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

(11) Publication number: **0 391 628 A2**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **90303449.4**

(51) Int. Cl.[5]: **E04F 15/024**

(22) Date of filing: **30.03.90**

(30) Priority: **01.04.89 GB 8907415**

(43) Date of publication of application:
10.10.90 Bulletin 90/41

(84) Designated Contracting States:
BE DE ES FR IT SE

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(54) Improvements in and relating to floor panels.

(57) An edging strip (24) for a floor panel (10) provides a conductive pathway from the upper surface of the flooring panel and/or a seal between adjacent floor panels.

To provide a conductive path, the edge strip of the invention is made of conductive material and has a first face (26) that abuts the panel edge and a second face (28) generally parallel to the first face, the first and second faces defining therebetween an upper part (33) that will extend upwards at least to the upper surface of the flooring panel and a second resiliently deformable depending part (34) which is shaped to provide a lateral protrusion (36) whereby that part will be deformed by contact with a corresponding protrusion of an adjacent edge strip or another surface.

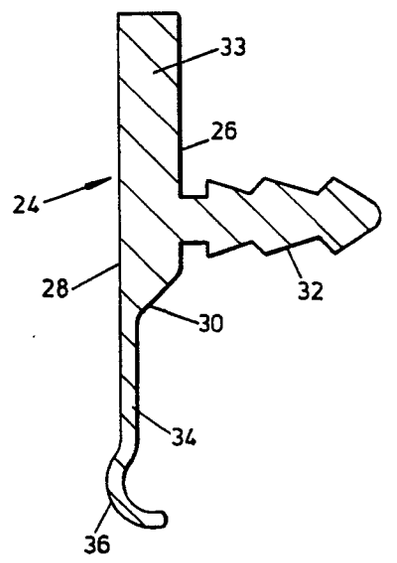

FIG. 3

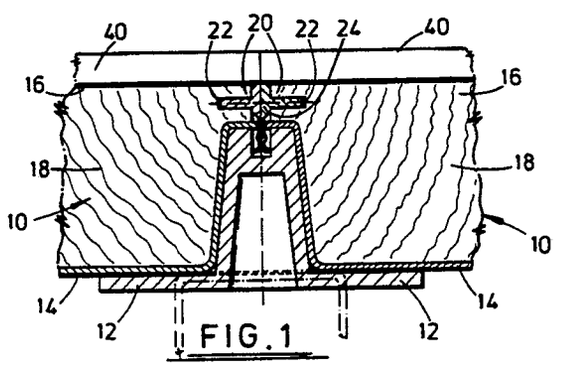

FIG. 1

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Improvements in and relating to floor panels

This invention concerns floor panels and, in particular, floor panels of the type used in access flooring systems, wherein the panels, usually rectangular, are supported on pedestals from a base or sub-floor usually at corners of the panels.

Such panels usually comprise a metal tray, a metal lid and an infill of a wooden composite material. The edges of the lid and tray can be turned over to provide a seal therebetween.

When such panels are used in computer room applications, it is desirable to have a conductive path from the upper surface of the floor to prevent build up of static electricity which can be detrimental to the operation of electronic equipment. Panels in computer rooms are often covered with vinyl tiles but to provide the conductive path each panel has a tray of conductive plastics material laid thereon, which tray is filled with the vinyl flooring material. The conductive plastics tray therefor provides a conductive surround for each panel and the earthing pathway continues from the conductive plastics material through the metal panel members and its supporting pedestals.

A disadvantage of using conductive plastics material trays is that the conductive plastics material is expensive and much of the tray material is wasted by being hidden under the vinyl flooring material.

Also in computer room applications it is customary to maintain under floor areas flooded with inert gas. However, mating edges of floor panels do not always provide an effective seal to prevent unwanted escape of inert gas. One solution for that is to provide on side edges of the panel tray rubber strips intended to form an effective seal with corresponding rubber strips on adjacent panel tray side edges. These rubber strips are usually fixed in position with adhesive. However, the action of lifting and replacing panels, usually for inspection purposes, can cause the rubber strips to peel away from the sides of the panel trays, so that they no longer provide an effective seal.

An object of the present invention is to provide flooring panels with means for overcoming the above disadvantages.

According to the present invention there is provided an edging strip suitable for floor panels, which edging strip provides a conductive path way from the upper surface of the flooring panel and/or a seal between adjacent floor panels.

