

Improvements in Urinals

This invention relates to improvements in urinals and, in particular, to an improved washroom urinal installation.

One of the main objects of this invention is to provide a urinal installation which will
5 substantially save on the use of water. The urinal of this invention is intended for use by male persons.

According to this invention there is provided in combination a urinal and a wash basin characterised in that waste water outlet flow from the wash basin is directed to, and utilised for cleansing, the urinal.

10 In one preferred construction the wash basin is mounted above the urinal with a hand basin water supply feed to the basin and a waste outlet from the basin discharging by gravity into the urinal bowl. In a more preferred embodiment the waste outlet from the wash basin is defined by a plurality of spaced apertures arranged to discharge around the internal contour of the urinal wall. The outlet
15 from the urinal will feed a usual foul water drain system.

Both the wash basin and the urinal will be adapted for mounting against a vertical wall surface with the relevant height of the urinal being adapted according to local requirements.

In an advantageous embodiment water to the basin is supplied on activation of an
20 electronic sensor means operable on detection of the presence of a user with or

without appropriate time delay. An activating button may be provided whereby a user can initiate washing water flow with a sensor means arranged so that if a user should not initiate washing water flow, then washing water will automatically be discharged for a predetermined period in order to provide flushing of the urinal.

- 5 This invention is further described and illustrated with reference to the accompanying drawings showing an embodiment by way of an example only.

In the drawings:

Figure 1 shows a side view in partial section of an installation of wash basin and urinal,

10 Figure 2 shows a front elevation of the combination of Figure 1,

Figure 3 shows a schematic perspective view of the installation, and

Figure 4 shows a part sectional view on a-a of Figure 1 of a further installation.

Referring to Figure 1 of the drawings, a washroom or other convenience includes a
15 vertical wall structure W and an under-floor drain to a foul water outlet D. Mounted on the wall W and as a combination unit is a wash hand basin (1) and a urinal (3). The basin (1) is fed via a water supply inlet (2) to feed a water outlet located above the basin (1) through a feeder pipe (2a) and a goose-neck discharge pipe over the basin (see Fig. 2). Water feed may be initiated by a push button (5) activating a
20 valve (5a). Alternatively a valve (5b) may be activated through a sensor control unit (5c) utilising a proximity detector (4). The sensing range of the detector (4) is

indicated diagrammatically by the dotted lines (4a).

After, or during, use of the urinal (3) clean washing water flows into the basin (1) via the pipe (2a) this being activated through the proximity sensor (4) or by means of the push button (5). A user may then wash his hands. Waste water from the
5 basin (1) is directed through an outlet (6) which connects with a distributor pipe (6a) having outlet orifices located around the internal periphery at the top of the urinal (3). It has been found that distribution of the waste water from the basin usually needs to be provided around the periphery of the urinal in view of the relatively low water head pressure available from the installation. This is a preferred feature of
10 this invention.

The waste outlet (3a) of the urinal (3) discharges in the usual manner into drain (D).

The water feed (2a) to the basin (1) may feed via a goose neck outlet which is located behind screens (10) at each side of the basin intended to prevent
15 splashing.

The front elevation shown in Figure 2 has a generally similar construction but here the washbasin (1) has a plurality of orifices (6b) arranged around the periphery of the bottom of the wash basin. These orifices (6b) are so arranged that they distribute waste water from the basin around the internal periphery of the urinal
20 thus providing a useful flushing action without undue consumption of water. The embodiment of Figure 2 comprises a prefabricated unit with the basin (1) and urinal (3) mounted on a back support panel (11). Figures 3 and 4 illustrate further

constructions wherein like reference numerals indicate similar parts to those forming the embodiments of Figures 1 and 2. In Figure 4 there is also shown a complete washroom facility which includes a mirror (40), a detergent or soap dispenser (41), and a hand hot air dryer (42). In this embodiment the washbasin
5 (1) and urinal (3) are formed as an integral unit or alternatively as separate parts which are bonded or otherwise connected together.

In a preferred arrangement the control system for dispensing water will be arranged to discharge a predetermined quantity only, for example 1 to 1½ litres either on the demand of a user or through use of sensing means. In the absence of a user
10 utilising the wash basin facility the sensor may be arranged to automatically discharge a predetermined quantity of water through the basin to effect flushing of the urinal.

The relative dimension of the projecting portion of the lower lip of the urinal (3) and the rim of the basin (1) will be set according to user preferences. Generally the lip
15 of the urinal (3) will project several centimetres beyond the rim of the basin.

In one practical embodiment the pitch of the orifices (6b) in the basin (1) were set to 24mm with each orifice having a diameter of 8mm. The orifices will preferably be inclined at an angle of 45° to the horizontal in order to direct the water discharge onto the internal urinal wall. The fore-aft dimension of the urinal at the upper part
20 will preferably be less than that of the wash basin as this has been found to require less flushing water.



CLAIMS:

1. A combined urinal and a wash basin, characterised in that waste water outlet flow from the wash basin is directed to, and utilised for cleansing of, the urinal.
- 5 2. A combined urinal and a wash basin in accordance with claim 1, characterised in that the wash basin is mounted above the urinal with a hand basin water supply feed positioned above the basin and a waste outlet located in a lower part of the basin bowl discharging by gravity into the urinal bowl.
- 10 3. A combined urinal and a wash basin in accordance with claim 1 or 2, characterised in that the waste outlet from the wash basin is defined by a plurality of spaced apertures, preferably angled and arranged to discharge water from the basin around the internal contour of the urinal wall.
4. A combined urinal and a wash basin in accordance with any preceding claim, characterised in that the outlet from the urinal feeds to foul water drain
15 system.
5. A combined urinal and a wash basin in accordance with any preceding claim, characterised in that the wash basin and the urinal form an integral unit adapted for mounting against a vertical wall surface, the unit including a water connection for feed to the basin and an outlet connection for waste fluid from the
20 urinal.
6. A combined urinal and a wash basin according to any preceding claim,



characterised in that water to the basin is supplied on activation of an electronic sensor means operable on detection of the presence of a user with or without appropriate time delay.

7. A combined urinal and a wash basin according to any preceding claim,
5 characterised in that an activating button may be provided whereby a user can initiate washing water flow with a sensor means arranged so that if a user should not initiate washing water flow, then washing water will automatically be discharged for a predetermined period in order to provide flushing of the urinal.
8. A combined urinal and a wash basin installation constructed and arranged to
10 function as described herein and exemplified with reference to the drawings.