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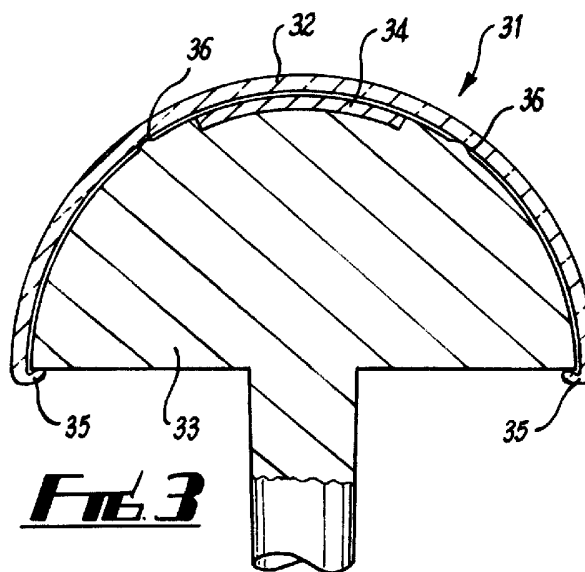
(56) Documents Cited:
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Other:

(54) Abstract Title: **Urinal drain insert**

(57) A drain insert for a urinal drain, the insert including a drain cover (33) presented upwardly in use and the drain cover including an information display (34) integrally associated with the drain cover. An over-cover (32) may suitably extend over the drain cover (33).



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

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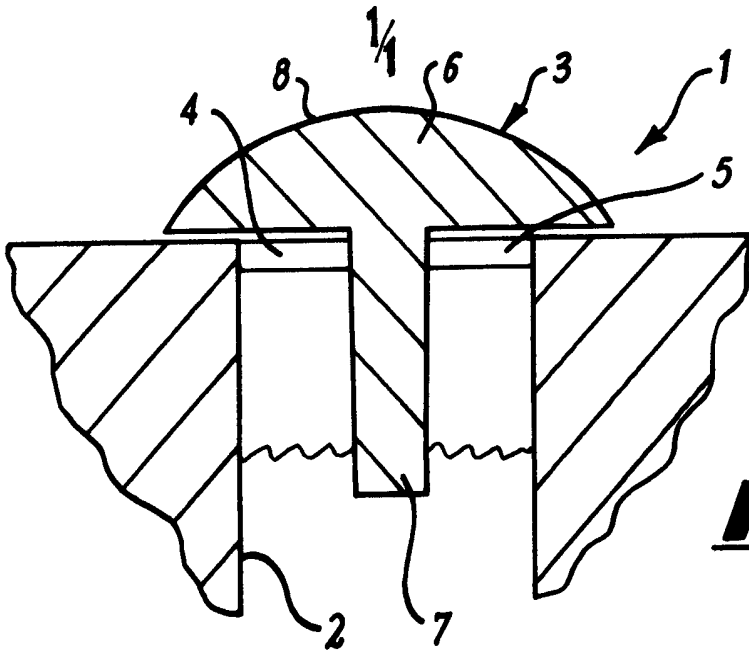