To provide a conductive path, the edge strip of the invention will be made of conductive material, preferably conductive plastics material and will have a first face that abuts the panel edge and a second face generally parallel to the first face, the first and second faces defining therebetween an upper part that will extend upwards at least to the upper surface of the flooring panel and a second resiliently deformable depending part which is shaped to provide a lateral protrusion whereby that part will be deformed by contact with a corresponding protrusion of an adjacent edge strip or another surface. The resiliently deformable depending part of the edging strip is preferably of thinner section than the upper part thereof.

The first face of the edging strip may be affixed to the panel edge in any suitable way. Preferably the first face has extending therefrom location means that can be retained in the panel edge. Such location means may be continuous or spaced having irregular surfaces that are retainable in a slot or slots of the panel edge. Preferred location means are of so called fir tree section.

For flooring panels to be covered with carpet or carpet tiles, the edge strip need only extend to the upper surface of the flooring panel but for flooring panels to be covered with vinyl flooring material, such as for computer room applications, the edge strip will preferably extend above the upper surface of the flooring panel to the height of the vinyl flooring material. In each case the edging strip of the invention will provide a conductive material frame for each panel.

The floor panels to be used with the edging strip of the invention preferably comprise a metal tray and a metal lid adhered on opposite faces of an infill material leaving an upper part of an edge of the infill material exposed so that the edging strip of the invention can be attached thereto. The preferred edging strips of the invention have their resiliently deformable part of thinner section than the upper part, so that the preferred panels for use therewith have their tray edges extending beyond the boundary of their lids, so that both the lids and trays can make edge contact with the edging strips to provide a continuous conductive pathway from the panel surface through the edging strips and the trays to the floor system pedestals either directly or via conductive material panel corner supports on the pedestals, which supports are the subject of our copending application No. 8907414

The invention will now be further described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a section through a flooring system covered with carpet tiles;

Figure 2 is a section through a flooring system covered with vinyl tiles;

Figure 3 is a section through a floor panel edging strip;

Figure 4 is a plan view of a pedestal cap from above;

Figure 5 is a plan view of a pedestal cap from below and

Figure 6 is a section on line A-A of Figure 5.

Referring to the accompanying drawings, a flooring system comprises pedestals (not shown) on a base or subfloor which support corners of panels 10. The pedestals have mounted thereon panel corner locators 12 of conductive plastics material. The panels themselves comprise a metal tray 14, a metal lid 16 and a composite wooden material infill 18. The metal tray 14 and lid 16 are adhered to the infill 18 contact adhesive. An upper part 20 of the edge of the infill 18 is left exposed between the tray and the lid of the panel and has formed therein a groove 22 for receiving panel edging strips 24.

The panels edging strips 24 have a first face 26 and a second face 28 which are generally parallel except where the strip thins at around its mid height 30. Just above the mid height of the strip and extending from the first face 26 is a continuous strip 32 of fir tree section which is retained in the panel edge groove 22 to retain the panel edge strip in position.

The upper parts 33 of panel edging strips around a panel provide a surround for each panel or flooring material on the panel as is mentioned below. The panel edge strip thins to form a resiliently deformable depending part 34 that is curved at its end to provide a protrusion 36 relative to the second face 28 thereof, so that when second faces of adjacent strips abut their lower parts are deformed but due to their resilience press against each other to provide a seal therebetween.

As can be seen from Figures 1 and 2 of the accompanying drawings the panel tray edge extends beyond the edge of the panel lid to take account of the thinning of the panel edge strip from its upper part to its lower part in order to provide metal to conductive plastics contact for a conductive path between the metal lid of the panel through the conductive plastics edging strip and the metal tray of the panel. In Figure 1 that is not necessarily important since the flooring panels are covered with carpet tiles 40 and the edge strip does not extend beyond the floor panel lids. But in Figure 2 which shows a flooring system suitable for computer room applications, the edging strips extend above the floor panel lids to provide conductive material surrounds 42 for vinyl flooring tiles 44 or other vinyl flooring material laid within those surrounds.

As shown on Figures 1 and 2 the panels are supported at their corners on panel corner locators 12 which are of conductive plastics material. The locators 12 comprise a base 50 that is intended to fit onto a pedestal and have four upstanding projections 52 located at equal spacings around the base. The base has depending spigots 56 which are for location in corresponding holes of a pedestal and opposite upstanding projections 52 have aligned grooves 54 to accommodate the edging strips of the panels. The corner locators 12 provide additional security for the panels against tipping as well as damping any contact noise between panels and pedestals.

