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(11) **EP 1 098 040 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
09.05.2001 Bulletin 2001/19

(51) Int. Cl.⁷: **E03C 1/20, E03F 5/06**

(21) Application number: **00304534.1**

(22) Date of filing: **26.05.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **26.05.1999 GB 9912158**

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(54) **Drainage apparatus**

(57) A drainage apparatus, for use for instance in a shower for wheelchair users, comprises a base member in the form of a catchment tray 12, a grate 14 and a gutter cap 16. Catchment tray 12 has a drainage area 18 within which are ribs forming grate supports. Between grate supports 20 are drainage pathways 22 which lead

liquid under gravity towards drainage outlet 24. Drainage grate 14 comprises elongate slats 30 which are connected by flexible joints 32. In use grate 14 is placed over catchment tray 12 so that elongate slats 30 lie generally perpendicular to grate supports means 20.

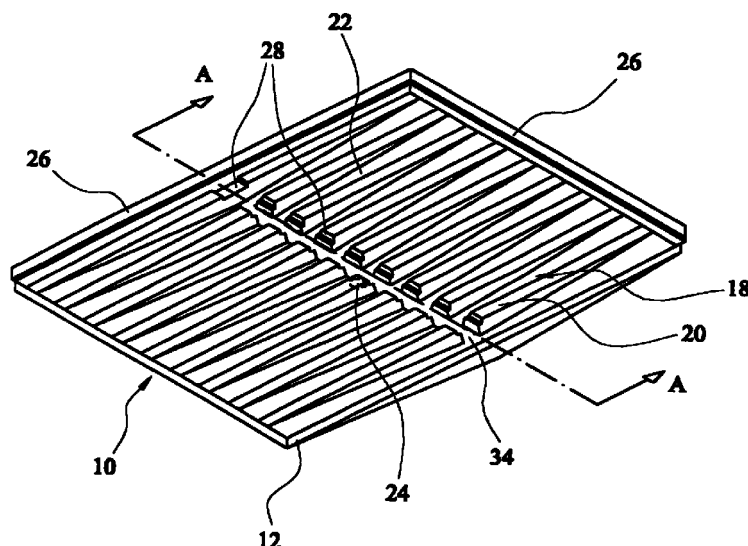


FIG. 1

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Description

[0001] The present invention relates to drainage apparatus and relates particularly, but not exclusively, to level access drainage fittings for wheeled vehicles such as wheelchairs, for example for use in showers by people who are restricted to wheelchairs.

[0002] Level access shower drainage bases are known comprising a drainage base above which is placed a drainage grate for supporting a person in a wheelchair. The drainage grate spans the entire width of the drainage area and is only supported at the periphery of the drainage area. The grate therefore needs to be formed from a material of sufficient strength and rigidity to support the weight of a person in a wheelchair at the centre of the grate. Such drainage grids are typically formed from metal or wood, as a result of which they are heavy and cumbersome, making them particularly difficult to move for people with limited mobility such as those in wheelchairs, and making them difficult to clean.

[0003] Furthermore, where a heavy grid is used the support required for it must be substantial and the material used in the construction of the drainage base has to be sufficiently strong to withstand the forces placed upon it. As a result, the materials used in the construction of the drainage base means that the drainage base itself is heavy and cumbersome, making installation more difficult. Typically, these materials are also difficult to cut and therefore adjusting the size of the drainage base, to fit in a non-standard location, is complex.

[0004] Preferred embodiments of the present invention seek to overcome the above described disadvantages of the prior art.

[0005] According to the present invention there is provided a drainage apparatus comprising:-

a base member defining a drainage area and having a plurality of supporting members for supporting a first cover means extending across said drainage area, and a plurality of drainage channels for directing liquid from said drainage area under gravity to drainage outlet and

[0006] By providing supporting members for supporting a cover means extending across the drainage area, this provides the advantage that it is possible to use a cover means of less strength and rigidity than in the case of the prior art. This in turn provides the advantage that the cover means can be formed from a lightweight material, making removal of the cover means and cleaning of the drainage apparatus easier. Furthermore, the use of a material of lower strength and rigidity for the cover means enables the cover means to be more easily cut when this is necessary to fit the apparatus into a non-standard location.

[0007] In a preferred embodiment said drainage channels are provided between respective pairs of adjacent supporting members.

cent supporting members.

[0008] The supporting members may be substantially parallel to each other.

[0009] The drainage channels may be substantially parallel to each other.

[0010] In a preferred embodiment said supporting members each comprise engaging means for receiving a second cover means to be supported thereon.

[0011] The base member preferably further comprises sealing means for engaging and a floor and/or wall adjacent thereto.

[0012] The sealing means may comprise a flange extending from at least part of the periphery of the base member.

[0013] The base member may be adapted to be cut to reduce its size.

