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(54) **Bar for fixing a sidewall of a front tent of a camper, motorhome or the like**

(57) Beam for fixing a sidewall (6-7) of the awning (2) of a caravan, motor home (1) or the like, which, in the longitudinal direction, consists of a single part (13) or of several parts mounted in each other's prolongation (13A-13B), characterised in that it is formed of a strut (16) and a clamping lath (17) which are hinge-mounted in relation to each other in their longitudinal direction, whereby the strut (16) can freely hinge between a clamping position

in which a canvass (10) can be clamped between a clamping element (28) of the strut (16) and a clamping element (29) of the clamping lath (17) and an open position in which the above-mentioned clamping parts (28-29) are removed from each other and whereby operating means are provided to move the clamping lath (17) from one position into another position and means to lock the clamping lath (17) in the clamping position.

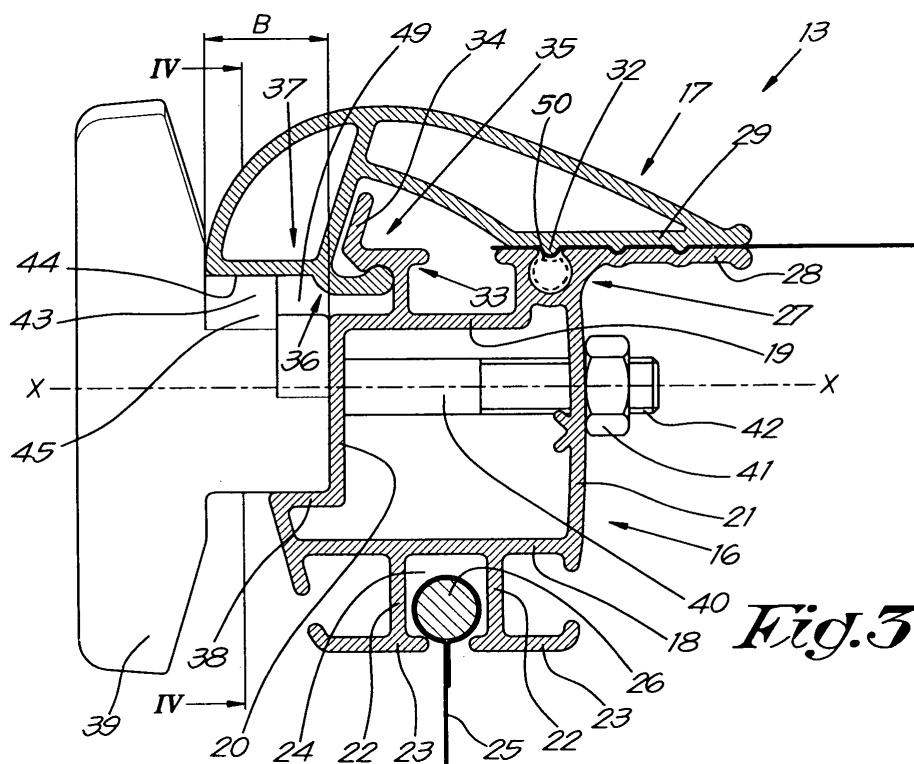


Fig.3

Description

[0001] The present invention concerns a strut for fixing a sidewall of the awning of a caravan, motor home or the like.

[0002] In particular, the invention concerns a type of awning whereby the roof is formed of a canopy provided with a canvass which is fixed with one edge to a wall of the caravan and which is provided with what is called a front lath on the opposite wall with which the canvass is stretched and which is preferably provided with supporting legs resting on the ground.

[0003] With this type of awning, the front sidewall is formed of a canvass which is hung up on the aforesaid front lath, whereas the sidewalls on either side of the canopy are formed of a canvass which is hung up on a beam in the shape of a strut which is fixed to the bottom side of the canopy's canvass and between the wall of the caravan and the front lath.

[0004] It is known that the canvass of the canopy is clenched with a free edge on both sides to the aforesaid strut by means of a clamping lath which is fixed to the strut concerned by means of screws.

[0005] A disadvantage of this clamping method, however, is that it is not simple and that it is relatively time-consuming.

[0006] The present invention aims to remedy the above-mentioned and other disadvantages.

[0007] To this end, the invention concerns a beam for fixing a sidewall of the awning of a caravan, motor home or the like, whereby this beam is formed of a strut and a clamping lath which can be detached by pulling the strut and the clamping lath laterally loose from one another and which are longitudinally hinge-mounted in relation to each other, whereby the strut can freely hinge between a clamping position in which a canvass can be clamped between a clamping part of the strut and a clamping part of the clamping lath and an open position whereby the above-mentioned clamping parts are removed from each other and whereby operating means are provided to move the clamping lath from one position into the other one and means to lock the clamping lath in the clamping position.