Claims

1. An edging strip suitable for floor panels, which edging strip provides a conductive pathway from the upper surface of the flooring panel and/or a seal between adjacent floor panels, the edge strip being of conductive material and having a first face for abutting a panel edge and a second face to lie generally parallel to the first face, the first and second faces defining therebetween an upper part that will extend upwards at least to the upper surface of the flooring panel and a second resiliently deformable depending part which is shaped to provide a lateral protrusion whereby that part will be deformed by contact with a corresponding protrusion of an adjacent edge strip or another surface.

2. An edging strip as claimed in claim 1, wherein the resiliently deformable depending part of the edging strip is of thinner section than the upper part thereof.

3. An edging strip as claimed in claim 1 or 2, wherein the first face has extending therefrom location means that can be retained in a panel edge.

4. An edging strip as claimed in claim 3, wherein said location means is continuous having irregular surfaces that are retainable in a slot of the panel edge.

5. An edging strip as claimed in claim 3, wherein said location means are spaced having irregular surfaces that are retainable in a slot or slots of the panel edge.

6. An edging strip as claimed in claim 4 or 5, wherein said location means are of so-called fir tree section.

7. An edging strip as claimed in any one of claims 1 to 6 of conductive plastics material.

8. A floor panel having on at least one side edge an edging strip as claimed in any one of claims 1 to 7.

9. A floor panel as claimed in claim 8, comprising a metal tray and a metal lid on opposite faces of infill material leaving an upper part of an edge of the infill material exposed to which the edging strip is attached.

10. A floor panel as claimed in claim 9, wherein

the metal tray and lid contact the edging strip at their edges.

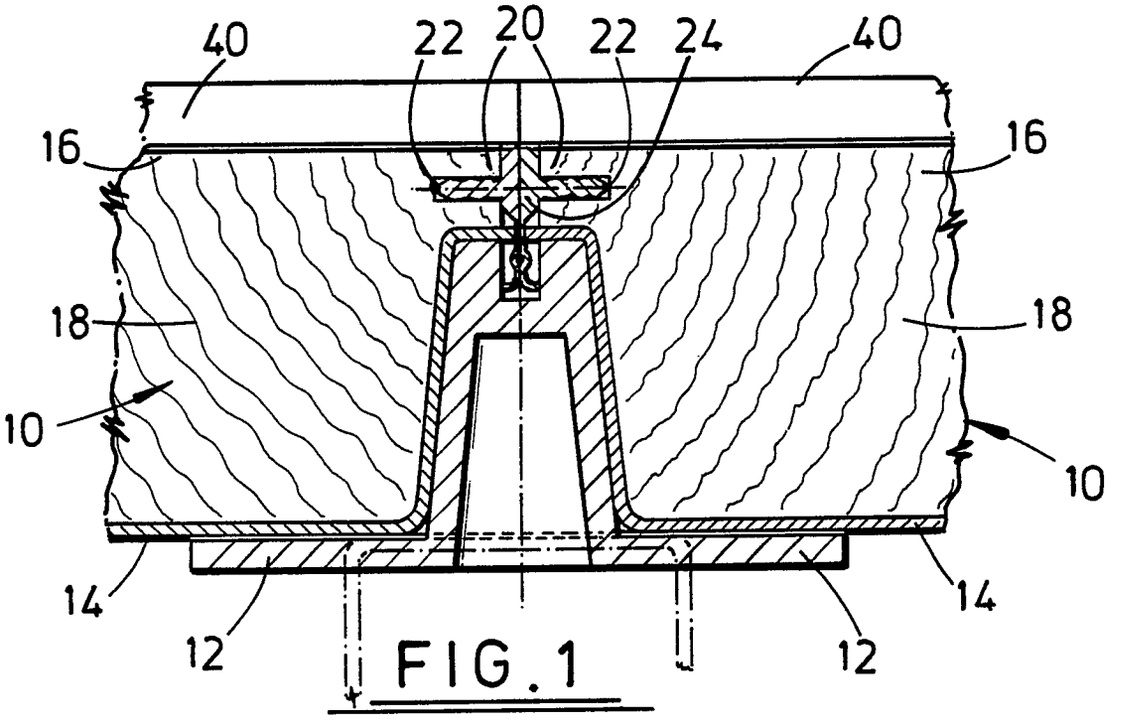
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FIG. 1

