

TITLE

PANELS, RACEWAYS AND RACEWAY SUPPORTS

FIELD OF THE INVENTION

[0001] The present invention relates to raceways in panels. In particular, although not exclusively, the invention relates to panels comprising raceways, raceway supports and raceway support arrangements.

BACKGROUND TO THE INVENTION

[0002] Raceways are installed in panels to allow the running of wires and cables through the panel for organization and wire management purposes. Raceways also allow sockets and other electrical features to be installed within the panel and are typically used in office panel systems. Raceways typically comprise a raceway housing with hinged or otherwise openable raceway covers on both sides of the panel to allow access to the wires and sockets from both sides of the panel. The raceway covers are typically curved or bulbous in shape to provide the space needed within the raceway for the wires and the mounting of the sockets. The raceway covers therefore protrude from the panel on both sides of the panel.

[0003] One problem with raceway arrangements in the prior art is that the protrusion of the raceway covers from the panel limits how close a customer can place a panel, for example in an office panel system, next to a wall or other structure. Therefore, space is lost because of the protruding raceway cover and the often substantial gap between the panel and the wall or other structure can appear unsightly.

[0004] A further problem is that with a panel adjacent a walkway, for example in an office, the raceway cover on a rear of the panel protrudes into the walkway. The problem is exacerbated when two such panels are on opposite sides of the walkway. Consequently, the walkway is narrowed and people walking along the walkway may bump the raceway cover leading to damage to the raceway cover or an accidental opening of the raceway cover exposing the wires. Alternatively, the panels need to be spaced further apart to allow space for the raceway covers and provide a sufficient width of walkway.

OBJECT OF THE INVENTION

[0005] It is a preferred object of the present invention to provide panels comprising raceways, raceway supports and arrangements that address or at least ameliorate one or more of the aforementioned problems of the prior art and/or provide a useful commercial alternative.

SUMMARY OF THE INVENTION

[0006] Generally, embodiments of the present invention relate to panels comprising raceways for receiving wires and cables, raceway supports and arrangements therefor.

[0007] According to one aspect, but not necessarily the broadest aspect, the present invention resides in a panel comprising a raceway, the raceway having a raceway cover on a first side of the panel to provide access to the raceway and the raceway being flat on a second side of the panel.

[0008] According to another aspect, but not necessarily the broadest aspect, the

present invention resides in a raceway support for a panel, the support comprising:

- an elongate groove to receive a flat part of the panel on one side of the raceway; and

- at least one connector to couple the support to the panel.

[0009] Suitably, the flat part of the panel is a separate sheet.

[0010] Preferably, the separate sheet matches one or more other sheets of the panel to disguise the raceway.

[0011] Preferably, one side of each support matches a frame of the panel to disguise the raceway.

[0012] According to a further aspect, but not necessarily the broadest aspect, the present invention resides in a raceway cover support for a panel comprising:

- at least one connector to couple the support to the panel; and

- at least one pivot to pivotally couple a raceway cover on only one side of the panel.

[0013] According to a yet further aspect, but not necessarily the broadest aspect, the present invention resides in a support arrangement for a raceway of a panel, the support arrangement comprising:

- a raceway support coupled to a raceway cover support; and

- at least one connector to couple each of the supports to the panel;

- the raceway support comprising an elongate groove to receive a flat part of the panel on one side of the raceway; and

- the raceway cover support comprising at least one pivot to pivotally couple a raceway cover on another side of the raceway.

[0014] Preferably, the panel comprises access ways and the at least one connectors of the supports are in the form of protrusions adapted to be slid into the access ways.

[0015] Preferably, the raceway support and the raceway cover support comprise one or more clips to couple the supports together.

[0016] According to a yet further aspect, but not necessarily the broadest aspect, the present invention resides in a support arrangement for a raceway of a panel, the support arrangement comprising:

a first raceway cover support coupled to a second raceway cover support;
each support comprising at least one connector to couple each of the supports to the panel; and

each of the raceway cover supports comprising at least one pivot to pivotally couple a raceway cover on each side of the raceway.