[0014] In a preferred embodiment, the apparatus further comprises first cover means adopted to extend across said drainage area.

[0015] The first cover means may define a substantially flat upper surface in use and has a plurality of drainage apertures to allow drainage of liquid there-through.

[0016] In a preferred embodiment, said first cover means comprises a plurality of rigid elongate covering members flexibly connected to one another along their long edges.

[0017] By providing a first cover means of elongate members flexibly connected by their long edges, a mat can be formed which is rigid in one direction and flexible in another. This has the advantage that when the rigid members are laid transversely to the supporting members, the cover means is of sufficient rigidity in all directions to support, for example, a wheelchair. Because of the flexibility of the cover means it can be rolled, further easing the process of removing the cover means from the drainage base.

[0018] The apparatus may further comprise second cover means for covering said drainage outlet.

[0019] A preferred embodiment of the invention will now be described, by way of example only and not in any limitative sense, with reference to the accompanying drawings in which:-

Figure 1 is a perspective view of a base member embodying the present invention;

Figure 2 is a perspective view of a first cover means for use with the base member of Figure 1;

Figure 3 is a sectional view along the A-A of the base member of Figure 1;

Figure 4 is a perspective view of a second cover means for use with the base member of Figure 1; and

Figure 5 is a detailed sectional view along the line

B-B of the first cover means of Figure.

[0020] A drainage apparatus 10 comprises a base member in the form of a catchment tray 12, a first cover means comprising a grate 14 and second cover means comprising a gutter cap 16. Referring to Figures 1 and 3, catchment tray 12 has a drainage area 18 within which are ribs forming grate supports. Between grate supports 20 are drainage pathways 22 which lead liquid under gravity towards drainage outlet 24.

[0021] Catchment tray 12 also has gutter cap rebates 28 and tiling lips 26. The tiling lips 26 allow tiles to be placed over the edge of the tray 12 to improve the waterproofing between the tiles and the tray 12.

[0022] Referring to Figures 2 and 5, drainage grate 14 comprises elongate slats 30 which are connected by flexible joints 32. Because slats 30 are relatively rigid along their length and are joined by flexible joints 32, grate 14 can be rolled from a sheet into a roll. In use grate 14 is placed over catchment tray 12 so that elongate slats 30 lie generally perpendicular to grate supports means 20. The rigidity of slats 30 along their length is complemented by the rigidity of the supports 20 perpendicular to slats 30.

[0023] Referring to Figures 1 and 4 gutter cap rebates 28 are aligned adjacent a central drainage gully 34 at the centre of which is drainage outlet 24. Gully cap 16 is shaped so as to fit rebates 28, thereby supplying support for grate 14 along gully 34.

[0024] It will be appreciated by persons skilled in the art that the above embodiment has been described by way of example only and not in any limitative sense, and that various alterations and modifications are possible without departure from the scope of the invention as defined by the appended claims.

Claims

1. A drainage apparatus comprising:-

a base member defining, a drainage area for supporting a first cover means extending across said drainage area, a plurality of supporting members and a plurality of drainage channels for directing liquid from said drainage area under gravity to a drainage outlet.

2. An apparatus according to claim 1, wherein a plurality of said drainage channels are provided between respective pairs of adjacent supporting members.

3. An apparatus according to claim 1 or 2, wherein said supporting members are substantially parallel to each other.

4. An apparatus according to any one of the preceding claims, wherein said drainage channels are sub-

stantially parallel to each other.

5. An apparatus according to any one of the preceding claims, wherein a plurality of said supporting members each comprise engaging means for receiving a second cover means to be supported thereon.

6. An apparatus according to any one of the preceding claims, wherein said base member further comprises sealing means for engaging and a floor and/or wall adjacent thereto.

7. An apparatus according to claim 6, wherein said sealing means comprises a flange extending from at least part of the periphery of the base member.

8. An apparatus according to any one of the preceding claims, wherein the base member is adopted to be cut to reduce its size.

9. An apparatus according to any one of the preceding claims, further comprising first cover means adopted to extend across said drainage area.

10. An apparatus according to claim 9, wherein said first cover means defines a substantially flat upper surface in use and has a plurality of drainage apertures to allow drainage of liquid therethrough.

11. An apparatus according to claim 9 or 10, wherein said first cover means comprises a plurality of rigid elongate covering members flexibly connected to one another along their long edges.

12. An apparatus according to any one of the preceding claims, further comprising second cover means for covering said drainage outlet.

