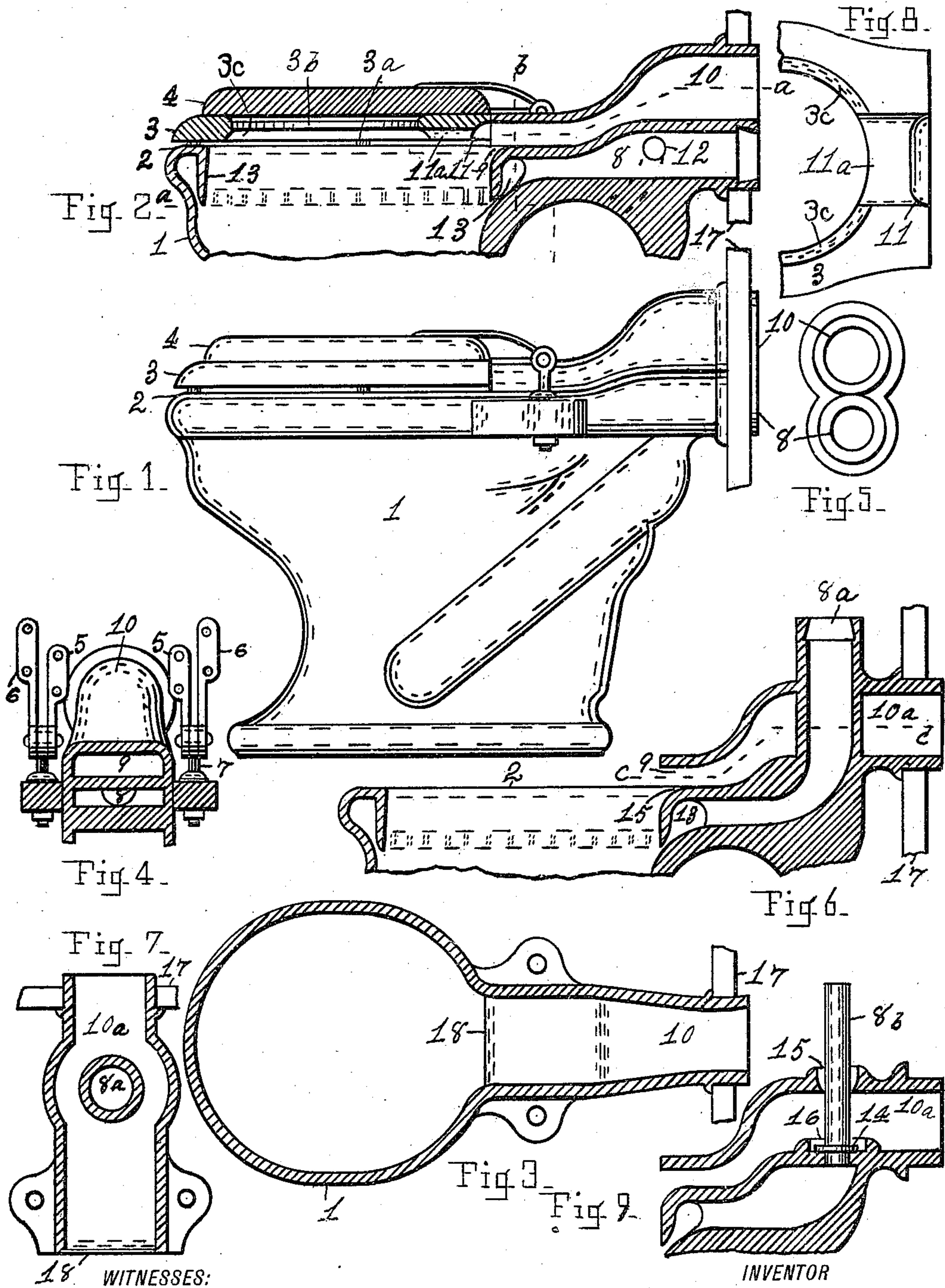


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 WATER CLOSET BOWL.  
 APPLICATION FILED MAY 29, 1908.

975,550.

Patented Nov. 15, 1910.



18' WITNESSES:

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## WATER-CLOSET BOWL.

975,550. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed May 29, 1908. Serial No. 435,664.