[0017] Further aspects and/or features of the present invention will become apparent from the following detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] In order that the invention may be readily understood and put into practical effect, reference will now be made to embodiments of the present invention with reference to the accompanying drawings, wherein like reference numbers refer to identical elements. The drawings are provided by way of example only, wherein:

[0019] FIG 1A shows a perspective view of a first side of a panel comprising a raceway in accordance with one embodiment of the present invention;

[0020] FIG 1B shows a perspective view of a second side of the panel shown in FIG 1A;

[0021] FIG 2 is a perspective view of two supports for a side of the raceway shown in FIG 1B;

[0022] FIG 3 is a perspective view of two raceway cover supports for a side of the raceway shown in FIG 1A;

[0023] FIG 4 is a perspective view of a support arrangement comprising one of the supports shown in FIG 2 and one of the supports shown in FIG 3;

[0024] FIG 5 is a perspective view of a support arrangement comprising the two supports shown in FIG 3; and

[0025] FIG 6 is a perspective view of connectors of the supports shown in FIGS 2 to 5.

[0026] Skilled addressees will appreciate that elements in the drawings are illustrated for simplicity and clarity and have not necessarily been drawn to scale. For example, the relative dimensions of some of the elements in the drawings may be distorted to help improve understanding of embodiments of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0027] Embodiments of the present invention relate to panels comprising raceways for receiving wires and cables, raceway supports and arrangements therefor.

[0028] FIG 1A illustrates a panel 100 comprising a raceway 110 according to one embodiment of the present invention. The panel 100 comprise a first side 102

and the raceway 110 has a raceway cover 112 on the first side 102 of the panel 100 to provide access to the raceway 110. The raceway cover 112 is bulbous and protrudes from the panel 100. The panel 100 comprises access ways 116, 117 on each vertical side of the panel 100 to support the various components of the panel. The access ways 116, 117 can also serve as a primary structural support for an office panel system. In some embodiments the access ways 116, 117 are vertical aluminium profiles. The panel 100 comprises a left raceway cover support 160 coupled to one access way 116 and a right raceway cover support 180 coupled to the other access way 117. The supports 160, 180 pivotally couple the raceway cover 112 to the first side 102 of the panel 100, as will be described in further detail herein.

[0029] FIG 1B shows a second side 104 of the panel 100. Side 104 can also be considered as the reverse side or opposite side of the panel to the first side 102. The raceway 110 is flat on the second side 104 of the panel 100 to allow the panel to be placed close to a wall or other structure, to make the panel safer and occupy less space when used adjacent or close to a walkway.

[0030] In preferred embodiments, access ways 116, 117 support components on both sides of the panel 100. In other embodiments, the panel 100 comprises access ways 118, 119 on each side of the second side 104 of the panel 100 to support the components of the panel. The access ways 118, 119 can also serve as primary structural supports for an office panel system. In some embodiments the access ways 118, 119 are vertical aluminium profiles.

[0031] The panel 100 comprises a support 120 coupled to one access way 116 (or 118) and a support 140 coupled to the other access way 117 (or 119). The

supports 120, 140 receive a flat part 114 of the panel 100 therebetween. In the embodiment shown in FIG 1B, the flat part 114 of the panel is in the form of a separate sheet 114. In some embodiments the separate sheet 114 matches one or more of the other sheets 115 of the panel to give the panel a seamless look and aesthetically pleasing appearance and to disguise the raceway from passers by who may tamper with the raceway. The separate sheet 114 can be made from plywood and have a fabric covering or be made from another suitable material to match the other sheets 115 of the panel. The panel 100 comprises a frame 113 coupled to the access ways 116, 117 (or 118, 119) to hold the other sheets 115. In some embodiments, one side of each support 120, 140 matches the frames 113 to give the panel 100 a seamless look and disguise the raceway so it is not apparent that a raceway 110 is installed in the panel 100.

[0032] FIGS 2 and 3 illustrate supports 120, 140, 160, 180 for the raceway 110 of a panel 100 according to embodiments of the present invention. The supports 120, 140, 160, 180 can be configured in various support arrangements to provide a user with the choice of access to the raceway 110 on one side, or on both sides of the raceway 110.

[0033] With reference to FIG 2, support 120 comprises an elongate groove 122 to receive the flat part 114 of the panel 100 on one side of the raceway 110. The support 140 comprises an elongate groove 142 to receive the flat part 114 of the panel 100 on an opposite side of the raceway 110. The elongate grooves 122, 142 frame the flat part 114 of the panel 100 on two opposite sides and prevent access to the raceway from one side. This arrangement also allows the raceway 110 to be sealed on one side, for example next to a walkway, to prevent

tampering with the wires. This arrangement also allows the raceway 110 to lie flush with the remainder of the panel on this side to enable the panel to be placed adjacent a wall or other structure. In some embodiments the flat part of the panel is a separate sheet 114 as shown in FIG 1B. In some embodiments the separate sheet comprises plywood. In some embodiments the elongate grooves 122, 142 are 5mm thick to receive separate sheet 114 in the form of upholstered 3mm plywood. However, other materials and thicknesses of sheet 114 are envisaged and it will be appreciated that the present invention is not limited to the thickness or material of sheet 114.