[0008] An advantage of a beam according to the invention is that a canvass, for example the edge of the canvass of the canopy, can be clamped very easily and quickly.

[0009] To this end, one only has to place the above-mentioned edge of the canvass between the strut and the clamping lath of the beam to subsequently clamp the canvass by activating the above-mentioned operating means and means for locking the clamping lath in the clamping position.

[0010] Preferably, the above-mentioned means are formed of at least one rotating crank with a cam which, in a certain position of the crank, pushes the clamping lath into the clamping position and, in another position of the crank, leaves the clamping lath free to hinge into the

open position.

[0011] An advantage of such a crank is that the clamping lath can be rotated in a simple manner at an angle from one position into the other, for example by rotating the crank at a certain angle which is preferably less than one revolution of the crank and which preferably corresponds to about a quarter of a revolution or stroke of the crank.

[0012] This means that not much dexterity is required to perform said operation.

[0013] The crank or cranks are preferably situated on the edge of the awning, which even simplifies the mounting of the sidewalls as the ground is readily accessible.

[0014] The clamping lath preferably extends over the entire or practically the entire length of the strut, whereby several cranks with cams can be provided, distributed at regular distances over the length of the strut, such that the canvass can be clamped even better and the tent will also be more wind and waterproof.

[0015] According to a preferred embodiment, the clamping lath can be detached by means of a cross movement of the strut, which further simplifies the mounting, since the canvass can be more easily provided between the strut and the clamping lath as the clamping lath can be removed first then to subsequently place the edge of the canvass on the strut, after which the clamping lath is put over the latter and clamped by rotating the crank or cranks.

[0016] In order to better explain the characteristics of the invention, the following preferred embodiment of a beam according to the invention for fixing a sidewall of the awning of a caravan, motor home or the like is described as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 schematically represents a motor home in perspective with an awning which is equipped with a beam according to the invention for fixing a sidewall of the awning;

figure 2 represents the beam according to the invention which is indicated by F2 in figure 1;

figure 3 represents a cross section according to line III-III in figure 1;

figure 4 represents a section according to line IV-IV in figure 3;

figures 5 and 6 represent sections as in figures 3 and 4 respectively, but for another position;

figure 7 represents the beam of figure 5 when disassembled.

[0017] The motor home 1 represented in figure 1 is provided with what is called an awning or tent extension 2 which is built on to a wall 3 of the motor home 1 and which is provided with a roof 4, a front sidewall 5 and two lateral sidewalls 6 and 7 made of canvass.

[0018] The roof 4 of the awning 2 is in this case formed of a canopy 8 fixed to the motor home 1 with its casing

9 and which is provided with a canvass 10 which is fixed to the casing 9 of the canopy with one edge, whereas the opposite edge of the canvass is fixed to what is called a front lath 11 resting with two legs 12 on the ground.

[0019] The canvass 10 of the canopy 8 is stretched by means of two beams 13 according to the invention provided between the motor home casing 9 and the front lath 11, to which end every beam 13 is provided with a pin 14 at its far end with which the beam 13 can be hung up by putting the pins 14 in corresponding holes in the casing 9 of the front lath 11.

[0020] The front lath 11, the legs 12 and the beams 13 thus are part of the frame of the awning 2.

[0021] The front sidewall 5 of the awning 2 is fixed to the front lath 11, whereas the lateral sidewalls 6 and 7 are hung up to the beams 13 on both sides of the awning 2.

[0022] In order to seal the awning 2 in a windtight and watertight manner, the sidewalls 5 to 7 are fixed to one another or to the motor home 1 in the corners of the awning 2, and the side edges 15 of the canvass 10 of the canopy 8 are clamped to the above-mentioned beams 13 according to the invention as well.

[0023] As is represented in more detail in figure 3, every beam 13 is to that end composed of a hollow strut 16 to which is fixed a sidewall 6 or 7, and of a clamping lath 17 which is parallel to the latter and mainly equally long, in between which the side edges 15 of the canvass 10 of the canopy 8 can be clamped.

[0024] The above-mentioned strut 16 mainly has a rectangular section formed of four walls 18 to 21 standing at right angles.