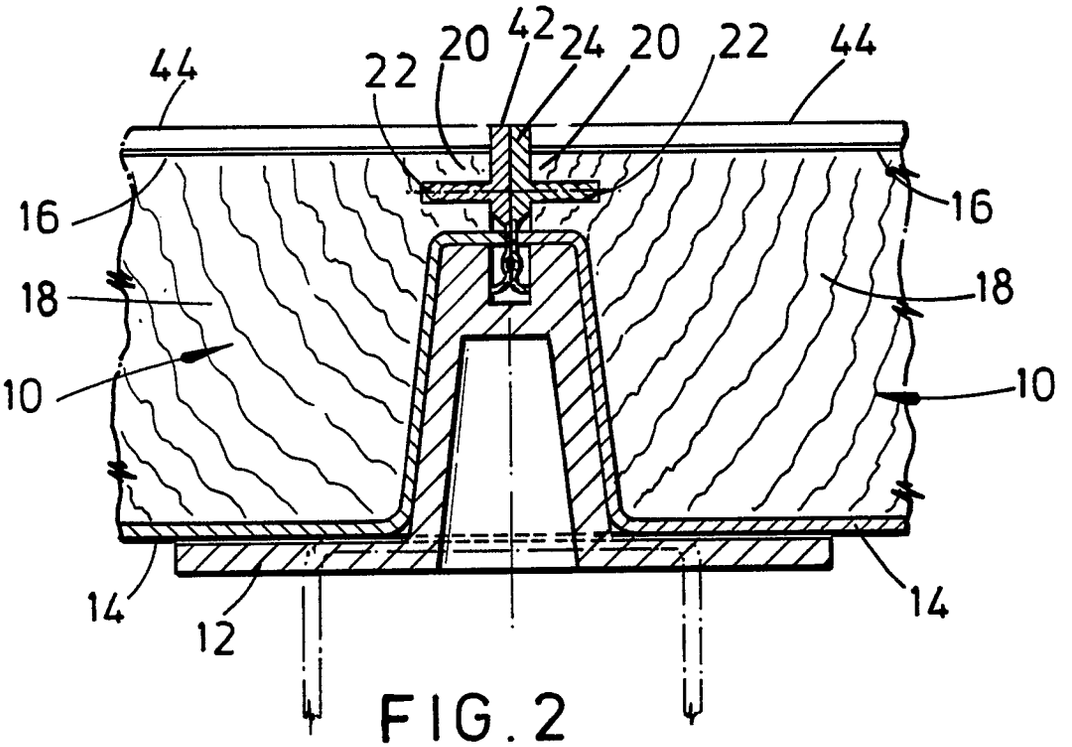
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FIG. 2