[0034] The support 120 comprises one or more clips 124 to couple the support 120 to the support 140 to form a support arrangement. The support 140 comprises one or more clips 144 to couple the support 140 to the support 120 to form the support arrangement. In some embodiments the clips 124, 144 of the supports have a male and female element respectively for connection to each other or vice versa. In the present embodiment, clips 124 of the support 120 comprise an aperture 126 to receive a member 146 of the clips 144 of support 140.

[0035] The supports 120, 140 each comprise at least one connector to couple the supports 120, 140 to the panel 100. In some embodiments the connectors are in the form of protrusions 125, 145 to allow the supports 120, 140 to be slid into matching grooves in the access ways 116, 117, 118, 119 as provided.

[0036] FIG 3 illustrates the raceway cover support 160 and raceway cover support 180 of the raceway 110 of the panel 100 according to one embodiment of the present invention. The cover supports 160, 180 are used on the same side of the

panel 100 and each comprises a pivot 162, 182 to pivotally couple a raceway cover 112 on only on one side of the panel 100. In use the pivot 162 of the left cover support 160 and the pivot 182 of the right cover support 180 couple on opposing sides of the raceway cover to allow the raceway cover to be swung open to provide access to the raceway. The supports 160, 180 each comprise a catch 163, 183 to secure the raceway cover 112 in place when the raceway cover 112 is closed. In some embodiments the catches 163, 183 are in the form of snap catches or hooks.

[0037] The raceway cover support 160 comprises one or more clips 164 to couple the support 160 to a right cover support 180 to form a raceway cover support arrangement. The raceway cover support 180 comprises one or more clips 184 to couple the support 180 to a left cover support 160 to form the support arrangement. In some embodiments the clips of the left and right supports have a male/female configuration. In the present embodiment one or more of the clips 164 of the raceway cover support 160 are of a female form and comprise an aperture 166 to receive a member of a right cover support 180. In the present embodiment one or more of the clips 184 of the right cover support 180 are male and comprise a member 186 to connect to the aperture 166 of a left cover support 160. The left cover support 160 and the right cover support 180 each comprise at least one connector to couple the cover supports 160, 180 to the panel 100. In some embodiments the connectors are in the form of protrusions 165, 185 to allow the supports 160, 180 to be slid into matching grooves in the access ways 116, 117, 118, 119 as provided.

[0038] FIGS 4 and 5 illustrate support arrangements for the raceway 110 of the panel 100 according to some embodiments of the present invention. In some embodiments the support arrangements comprise a first support coupled to a second support. The first support can be the right support 140, 180 and the second support can be the left support 120, 160 selected from the left support 120, right support 140, left cover support 160 and right cover support 180. The raceway 110 comprises two opposite support arrangements, so the supports are matched on either side of the panel 100. For example, the raceway 110 comprises a left cover support 160 attached to a right support 140 at one end of the raceway 110 and a left support 120 attached to a right cover support 180 at the other end of the raceway 110. In some embodiments the supports are provided as a kit to allow a user to couple the supports in an appropriate support arrangement for their chosen application.

[0039] FIG 4 illustrates a support arrangement 190 for the raceway 110 of the panel 100 according to one embodiment of the present invention. In this embodiment the first support is in the form of right support 140 and the second support is in the form of left cover support 160. The right support 140 is coupled to the left cover support 160 via the clips 144, 164. The clips 144 of the right support 140 are offset from the clips 164 of the left cover support 160 so the clips 144 of the right support 140 sit adjacent the clips 164 of the left cover support 160 when connected. When connected together, the supports 140, 160 of the support arrangement define an aperture 191 through which wires and/or cables are routed.

[0040] The support arrangement comprises at least one connector such as connector 165 to couple each of the supports 140, 160 to the panel 100. In some embodiments the at least one connectors are in the form of protrusions adapted to be slid into the access ways. The first support comprises an elongate groove 142 to receive a flat part of the panel 100 on one side of the raceway 110 and the second support comprises a pivot 162 to pivotally couple a raceway cover on another side of the raceway 110. The support arrangement 190 therefore provides access on only one side of the raceway 110 and the other side of the raceway 110 is flat to allow the panel 100 to sit against a wall or other structure or to prevent the raceway 110 from protruding into a walkway.