[0025] On the bottom wall 18 are provided two downward directed ribs 22 which are provided with a T-shaped far end 23 on their free edge. These ribs 22-23 define a groove 24 in which the upper edge 25 of the sidewall 6-7 can be fixed in the known manner by folding back this upper edge 25 around a border 26 so as to form a thickening which can be pushed in the groove 24 concerned.

[0026] On the upper wall 19 of the strut 16, at an edge, is provided a protrusion 27 forming a gutter carrying a flat, laterally extending part 28 which is parallel to said upper wall 19 and which can serve as a clamping element 28 which can work in conjunction with a corresponding clamping element 29 on the bottom side 30 of the clamping lath 17 in order to fix the canvass 10.

[0027] The clamping element 29 of the strut 16 is provided with grooves 31, whereas the clamping element 29 of the clamping lath 17 is provided with corresponding fitting ribs 32.

[0028] At a distance from said clamping element 28, a hook-shaped element is provided on the upper wall 19 made as a rib whose free edge is folded back outwards and whereby a slanting, standing rib 34 is further provided on said free edge.

[0029] Said hook-shaped element 33 is provided such that it can cooperate with a corresponding hook-shaped element 36 of the clamping lath 17 as a hinge 35, whereby

this hook-shaped element 36 is made as rib provided on the bottom side 30 of the clamping lath 17 at a distance from the longitudinally directed edges of the clamping lath 17 and which is folded back in the direction of the clamping element 29 of the clamping lath 17.

[0030] When the strut 16 and the clamping lath 17 are hinge-mounted with the above-mentioned hook-shaped elements 33 and 35, a part 37 of the clamping lath 17 will protrude over the sidewall 20 of the strut 16 over a certain width B standing crosswise to the above-mentioned 10 clamping element 28 of the strut 16 and situated farthest away from it.

[0031] Said part 37 which protrudes in relation to the side wall is situated on the other side of the hinge 35 in relation to the clamping element 29 of the clamping lath 17.

[0032] On the latter sidewall 20 of the strut 16, at a distance from the upper wall 19, is provided a standing wall 38 extending in the longitudinal direction of the strut 16.

[0033] Between this standing edge 38 and the protruding part 37 of the clamping lath 17 are provided one or several cranks 39 on the sidewall 20 concerned, distributed over the length of the strut 16.

[0034] Every crank 39 is provided with a pin 40 which can rotate in a bore in the strut 16 around an axis X-X' which is perpendicular to the sidewall 20 and which is held in the axial direction by means of a self-locking nut 41 or the like which is screwed on a threaded part 42 on the free end of the pin 40.

[0035] Every crank 39 is further provided with a radially directed cam 43 in relation to the pin 40 which, when it is turned away from the standing edge 38 into a position crosswise to said edge 38, as is represented in figures 3 and 4, pushes up the part 37 of the clamping lath 17 protruding over the sidewall 20 into the clamping position of figures 3 and 4, such that the clamping lath 17 will tilt round the hinge 35, thus pushing the clamping parts 28 and 29 of the strut 16 and of the clamping lath 17 firmly together by means of a lever operation.

[0036] As is represented in figure 4, the above-mentioned cam 43 has a flat side 44 on its farthest end extending more or less mainly perpendicular to the radial direction of the axis X-X' of the crank 39.

[0037] The cam 43 is further provided with a bent rise 45 connected to the flat side 44 concerned and whose radius increases towards the flat side, so that the clamping lath 17 is gradually tightened harder as the crank 39 rotates.

[0038] Further, every crank 39 or cam 43 is provided with a stop-forming face 45 directed mainly at right angles to the flat side 44 at the far end of the cam 43 and forming a stop for the position of the cam 43, as represented in figures 5 and 6, in which the crank 39 has been rotated a quarter of a turn in relation to the clamping position of figures 3 and 4.

[0039] Optionally, a second cam 46 is provided diametrically opposite the above-mentioned cam 43 having a

flat side 47 on its far end as well which is mainly parallel to the flat side 44 of the first cam 43, and which can co-operate with the standing edge 38 on the sidewall 20 of the strut 16 and which forms a stop for the position of the crank 39 corresponding to the clamping position of figures 3 and 4.

[0040] Also this second cam 46 is provided with a rise 48 analogous to the rise 45 of the first cam 43.

[0041] At the wall 20, the cam 43 is provided with a recess 49 to prevent the cam 43 from pushing against the hook-shaped element 36 of the clamping lath 17 in its clamping position.

[0042] The use of a beam 13 according to the invention is very simple and as follows.

