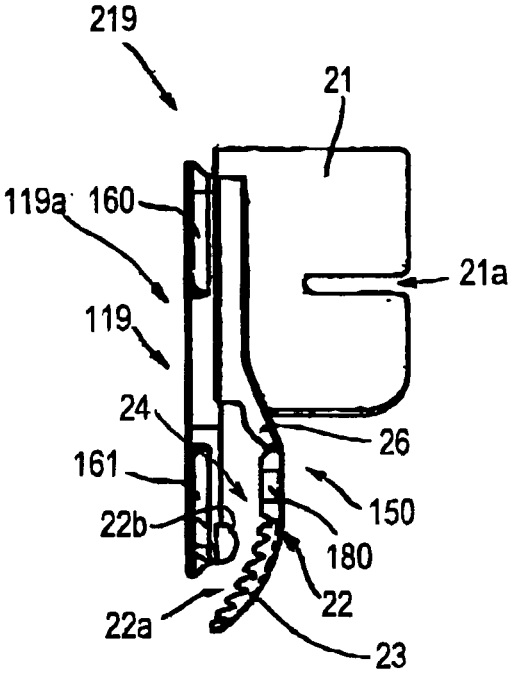

Fig. 40

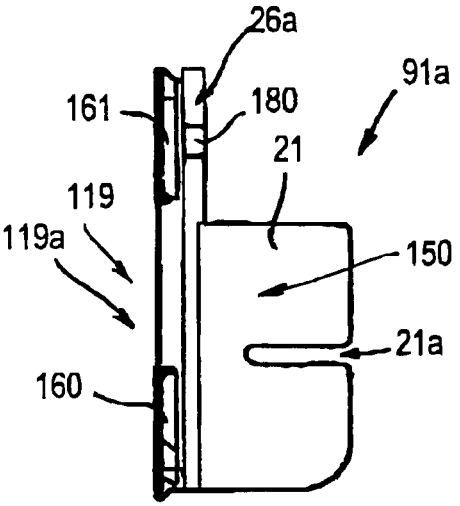

Fig. 41

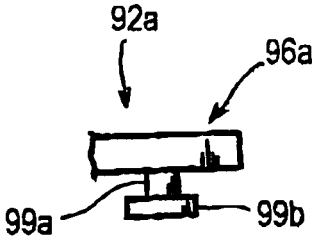

Fig. 43

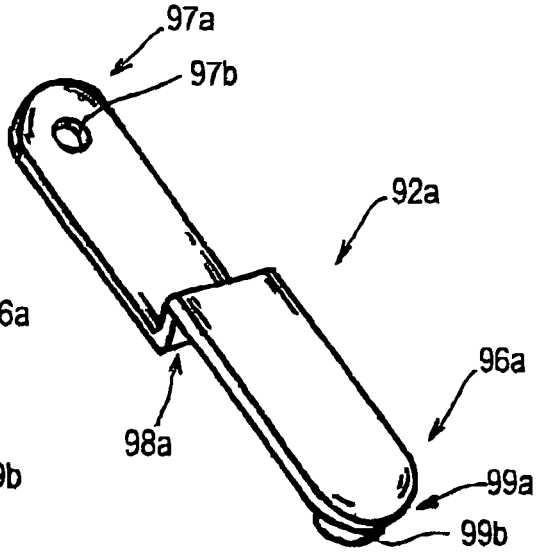

Fig. 42

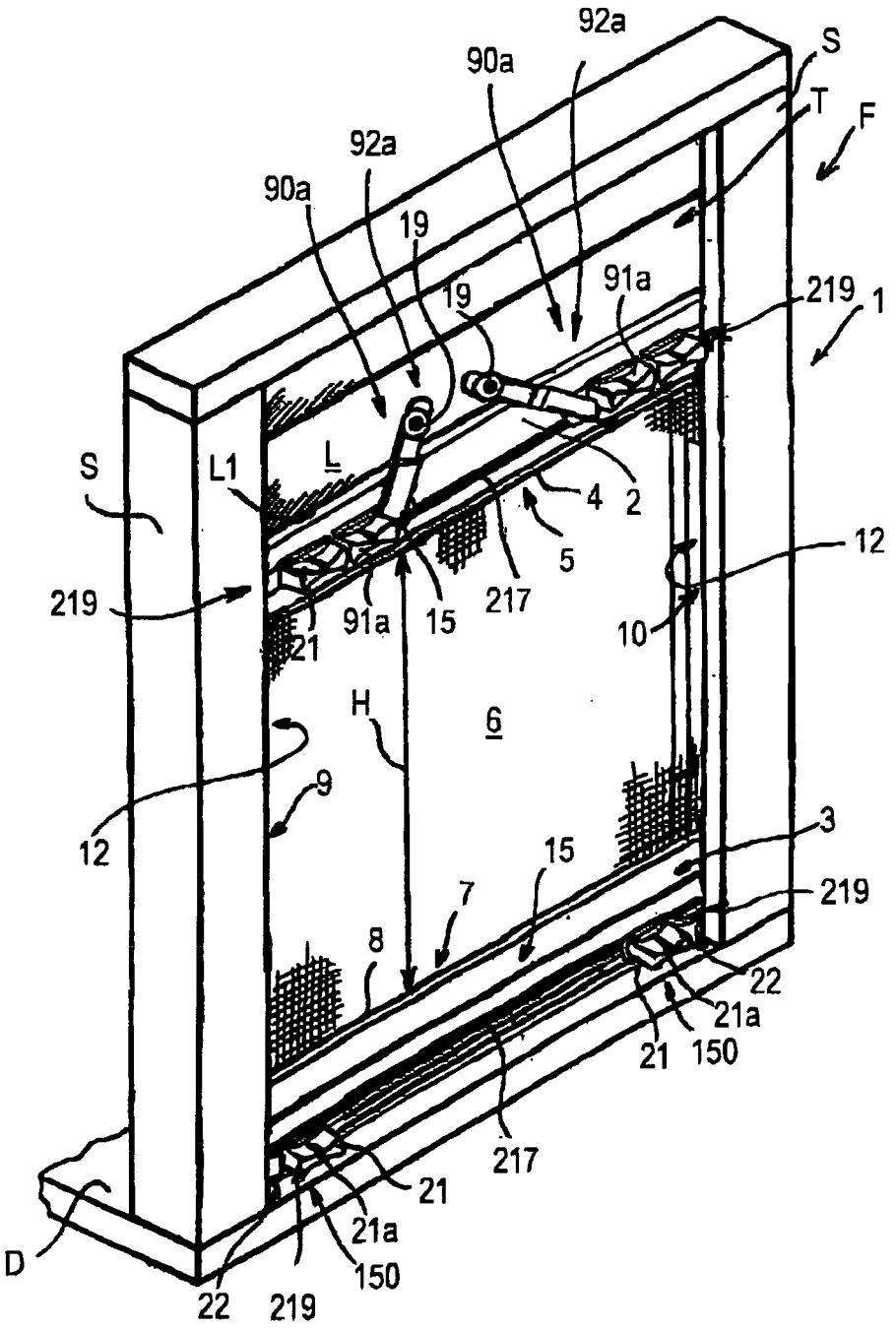
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Fig. 44