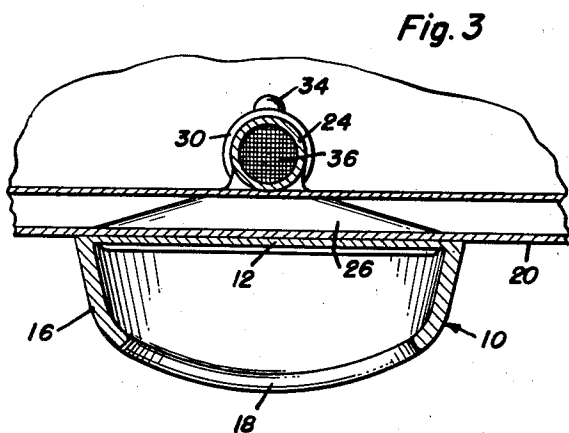
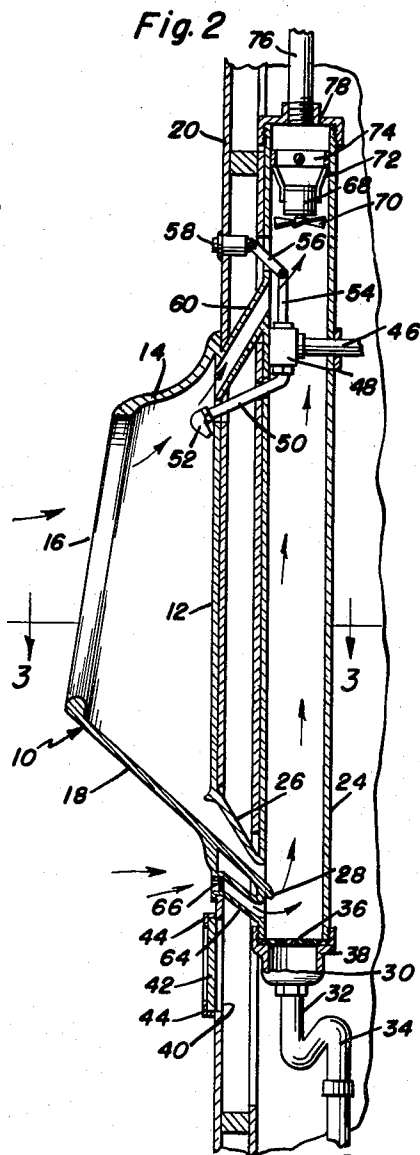
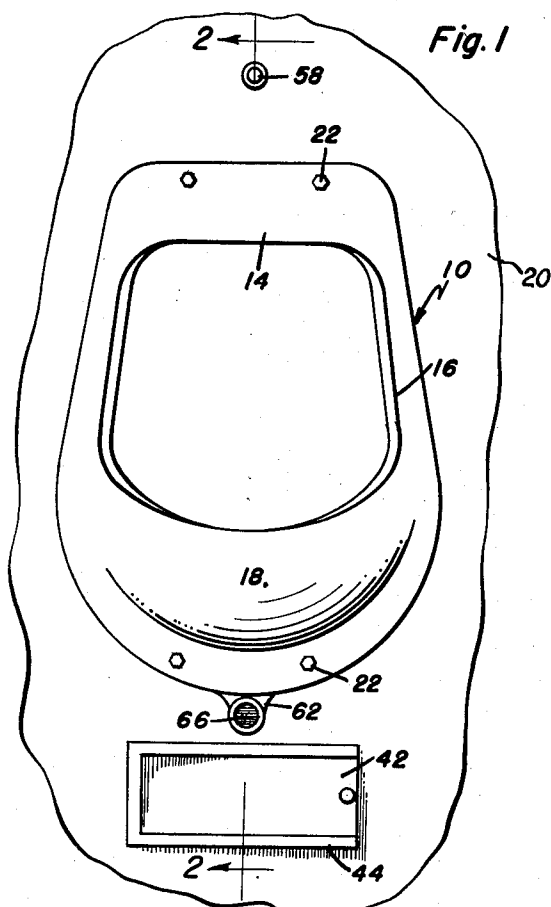


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ODORLESS URINAL
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ODORLESS URINAL

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1 Claim. (Cl. 4-103)

1 This invention relates to new and useful improvements in urinals, and more particularly pertains to novel means for ventilating and mounting a urinal.