[0043] Figures 3 and 4 represent the situation for the awning 2 as mounted, whereby the canvass 10 of the canopy 8 is clamped between the strut 16 and the clamping lath 17 and whereby the sidewall 6 is hung up on the strut 16 in the groove 24 of the strut 16.

[0044] In this situation, the crank 39 is turned up in a practically vertical position, crosswise to the longitudinal direction of the strut 16, whereby the cams 43 and 46 push the protruding part 37 of the clamping lath 17 away from the standing edge 38 of the strut 16 and whereby, thanks to a lever operation, the clamping parts 28 and 29 of the strut 16 and of the clamping lath 17 are pushed firmly onto one another, such that the side edge 15 of the canvass 10 is firmly held between these clamping parts 28 and 29.

[0045] The grooves 31 and ribs 32 on these clamping parts 28 and 29 prevent the side edge 15 of the canvass 10 from being torn loose laterally from between the clamping parts 28 and 29 when there are fierce gusts of wind.

[0046] It is clear that, thanks to the use of a beam 13 according to the invention, a watertight and windtight connection is formed between the sidewalls 6 and 7 and the roof 4 of the awning 2. In order to obtain an even better sealing or clamping, it is possible to provide a seal 50 in the gutter-shaped protrusion as is represented by means of the dashed line in figure 3.

[0047] From this mounted position, the sidewalls 6 and 7 of the awning 2 can be very easily removed.

[0048] One only has to turn the crank 39 a quarter of a stroke from the vertical clamping position in figures 3 and 4 to the horizontal release position of figures 5 and 6 in order to remove the cams 43 and 46 from the protruding part 37 of the clamping lath 17 and from the standing edge 38 of the strut 16.

[0049] It is clear that, as a result, the clamping lath 17 can freely tilt round the hinge 35 into an open position whereby the clamping parts 28 and 29 can be removed from each other, thus detaching the side edge 15 of the canvass 10 from the beam 13 in order to remove the beam 13, together with the sidewall 6 or 7, and to store them.

[0050] It is clear that the crank 39 must not necessarily be turned a quarter of a revolution to push the clamping

lath 17 from the open position into the clamped position, but that the same effect can be obtained by turning the crank 39 less or more than a quarter of a revolution.

[0051] Disassembling the sidewalls 6 and 7 is even made easier when, as represented in figure 7, the clamping lath 17 can be detached from the strut 16 by means of a lateral movement in the direction of the arrow P in figure 7 by pulling the hook-shaped parts 33 and 36 of the hinge 35 laterally apart. Thus, the clamping lath 17 can be easily removed from the strut 16.

[0052] The latter quality is particularly useful when mounting the sidewall 6 or 7 again, since the side edge 15 of the canvass 10 can then first be placed on the strut 16 without being hindered by the presence of the clamping lath 17, and the clamping lath 17 is only provided afterwards with an opposite crosswise movement of said clamping lath 17.

[0053] It is clear that the strut 16 and the clamping lath 17 must not necessarily be detachable in relation to each other, but that the hinge 35 can also be an indivisible hinge or another type of hinge which does not necessarily allow for the parts of the hinge to be pulled loose from each other.

[0054] It is clear that the second cam is not strictly necessary and that the stops to keep the crank 39 in position in the clamping position and in the open position can be formed in other ways.

[0055] It is also clear that the beam 13, as seen in the longitudinal direction, may be formed of one part or of several shorter parts 13, whereby in the latter case these parts are mounted in each other's prolongation, for example by means of a mortise and tenon joint. In figure 2, this is represented as an assembly of two shorter parts 13A and 13B.

[0056] Naturally, a beam 9 with a strut and a clamping lath according to the invention can also be used to solely clamp a canvass of the awning, whereby the front lath would be provided with a clamping strut to clamp the front sidewall 5 onto the front lath. It is clear that, in this case, no groove 24 must be provided for fixing a canvass.

[0057] Instead of one or several cranks, other operating means can be provided to move the clamping lath 17 in relation to the strut 16. To this end, one could think for example of some wedge-shaped element which can be pushed between the clamping lath 17 and the strut 16, for example between the standing edge 38 of the strut 16 and the protruding part 37 of the clamping lath 17.

[0058] The present invention is by no means restricted to the embodiment described as an example and represented in the accompanying drawings; on the contrary, such a beam according to the invention for fixing a sidewall of the awning of a caravan, motor home or the like can be made in all sorts of shapes and dimensions while still remaining within the scope of the invention.

