

A. A. & A. J. BRUDER.
 WATER CLOSET.
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1,061,522.

Patented May 13, 1913.

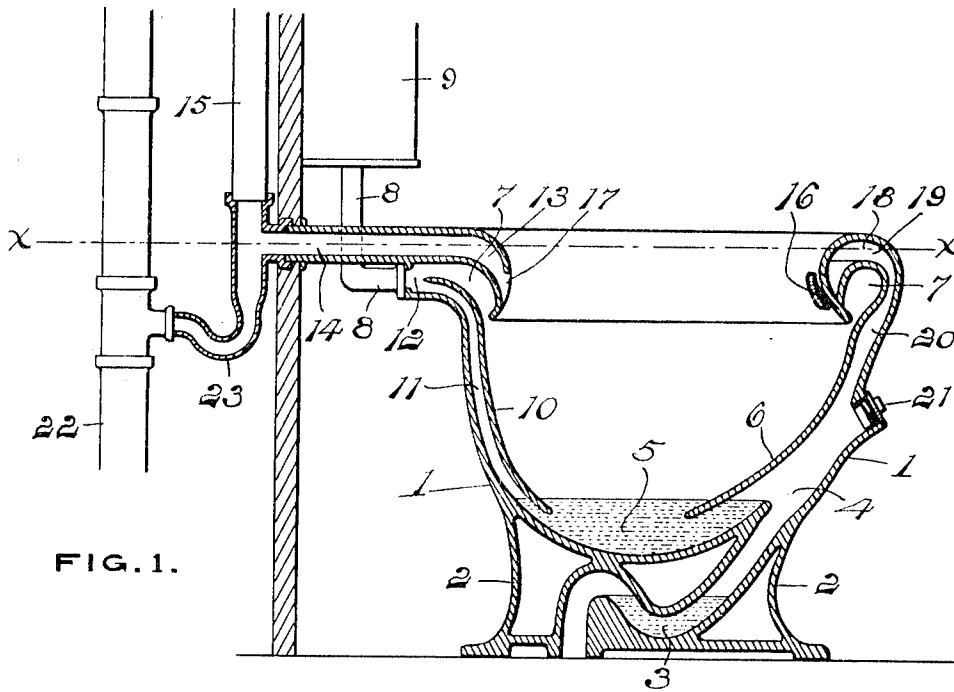


FIG. 1.

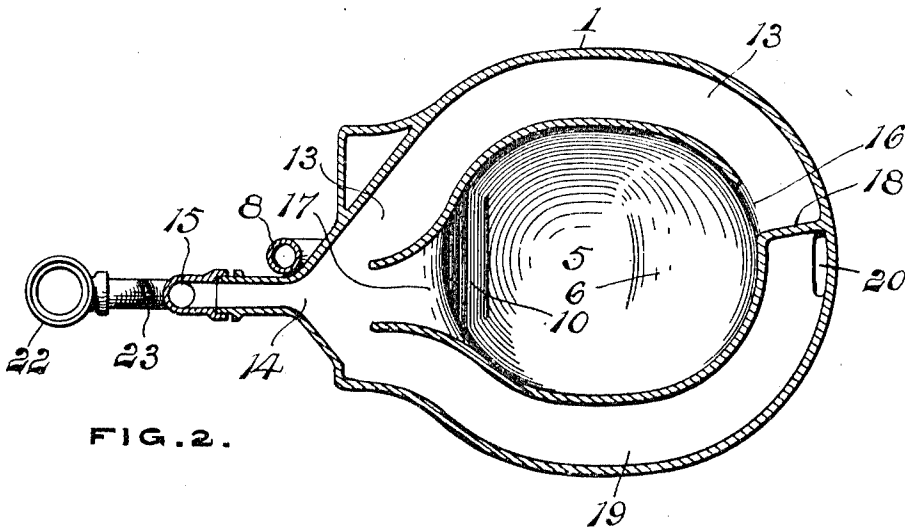


FIG. 2.

Witnesses
 A. M. Shannon.
 Chas. W. Stauffiger

Inventors
 Albert A. Bruder
 August J. Bruder
 By *Robert H. [Signature]* Attorneys

UNITED STATES PATENT OFFICE.

ALBERT A. BRUDER AND AUGUST J. BRUDER, OF DETROIT, MICHIGAN.

WATER-CLOSET.

1,061,522.

Specification of Letters Patent.

Patented May 13, 1913.

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To all whom it may concern:

Be it known that we, ALBERT A. BRUDER and AUGUST J. BRUDER, citizens of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in the construction and arrangement of water closets and its object is to provide means for preventing closet bowls from overflowing and to provide a construction of bowl which will prevent noise in flushing and provide a convenient clean-out for the trap thereof and also certain other new and useful features, the invention consisting in the matters hereinafter more fully set forth and particularly pointed out in the claims, reference being had to the accompanying drawing in which—

Figure 1 is a vertical section through a closet bowl and its setting embodying our invention; and Fig. 2 is a horizontal section thereof on the line $x-x$ of Fig. 1.

