

No. 689,679.

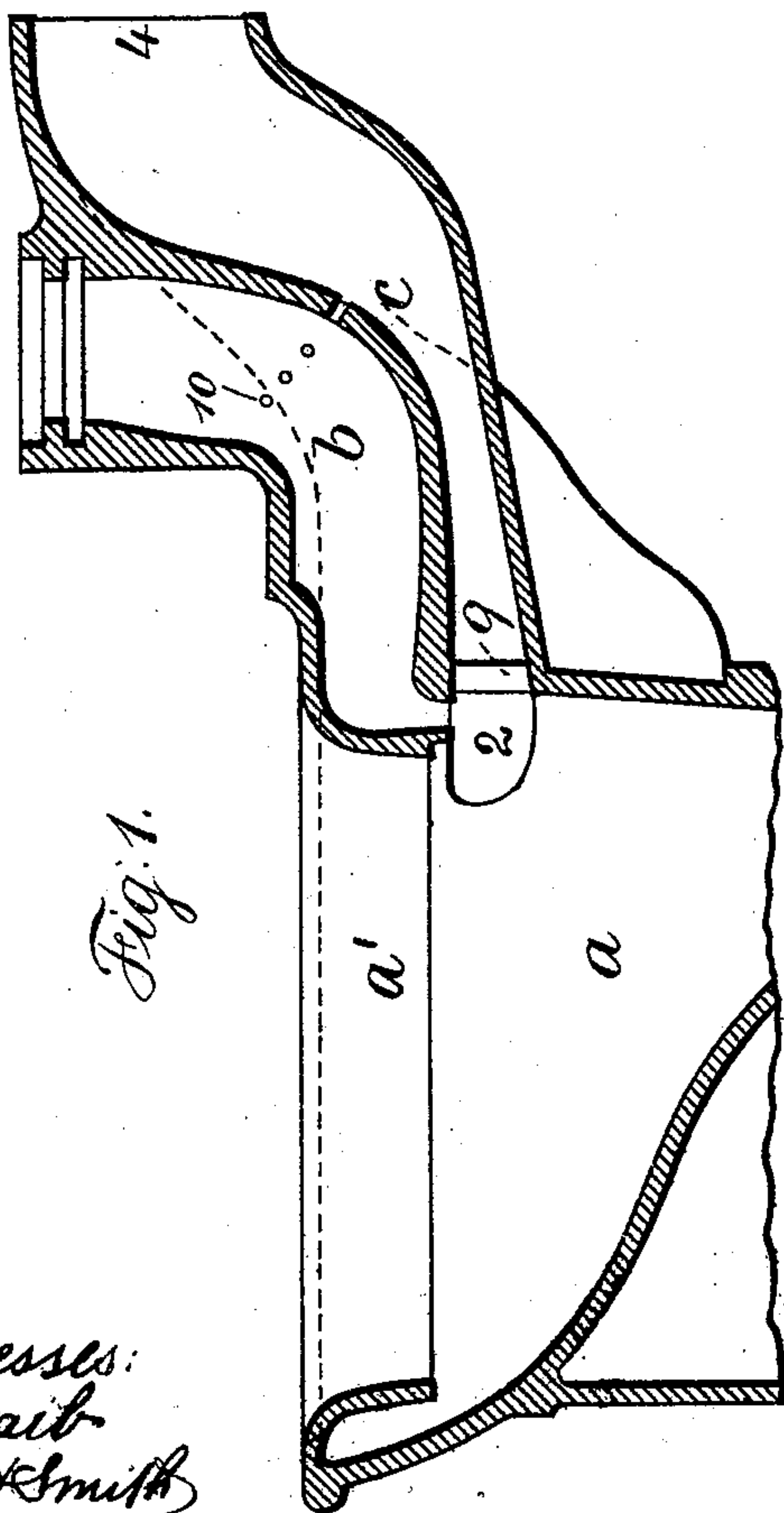