Claims

1. Beam for fixing a sidewall (6-7) of the awning (2) of a caravan, motor home (1) or the like, which, in the longitudinal direction, consists of a single part (13) or of several parts mounted in each other's prolongation (13A-13B), **characterised in that** it is formed of a strut (16) and a clamping lath (17) which can be detached by laterally pulling the strut (16) and the clamping lath (17) apart and which are hinge-mounted in relation to each other in their longitudinal direction, whereby the strut (16) can freely hinge between a clamping position in which a canvass (10) can be clamped between a clamping element (28) of the strut (16) and a clamping element (29) of the clamping lath (17) and an open position in which the above-mentioned clamping parts (28-29) are removed from each other and whereby operating means are provided to move the clamping lath (17) from one position into another position and means to lock the clamping lath (17) in the clamping position. 5
2. Beam according to claim 1, **characterised in that** the above-mentioned operating means and means to lock the clamping lath (17) in the clamping position are formed of at least one rotating crank (39) with a cam (43) which, in a particular position of the crank (39), pushes the clamping lath (17) into the clamping position and, in another position of the crank (39), makes the clamping lath (17) freely hinge into the open position. 10
3. Beam according to claim 2, **characterised in that** the crank (39) can be rotated from one position into another one by making it turn one revolution or a part of a revolution. 15
4. Beam according to claim 3, **characterised in that** the crank (39) can be rotated from one position into another one by making it turn about a quarter of a stroke. 20
5. Beam according to any one of the preceding claims, **characterised in that** the crank (39) is situated on the side of the awning (2) or on the bottom side of the beam (13). 25
6. Beam according to claim 5, **characterised in that** the hinge (35) is formed of a hook-shaped element (36) of the clamping lath (17) which can work in conjunction with a hook-shaped element (33) of the strut (16). 30
7. Beam according to any one of the preceding claims, **characterised in that** the hinge (35) is situated at a distance from the longitudinally directed edges of the clamping lath (17), whereby the above-mentioned clamping parts (28-29) of the clamping lath (17) and of the strut (16) are situated on one side of the hinge (35), whereas the part (37) of the clamping lath (17) on the other side of the hinge (35) can work in conjunction with the cam (43) of the crank (39). 35
8. Beam according to any one of the preceding claims, **characterised in that** the strut (16) has a wall (20) standing crosswise to the clamping element (28) of the strut (16) and **in that** the crank (39) has been provided on this wall (20) such that it can rotate round an axis (X-X') standing crosswise to said wall (20), whereby the part (37) of the clamping lath (17) which works in conjunction with the cam (43) of the crank (39) protrudes over said wall (20) over a certain width (B). 40
9. Beam according to any one of the preceding claims, **characterised in that** the cam (43) of the crank (39) is provided with a flat side (44) on its far end which extends mainly perpendicular to the radial direction of the axis (X-X') of the crank (39). 45
10. Beam according to claim 9, **characterised in that** the cam (43) is provided with a bent rise (45) connecting to the flat side (44) of the cam (43) and whose radius increases towards the flat side (44). 50
11. Beam according to claim 10, **characterised in that** the crank (39) is provided with a stop-forming face (45) which is directed mainly crosswise to the flat side (44) on the far end of the above-mentioned cam (43) and which can work in conjunction with a standing edge (38) extending on the above-mentioned wall (20) of the strut (16) in the longitudinal direction so as to form a stop for the position of the crank (39) corresponding with the open position of the clamping lath (17). 55
12. Beam according to claim 11, **characterised in that** diametrically opposite the above-mentioned cam (43) is provided a second cam (46) having a flat side (47) on its far end as well which is mainly parallel to the flat side (44) of the first cam (43) and which can work in conjunction with the above-mentioned standing edge (38) so as to form a stop for the position of the crank (39) corresponding to the clamping position of the clamping lath (17).
13. Beam according to any one of the preceding claims, **characterised in that** the clamping lath (17) extends over practically the entire length of the strut (16) and **in that** the strut (16) is provided with several cranks (39) with cams (43) that are distributed at regular distances over the length of the strut (16).
14. Beam according to any one of the preceding claims, **characterised in that** in the wall (18) of the strut opposite the clamping element (28) of the strut (16)

is provided a groove (24) for fixing the edge (25) of a canvass.

