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(54) **Safety device adapted to operate as a supporting base for electronic or electromechanic panels to be installed at perimetrical areas for sports or public demonstration grounds or fields**

(57) A safety device adapted to operate as a supporting base for electronic or electromechanic panels to be installed at perimetrical areas of sports or public demonstration grounds or fields comprises a coupling element, applied to the panel or forming a portion thereof,

said coupling element being coupled to a bearing base through a pivot pin allowing said coupling element to rotate; as counter-biased by a resilient element, applied between the bearing base and the coupling element connecting the base to the panel.

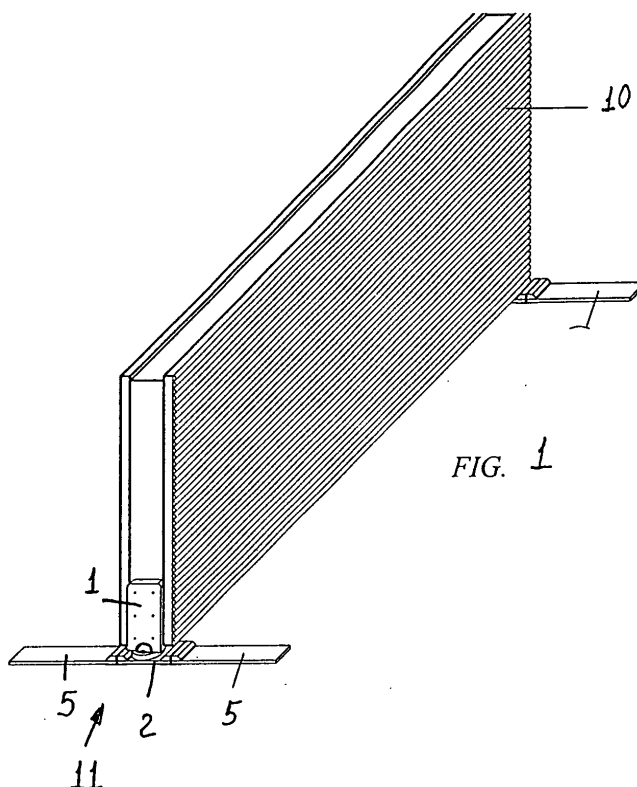


FIG. 1

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Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to a safety device adapted to operate as a supporting base for electronic or electromechanic panels to be installed at perimetrical areas of sports or public demonstration grounds or fields.

[0002] More specifically, the present invention relates to a device for supporting advertisement panels or boards in general.

[0003] As is known, these advertisement panels or boards are usually installed at perimetrical areas of sports or public demonstration grounds or fields.

[0004] Also known is the fact that the installation of apparatus near perimetrical areas of sports grounds and the like, frequently generates problems since the mentioned panels are very dangerous for the players who can impact thereagainst.

[0005] These dangers are further increased as the mass of the advertisements panels increases.

[0006] Furthermore, the above mentioned advertisement panels and the like, are also susceptible to be dangerous for the spectators of the sports events who, in panic conditions, could move without control to impact against the apparatus or panels installed at the perimetrical areas of the playing grounds.

[0007] Finally, a further problem to be solved, specifically in the case of advertisement panels or boards, is that to change their vertical arrangement to a slanted arrangement, depending on the position of the spectators or of the TV cameras.

[0008] Such an attitude changing operation must be frequently performed in a very quick and simple manner.

[0009] The above mentioned drawbacks occur mainly due to the fact that existing apparatus and, specifically, mechanical, electromechanic and electronic panels do not comprise cushioning devices having the required resilient or elastic properties.

SUMMARY OF THE INVENTION

[0010] Accordingly, the aim of the present invention is to overcome the above mentioned drawbacks, by providing a safety device adapted to operate as a supporting base for electronic or electromechanic panels to be installed at perimetrical areas of sports or public demonstration grounds or fields.

[0011] Within the scope of the above mentioned aim, a main object of the present invention is to provide such a safety device which is specifically designed for safely supporting the panels on the ground, the safety device including safety means adapted to provide the players with good safety features even if they would impact at a high rate against a panel.

