(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 1 862 994 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
05.12.2007 Bulletin 2007/49

(51) Int Cl.:
G09F 15/00 *(2006.01)*

(21) Application number: **07109128.4**

(22) Date of filing: **29.05.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(30) Priority: **30.05.2006 IT UD20060137**

(71) Applicant: **Publiremor S.n.c. Di Remor Tiziano & C.**
30037 Gardigiano di Scorzè (VE) (IT)

(72) Inventors:
- **Remor, Tiziano**
  30037, Scorzè (VE) (IT)
- **Simionato, Mauro**
  30033, Noale (VE) (IT)

(74) Representative: **Petraz, Gilberto Luigi et al**
GLP S.r.l.
Piazzale Cavedalis 6/2
33100 Udine (IT)

(54) **Support device for information panels**

(57) Support device (10) for information panels (11) comprising a bearing structure (13) provided with an external wall (15) on which the information panels (11) are positioned, and clamping means (16) associated with the external wall (15) to keep the information panels (11) in a determinate display condition. The clamping means (16) comprises at least a first part (17) fixed with respect to the external wall (15), and a second part (19) movable with respect to the external wall (15) and associated with the first part (17) by elastic means (20), so as to be able to be moved between a first clamping position in which it contacts the information panel (11) and keeps it pressed against the external wall (15), and a second position of non-interference in which the second part (19) does not contact the information panel (11), allowing it to be removed from the external wall (15).

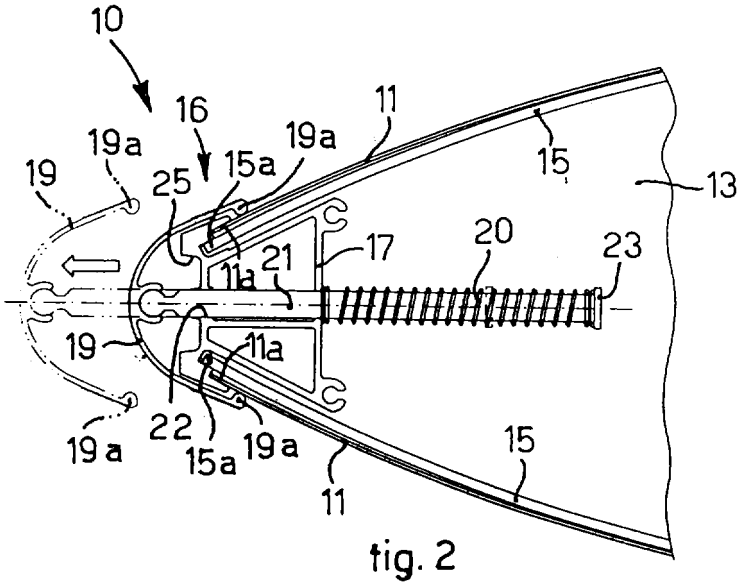

fig. 2

EP 1 862 994 A2

Description

FIELD OF THE INVENTION

[0001] The present invention concerns a support device for information panels, for example able to divulge advertising images and/or messages, technical and/or artistic cards, countryside and/or urban information, or other types of information. In particular, the support device according to the present invention develops substantially upwards in the form of a totem and is able both to support externally one or more information panels, in a stable and secure manner, and also allows to remove them easily and efficiently when they need to be replaced.

BACKGROUND OF THE INVENTION

[0002] Support devices for information panels are known, such as advertising billboards or suchlike, which have a supporting base from which a bearing structure in the shape of a totem extends upwards.

[0003] The bearing structure of this type of known support devices normally has a substantially elliptical cross section, so as to have externally two arched and opposite lateral surfaces, on which the information panels are stably clamped.

[0004] The clamping of the information panels on these surfaces is generally achieved by means of a metal frame associated with the respective edges of the two external surfaces, and able to overlap peripherally, with its retaining parts, the respective information panels so as to keep them stably close to the bearing structure.

[0005] In the state of the art, substantially two types of frame are known, that is:

- a first type of frame, more common, in which the retaining parts are attached on the whole perimeter of the respective external surface of the bearing structure, by means of attachment screws, shaped profiles or other iron work members; and
- a second type of frame, less common in totem-type support devices, in which the retaining parts are elastically pivoted along the reciprocal join edges between the two lateral walls, and are able to be selectively rotated in snap-in manner between a first condition of interference, in which they adhere to the external surface of the bearing structure and grip the advertising panel, and a second condition of non-interference in which they are raised from the external surface and allow to remove the advertising panel.