A closet bowl 1 of any suitable shape is formed with a base 2 having therein a trap 3 with a flushing passage 4 leading upward therefrom at the forward side of the bowl. The bottom of the bowl forms a trap basin 5 which overflows at its forward side into the passage 4, a wall 6 being provided across the opening into said passage, which wall dips down into the basin to form a seal for the opening.

The rim of the bowl is formed with the usual annular flush passage 7 which is connected at the rear of the bowl by a pipe 8 with the flush tank 9. A wall 10 spaced from the rear wall of the bowl forms a passage 11 extending downward into the trap basin, the lower end of said wall being extended below the level of the water in said basin and its upper end curved rearwardly into the inlet portion 12 of the passage 7 so that the stream of water entering from the pipe 8 will be divided by the wall 10 and a portion deflected downward through the said passage 11 into the basin and the remainder will pass into the rim passage in the usual way. This dividing of the stream lessens the volume and force of water enter-

ing the rim flush passage so that it will flow from the passage down the walls of the bowl evenly and quietly, and the remainder of the volume required to properly flush the basin will flow quietly down the passage 11. The rim of the bowl is also preferably formed with a vent passage 13 extending substantially halfway around the bowl above the passage 7 and this vent passage is open at the rear of the bowl into an outlet pipe 14 which is connected to a vent pipe or stack 15 leading upward through the roof of the building or into any suitable air flue such as a chimney. The vent passage is connected at its forward end with the interior of the bowl through an opening 16 and at the rear of the bowl through an opening 17 directly opposite the outlet 14, and a transverse wall 18 adjacent to the opening 16 divides said passage 13 from a second rim passage 19 extending around the bowl at its opposite side and opening at its rear end into the outlet 14. At its forward end this passage 19 communicates with the passage 4 leading to the trap 3, through an upward extension 20 of said passage 4 which connecting passage opens into the bottom of the passage 19 adjacent to the wall 18. These passages 19 and 20 thus form a breather passage for the trap 3 when the same discharges, preventing the disagreeable sound caused thereby and furnishing a vent for said trap.

To facilitate the cleaning out of the trap 3, a clean out opening is provided in the passage 4 at the forward side of the bowl which opening is closed by a screw cap 21, and to prevent the bowl from overflowing should either of the traps become clogged and the bowl then flushed, the lower end of the vent stack 15 is connected to the soil stack 22 by a trap 23 so that when the bowl fills up, the water will flow into the vent passage and out through the outlet 14 and trap 23 into the soil stack.

Obviously changes may be made in the construction and arrangement of parts without departing from the spirit of our invention and we do not wish to limit ourselves to the form shown.

Having thus fully described our invention what we claim is:—

1. The combination of a closet bowl having a ventilating passage near its top, a vent

pipe connected to said passage to draw air therefrom, a soil stack extending upward at a distance from the bowl, and a connection between the lower end of the vent pipe and the soil stack comprising a trap.

2. The combination of a closet bowl having a hollow flushing rim passage, a ventilating passage above the flushing passage having a horizontally extending outlet, a vent pipe connected to the said outlet to draw air therefrom, a soil stack extending vertically past the bowl adjacent to the vent pipe, and a trap connecting the lower end of the vent pipe and the soil stack.

3. The combination of a closet bowl, a trap, a passage forming the outlet for the bowl and leading to the inlet side of the trap, a rim passage connected with said passage leading to the trap, and a ventilating outlet for said rim passage.

4. The combination of a closet bowl having a trap basin, a trap below the trap basin, a passage leading upward from the inlet of the lower trap and into which passage the trap basin is adapted to overflow, a rim passage into which the passage from the trap opens and which has an outlet, and a vent pipe connected to said outlet.

5. A closet bowl comprising a trap basin in its bottom, a trap below said basin, a passage at the forward side of the bowl forming the inlet for the lower trap and into which the trap basin discharges, a clean-out opening being provided in the front wall of said passage, a closure for said opening, and

a breather passage connected to the upper end of said passage.

6. The combination of a closet bowl having a rim formed with a ventilating passage at one side of the bowl communicating with the interior thereof and a separate breather passage at the other side of the bowl, said passages having a common outlet at the rear of the bowl, a trap in the bottom of the bowl, and a passage leading upward from said trap and connected to said breather passage, and a vent pipe connected to the outlet of said vent and breather passages.

7. The combination of a closet bowl having a rim formed with a ventilating passage extending around one side of the bowl and communicating with the interior thereof at its front and rear and a separate breather passage at the other side of the bowl extending from front to rear thereof, said passages having a common outlet passage, a trap basin in the bowl, a trap below the trap basin, a passage extending upward at the front side of the bowl from the lower trap and connected at its upper end with the breather passage, a vent pipe connected to said outlet passage, a soil stack, and a trap connecting said stack and vent pipe.

In testimony whereof we affix our signatures in presence of two witnesses.

ALBERT A. BRUDER.
AUGUST J. BRUDER.

Witnesses:

ANNA M. DORR,
C. R. STICKNEY.