*To all whom it may concern:*

Be it known that I, ANTON T. LUECKENBACH, a citizen of the United States, residing at Neenah, in the county of Winnebago and State of Wisconsin, have invented a new and useful Water-Closet Bowl, of which the following is a specification.

My invention relates to the manner of ventilating the bowl by arranging the mouth of the foul air ventilating duct at a point as high or higher than the flushing channel around the bowl top, and the object of the improvement is, to improve the ventilation of the bowl by having said mouth on a level, or a little higher in some cases, than the body of air in the bowl which has been warmed by the body of the person using the bowl, and also, by the discharge therefrom, as it is a well known principle in science that the cool air will, because of its greater specific gravity, fall below the warm air and force the latter out of a room or other inclosed space if flues or openings are properly provided, the warm air rising and running off of the body of cool air just as naturally as oil will float from the surface of water.

The type of bowl shown is one that ventilates through a partition wall at the rear of the bowl, but that is not an essential element, as both that and the flushing pipe may enter the bowl from any convenient direction.

My invention is shown in the accompanying drawing, in which,—

Figure 1 is a side elevation of an approved form of bowl, but I make no claim to any thing in its construction, excepting as hereafter particularly described. Fig. 2 is a vertical section of the upper part of a bowl, longitudinally thereof. Fig. 3 is a horizontal section of the bowl upon the irregular line *a, a*, of Fig. 2. Fig. 4 is a transverse section of the bowl upon the irregular line *b, b*, of Fig. 2, the hinges for the seat and its cover standing upward. Fig. 5 is an elevation showing the outer ends of the ventilating duct and flushing inlet in Figs. 1 and 2. Fig. 6 is a vertical section of the upper part of a bowl longitudinally thereof, and showing a modification in the arrangement of the ventilating duct and flushing inlet, from the one shown in Fig. 2. Fig. 7 is a plan partly in section horizontally, of the right hand end of part of Fig. 6 that is below the line *c, c*, of said figure. Fig. 8 is a plan of the lower side of the seat of the bowl, at its rear end. Fig. 9 is a vertical

section, similar to the right hand end of Fig. 6, showing a metallic water flushing pipe instead of an earthenware one as in Fig. 6.

Similar numerals indicate like parts, with letters, in the several views.

1, indicates the body of a bowl which may be of the "siphon jet" type as in Fig. 1, or a "wash down variety", the particular construction of the lower part of the bowl being immaterial.

2, indicates the upper rim of the bowl; 3, the seat having cushioning plugs 3<sup>a</sup>; 4, the seat cover; 5 and 6, hinge leaves by which the seat and cover are respectively hinged by the hinge post 7, to the bowl top in a usual manner.

The inlet for the flushing water may be arranged as in Figs. 1 and 2, to enter the bowl from the rear in a nearly horizontal direction, as 8, or as 8<sup>a</sup>, from above, as in Fig. 6, it passing through the ventilating duct as shown in said figure and in Fig. 7.

The mouth 9, of the ventilating duct 10, is arranged to enter the bowl at the rear of the seat, the seat being hinged so as to form when closed down, a close joint with the mouth 9, said mouth 9 having a curve at each upper corner and the lower side of the seat having a rabbet 11 corresponding in form with the mouth 9, a channel 11<sup>a</sup>, being formed in the seat leading from said rabbet forward to the seat opening 3<sup>b</sup>, so that there is an unobstructed channel from the seat opening at the highest point above the bowl in which a body of air can accumulate, when the bowl is in use, to the mouth of the ventilating duct.

It will be observed that the plugs 3<sup>a</sup>, hold the lower edge of the seat above the bowl top and provide a space between the seat and bowl top entirely around the bowl top excepting at the mouth 9 of the duct 10, for the admission of outside air, which will be drawn into the bowl when a person is upon the seat, by reason of the air next to the body of the person being warmer than it is outside of the bowl. This inward rush of air assists the draft from the body of air under the seat, into the ventilating duct and keeps a continuous current of air from the outside, passing into and out of the bowl into the ventilating duct, and consequently, takes away the odors as long as the seat is occupied. The seat is concaved at 3<sup>c</sup>, around the opening 3<sup>b</sup>, for the purpose of providing a channel next to the body of the occupant



of the seat around the seat opening which communicates with the mouth of the ventilating duct through the channel 11<sup>a</sup>, whereby the incoming air through the space between the seat and bowl top, enters into the concave space around the seat opening, is warmed by the natural heat from the body of the seat occupant, and assists in the draft toward the ventilating duct, a direct horizontal passage from the highest point under the seat, into the ventilating duct being provided by the channel 11<sup>a</sup>.