[0012] A further object of the present invention is to provide such a safety device which can vertically swing,

in a substantially resilient manner, to absorb possible impacts while safely returning, after having absorbed the impact, to the starting rest position thereof.

[0013] Yet another object of the present invention is to provide such a safety device which comprises an articulated base having elastic supporting properties.

[0014] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects, which will become more apparent hereinafter, are achieved by a safety device adapted to operate as a supporting base for electronic or electromechanic panels to be installed at perimetrical areas of sports or public demonstration grounds or fields, characterized in that said safety device comprises a coupling element, adapted to be applied to a panel or forming a portion of said panel, said coupling element being connected to a bearing base through a pivot pin allowing said coupling element to rotate, as counter-biased by a resilient element arranged between the base and the coupling element arranged between said base and panel.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The above mentioned and yet other characteristics of the present invention will become more apparent from the following disclosure of a preferred embodiment of the safety device according to the present invention, with reference to the figures of the accompanying drawings, where:

Figure 1 is a side perspective view illustrating the safety device according to the present invention, applied to an electronic, electromechanic or mechanic panel;

Figures 2, 3 and 4 represent, by cross-sectioned side views, the safety device according to the present invention applied to a panel, as seen from a side, thereby clearly illustrating possible swinging movements the panel can be subjected to, in a case of accidental impacts;

Figure 5 is a top side perspective view illustrating a coupling element between the base of the safety device and the panel, as well as the several component elements forming the safety device and adapted to cushion the panel;

Figures 6 and 7 are respectively a side view and a top plan view showing the safety device according to the present invention;

Figures 8 and 9 are further side cross-sectioned views illustrating the safety device according to the present invention, as seen from a side thereof to clearly show a possible movement which can be performed by the coupling element coupling the base and the panel; said coupling element being shown in figure 8 at a substantially vertical position, and being shown in figure 9 at slanted position; and

Figure 10 illustrates the safety device according to the present invention and the panel as the latter, under the impact of the spectators, is tilted or overturned.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0016] With reference to the number references of the figures of the accompanying drawings, the safety device according to the present invention comprises a coupling element 1, arranged between its base and a panel 10.

[0017] Said coupling element 1 is coupled to the base 11 by a cylindric coupling pin 3, which can turn with respect to said base 11.

[0018] The coupling element 1 has a plate-like configuration and is made of a metal material.

[0019] Said coupling element can also have different shapes, depending on the configurations of the panels to which the base of the device is applied.

[0020] In this connection it should be also apparent that the coupling element can also be made of a plastic material.

[0021] Moreover, the bottom side of the coupling element can be slightly inclined, if it is desired to change the inclination of the panel.

[0022] The base 11 comprises a central portion 2, made of a metal or plastic materials, and including a perforated flange, coupled by a coupling pin 3 to the element 1.

[0023] The coupling pin or peg 3 connects the two elements 1 and 2 which comprise a plurality of holes, so as to allow the plate 1 to rotate with respect to the base 11.

[0024] The safety device according to the present invention comprises moreover a resilient element 4, preferably made of a plastic material, which is shaped as a circular crown and operates as a spring.

[0025] This resilient or elastic element is arranged between the elements 1 and 2 and prevents one of said elements from rotating with respect to the other.

[0026] Such a counter-biasing is of resilient nature, and it will be stronger as the strength of the resilient element increases.

[0027] Thus, a suitable calibration of the resilient element 4 would allow to change the elastic properties of the system to fit said system to all the situations.

[0028] In this connection it should be pointed out that as the inclination of the panel must be changed, then the top surface of the resilient element 4 will be so machined as to have a given inclination with respect to the bottom side of the coupling element 1 connecting the base 11 and panel 10.

[0029] The safety device according to the present invention comprises moreover stabilizer elements 5, which constitute an integrating part of the base 11.

[0030] The stabilizer elements 5, cooperating for forming said base 11, comprise a metal or plastic mate-

rial plate.