The primary object of the present invention is to ventilate a urinal in such a manner that air will be forcibly drawn through the open front of the same and so that other air will also be drawn from the interior of the lavatory room through the space between the drain of the urinal and the sewer pipe to be discharged outside of the building, so the sanitation of the lavatory will be improved and to eliminate any possibility of the urinal becoming objectionable due to odors emanating therefrom.

Another object of the present invention is to provide means for flushing the urinal and to position the urinal and the urinal flushing means in such a manner so that only the control button for the latter is exposed to view to thereby improve the appearance of the installation.

Still another important object of the present invention is to provide a device of this character which will be inexpensive to manufacture, be easy to install, repair and inspect, and which will be highly efficient and durable for the purposes intended.

A meritorious feature of the present invention resides in the provision of a ventilation conduit that communicates with the interior of the vent conduit at a position spaced below the point at which the urinal drains into the vent conduit.

Another important feature of the present invention resides in the provision of a foraminous screen at the juncture of the sewer pipe and the lower end of the vent conduit for trapping objects which may obstruct the sewer pipe, together with the provision of an inspection opening in the supporting wall adjacent the lower end of the vent conduit, whereby access may be had to the latter for the performance of necessary plumbing or janitorial services.

A final important feature to be specifically enumerated herein resides in the provision of an upper ventilating conduit communicating with the upper portion of the urinal and the vent conduit and a fan positioned in the vent conduit above both the ventilating conduits whereby the single fan draws air through both the ventilating conduits.

These, together with various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by the present invention, a preferred embodiment of which has been illus-

2 trated by way of example only in the accompanying drawings, wherein:

Figure 1 is a front elevational view of the present invention showing the same mounted on a supporting wall;

Figure 2 is a vertical transverse sectional view taken upon the plane of section line 2-2 of Figure 1; and

Figure 3 is a horizontal sectional view taken upon the plane of the section line 3-3 of Figure 2.

Reference is now made more specifically to the accompanying drawings, wherein like numerals designate similar parts throughout the various views, and in which the urinal in the form of a receptacle is designated generally at 10.

The urinal 10 includes a rear wall plate 12 carrying top, side, and bottom walls 14, 16 and 18 respectively as clearly shown in the drawing. It will be noted that the top wall 14 is upwardly and rearwardly inclined, while the bottom wall 18 is downwardly and rearwardly inclined. The urinal 10 is mounted with the rear wall 12 flush against a supporting wall construction 20 and secured thereto by means of fasteners 22.

A vertically extending vent conduit 24 is disposed on the side of the supporting wall 20 opposite from the urinal 10. A horizontally and transversely tapered drain conduit 26 (see Figures 2 and 3) communicates through the rear wall 12 of the urinal and into the interior of the vent conduit 24 and adjacent the lower end of the latter. As clearly shown in the drawings, the conduit 26 is rearwardly and downwardly inclined, with the bottomside of the same being formed as a prolongation of the bottom wall 18 having the same slope as the latter and which projects a short distance into the conduit 24 as at 28. As thus far described, it will be apparent that fluid introduced into the urinal 10 will flow into the conduit 24 through the conduit 26.

The lower end of the conduit 24 is threaded into the upper end of a coupling 30 that has connection to the upper end of a sewer pipe 32 having a gas trap 34 therein, so that fluid entering the conduit 24 will be conducted to a sewer, not shown, by the sewer pipe 32. In order to prevent objects such as cigarette butts or the like clogging the sewer pipe 32, a foraminous screen 36 is removably positioned between the lower end of the conduit 24 and an internal shoulder 38 formed in the coupling 30. It will be appreciated that the coupling 30 may be disconnected from the conduit 24 for the removal of and the cleaning of the screen 36 as necessary.