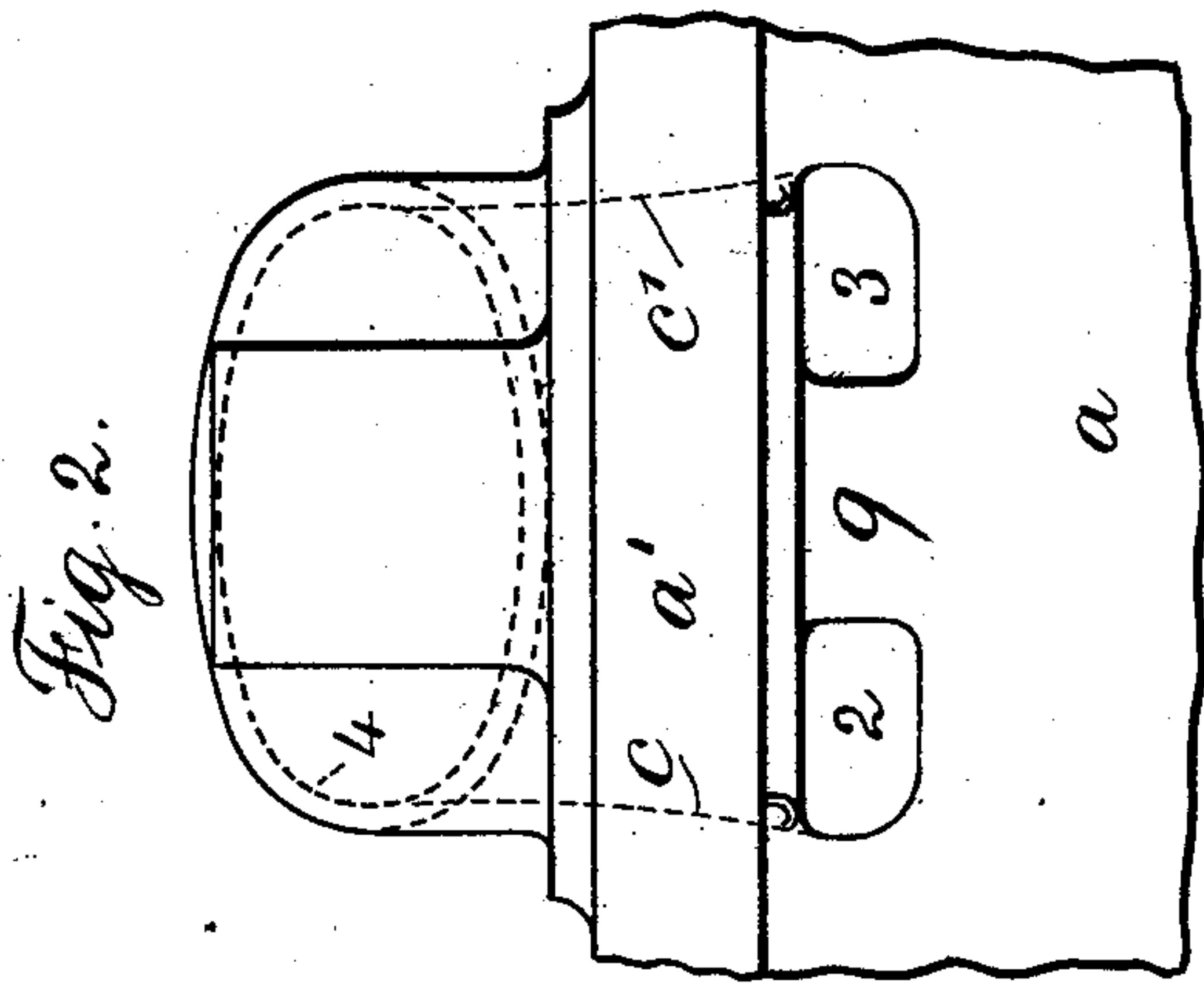
Patented Dec. 24, 1901.

