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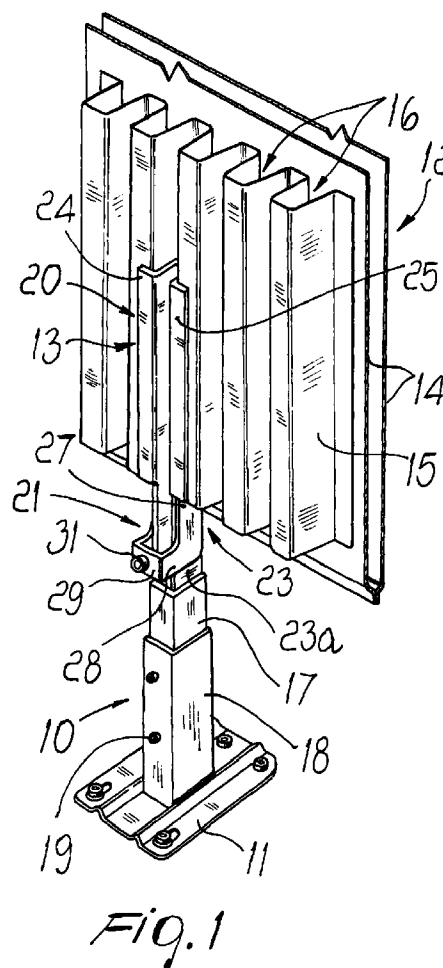
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(54) **Support for radiating panels**

(57) A support for radiating panels of the type comprising an upright (10) with means (11) for resting on the ground or for cantilevered fixing and means for fixing to a radiating panel (14). The upright is adjustable and the means for fixing to the radiating panel comprise two mutually articulated elements (20, 21) which form respective shaped jaws between which a convection lamina (15) of the panel (14) can be inserted and locked. The jaws are associated by screw-type fastening means (31) which act at right angles to the articulation axis in a region available to the action of the user. One of the articulated elements (20) is rigidly coupled to the upright (10).



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Description

[0001] The present invention relates to a support for radiating panels.

[0002] Conventional supports for radiating panels are substantially constituted by an upright with means for resting on the ground or for cantilevered fixing and means for fixing to the radiating panel.

[0003] One of these supports is disclosed in PCT/EP96/01026.

[0004] Therein a tubular upright is disclosed to be inserted between the shaped regions of the convection lamina of a radiating panel that form two vertical tubular air passage gaps.

[0005] A sleeve is slidably coupled to the tubular upright in a downward region and supports one or two wings to be inserted in the gaps which are located adjacent to the upright when installed.

[0006] A screw acts between the sleeve and the upright and engages a through hole of the sleeve which is perpendicular to the plane of arrangement formed by the radiating panel; said screw mutually divaricates the wing or wings and the upright at right angles to the plate, so that the upright is pushed toward the plate and the wing or wings are pushed in the opposite direction and therefore against the wall of the corresponding gap.

[0007] The support has the drawback that the divaricating action between the upright and the wing or wings associated therewith entails a traction between the convection laminae that form the gaps and the heating body that constitutes the panel in the regions where they are mutually joined, usually by spot welding.

[0008] Traction is applied in particular to the joining portions that lies opposite with respect to the support.

[0009] Owing to the fact that the spot welding is not particularly strong, because it is provided merely to keep the convection lamina joined to the heating body, the traction due to the divarication of the components of the support may easily lead to the separation of the spot welds.

[0010] Moreover, the traction in any case produces a deformation of the shape of the gaps, accordingly ruining their painting and causing rust formation.

[0011] The aim of the present invention is to provide a support for radiating panels which eliminates the above drawbacks of conventional supports.

[0012] Within the scope of this aim, a primary object is to provide a support for radiating panels whose action is applied without subjecting the components of the panel to stresses.

[0013] Another important object is to provide a support whose action is applied without deforming the components of the panel.

[0014] Another important object is to provide a support which is particularly handy and simple to use.

[0015] Another object is to provide a support which is constructively simple and can be manufactured at a low cost with conventional equipment and machines.

