

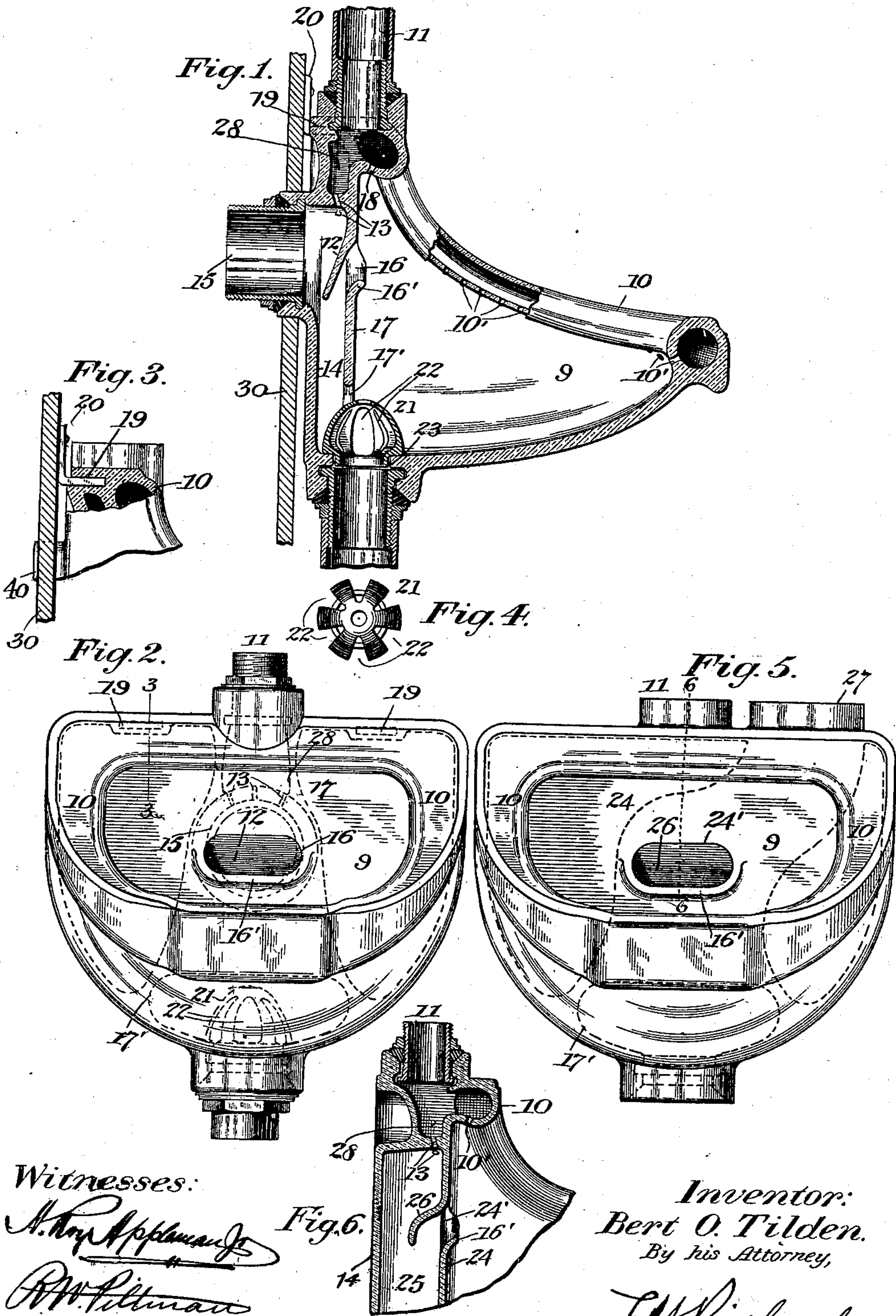
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B. O. TILDEN.
URINAL.

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(Application filed Feb. 8, 1900.)

(No Model.)



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Fig. 6.

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URINAL.

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To all whom it may concern:

Be it known that I, BERT O. TILDEN, a citizen of the United States, residing in Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Urinals, of which the following is a specification.

This invention relates to urinals, and particularly to that class known as "ventilating-urinals;" and it has for its object a urinal of improved construction in which all portions thereof may be readily cleansed by the flushing-water, and especially those parts of the device that are concealed and which in the old forms of construction accumulate filth and dirt and are therefore often reeking with germs detrimental to hygienic conditions. In all devices of this character known to me there is either trouble with the ventilation of the urinal or the liquid-supply ports are so arranged that the urinal is not thoroughly flushed in every part thereof. Another serious defect in the old forms of urinals is the provision of a trap or pocket in the earthenware body, which trap serves as a receptacle for retaining water at a certain level in order to dilute all deposits, &c., and liquids contained in this trap frequently become foul, give off offensive odors, and subject the device to condemnation.

