CLAIMS

1. Photovoltaic panel fastener (60), capable of cooperating with threaded fasteners to fasten an assembly frame (10) of the photovoltaic panel to a support structure (20), characterised in that the photovoltaic panel fastener comprises:

- a main body (~~11~~61), said main body (~~11~~61) being substantially parallel to a mounting surface (21) of the support structure (20);

- a threaded connector (62), the threaded connector (62) extending perpendicularly to the main body (~~11~~61) and having a passage (622) provided with an inner thread to receive a threaded fastener;

- a pair of clamping elements (63), the pair of clamping elements (63) extending respectively from an end surface of the main body (61) and being disposed along ~~the~~ a first direction and symmetrical with respect to a central axis of the threaded connector (62), so as to be suitable for clamping the assembly frame (10); and

- a pair of support elements (64), the pair of support elements (64) being disposed along ~~the~~ a second direction and symmetrical with respect to the central axis of the threaded connector (62), hence each support element (64) is respectively connected to a clamping element (63) and extends beyond the free end of the clamping element (63) to bear against the mounting surface (21) of the support structure (20), and the second direction is perpendicular to the first direction;~~,~~

wherein the support element (64) is arranged to be substantially in the shape of a U and comprises a first support part (641) extending towards the main body (61),

a second support part (642) for bearing against the mounting surface (21) of the support structure (20), and a support link part between the first support part (641) and the second support part (642), hence the second support part (642) is connected with the clamping element (63) via a bridge in the shape of an arc (65).

2. Photovoltaic panel fastener (60) according to claim 1, wherein the threaded connector (62) and the pair of clamping elements (63) are disposed on the same side of the main body (10), and the pair of support elements (64) are spaced apart so that they do not interfere with the outer circumference of the threaded connector (62); or alternatively the threaded connector (62) and the pair of clamping elements (63) are respectively arranged on both sides of the main body (10), the spacing between the pair of support elements (64) being less than the outer diameter of the threaded fastener.

~~3. Photovoltaic panel fastener (60) according to claim 1, wherein the support element (64) is arranged to be substantially in the shape of a U and comprises a first support part (641) extending towards the main body (61), a second support part (642) for bearing against the mounting surface (21) of the support structure (20), and a support link part between the first support part (641) and the second support part (642), hence the second support part (642) is connected with the clamping element (63) via a bridge in the shape of an arc (65).~~

~~4~~3. Photovoltaic panel fastener (60) according to claim ~~3~~1, wherein the bridge in the shape of an arc (65) is

folded towards the inside from the free end of the clamping element (63) to extend up to the second support part (642).

~~5~~4. Photovoltaic panel fastener (60) according to claim ~~3~~1, wherein the support element (64) is provided with a reinforcing rib (644) extending from the first support part (641) to the second support part (642).

~~6~~5. Photovoltaic panel fastener according to claim 2, wherein the clamping element (63) is provided with a notch (66) to reduce the rigidity of the clamping element (63).

~~7~~6. Photovoltaic panel fastener (60) according to any one of claims 1 to ~~6~~5, wherein the photovoltaic panel fastener (60) can have a first state, called preassembly state, and a second state, called fastening state:
in the first state, the support element (64) and the main body (61) are separated by a first space;
in the second state, the support element (64) bears against the part of the main body (61) under the action of a clamping force.

~~8~~7. Photovoltaic panel fastener (60) according to claim ~~7~~6, wherein the fastening force is applied by screwing the threaded fastener into the connector (62).

~~9~~8. Device for mounting a photovoltaic panel module, comprising an assembly frame (10) for the installation of photovoltaic panels, a support structure and at least one

photovoltaic panel fastener (60) according to any one of claims 1 to ~~8~~ 7, characterised in that:
the assembly frame (10) comprises a frame body (11) and a photovoltaic panel clamping slot (12) provided on an upper part of the frame body (11), and the frame body (11) comprises a cavity (112) provided with an opening (111) for receiving the photovoltaic panel fastener (60);
a pair of clamping elements (63) of the photovoltaic panel fastener (60) are configured to be stopped against an inner stop surface (114) when they are inserted into the cavity via the opening (111)~~slot (12)~~,
wherein the clamping element (63) and the inner stop surface (114) are separated by a second space (d2) in the preassembly state, and the clamping elements (63) bear against the inner stop surface (114) under the action of the clamping force in the fastening state.

~~10~~9. Mounting device according to claim ~~9~~8, wherein the support structure (20) is provided with a mounting hole (22) that corresponds to the opening (111)~~slot (12)~~, so that the threaded fastener can be coupled with the threaded connector (62) while passing through the mounting hole (22) and the opening (111)~~slot (12)~~, hence the fastening force is applied by screwing of the threaded fastener by the support structure (20) into the threaded connector (62) of the photovoltaic panel (60).

~~11~~10. Mounting device according to claim ~~9~~8, wherein the support (64) of the photovoltaic panel fastener (60) has a width that is less than or equal to that of opening (111)~~the slot (12)~~.