[0006] The first type of known frames, however, needs specialized workers and specific tools to replace the information panels displayed, thus requiring relatively long intervention times and hence entailing poor flexibility of use of the support device.

[0007] The second type of known frames, on the contrary, has very high production costs, due above all to the design and production of complex elastic pivoting mechanisms which allow the retaining parts to move in snap-in manner with respect to the rest of the frame.

[0008] Moreover, this type of known frame does not guarantee a secure and functional clamping of the panels to the support device, since the elastic pivoting mechanisms act mainly by applying an elastic moment which, also due to the limited sizes of the parts, is not always sufficient to guarantee over time the correct positioning of the panels.

[0009] Purpose of the present invention is to achieve a support device for information panels which is simple and economical to make, which allows a functional and long-lasting clamping of the information panels, and which allows the latter to be removed and replaced easily without needing any tool and/or intervention of specialized workers.

[0010] The Applicant has devised, tested and embodied the present invention to overcome the shortcomings of the state of the art and to obtain these and other purposes and advantages.

SUMMARY OF THE INVENTION

[0011] The present invention is set forth and characterized in the independent claims, while the dependent claims describe other characteristics of the invention or variants to the main inventive idea.

[0012] In accordance with the above purpose, a support device for information panels according to the present invention comprises a bearing structure provided with at least an external wall on which the information panels are positioned, and clamping means associated with the external wall, and able to keep the information panels in a determinate display condition.

[0013] According to a characteristic feature of the present invention, the clamping means comprises a first part which is fixed with respect to the external wall, and a second part selectively movable with respect to the external wall and connected by elastic means to the first part, so that it can be moved with respect to the latter between a first clamping position, or position of interference, in which it contacts the information panel, keeping it pressed against the external wall, and a second free position, or position of non-interference, in which the second part is at least partly distanced from the first part and no longer contacts the information panel, allowing the latter to be removed from the external wall.

[0014] The first part is advantageously housed, at least partly, inside the bearing structure.

[0015] With the present invention therefore, the movement of the second part with respect to the first part occurs due to a reciprocal distancing, and therefore without needing to provide complex and expensive pivoting mechanisms.

[0016] Advantageously, the second part is movable with respect to the first part along an axis of movement

substantially parallel or transverse to the bearing structure, and the elastic means used is of the axial compression type, and is disposed substantially parallel to the axis of movement of the second part with respect to the first, so as to keep the second part normally in its first position of interference.

[0017] In this way, the elastic means acts in a rotational manner or in an axial manner, not rotational, parallel to the direction of movement of the second part, actuating a uniform distribution of the retaining forces in the first position of interference.

[0018] Preferably, but not restrictively, the elastic means acts along a direction substantially coaxial to the axis of movement of the second part.

[0019] The solution according to the present invention, which is mechanically more advantageous than known solutions, allows to use an elastic means, such as for example a helical spring, which, given the same structural characteristics, applies a greater elastic force than the moment exerted by the torsion springs of known pivoting mechanisms, hence improving the clamping efficiency and functioning of the support device thus achieved.

[0020] Moreover, to pass from the first to the second position, the user simply has to draw the second part outwards, overcoming the force of the elastic means, without needing to use any tool or the intervention of specialized workers. Releasing the second part, the elastic means returns it to its first position of interference, retaining the information panel in close proximity with the external wall of the bearing structure.

[0021] This advantage allows to make the use of the support device particularly flexible, since it can be quickly and easily set up and changed, even in a few minutes.

[0022] In one form of embodiment of the present invention, the first part comprises at least a positioning seating able to cooperate with the second part in a determinate constraint condition, when the latter is in its second position of non-interference.

[0023] In this way, the first part stabilizes and keeps the positioning of the second part in the second position, in order to facilitate for the user the conditions of removal and possible replacement of the information panels. Releasing the second part from the positioning seating, the elastic means elastically returns the second part to its first position of interference.