[0031] The base 11 is constituted by the stabilizer element 5 and by the base central portion 2, said components being pivoted to one another by hinges 6.

[0032] Said hinges 6 are applied to the bottom portions of the plates 2 and 5 and operate to connect said plates, so as to allow them to be mutually rotated.

[0033] The hinges 6, in particular, allow the stabilizer elements 5 to rotate through 180° only in a direction.

[0034] Said stabilizer elements 5, in normal conditions, provide the base with the desired stability, since they cannot upward rotate.

[0035] However, if the panel would fall, then would be folded.

[0036] The length of said stabilizer elements would depend on the stability desired for the panel supporting system.

[0037] In this connection it is to be pointed out that if the panel is arranged with an inclined arrangement, i.e. if its center of mass mainly affects only a stabilizer element 5, then the other stabilizer element 5 could be omitted.

[0038] In a preferred embodiment of the safety device according to the present invention, the safety device comprises resilient elements 7 made of a synthetic or plastic materials.

[0039] Said resilient elements 7 are arranged between the elements 2 and 5 and operate to provide a desired -small elasticity to the connection between the components of the base.

[0040] Such an elasticity will be transmitted to the panel, as the latter is subjected to an impact force.

[0041] The above mentioned resilient elements 7, moreover, facilitate the rotation of the elements 5 with respect to the central portion of the base 2, in a case of a lacking of the ground counter-pressure, i.e. if the panel would be overturned.

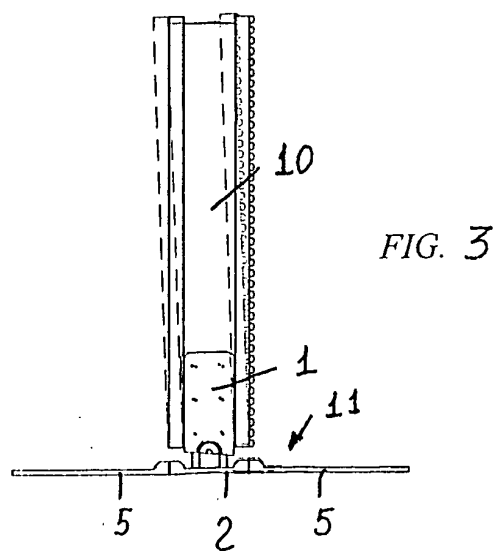
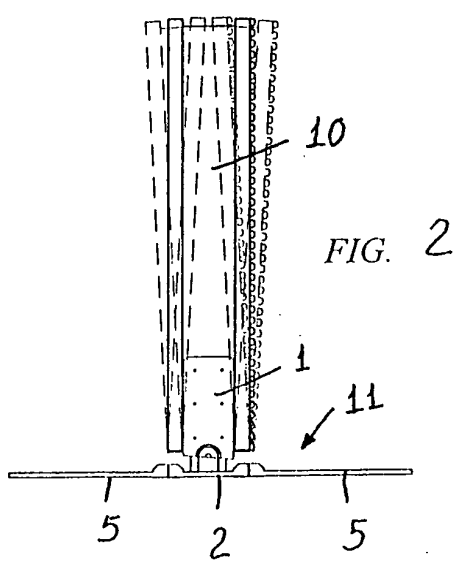
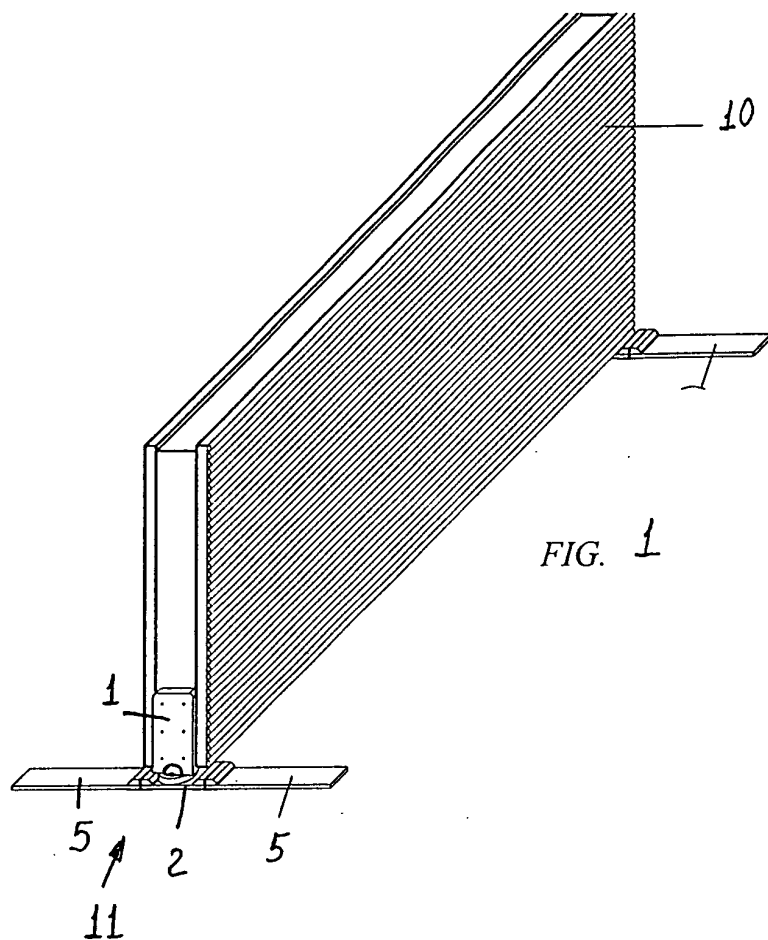
[0042] While the safety device of the present invention has been disclosed with reference to a preferred embodiment thereof, it should be apparent that the disclosed embodiment is susceptible to several modifications and variations, all of which will come within the scope of the invention.