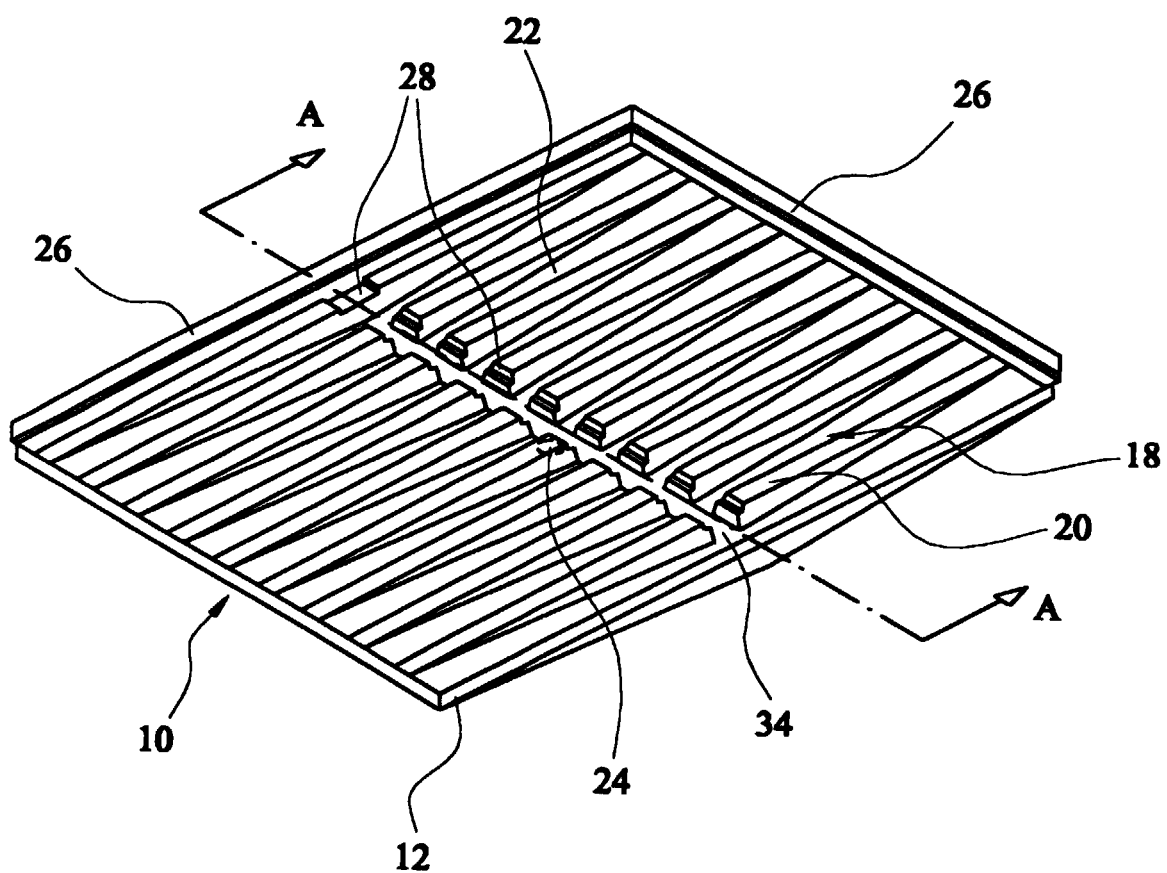


FIG. 1

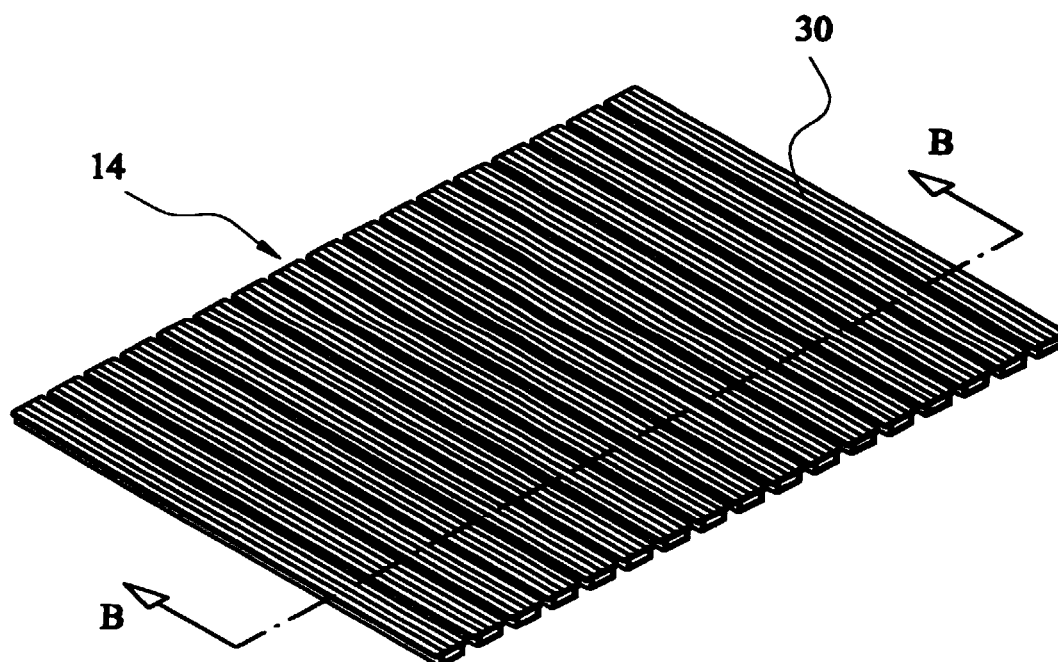


FIG. 2

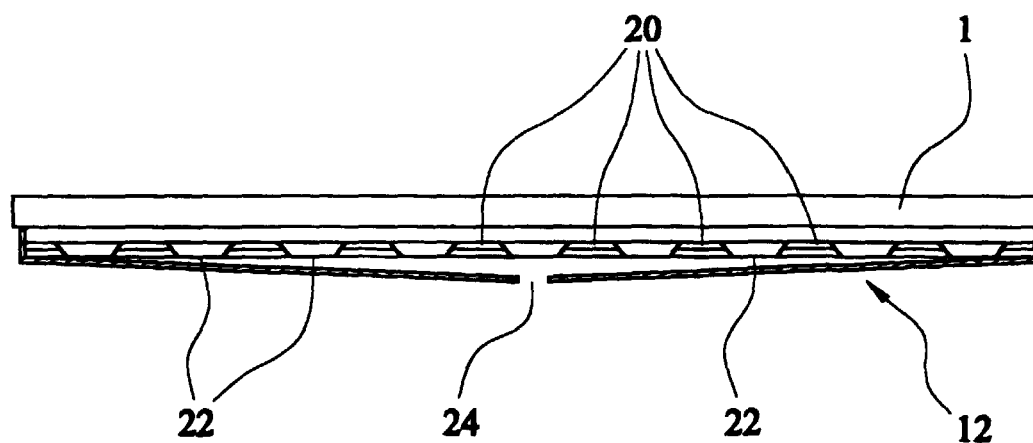