FIG. 1

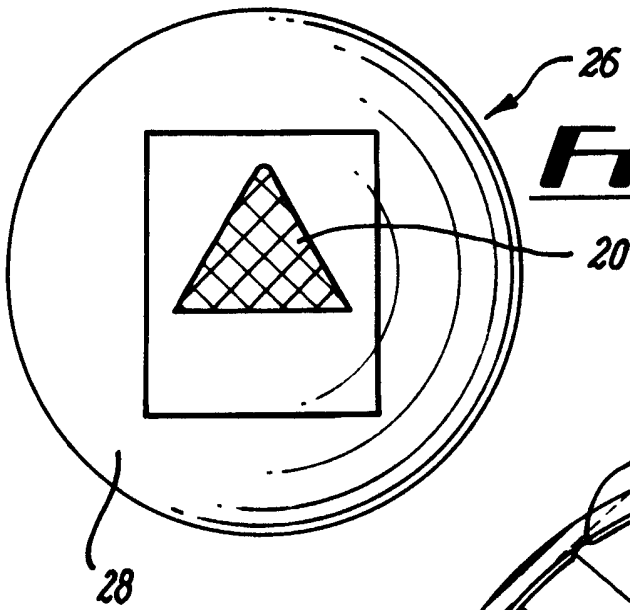


FIG. 2

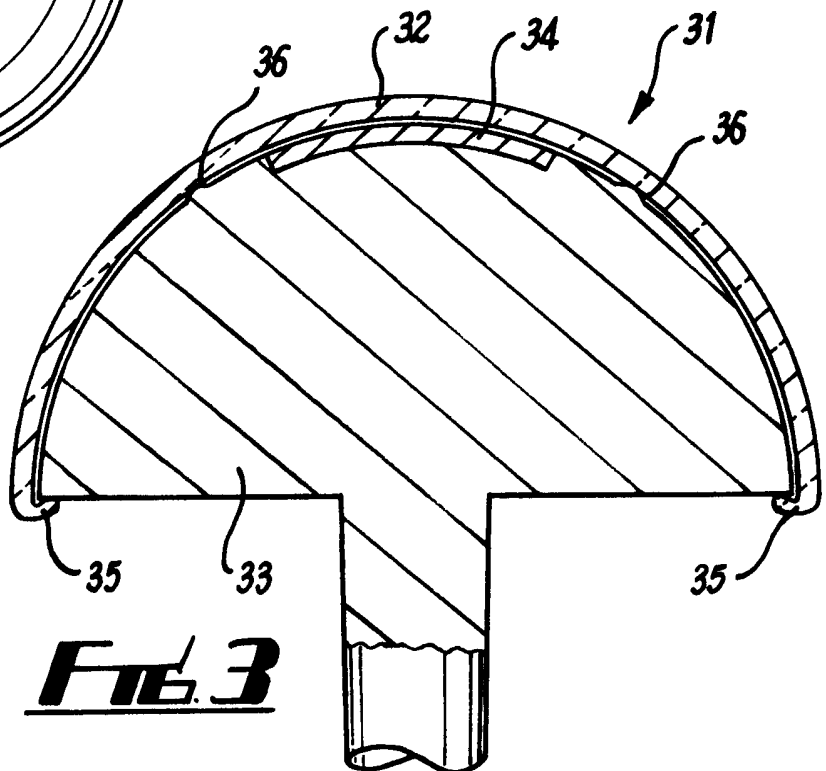


FIG. 3



Drain Insert

The present invention relates to drain insert and, more particularly, to sanitary drain insert used for urinals.

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There is a desire to disseminate information and promotional advertising etc. Traditionally, such promotion has been performed through bill-boards and posters placed in appropriately prominent positions. These locations have included corridors and public meeting places. Unfortunately, some of these locations can easily be passed without intended viewers noticing the information. The problem with corridors and public places is that people tend to pass through them while concentrating on other matters. In such circumstances, generally such information will only be incidentally noticed by a target audience.

15

Trough and wall mounted urinals are clearly used by a large number of male people. It is inherent with using such urinals that the person is static for a period of time and generally physically as well as mentally inactive. In such circumstances these time periods are ideal for disseminating information or providing advertising. Recently, flat or mushroom-headed urinal drain sieves and gratings as well as sanitary traps have been used. Essentially, these comprise a flat-headed element with arched apertures through which waste urine passes into the drain. At a basic level the sieve or grating prevents solid debris entering the drain with the potential for blockage. More sophisticated sieves and gratings provide protection against scale build-up by arranging for the urine to pass through a central stem which ejects the urine below the water trap level within the drain, so reducing emission of odours.

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These urinal sieves and gratings are relatively cheap to produce and normally disposable. Thus, there is a regular cycle with regard to replacement of these sieves and gratings.

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In accordance with the present invention, there is provided a drain insert for a urinal drain, the insert including a drain cover presented upwardly put in use and the drain cover including an information display integrally associated with the drain cover.

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Typically, the drain cover is curved. Alternatively, the drain cover is flat.