[0024] The method according to the present invention comprises a first step of positioning the information panel on the external wall and a second step of clamping at least the lateral edges of the information panel against the external wall by means of clamping means associated to the lateral sides of the bearing structure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] These and other characteristics of the present invention will become apparent from the following description of a preferential form of embodiment, given as a non-restrictive example with reference to the attached drawings wherein:

- fig. 1 shows a support device for information panels according to the present invention;
- fig. 2 shows a cross section of the support device in fig. 1, in a first operating position;
- fig. 3 shows a cross section of the support device in fig. 1, in a second operating position.

DETAILED DESCRIPTION OF A PREFERENTIAL FORM OF EMBODIMENT

[0026] With reference to the attached drawings, a support device 10 according to the present invention is in this case of the type commonly called a totem, and is able to support externally two advertising panels 11, or any other type of information panel. Each panel 11 has two lateral and vertical edges 11a.

[0027] In particular, the support device 10 according to the invention comprises a supporting base 12, substantially horizontal, and a bearing structure 13 connected to the supporting base 12 and developing substantially upwards.

[0028] The bearing structure 13, in this case, has a substantially elliptical cross section, and consists of two external walls 15, arched, on which two advertising panels 11 are able to be positioned. The two external walls 15 are reciprocally connected with each other by two clamping mechanisms 16, associated with the lateral and vertical sides 15a of the two external walls 15.

[0029] As will be explained in detail hereafter, the clamping mechanisms 16 define at least a clamping condition in which, in a stable and secure manner, they keep the advertising panels 11 in close proximity with the respective external walls 15.

[0030] Each clamping mechanism 16 comprises a first profile 17 attached to the lateral sides 15a of the two external walls 15, substantially along their whole height, and a second profile 19 mounted sliding on the first profile 17, by means of a sliding rod 21.

[0031] The first profile 17 is disposed inside the bearing structure 13, is advantageously made of metal, for example aluminum, and has a cross section of a substantially trapezoid shape, with a structural function for the entire support device 10.

[0032] The second profile 19 is disposed outside the bearing structure 13, is also made of metal, such as aluminum or other light metal, and has a substantially C-shaped cross section defining two gripping edges 19a.

[0033] The second profile 19 is normally disposed in a first position of interference (shown in a continuous line in fig. 2), in which it sits astride the first profile 17 and is able to contact under pressure, with its gripping edges 19a, the lateral edges 11 a of the advertising panels 11 along their whole height, keeping them in close proximity with the relative external walls 15.

[0034] The second profile 19 is also able to be selectively distanced from the first profile 17, until it reaches a second position of non-interference (discontinuous line in fig. 2), in which its gripping edges 19a do not contact the advertising panels 11, thus allowing to easily remove the latter from the relative external walls 15.

[0035] The clamping mechanism 16 also comprises a plurality of axial compression helical springs 20, distributed on the height inside the bearing structure 13.

[0036] Each helical spring 20 is coaxially associated with a relative one of the sliding rods 21 of the second profile 19, and cooperates with the first profile 17 to keep the second profile 19 normally in its first position of interference.

[0037] With the present invention it is therefore possible to take the second profile 19 from the first to the second position simply by pulling the second profile 19 towards the outside, overcoming the axial resistance normally exerted by the helical spring 20.

[0038] In this case, each sliding rod 21 is slidingly inserted inside a through hole 22 of the first profile 17, and is oriented in a direction transverse and central with respect to the bearing structure 13, so as to define an axis of movement X, in this case substantially rectilinear, along which the second profile 19 is moved with respect to the first profile 17.

[0039] The sliding rod 21 also comprises, at an end inside the bearing structure 13, a compression bracket 23 which determines the axial compression of the helical spring 20 against the first profile 17, during the movement of the second profile 19.

[0040] In this case, the first profile 17 comprises a positioning seating 25 open towards the outside, while the sliding rod 21 is hinged to an internal surface of the second profile 19.

[0041] In this way, as shown in fig. 3, starting from the second position of non-interference (shown here by a continuous line), the second profile 19 is first rotated with respect to the sliding rod 21 and then released so as to allow the helical spring 20 to draw the second profile 19 axially until it takes one of its gripping edges 19a inside the positioning seating.

[0042] This advantageous solution allows to stabilize the positioning of the second profile 19, substantially in its second position of non-interference, so as to further facilitate the operations to remove the advertising panels 11 from the external walls 15.

[0043] It is clear, however, that modifications and/or additions of parts may be made to the support device 10 for panels as described heretofore, without departing from the field and scope of the present invention.