[0041] FIG 5 illustrates a different support arrangement 192 for the raceway 110 of the panel 100 according to another embodiment of the present invention. In this embodiment the first support is in the form of a right cover support 180 and the second support is in the form of a left cover support 160. The right cover support 180 is coupled to the left cover support 160 via the clips 164, 184. The clips 184 of the right cover support 180 are offset from the at least one clips 164 of the left cover support 160 so the clips 184 of the right sheet support 180 sit adjacent the clips 164 of the left cover support 160 when connected. When connected together, the supports 160, 180 of the support arrangement define an aperture 193 through which wires and/or cables are routed.

[0042] The support arrangement shown in FIG 5 comprises at least one connector such as connector 165 and connector 185 to couple each of the supports 160, 180 to the panel 100. In some embodiments the connectors are in the form of protrusions adapted to be slid into the access ways. In the present embodiment

the first support and the second support comprise a pivot 162 to pivotally couple a raceway cover on both sides of the raceway 110. The support arrangement 192 therefore provides access on both sides of the raceway if required.

[0043] FIG 6 illustrates the clips 124, 144 of the left support 120 and the right support 140 in more detail. Clip 124 and clip 144 are representative of the clips on a left support and a right support, respectively. Clip 124 of the left support comprises aperture 126. Clip 144 of the right support comprises a member 146 to couple to the aperture 126 of clip 124 of the left support. The clips 124, 144 each comprise connectors in the form of protrusions 125, 145 to couple the supports 120, 140 to the access ways 116, 117, 118, 119 of the panel 100. The accurate alignment of the aperture 126 in the clips 124 of the left support and the member 146 of the clips 144 of the right support allows the supports to be slid smoothly onto the access ways 116, 117, 118, 119.

[0044] The present invention thus addresses or at least ameliorates one or more of the problems of the prior art in that the present invention provides improved panels 100 where the protrusion of raceway 110 is minimized, and improved supports and support arrangements to achieve the same. Minimizing the protrusion of raceways 110 allows the panels 100 to be installed closer to walls or other structures and prevents raceway covers 112 protruding into walkways where they may be inadvertently bumped open exposing wires or the like. Moreover, the present invention provides a solution where a user can adapt the raceway to be appropriate for the user's chosen application. Furthermore, embodiments of the present invention can be retrofitted to existing panels and panel systems.

[0045] In this specification, the terms “comprises”, “comprising” or similar terms are intended to mean a non-exclusive inclusion, such that an apparatus that comprises a list of elements does not include those elements solely, but may well include other elements not listed.

[0046] The reference to any prior art in this specification is not, and should not be taken as, an acknowledgement or any form of suggestion that the prior art forms part of the common general knowledge.

[0047] Throughout the specification the aim has been to describe the invention without limiting the invention to any one embodiment or specific collection of features. Persons skilled in the relevant art may realize variations from the specific embodiments that will nonetheless fall within the scope of the invention.

CLAIMS

1. A panel comprising a raceway, the raceway having a raceway cover on a first side of the panel to provide access to the raceway and the raceway being flat on a second side of the panel.
2. A raceway support for a panel, the support comprising:
an elongate groove to receive a flat part of the panel on one side of the raceway; and
at least one connector to couple the support to the panel.
3. The support of claim 2, wherein the flat part of the panel is a separate sheet.
4. The support of claim 3, wherein the separate sheet matches one or more other sheets of the panel to disguise the raceway.
5. The support of claim 2, 3 or 4, wherein one side of each raceway support matches a frame of the panel to disguise the raceway.
6. A raceway support for a panel comprising:
at least one connector to couple the support to the panel; and
at least one pivot to pivotally couple a raceway cover on only on one side of the panel.

7. A support arrangement for a raceway of a panel, the support arrangement comprising:

a raceway support coupled to a raceway cover support; and

at least one connector to couple each of the supports to the panel;

the raceway support comprising an elongate groove to receive a flat part of the panel on one side of the raceway; and

the raceway cover support comprising at least one pivot to pivotally couple a raceway cover on another side of the raceway.

8. A support arrangement for a raceway of a panel, the support arrangement comprising:

a first raceway cover support coupled to a second raceway cover support;

each support comprising at least one connector to couple each of the supports to the panel; and

each of the raceway cover supports comprising at least one pivot to pivotally couple a raceway cover on each side of the raceway.

9. The support arrangement of claim 7 or 8, wherein the panel comprises access ways and the at least one connectors are in the form of protrusions adapted to be slid into the access ways.

10. The support arrangement of claims 7, 8 or 9, wherein the supports comprise one or more clips to couple the supports together.