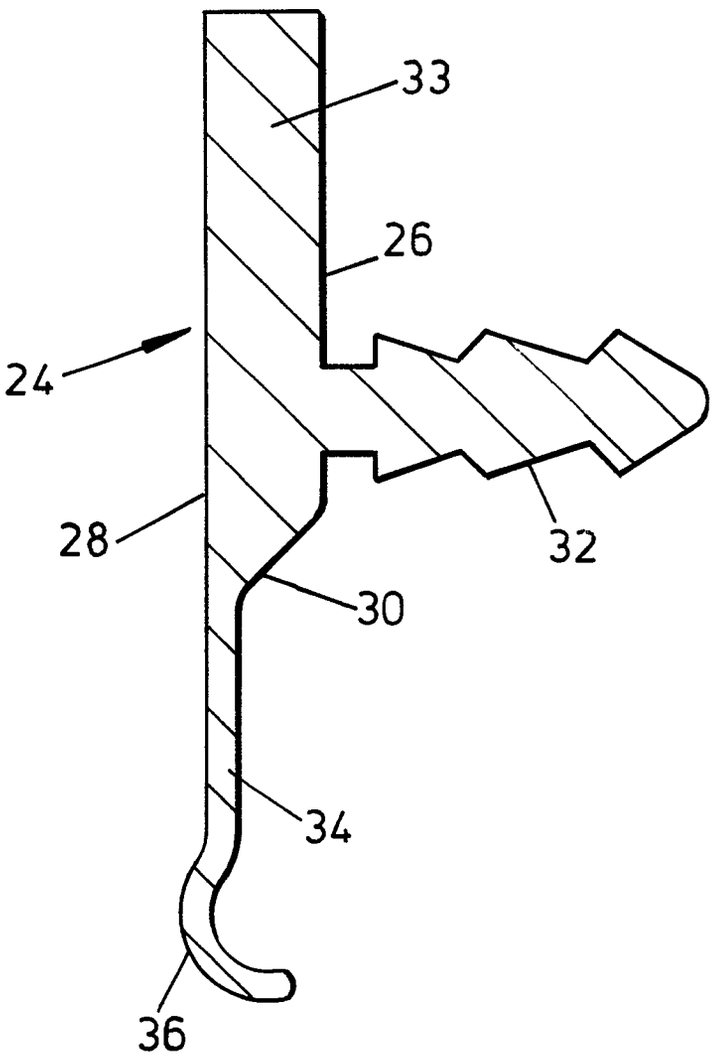

FIG. 3

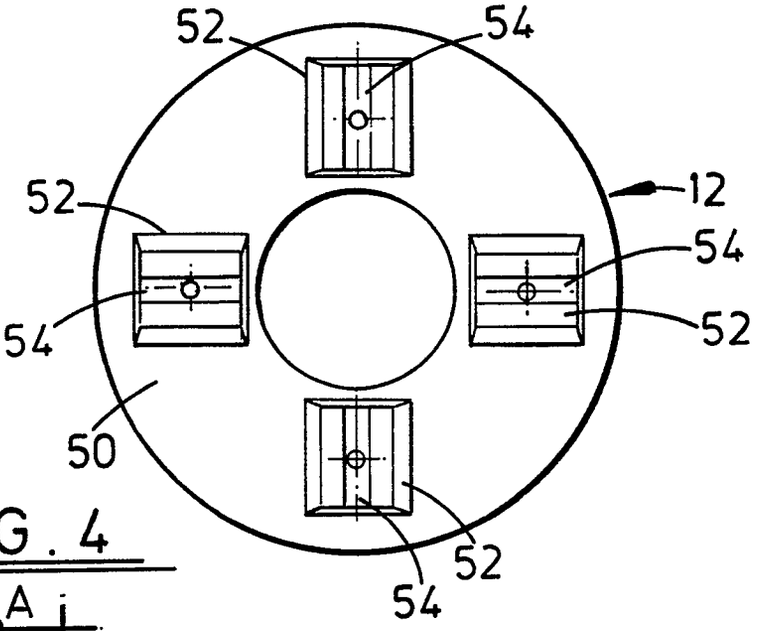

FIG. 4

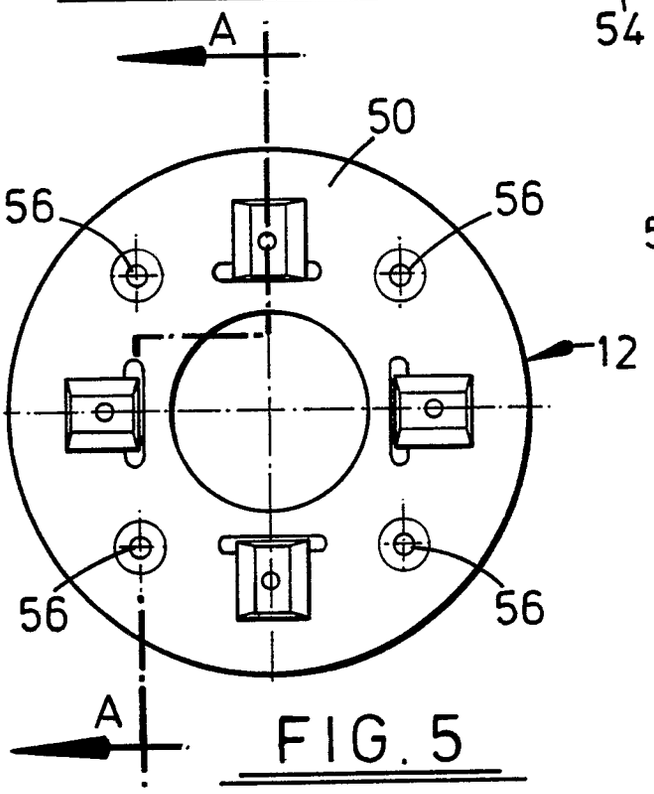

FIG. 5

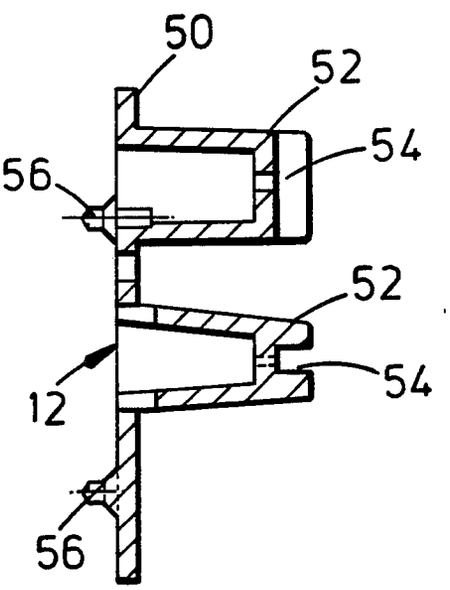

FIG. 6