[0044] For example, it comes within the field of the present invention to provide that the bearing structure 13 consists of a single external wall 15 bent circularly so as to define a substantially cylindrical cross section of the bearing structure 13. In this case a single clamping mechanism 16 can be provided, having its first profile 17 fixed to both the lateral sides 15a of the single external wall 15 provided.

[0045] It also comes within the field of the present invention to provide that the sliding coupling between rod 21 and through hole 22 defines an axis of movement X transverse to the bearing structure 13, but with a curvilinear development, while the helical spring 20 is in any case compressed axially during the movement of the second profile 19.

[0046] According to another variant, the sliding rod 21 can be replaced by a telescopic element with the axial compression helical spring 20 disposed inside it.

[0047] According to another variant, two or more helical springs 20 and/or two or more sliding rods 21 can be provided, disposed substantially parallel to said axis of movement X.

[0048] It is also clear that, although the present invention has been described with reference to specific examples, a person of skill in the art shall certainly be able to achieve many other equivalent forms of support device for information panels, having the characteristics as set forth in the claims and hence all coming within the field of protection defined thereby.

Claims

1. Support device for information panels (11) comprising a bearing structure (13) provided with at least one external wall (15) on which said information panels (11) are able to be positioned, and clamping means (16) associated with said external wall (15) and able to keep said information panels (11) in a determinate display condition, **characterized in that** said clamping means (16) comprises at least a first part (17) fixed with respect to said external wall (15), and a second part (19) movable with respect to said external wall (15) and associated with said first part (17) by elastic means (20), so as to be able to be moved between a first clamping position in which said second part (19) contacts said information panel (11) and keeps said information panel (11) pressed against said external wall (15), and a second position of non-interference in which said second part (19) does not contact said information panel (11), allowing said information panel (11) to be removed from said external wall (15).

2. Device as in claim 1, **characterized in that** said first panel is at least partly housed inside said bearing structure (13).

3. Device as in claim 1 or 2, **characterized in that** said second position is obtained by distancing said second part (19) from said first part (17).

4. Device as in any claim hereinbefore, **characterized in that** said second part (19) is movable with respect to said first part (17) along an axis of movement (X)

substantially parallel or transverse to said bearing structure (13).

5. Device as in any claim hereinbefore, **characterized in that** said elastic means (20) is of the axial compression type and is disposed substantially parallel to the axis of movement of said second part (19), in order to keep said second part (19) normally in said first clamping position.

6. Device as in claim 4, **characterized in that** said elastic means (20) is disposed substantially coaxial with said axis of movement (X).

7. Device as in claim 4 or 6, **characterized in that** said axis of movement (X) is substantially central to said bearing structure (13).

8. Device as in claim 4, 6 or 7, **characterized in that** said axis of movement (X) is substantially rectilinear.

9. Device as in any claim hereinbefore, wherein said bearing structure (13) comprises a substantially elliptical cross section having two external walls (15), **characterized in that** said clamping means (16) reciprocally connects said two external walls (15) with each other from opposite sides.

10. Device as in any claim hereinbefore, **characterized in that** said first part comprises a first profile (17) made of metal and having a substantially trapezoid cross section with a structural function for said bearing structure (13).

11. Device as in any claim hereinbefore, **characterized in that** said second part comprises a second profile (19) made of metal and having a substantially C-shaped cross section and defining two gripping edges (19a) able to contact under pressure said information panels (11) at least in said first clamping position.

12. Device as in any claim hereinbefore, **characterized in that** said elastic means comprises at least an axial compression helical spring (20).

13. Device as in claim 4, **characterized in that** it further comprises at least a sliding rod (21) mounted sliding on said first part (17) and associated with one end to said second part (19) in order to guide the movement of said second part (19) along said axis of movement (X).

14. Device as in claims 12 and 13, **characterized in that** said helical spring (20) is disposed substantially coaxial to said sliding rod (21).

15. Device as in claim 14, **characterized in that** said sliding rod (21) further comprises, at one end, a compression bracket (23) able to determine the axial compression of said helical spring (20) against said first part (17), during the movement of said second part (19).

16. Device as in any claim hereinbefore, **characterized in that** said first part (17) comprises at least a positioning seating (25) able to cooperate with said second part (19) so as to define a determinate condition of stabilization, when said second part (19) is in said second position of non-interference.