Claims

1. A safety device adapted to operate as a supporting base for electronic or electromechanic panels to be installed at perimetrical areas of sports or public demonstration grounds or fields, **characterized in that** said safety device comprises a coupling element, adapted to be applied to a panel or forming a portion of said panel, said coupling element being connected to a bearing base through a pivot pin allowing said coupling element to rotate, as counter-biased by a resilient element arranged between the base and the coupling element arranged be-

tween said base and panel.

2. A safety device, according to Claim 1, **characterized in that** said safety device comprises a coupling element, applied to the base of said safety device and said panel, said coupling element comprising a cylindric pin allowing said panel to rotate with respect to said base.
3. A safety device, according to one or more of the preceding claims, **characterized in that** said coupling element coupling said base and panel has a plate-like configuration and is made of a metal or plastic material.
4. A safety device, according to one or more of the preceding claims, **characterized in that** said coupling element has an inclined bottom surface.
5. A safety device, according to one or more of the preceding claims, **characterized in that** the central portion of said base is made of a metal or plastic material and comprises a perforated flange coupled, by a coupling pin, to the coupling element connecting said base and panel.
6. A safety device, according to one or more of the preceding claims, **characterized in that** said coupling element and said base central portion comprise a plurality of holes receiving cylindric pins allowing said coupling element and base central portion to mutually rotate.
7. A safety device, according to one or more of the preceding claims, **characterized in that** said safety device comprises moreover a resilient element, preferably made of a plastic material, having the shape of a circular crown.
8. A safety device, according to one or more of the preceding claims, **characterized in that** said resilient element has a top portion having a circular crown shape and which can be inclined with respect to the bottom side of said coupling element coupling said base and panel.
9. A safety device, according to one or more of the preceding claims, **characterized in that** said base comprises side stabilizer elements, comprising a metal or plastic material plate, and pivoted to a central element of said base, by pivoting hinges.
10. A safety device, according to one or more of the preceding claims, **characterized in that** said hinges are arranged at the bottom portion of said stabilizer elements thereby allowing said stabilizer elements to rotate, with respect to said base central portion, through 180° only in a direction.
11. A safety device, according to one or more of the preceding claims, **characterized in that** said safety device comprises a single stabilizer element.
12. A safety device, according to one or more of the preceding claims, **characterized in that** said safety device comprises a plurality of plastic material elastic element arranged between the adjoining vertical side walls defined by said base central portion and stabilizer elements.
13. A safety device, according to one or more of the preceding claims, **characterized in that** said safety device comprises a ground bearing element, formed by two or three portions, coupled by coupling hinges allowing an unidirectional rotation of said ground bearing elements, only as said panel is overturned.
14. A safety device adapted to operate as a supporting base for electronic or electromechanic panels to be installed at perimetrical areas of sports or public demonstration grounds or fields, according to one or more of the preceding claims, and substantially as broadly disclosed and illustrated in the preceding disclosure and in the figures of the drawings accompanying the present Industrial Invention Patent Application.