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Possibly, the information display is embedded or embossed into the drain cover. Alternatively, the information display is integrally associated as a part-moulding with the drain cover. Further, or alternatively, the information display is printed upon the drain cover.

15

Possibly, the information display is over-laminated or lacquered to provide further integral association with the drain cover.

Alternatively, the information display comprises an over-shell secured to the drain cover.

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Additionally, the drain insert includes an over-cover secured over the drain cover with the information display held between the over-cover and the drain cover. Possibly, the over-cover comprises a patch solely located over the information display. Alternatively, the over-cover extends completely over the drain cover. Advantageously, the over-cover provides chemical and environmental resistance for the drain cover in use.

25

Possibly, the information display facilitates correct orientation of the insert within a urinal drain in use.

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Typically, the information display comprises a logo or pictograph. Possibly, the information display provides an identifier for ownership, location or maintenance.

Embodiments of the present invention will now be described by way of an example only with reference to the accompanying drawings in which

Fig. 1 is a schematic cross-section of a drain insert in a urinal drain in accordance with the present invention;

5 Fig. 2 is a schematic plan view of a drain insert in accordance with the present invention; and

Fig. 3 is a schematic side cross-section of an alternative drain insert in accordance with the present invention.

10 As indicated above, generally urinal drains are protected from solid debris entering the drain by a grating or sieve-like member which sits as a cover over an opening to the drain. Furthermore, potentially through use of a dip-stem urine can be arranged to flow below the water trap level in a drain in order to inhibit odour release and scale build-up. In such circumstances the
15 drain insert is generally a T or mushroom shape with a substantially flat or curved upper surface which can be seen by users of the urinal. Urinals can take the form of a so-called slab urinal in which a trough is created below a wall such that the urine flows along the trough into the drain under gravity or comprise specific urinals secured to a wall with individual drains. In either
20 event, a drain insert is provided as indicated above in an upward perspective.

Fig. 1 provides a schematic cross-section illustrating a urinal drain arrangement 1 in which a drain 2 includes an insert 3 to extend across an opening 4 of the drain 2. This opening 2 may include an integral grating 5 or,
25 more normally, the opening will be open to provide less restriction for urine flow into the drain 2. As can be seen, the insert 3 includes a drain cover 6 and stem 7. This stem 7 may simply provide a ballast anchor for the insert 3 within the drain 2 or possibly, if the urine is designed to flow through the stem 7, then that urine may be presented below a water trap level 8 to reduce
30 odour release and scale build-up upon only periodically wetted sections of the drain 2.

The present invention is directed to the drain cover 6 and, in particular, an outer surface 8 of that cover 6. It will be understood that the outer surface 8 is generally upstanding and seen by users of a urinal incorporating the arrangement 1. Furthermore, the surface 8 is of a sufficient size that information displayed upon the surface 8 is recognisable to that user. In such circumstances, the present insert 3 provides an information display on the surface 8 which is integrally associated with that cover 6 so that the harsh environment within a urinal and regular wetting and submerging in urine does not cause degradation.

The surface 8 as indicated in figure 1 may be curved or, as described later with regard to figure 2, flat. In either event the surface 8 will be generally upwardly facing as indicated. A curved surface 8 is advantageous in that it allows apertures 9 to be presented in the sides of the cover 6, which are more perpendicular to a urinal surface 10 to allow urine to flow through. Furthermore, a curved surface 8 provides a greater surface on which a greater-sized information display can be presented. The surface may be elongated and so oval to extend the surface along the trough to the drain in order to further increase the upwardly facing viewed area.

The information display can be formed integrally with the drain cover in a number of ways. Most simply, the information display may be printed with an indelible ink upon the surface 8 but in such circumstances the acidic nature of urine may rapidly degrade the information display. In such circumstances a lacquer or other coating may be provided over the printed information display to provide some protection against degradation of the printing ink.