17. A method to show information contained in an information panel (11) by means of support device which comprises a bearing structure (13) provided with at least one external wall (15), **characterized in that** it comprises a first step of positioning said information panel (11) on said external wall (15) and a second step of clamping at least the lateral edges (11 a) of said information panel (11) against said external wall by means of clamping means (16) associated to the lateral sides (15a) of said bearing structure (13).

18. A method as in claim 17, **characterized in that** said clamping means (16) comprises at least a first part (17) fixed with respect to said external wall (15), and a second part (19) movable with respect to said external wall (15) and associated with said first part (17) by elastic means (20), so as to be able to be moved between a first clamping position in which said second part (19) contacts said information panel (11) and keeps said information panel (11) pressed against said external wall (15), and a second position of non-interference in which said second part (19) does not contact said information panel (11), allowing said information panel (11) to be removed from said external wall (15).

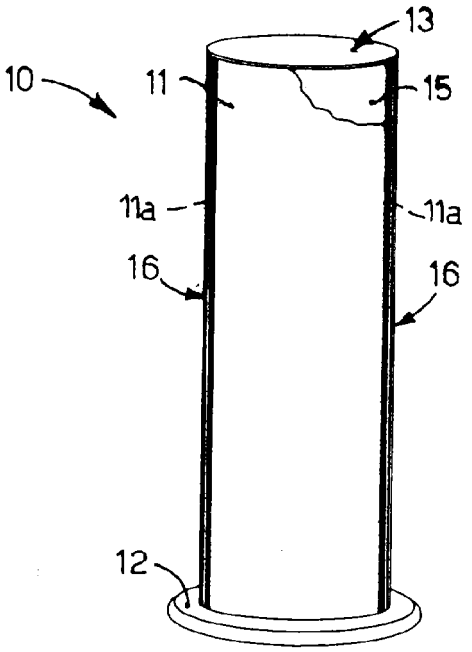

fig. 1

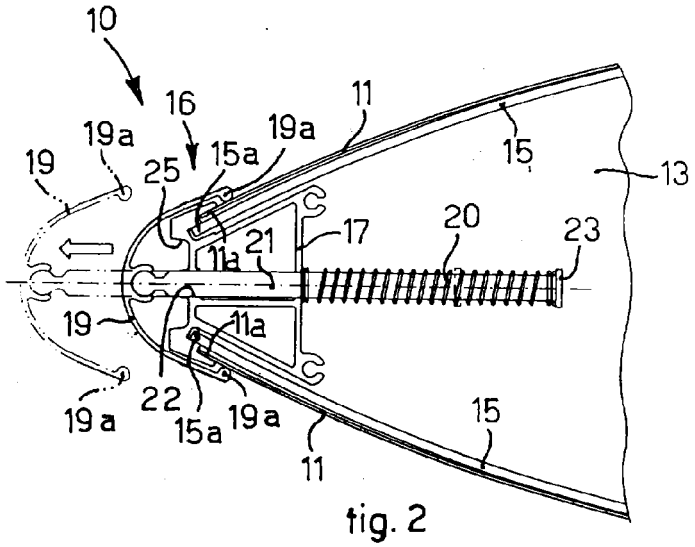

fig. 2

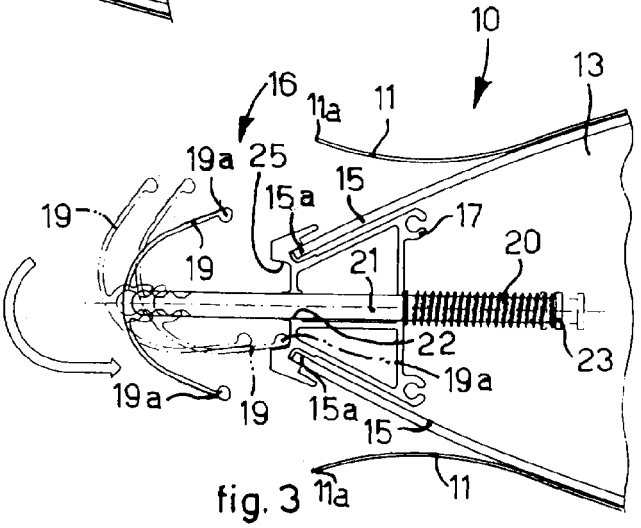

fig. 3