An access opening 40 is provided in the supporting wall 20 through which the coupling 30 may be reached, the opening 40 being normally closed by a slidable inspection plate 42 slidably mounted in flanged guides 44 suitably attached to the supporting wall 20.

Means is provided for flushing the urinal which includes a water pipe 46 for supplying water through a valve 48 and a connecting pipe 50 extending through the wall 20 to a nozzle 52 within the urinal 10 that is spaced a short distance below the top wall 14 to be almost entirely concealed by the latter. The valve 48 is actuated by a plunger 54 that is in turn actuated by a link 56 connected to a push button control 58 mounted in the wall 20 and projecting slightly from the forward face of the latter. It will be evident that upon pushing the push button 58 water will be admitted to the nozzle 52 from the conduit 46 to flush the interior of the urinal 10.

Means is provided to draw air into the vent conduit 24 through the open front of the urinal 10 adjacent the top of the latter, and to also draw air into the vent conduit 24 and through the space between the lower end of the conduit 26 and the foraminous screen 36. Such means include an upwardly and rearwardly extending ventilating conduit 60 communicating through the rear wall 12, the wall 20, and into the interior of the conduit 24, it being noted that the conduit 60 communicates with the interior of the urinal 10 immediately below the top wall 14 thereof and above the nozzle 52. As best shown in Figures 1 and 2, the rear wall 12 projects below the central portion of the bottom wall 18 as at 62, and a downwardly and rearwardly inclined ventilating conduit 64 communicates through this downwardly extending portion 62 of the rear wall 12 and into the interior of the conduit 24 at a position below the conduit 26 and above the screen 36. It will be noted that the upper end of the conduit 64 is provided with a foraminous screen 66 to prevent foreign objects gaining access to the interior of the conduit 64, and that the projecting portion 28 of the bottom side of the conduit 26 projects inwardly into the conduit 24 a sufficient distance to prevent fluid passing through the conduit 26 entering the lower end of the conduit 64.

Mounted in the vent conduit 24 above the upper end of the conduit 60 is an electric motor 68 that drives fan blades 70, the motor 68 being supported by spaced arms 72 carried by a ring 74 fixedly secured in the vent conduit 24 by any suitable means. The upper end of the vent conduit 24 is connected to a vent pipe 76 by means of a reducer 78. It will be understood that the electric motor 68 drives the fan blades 70 in a direction to force vertical movement of the air in the vent conduit 24 upwardly and through the

vent pipe 36 to a position above the roof of the building. Furthermore, it will be evident that in so moving the air in the vent conduit upwardly, that in addition to drawing air into the conduit 24 through the conduit 26, air will move into the vent conduit 24 through both of the conduits 60 and 64 as indicated by the arrows. Obviously air entering the open front of the urinal 10 and passing through the conduit 60 will carry away any odors formed in the interior of the urinal 10, and that the air entering the conduit 24 through the conduit 64 will carry away any odors or fumes formed adjacent the lower end of the vent conduit 24 and tend to scour away any obnoxious odors forming in the sewer pipe 32 above the gas trap 34.

The urinal 10 may be formed of any suitable material such as porcelain, and as shown the same may be formed integrally with the vent conduit 24 and the associated drain and ventilating conduits, if desired.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not desired to limit the invention to the exact construction shown and described, but all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claim.

Having described the invention, what is claimed as new is:

A urinal comprising a receptacle including a vertical wall plate, a vertical conduit adjacent the wall plate, vents connecting the upper and lower portions of said conduit to the wall plate interiorly and exteriorly, respectively, of the receptacle, a drain connecting the receptacle to the conduit at a point immediately above the lower vent, a discharge lip protruding into the conduit from the lower end of said drain above said lower vent, a screened discharge trap detachably connected to the conduit immediately below said lower vent, and a suction fan in said upper portion of the conduit.

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