[0016] This aim, these objects and others which will become apparent hereinafter are achieved by a support for radiating panels comprising an upright with means for resting on the ground or for cantilevered fixing and means for fixing to the panel, characterized in that said upright is adjustable and said means for fixing to a radiating panel comprise two mutually articulated elements which define respective shaped jaws between which a convection lamina can be inserted and locked, said jaws being associated by screw-type fastening means which act at right angles to the articulation axis in a region available to the action of the user and one of said articulated elements being rigidly coupled to said upright.

[0017] Further characteristics and advantages of the invention will become apparent from the detailed description of an embodiment thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

Figure 1 is a perspective view of a support according to the invention, fixed to a radiating panel;
Figure 2 is a side view of the support of Figure 1;
Figure 3 is an exploded perspective view of the support of Figure 1;
Figure 4 is a top view of the support of Figure 1, fixed to the panel;
Figure 5 is a vertical sectional view of the panel of Figure 1, with the support fixed thereto;
Figure 6 is an enlarged-scale view of a detail of the support of Figure 1;
Figure 7 is a top view of a different constructive embodiment of the support.

[0018] With reference to the above Figures 1 to 6, a support for radiating panels comprises an upright 10, which in this case is welded below a plate 11 for resting on the ground but can be provided with cantilevered fixing means of the bracket type or the like, and means for fixing to the radiating panel 12 which are generally designated by the reference numeral 13.

[0019] The radiating panel 12, in this case, is of the type constituted by a plate-like heating body 14 to which a convection lamina 15 is spot-welded on one face; said lamina is shaped so as to form a plurality of vertical corrugations which form gaps 16 having a quadrangular cross-section, particularly for example a trapezoidal one.

[0020] According to the invention, the upright 10 is telescopic and is constituted in practice by two tubular elements, respectively designated by the reference numerals 17 and 18, which have for example a rectangular cross-section and are inserted in each other.

[0021] The two elements 17 and 18 are associated by screws 19 which act between them so as to produce mutual locking.

[0022] According to the invention, the means for fixing to the panel 12 further comprise two elements 20 and 21 which are mutually articulated by means of a

threaded pivot 22 and form respective contoured jaws which are designated by the same reference numerals 20 and 21.

[0023] In particular (Figure 3), the first jaw 20 is constituted by an elongated lamina 23 which is shaped, by subjecting a metal plate to blanking and plastic deformation, so as to have a cross-section which is omega-shaped over most of its extension.

[0024] In the omega-shaped part, the jaw 20 therefore has two co-planar flaps or wings 24 and 25.

[0025] Moreover, the lamina 23 is butt-welded, with a U-shaped portion 23a, to the tubular element 17 of the upright 10 and is therefore axially rigidly coupled thereto.

[0026] The jaw 21 is instead constituted, in this case, by two parallel blades 26 and 27 which are joined one another by a U-shaped portion 28 which is monolithic therewith, the assembly being obtained by subjecting a metal plate to blanking and plastic deformation.

[0027] In particular, the U-shaped portion 28 is arranged in the portion 23a of the jaw 21 and has a flat portion 29 which is perpendicular to the blades 26 and 27 and is crossed by a through hole 30.

[0028] The two blades 26 and 27 are arranged so that the jaw 20 is located therebetween and so that they cooperate with the flaps 24 and 25.

[0029] A screw 31 passes through the through hole 30 and engages a diametrical threaded hole 32 of a cylindrical pivot 33 which is inserted in holes 34 between the wings of the U-shaped portion 23a of the jaw 20.

[0030] The shape of the jaws 20 and 21 causes them to be first-class levers which therefore have a centrally located fulcrum.

[0031] As regards operation, the jaw 20 is arranged outside the radiating panel 12 between two adjacent gaps 16, while the blades 26 and 27 of the jaw 21 are inserted in said gaps 16.

[0032] By tightening the screw 31, the convection lamina 15 is clamped between the blades 26 and 27, which act edgewise, and the flaps 24 and 25.

[0033] It is therefore evident that no stress is induced between the convection lamina 15 and the heating body 14 and that no deformation stress is induced on the lamina 15.

[0034] With reference now to the above-cited Figure 7, in a different constructive embodiment the regions with which the blades 26 and 27 and the flaps 24 and 25 make contact with a convection lamina 15 can be continuously or partially covered with a trim.