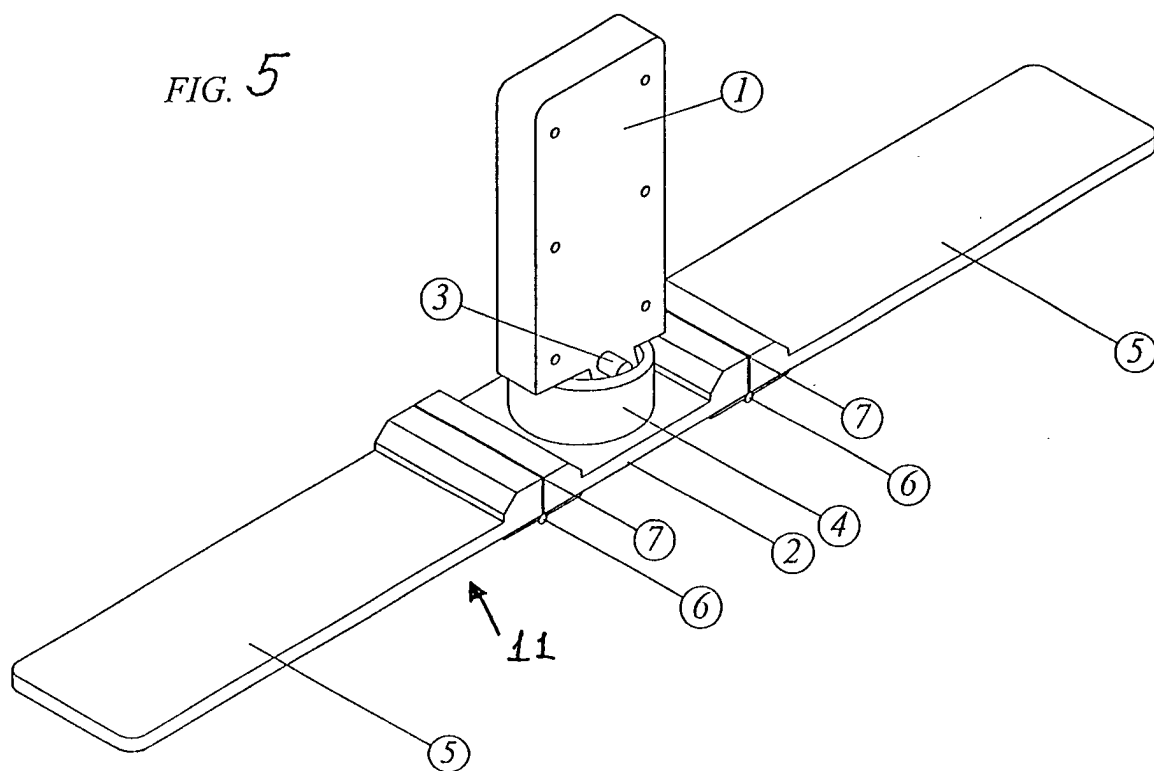
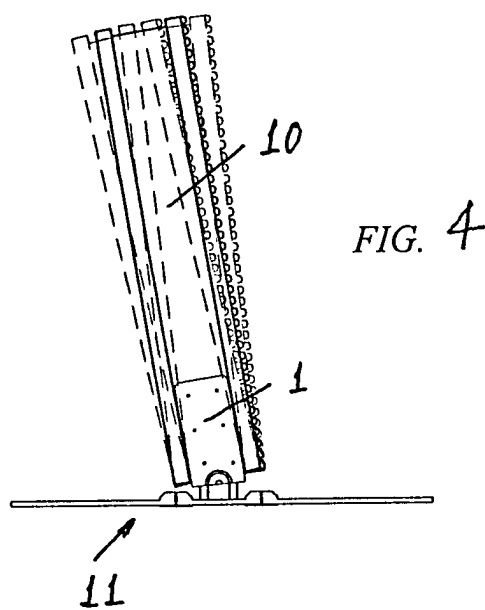