It is therefore the primary object of my invention to provide a urinal that will be thoroughly ventilated in every part and which when flushed will be washed on every square inch of its surface, both as regards the exposed and concealed parts of said surface.

A further object of the invention is a construction whereby liquid will be prevented from entering the vent-pipe, either when maliciously applied or otherwise.

A further object of the invention is the provision of an improved strainer having openings which in their aggregate dimensions are equal in area to the area of the outlet-pipe, whereby danger of overflow of the bowl of the urinal is obviated and the strainer will permit the exit of all water that may enter the bowl without permitting the same to run over the edge thereof.

In the accompanying drawings, Figure 1 is a vertical section of a urinal, illustrating one embodiment of my invention. Fig. 2 is a front

elevation of the same. Fig. 3 is a section on the line 3 3, Fig. 2. Fig. 4 is a plan view of an improved strainer. Fig. 5 is a front elevation of the bowl of a urinal, showing another embodiment of my invention. Fig. 6 is a partial section on line 6 6, Fig. 5.

Similar characters of reference designate like parts in all the figures of the drawings.

Referring to the drawings, the numeral 9 represents the bowl of a urinal having the usual channeled edge or rim 10, communicating with the inlet-pipe and provided with a port or ports 10' for flushing the inner surface of the bowl.

Referring to Fig. 1, the numeral 11 designates the usual flushing or inlet connection, attached to the bowl in any well-known manner and communicating with the channel in rim 10, above mentioned, and with a second channel 28 in the back of the bowl adjacent to the first-named channel.

In the form represented in Fig. 1 a partition 17, adjacent to the rear wall of the bowl of the urinal, is equipped with a deflector 12, which will divert the stream of water passing from the flushing-pipe through the port or ports 13 of channel 28 and cause the same thoroughly to wash the inner concealed portion 14 of the rear wall of the bowl. This deflector also guards the vent connection 15 and prevents liquids from being maliciously or mischievously injected therein. Connected with this form of my invention is a ventilating pipe or connection 15, passing through the usual partition 30, and communicating with said ventilating-pipe is an intermediate port 16 in the partition 17, located adjacent to the rear wall of the bowl. By this means an outrush of air is always permitted from the bowl proper, and entrained air conveyed by the flushing liquid also enters said connection 15, leading to the usual vent-flue.

In order that the forward surface of partition 17 may be thoroughly cleansed, the upper portion of the channeled rim 10 is provided with a port or ports 18, through which water passes from the flushing-pipe and trickles down on the outer surface of said partition, thereby thoroughly cleansing the same. Adjacent to port 16 the partition is also equipped with an outwardly-curved lower edge or bead 16', which will cause water flowing from ports

18 to pass along and cleanse the rear wall of partition 17, and in this way both walls of said partition are washed.

In the back of the urinal-body I provide 5 transverse sockets or recesses 19, adapted to receive angle-brackets or L-shaped supports 20 for securing the bowl in place where desired, and the bowl may also have a transverse lug or projection 40, adapted to enter 10 an opening in the partition or other device to which the bowl may be secured.

An important feature of my invention resides in the construction of the strainer for preventing the entrance of foreign bodies— 15 such as cigar-butts, paper, &c.—to the outlet connection, and this strainer is designated by the numeral 21, is of hollow cone-shaped formation, is provided with a series of elongated apertures 22, aggregating in dimension 20 the size of the opening leading to the outlet pipe or connection 23, and is located in a recess 17' in the lower part of partition 17, said recess also constituting the ventilating-opening for the lower part of the bowl. This strainer 21 25 is to be secured in the outlet-opening 23 of the bowl by a setting of white lead in the customary manner, and as it has openings equal in area to the area of the outlet-opening all liquid will be readily carried off, and there 30 will be no danger of an overflow of the bowl under ordinary circumstances.