[0035] In particular, said trim can be constituted by a U-shaped element which is cut to size and placed so as to straddle the edges of the blades 26 and 27 and of the flaps 24 and 25 so as to form the elements designated by the reference numerals 35, 36, 37 and 38 in Figure 7.

[0036] In practice it has been observed that the intended aim and objects of the present invention have been achieved.

[0037] The invention thus conceived is susceptible of

numerous modifications and variations, all of which are within the scope of the inventive concept.

[0038] All the details may also be replaced with other technically equivalent elements.

[0039] In practice, the materials employed, so long as they are compatible with the contingent use, as well as the dimensions, may be any according to requirements.

[0040] The disclosures in Italian Patent Application No. PD98A000140 from which this application claims priority are incorporated herein by reference.

[0041] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A support for radiating panels comprising an upright with means for resting on the ground or for cantilevered fixing and means for fixing to a radiating panel, characterized in that said upright is adjustable and said means for fixing to the panel comprise two mutually articulated elements which define respective shaped jaws between which a convection lamina can be inserted and locked, said jaws being associated by screw-type fastening means which act at right angles to the articulation axis in a region available to the action of the user and one of said articulated elements being rigidly coupled to said upright.
2. A support according to claim 1, characterized in that said upright is telescopic and constituted by two tubular elements which have a quadrangular cross-section, are inserted in each other and can be mutually locked by means of at least one screw.
3. A support according to claim 1, characterized in that a first jaw of said shaped jaws comprises an elongated element which is constituted by a lamina having an omega-shaped cross-section.
4. A support according to claim 3, characterized in that said first jaw is butt-welded, by means of a U-shaped end portion, to said telescopic upright.
5. A support according to claim 1, characterized in that a second jaw of said shaped jaws is constituted by two parallel blades which are joined by a U-shaped portion at one end, said U-shaped portion having a flat region with a through hole for said screw-type fastening means.
6. A support according to claim 1, characterized in that the mutual articulation of said jaws is provided

by means of a threaded pivot.

7. A support according to claim 4, characterized in that the articulation between said jaws is provided at said U-shaped portion of said first jaw. 5
8. A support according to claim 5, characterized in that said blades of said second jaw cooperate to the fastening action with flaps of said first jaw formed by said omega-shaped cross-section of said first jaw. 10
9. A support according to claim 5, characterized in that said screw-type fastening means comprise a screw which passes through said through hole of said U-shaped element and engages a diametrical threaded hole of a cylindrical pivot which is inserted in holes between the wings of the U-shaped portion of said first jaw. 15
10. A support according to claim 3, characterized in that said first jaw is joined axially to said upright. 20
11. A support according to one or more of the preceding claims, characterized in that the regions by means of which said blades of said second jaw and said flaps of said first jaw make contact with said convection lamina are continuously or discontinuously covered by a trim. 25