In Fig. 2, the water inlet pipe 8, conducts the flushing current to the siphon jet aperture 12 and to the channel 13, around the rim of the bowl, and in Fig. 6, the inlet 8<sup>a</sup>, supplies the channel 13, and the ventilating duct 10<sup>a</sup>, passes around the inlet pipe 8<sup>a</sup>, its mouth being in the same position relative to the bowl top as in Figs. 1 and 2.

In Fig. 9, a modification in the flushing pipe is shown, in forming the pipe of metal instead of the same material of which the bowl is formed. Its advantage will be the taking of less room in its passage through the ventilating duct, and it may consist of the pipe 8<sup>b</sup>, having a collar 14 fixed to it and the ventilating pipe 10<sup>a</sup> being provided with seats 15 and 16, said metallic pipe passing through the seats and being supported in one of the seats by the collar 14, a suitable cement or packing material being placed in said seats around the pipe for forming an air tight joint around the pipe. Other suitable joints well known to the mechanic may be used if desired.

17, indicates partitions through which the ventilating pipe passes and 18, the front edge of the lower wall of the ventilating duct.

It will be evident that the lower part of the mouth of the ventilating duct may be below the bowl top and still be above the upper part of the outlet of the flushing pipe and entrance to the flushing channel, as the thickness of the material of the bowl top around the bowl of a half inch, more or less, must necessarily intervene between the flushing channel and bowl top, while the space leading from under the seat to the ventilating duct may drop below the bowl top the thickness of said intervening bowl top material, so that the entire channel leading from under the seat into the mouth of the ventilating duct may not be entirely above the bowl top, but still be above the entrance to the flushing channel, which is the end in view, but the fact remains that the higher the mouth of the ventilating duct is, above the inlet of the flushing channel around the bowl, the better will the ventilation of the bowl be.

Having described my invention, what I claim and desire to secure by Letters Patent, is:—

1. In a water closet bowl having a ventilating duct, the mouth of which is above the entrance to the flushing channel, said duct being integral with the bowl, and a flushing channel around the bowl arranged in a horizontal plane below said ventilating duct, the combination with said bowl of a seat therefor, a plurality of cushioning plugs upon the lower side of the seat which space the seat above the bowl top, a seat opening, a concave space upon the lower side of the seat around said opening upon the front and sides of the seat, and a channel from said concave space at the rear end of the seat, horizontally arranged and leading to the mouth of said ventilating duct.

2. In a water closet bowl having flushing water inlet and a ventilating duct above the inlet, both being formed integral with the bowl, the mouth of said ventilating duct being in a horizontal plane above the flushing water inlet, the combination with the bowl of a seat hinged to the bowl top, the upper surface and rear end of the seat and upper surface and front end of said ventilating duct forming when the seat is closed, a close joint with each other, a plurality of cushioning plugs upon the lower side of said seat which space the seat above the bowl top, a seat opening, a concave space upon the lower side of the seat around said opening upon the front and sides of the seat, and a channel at its rear end leading in a horizontal plane from the upper surface of said concave space around the seat, into the mouth of said ventilating duct.

3. In combination in a water closet bowl, a ventilating duct, a flushing channel around the bowl top, the mouth of which duct is above the entrance to the flushing channel, the ventilating duct, flushing channel and bowl being integral, a seat hinged to the bowl top, an opening in the seat, the upper surface and rear end of the seat and upper surface and front end of the ventilating duct forming when the seat is closed down, a close joint with each other, a plurality of cushioning plugs upon the lower side of the seat which space the seat above the bowl top, a concave space upon the lower side of the seat around its opening upon the front and rear sides of the seat, and a channel at the rear end of the seat leading in a horizontal plane from the upper surface of said concave space around the seat into the mouth of the ventilating duct.

4. A water closet bowl having an integral ventilating duct, the inlet end of which communicates with the interior of said bowl above the rim of the bowl.

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Witnesses:

W. G. BROWN.

S. W. MORGAN.