Simple printing of the information display upon the surface 8 is generally unacceptable. In such circumstances the information display may comprise a separate element or transfer embedded or embossed or integrally moulded with the insert 6 during manufacture. In such circumstances the transfer or embossed material can be chosen such that it is resistant to the

acidic nature of urine. Furthermore, as described above with regard to printing ink, it will be appreciated that a laminate or lacquer may be provided over the information display for longer operational life.

5 A further alternative to integrally associating the information display with the drain cover 6 is the use of a separate over-shell which is secured over the drain cover 6. This shell will be of substantially the same size and shape as the cover 6 and will be arranged to become adhered and normally hooked about the edges of the cover 6 to remain integrally associated with the
10 drain cover 3. The shell may be such that it can be shrunk by thermal or chemical action upon the drain cover 6 in order to further enforce the integral association between the information display and the drain cover.

As indicated above, a drain cover in accordance with the present
15 invention may be curved or flat. Fig. 2 provides a schematic plan view of a flat drain cover 26 having an upper surface 28 incorporating an information display 20. This information display 20 can be secured in a similar manner to any of those described above with regard to Fig. 1 and a curved drain cover 6. It will be understood that generally drain covers will be round and have a
20 dimension in the order of 10-20 centimetres. Thus, although the surface 28 is relatively large, it will be understood that users of the urinal will generally be standing and, therefore, viewing the surface 28 from a distance. In such circumstances, written information upon the surface 28 in the form of display 20 may not be perceivable. However, the present drain insert is generally
25 utilised in order to provide a pictograph or logo information with regard to product or other promotions. In such circumstances, the display is relatively vivid in terms of colour and discernable simple shapes will preferably be used.

In Fig. 2 a triangle is depicted as the information display. This triangle
30 may be presented in a dark colour on a white background or bright colour, such as orange or red, or maybe fluorescent, to indicate in a dimly-lit toilet the location of the drain. Alternatively, it will be appreciated that the information

display may represent a corporate logo of the organisation maintaining the urinal or the owner of the urinal, let us say a chain of restaurants or bars or public houses. The information display 20 may also provide public information, such as a hygiene reminder with two crossed hands indicating that users of the urinal should wash their hands after use or a universal picturegram indicative of a reminder to perform safe sex. It will also be understood that the information display may simply provide a maintenance and service reminder for the owner or operator of the urinal such that the colour or symbol in the information display may indicate the month of installation and so a due date for replacement. Furthermore, by combining segments or strips of colours it may be possible to provide information with respect to any chemicals utilised for odour-masking and prevention in the drain insert.

As indicated above it is important that the information display in accordance with the present invention is integrally associated with the drain cover. Degradation of the information display or detachment may result in debris within the urinal and possibly that debris entering the drain causing a blockage. In any event, degradation in the information display will reduce its effectiveness. In such circumstances, as depicted in Fig. 3, a drain insert 31 in accordance with the present invention may include an over-cover 32 in addition to other means for integral association of an information display 34 with the drain cover. This over-cover 32 will comprise a separate component secured over a drain cover 33 to provide additional protection for the information display 34 and integrity of association with the drain cover 33. The over-cover will normally be reciprocally shaped to the drain cover for close association. Possibly, edges 75 of the over-cover 32 may be hooked to hook over the edges of a drain cover 33.

The over-cover 33 will normally be transparent and formed from a relatively flexible material for snap fitting over the drain cover 33 into an interference fit. The hooks or other associations about the edge 35 of the

drain cover 32 may provide a liquid seal preventing urine entering the gap between the over-cover 32 and the drain cover 33. Alternatively, by differential shaping of the over-cover 32 and the drain cover 33, a void or cavity can be created about the edge in which any seepage of urine into that void or cavity will gradually build up so there is no capillary lifting of the urine to a viewed area of the information display.

As indicated above, the over-cover 32 provides protection for the normally already integrally associated information display 34 in the drain cover 33. In such circumstances the information display 34 is sandwiched between the drain cover 33 and the over-cover 32 and normally held under compression. In such circumstances, again, urine incident upon the information display 34 may be inhibited by such compression. Finally, the over-cover 32 or parts of the drain cover 33 may include raised portions 36 for enhanced compressive and sealing engagement to further inhibit urine movement towards the information display.