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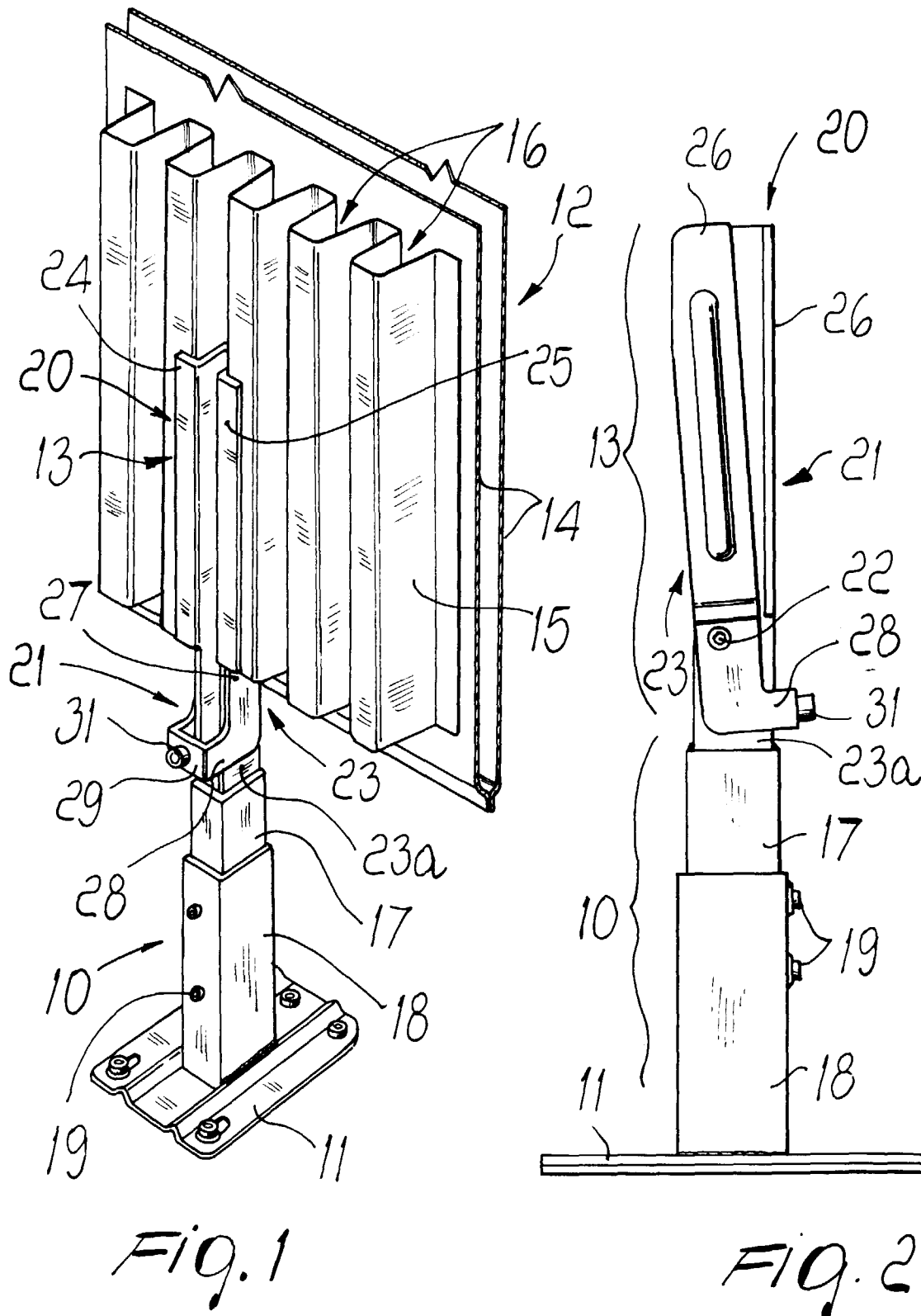
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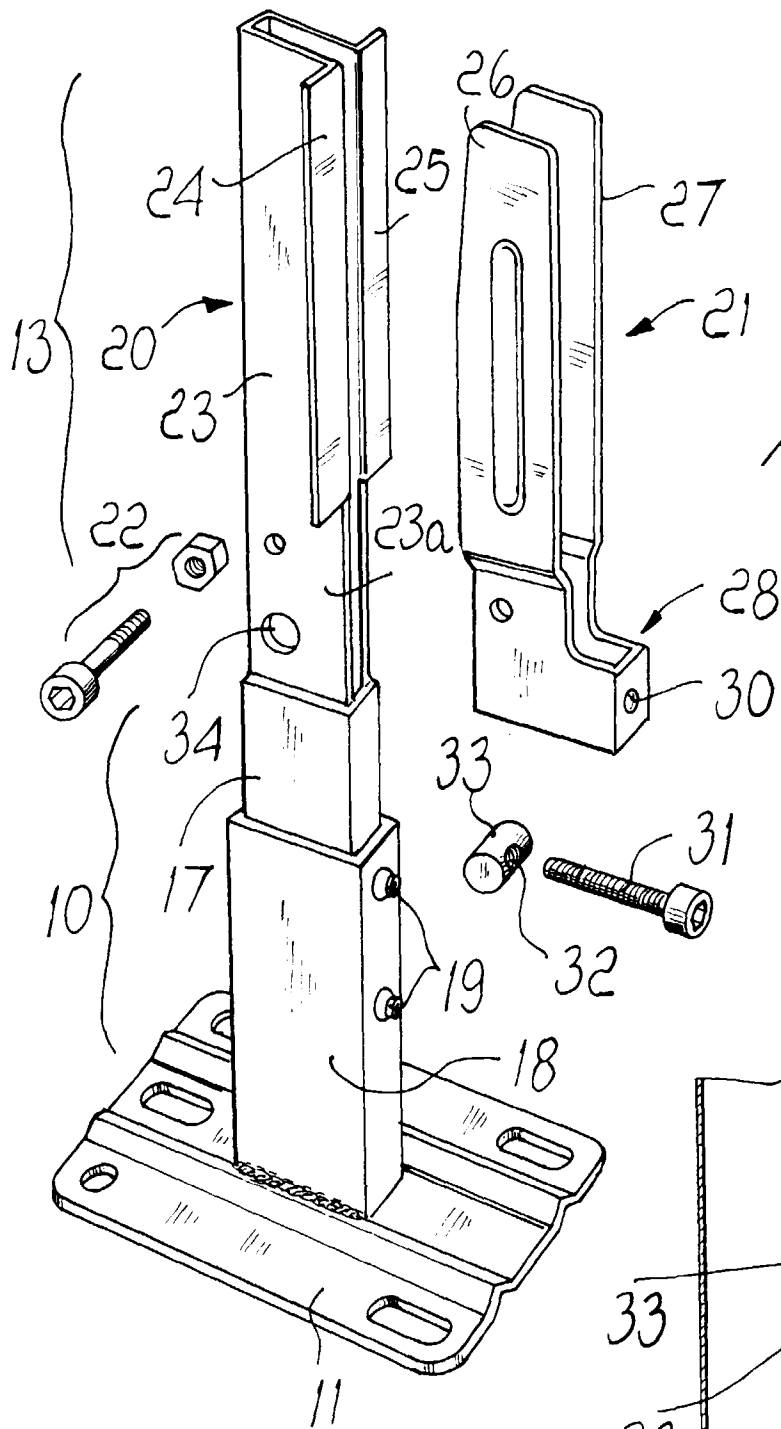