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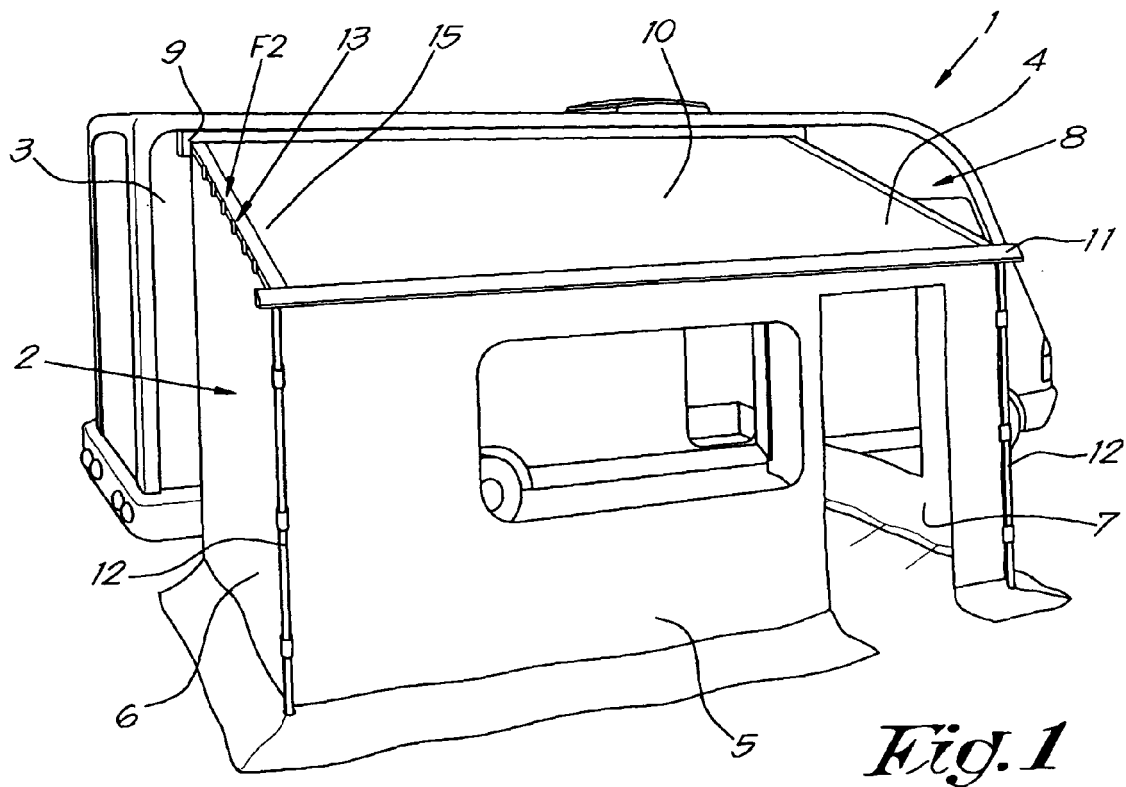


Fig. 1

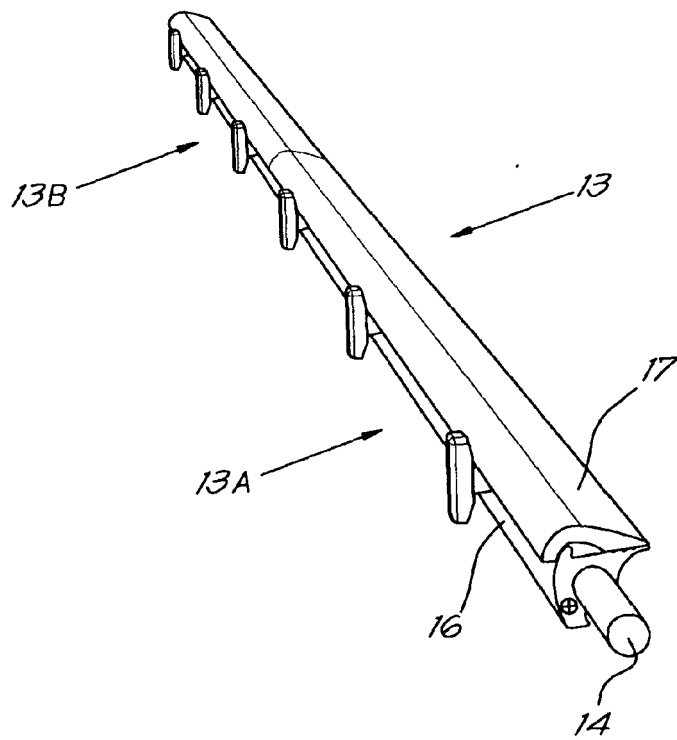


Fig. 2