FIG. 3

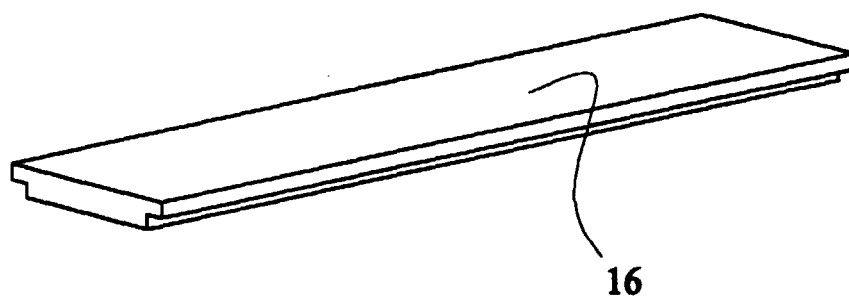


FIG. 4

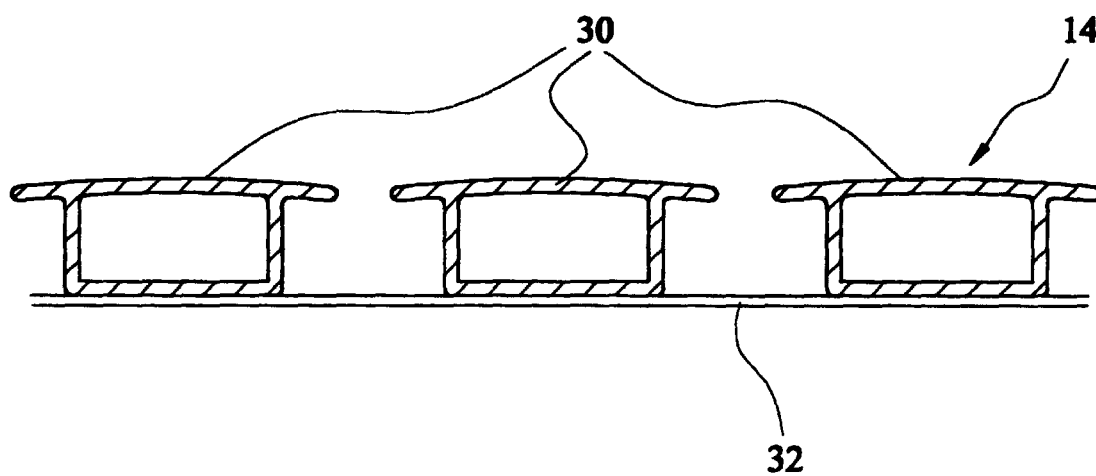


FIG. 5