Fig. 3

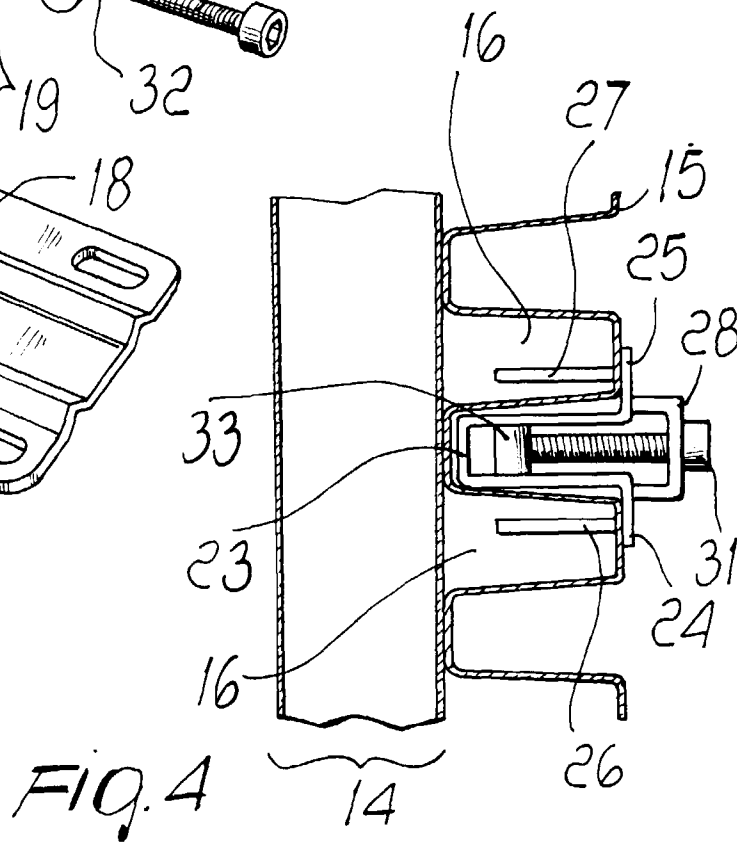


Fig. 4