FIG. 6

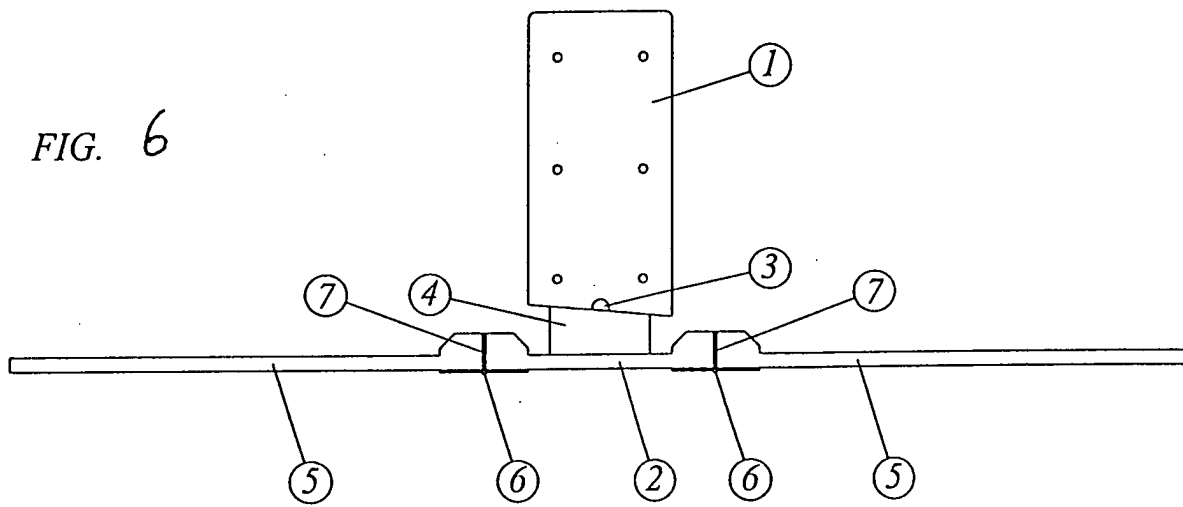


FIG. 7

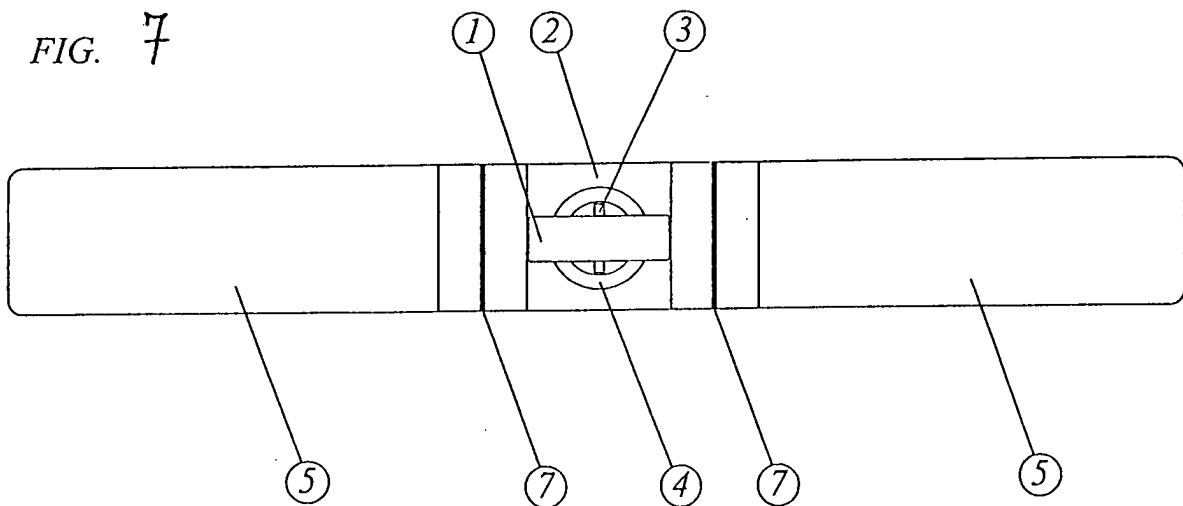