As illustrated, the over-cover 32 may extend over the whole of the drain cover 33. Alternatively, an over-cover 32 may be provided which is adhesively applied and so only extend over part of the drain cover as a patch. This patch may extend simply over the information display or more normally over the whole drain cover.

It will be understood as indicated that robust integration of the information display with the drain cover will normally be provided. However, by use of an over-cover 32 in accordance with the present invention, integral association between the drain cover 33 and the information display 34 may be achieved through an adhesive label or patch secured on the outer surface of the drain cover. Such adhesion of the label may be attacked by the acidic nature of urine but through use of an over-cover 32 as described above incidence or ingress of such urine upon the adhesive of the label can be

reduced such that the label is effectively integrally associated with the drain insert.

5 It will be appreciated that the over-cover 32 may incorporate the information display itself so that when associated with the drain cover 33 portion of a drain insert 31 there is integral association through an interference or clip fit as described above or adhesion or other mechanism in order to provide a drain insert in accordance with the present invention.

10 Typically, the drain insert will be formed from a relatively rigid plastic material. The insert will be moulded to an appropriate shape in order to extend across a drain in use. The over-cover may be formed from a relatively flaccid material to be held over the drain cover and act as a protective layer for the drain cover as well as the information display.

15 Whilst endeavouring in the foregoing specification to draw attention to those features of the invention believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and/or
20 shown in the drawings whether or not particular emphasis has been placed thereon.

Claims

- 1 A drain insert for a urinal drain, the insert including a drain cover
5 presented upwardly in use and the drain cover including an information
 display integrally associated with the drain cover.
- 2 An insert as claimed in claim 1 wherein the drain cover is curved.
- 10 3 An insert as claimed in claim 1 wherein the drain cover is flat.
- 4 An insert as claimed in any of claims 1, 2 or 3 wherein the information
 display is embedded or embossed into the drain cover.
- 15 5 An insert as claimed in any of claims 1, 2 or 3 wherein the information
 display is integrally associated as a part-moulding with the drain cover.
- 6 An insert as claimed in any of claims 1, 2 or 3 wherein the information
 display is printed upon the drain cover.
- 20 7 An insert as claimed in any preceding claim wherein the information
 display is over-laminated or lacquered to provide further integral association
 with the drain cover.
- 25 8 An insert as claimed in any preceding claim wherein the information
 display comprises an over-shell secured to the drain cover
- 9 An insert as claimed in any preceding claim wherein the drain insert
 includes an over-cover secured over the drain cover with the information
30 display held between the over-cover and the drain cover.

- 10 An insert as claimed in claim 9 wherein the over-cover comprises a patch solely located over the information display.
- 11 An insert as claimed in claim 9 wherein the over-cover extends
5 completely over the drain cover.
- 12 An insert as claimed in any of claims 9 to 11 wherein the over-cover provides chemical and environmental resistance for the drain cover in use.
- 10 13. An insert as claimed in any preceding claim wherein the information display facilitates correct orientation of the insert within a urinal drain in use.
- 14 An insert as claimed in any preceding claim wherein the information display comprises a logo or pictograph.
- 15 15 An insert as claimed in any preceding claim wherein the information display provides an identifier for ownership, location or maintenance.
16. A drain insert for a urinal drain substantially as hereinbefore described
20 with reference to the accompanying drawings.
17. Any novel subject matter or combination including novel subject matter disclosed herein, whether or not within the scope of or relating to the same invention as any of the preceding claims.

11

Application No: GB0519438.6

Examiner: D. Haworth

Claims searched: 1-15

Date of search: 9 February 2007

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1,2,9,11&12 at least	GB 2374283 A (Hall)
X	1&2 at least	GB 2319540 A (Solvtech)
X	1 and 3 at least	US 6920648 B (Suski)
X	1 and 2 at least	EP 1657370 A (Caroma)

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

A4N

Worldwide search of patent documents classified in the following areas of the IPC

A47K; E03C; E03D

The following online and other databases have been used in the preparation of this search report

wpi,epodoc