In the construction illustrated in Figs. 5 and 6 the body of the urinal is modified slightly and the lateral vent passing through 35 partition 30 in Fig. 1 is omitted, ventage being provided for through the top connection 27, located adjacent to the inlet-pipe 11 and leading to the usual flue. The partition 24 in this form of my invention is provided with 40 an opening 24', leading to a long vent-passage 25, located in the rear of the urinal, and over this opening 24' in said partition 24 I form a peculiarly-constructed guard or deflector 26, of such design and configuration 45 that when flushing liquid enters from the inlet-pipe said liquid will be diverted and caused to assume a rotary or centrifugal motion. In other words, the water or flushing liquid as it issues from the supply-pipe will 50 strike the deflector 26 and will, owing to the peculiar curved configuration thereof, be caused to rebound and form a whirlpool, wash the upper part of the rear wall of chamber 25, and then drop by its own weight and 55 cleanse the concealed intermediate and lower parts of the back wall of the vent space or channel 25.

While the substance of which my improved urinal is composed constitutes no part of my 60 invention, it will ordinarily be molded from plastic material in the usual manner.

By the provision of the various details above set forth I am enabled to provide a self-ventilating urinal and one that will at all 65 times be thoroughly flushed and cleansed by the incoming water, and this cleansing action of the fluid is applied not only to the exposed

parts of the urinal-bowl, but also to the concealed parts thereof. In fact, every portion of the surface of the bowl and its adjacent 70 parts is cleansed and washed and all deposits of adhering substances are thoroughly removed.

In both forms of my invention the deflectors 12 and 26 prevent the entrance of liquid 75 into the direct ventilating connections and also subserve the purpose of so diverting the flow of the cleansing liquid that it will wash the concealed parts of the bowl, shown as the inner surface of the rear wall thereof. 80

Should it be desired mechanically to clean the partitions 17 and 24, a rag or cloth may readily be passed through the port 16 or 24', and from thence through the ventilating-opening 17' in the lower part of the partition 85 17, and by working said cloth back and forth all accumulations or deposits—such as slime, mucus, and the like—may readily be removed from the back wall of the partition.

I am well aware that so-called "ventilating" and "self-cleansing" urinals are not 90 broadly new; but my invention is in the nature of an improvement on these old devices, whereby much better results are effected and a thoroughly hygienic urinal is produced. 95

My invention is not limited to the exact details illustrated and described, as various changes may be made in the form and location of parts without departure therefrom, 100 and the parts of the bowl are not necessarily made integral, as shown, but may be constructed in sections and afterward assembled to form the complete urinal. Furthermore, the deflector may be disposed differently with relation to the vent-opening in the partition 105 and may be in some cases separate therefrom.

Having described my invention, I claim—

1. A urinal consisting of a bowl having a partition with a vent-passage; a deflector adjacent to said vent-passage; and means for 110 supplying fluid to said deflector, whereby such fluid will be diverted and made to cleanse the inner side of the rear wall of the bowl.

2. A urinal comprising a bowl; a partition in said bowl, having a vent-passage and a deflector overlapping said vent-passage; and 115 means for supplying liquid to said deflector, whereby the inner side of the rear wall of the bowl will be cleansed by the flushing liquid.

3. A urinal comprising a bowl having the 120 usual channeled edge equipped with means for permitting the entrance of flushing fluid to the interior thereof; means for supplying liquid to said bowl; a device having a vent-passage located within the bowl; and a deflector 125 located above said vent-passage and serving to divert said liquid so that it will flush the inner side of the rear wall inner part of the bowl.

4. A ventilating-urinal consisting of a bowl 130 and means for flushing the surface thereof; a partition in said bowl, having vent-passages; means for flushing the outer wall of said partition; a deflector carried by the partition and

overlapping one of said vent-passages; and means for flushing the deflector and thereby causing the same to divert the flushing liquid to a concealed part of the bowl.

5 5. A urinal comprising a bowl having a partition with a deflector located over a vent-passage therein; a vent-pipe communicating with said passage; and means for supplying liquid to said deflector whereby the latter di-
10 verts said liquid and causing it to cleanse the inner part of the rear portion of the bowl.

6. A urinal comprising a bowl; a partition having a vent-passage therein and provided with a curved deflector located over said pas-
15 sage; a vent channel or passage located at the rear part of the bowl; and means for supplying liquid to said curved deflector and to the walls of said vent-passage.

20 7. A urinal comprising a bowl having means for receiving and delivering the flushing liquid

to various parts thereof; a partition having an intermediate vent-passage, a deflector overlapping said vent-passage, and a vent-opening adjacent to its lower end; and a vent-pipe communicating with the vent-passage in said partition. 25

8. A urinal comprising a bowl having means for receiving and delivering flushing liquid to various parts thereof; a partition having a vent-passage, a deflector overlapping said vent-passage, and a vent-opening adjacent to its lower end; a vent-pipe communicating with the passage in said partition; and a strainer located adjacent to said vent-open-
30 ing and over the waste-outlet of the bowl. 35

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