FIG. 8

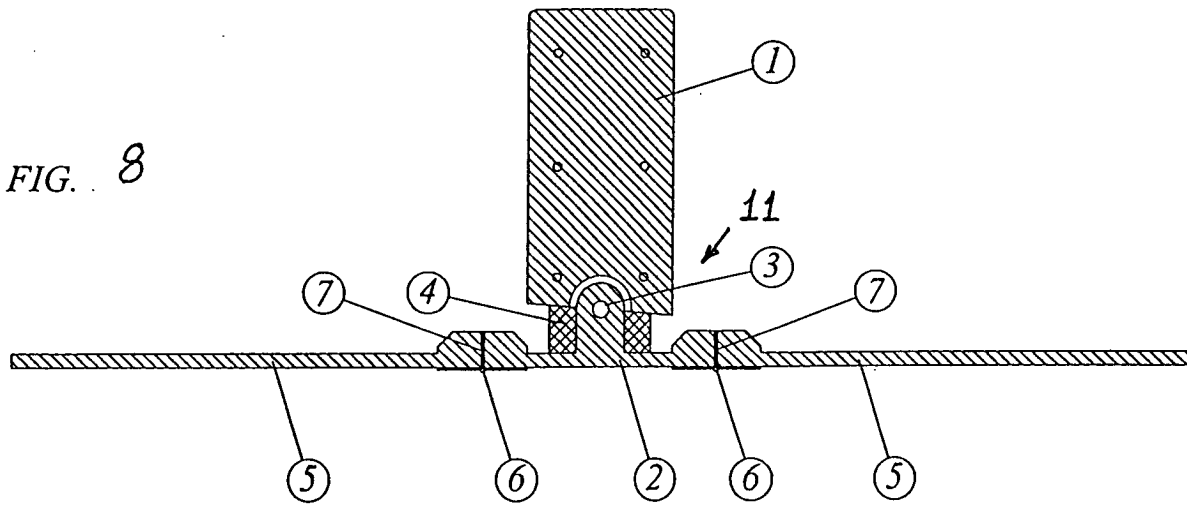
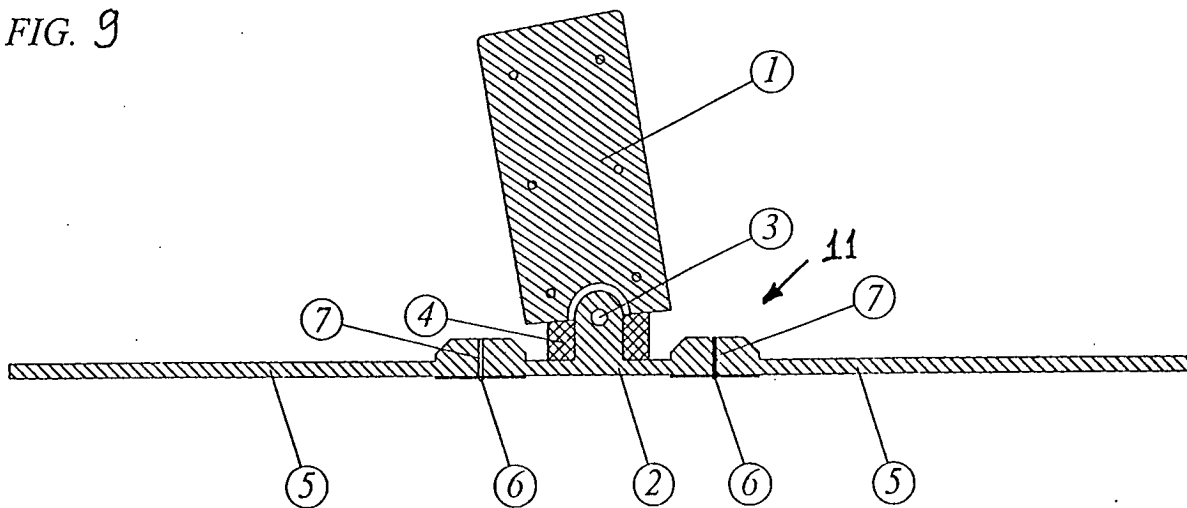


