(No Model.)

2 Sheets—Sheet 1.

D. D. BUICK.

SIPHON WATER CLOSET.

No. 383,038. Patented May 15, 1888.

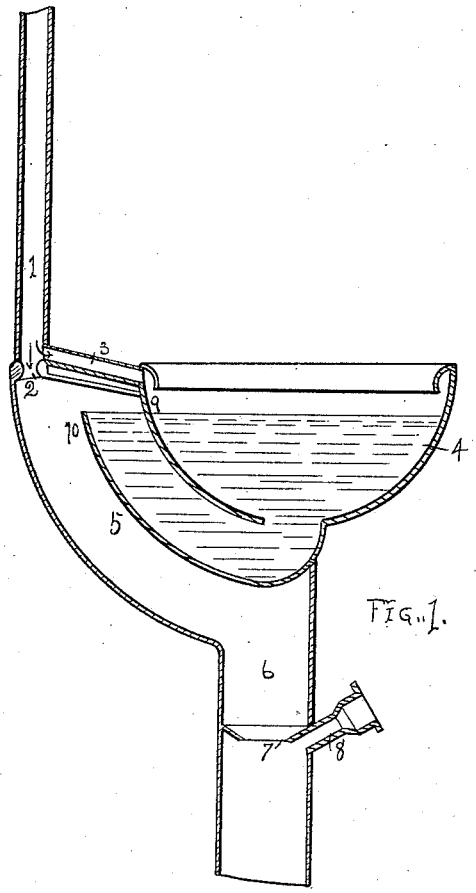

Fig. 1.

Witnesses:
Summer Collins.
C. M. Mason.

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atty.

(No Model.) 2 Sheets—Sheet 2.

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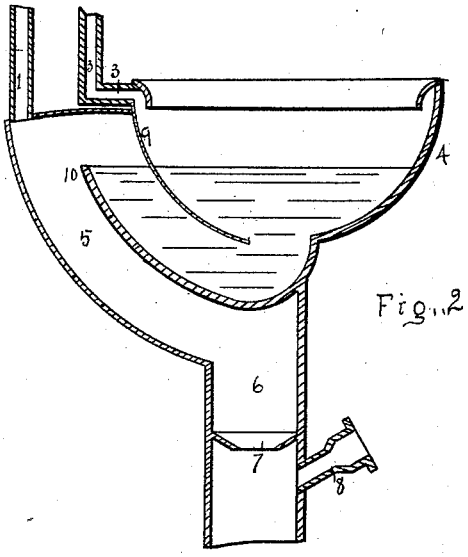

Fig. 2

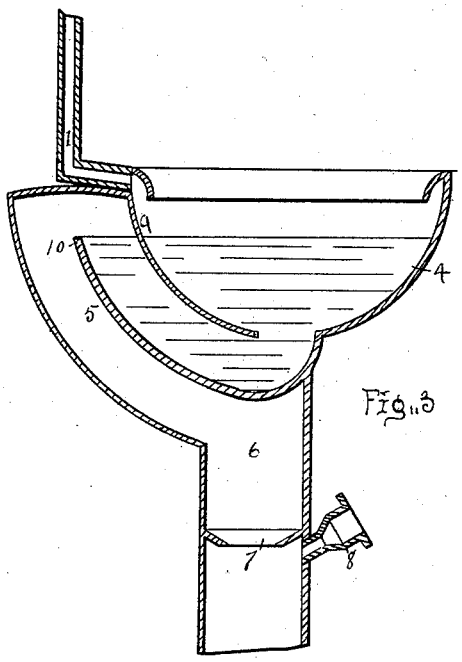

Fig. 3

Witnesses:
Summer Collins.
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UNITED STATES PATENT OFFICE.

DAVID D. BUICK, OF DETROIT, MICHIGAN.

SIPHON WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 383,038, dated May 15, 1888.

Application filed May 27, 1887. Serial No. 239,544. (No model.)

To all whom it may concern:

Be it known that I, DAVID D. BUICK, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful Improvement in Siphon Water-Closets, of which the following is a specification.

My invention consists in an improvement in siphon-closets, hereinafter fully described.

Figure 1 is a vertical section of my improved siphon-closet. Figs. 2 and 3 are vertical sections of siphon-closets illustrating slight modifications.

4 represents the bowl of the closet, at the side of which a trap is formed by the two walls 9 and 10.

5 represents a passage at the side of the bowl communicating with the upper end of the soil-pipe 6.

7 represents a contraction in the pipe 6 by which the area of said pipe at that point is reduced, and in practice I reduce the diameter of a four-inch pipe to about two inches, leaving the pipe full size above and below. The upper surface of this contraction 7 is concaved or inclined toward the center of the soil-pipe, as shown, so as to prevent soil or other matter from lodging thereon.

8 represents a ventilating-pipe, which may connect with the soil-pipe at any convenient point below the contraction 7.

In the construction illustrated in Fig. 1 of the drawings, 1 represents a water-supply pipe leading from an elevated tank, and, as shown in the drawings, adapted to supply water to the passage 5, through the opening 2, and to the bowl 4, through the branch pipe 3, being together about the capacity of pipe 1.

In the modification shown in Fig. 2 the pipes 1 and 3 are separated, pipe 1 leading to the top of passage 5 and pipe 3 leading to the bowl 4.

In Fig. 3 the top of passage 5 is entirely closed and all the water from the tank above passes through pipe 1 into the bowl.

The operation of my invention, as illustrated in Figs. 1 and 2, is as follows: When water is admitted through pipe 1, a portion of it passes through opening 2 and through passage 5. Another portion passes through branch pipe 3 into the bowl and causes a portion of the water in the bowl to overflow partition 10 into passage 5. The water descending through passage 5 carries with it the air in said passage, and when it comes to the contracted part 7 of the pipe 6 the rush of the water practically seals the contracted part, even if the area of said part be greater than the combined areas of pipes 1 and 3, so that no air can pass up into passage 5, and the contents of the bowl 4 are siphoned out over partition 10 until the water in the bowl falls below the lower end of partition 9 and breaks the siphon, when the bowl will gradually fill from the remaining water coming through pipe 3.

I prefer to make a contraction in the soil-pipe, as indicated in the drawings; but it is obvious that it would be a simple equivalent of the construction indicated to make the soil-pipe 6, either in whole or in part, so small that the descending flow of water would prevent an upward current of air therethrough.

If two pipes are used to supply water to the bowl and passage 5, as shown in Fig. 2, the operation will be just as described above, except that water would be simultaneously admitted to the bowl 4 and passage 5 through the two pipes instead of through the single pipe and branches.

When my invention is constructed as shown in Fig. 3, its operation is as follows: When water is admitted to the bowl through pipe 1, it causes the water which lies in the trap to overflow partition 10 and fall through passage 5, where it acts in the same manner herein-before described.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the bowl 4 having partitions 9 and 10, the passage 5, leading from said bowl, the soil-pipe 6, having therein the contraction 7, provided with an inclined upper surface, and a water-supply pipe communicating with the top of the bowl and with the top of the passage 5 above the contraction in the soil-pipe, substantially as described.

2. The combination of the bowl 4, having partitions 9 and 10, the side passage, 5, the soil-pipe 6, having a contraction, 7, the ventilating-pipe 8, leading from the soil-pipe below the contraction 7, and means for supplying water to the bowl and to the top of the side passage, 5, above the contraction in the soil-pipe, substantially as described.

DAVID D. BUICK.

Witnesses:
SUMNER COLLINS,
C. M. MASON.