FIG. 9



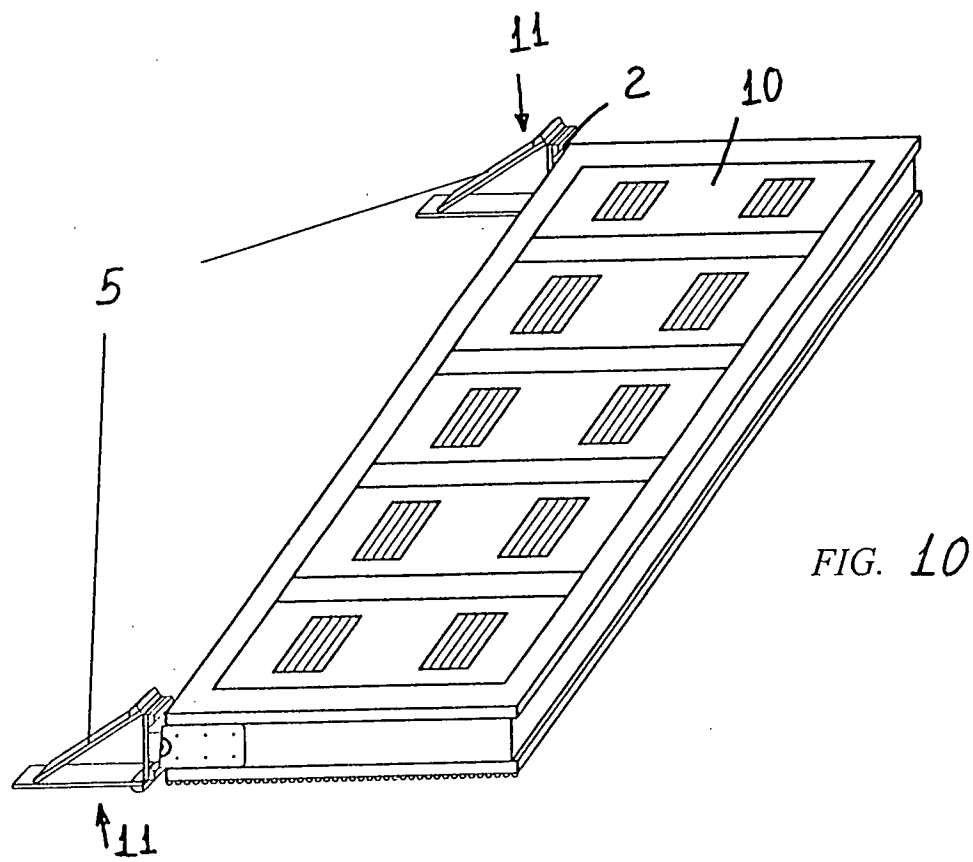


FIG. 10