W. H. LLOYD.  
WATER CLOSET.

(Application filed Sept. 25, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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# UNITED STATES PATENT OFFICE.

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## WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 689,679, dated December 24, 1901.

Application filed September 25, 1899. Serial No. 731,522. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. LLOYD, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Water-Closets, of which the following is a specification.

My invention relates to the upper portion of the closet, and particularly to the arrangement of the vent in connection with the inlet-chamber for flushing-water. In carrying out my invention the vent comprises two openings from the bowl below the flushing-rim and two connecting ventilating-passages extending rearward from said openings at the sides and around beneath the inlet-chamber for flushing-water and extending, preferably, slightly upward, the said ventilating-passages having one mouth or opening at the rear of the closet and above the horizontal plane or level of the flushing-rim and to which a separate vent-pipe may be connected, thus preventing an overflow of the bowl discharging into the vent-pipe. These parts are above and disconnected from the crown of the leg or trap, so that there is a clear way at the outside of the closet between said parts and the crown of the leg or trap, the said parts being in no sense supported by the leg or trap. The bowl of the closet has made integral with it the ventilating-passages at each side of and beneath the inlet-chamber for flushing-water, which passage-ways terminate in the two openings through the wall of the bowl at one end and in the one opening or mouth at the other end, and I prefer to make these passage-ways and the inlet-chamber for flushing-water integral and of one piece of porcelain with the bowl and to perforate the wall between the chamber for flushing-water and the ventilating-passages. I may, however, employ an additional piece rising from the mouth of the ventilating passage-ways, and I may pass down through this a pipe to join with the inlet-chamber for flushing-water.

In the drawings, Figure 1 is a vertical longitudinal section and partial elevation representing the most improved form of my invention, and Fig. 2 is an elevation looking rearward from within the bowl. Fig. 3 is a vertical longitudinal section and partial eleva-

tion representing a form of my invention, and Fig. 4 is a sectional plan at  $x x$  of Fig. 3.

$a$  represents the bowl or hopper of the closet, and  $a'$  the flushing-rim.

$b$  represents the inlet-chamber for flushing-water, adapted at its upper end for connection with a pipe and opening at its lower end directly into the flushing-rim. The ventilating-passages  $c c'$  extend along the two opposite sides of and beneath the inlet-chamber  $b$  for flushing-water. At one end they are provided with the adjacent openings 2 and 3 through the wall of the bowl of the closet below the flushing-rim, and at the other end they come together and join in the mouth or opening 4, at which point an independent pipe may be connected. These parts I prefer to form integral and of one piece of porcelain with the bowl and the leg or trap of the closet, but do not limit my invention in this respect. They, however, are separate and independent from said leg or trap and are in no sense supported upon the crown thereof.

In the form of my invention shown in Figs. 3 and 4 I prefer to employ a curved end 5, turning the passage-way from the horizontal plane of the opening 4 above the plane of the top of the bowl to an opening in a vertical plane, at which opening an outside pipe is adapted to be connected, and this end 5 has a flange setting into the mouth or opening 4. In connection with the curved end 5 I pass down through the same a pipe 6 for supplying flushing-water connected to the coupling-pipes 7 and 8, entering the open back of the flushing-rim. The part 9 in the drawings represents the wall of the bowl, forming a partition between the respective openings into the bowl from the said ventilating-passage. This partition may be of any desired size or extent and acts as a support to the upper part of the closet from the bowl.

The ventilating-passages  $c c'$  in extending rearward from the bowl extend slightly upward, and the mouth 4, formed by the union thereof, is above the horizontal plane of the top of the flushing-rim or bowl to prevent any overflow of water from the closet discharging into the vent-pipe. I prefer to make a number of perforations 10 through the wall of the closet between the inlet-chamber for flushing-



water and the ventilating-passages to allow the escape of a small quantity of water into the ventilating-passages and thence into the closet to insure a cleanly condition.

5 I claim as my invention—

1. A water-closet bowl comprising in a single piece or structure of porcelain a flushing-rim, an inlet connecting-chamber for flushing-water extending rearward therefrom, ventilating-passages at either side of the inlet-chamber for flushing-water and provided at one end with adjacent openings into the bowl of the closet below the flushing-rim, said ventilating-passages joining at the other end into a single mouth or opening at the rear of the closet and said parts being free of and disconnected from the crown of the leg or trap, substantially as set forth.

2. A water-closet bowl comprising at its upper portion adjacent to the flushing-rim an inlet-chamber for the flushing-water connected with the flushing-rim, and rearward and upwardly extending ventilating-passages at either side of and around beneath the inlet-chamber for flushing-water, provided at one end with adjacent openings into the bowl of the closet below the flushing-rim, and said ventilating-passages joining at the other ends into a single opening or mouth at the rear of the closet above the horizontal plane of the flushing-rim and top of the bowl, substantially as specified.

3. A water-closet bowl comprising in a single piece or structure of porcelain a flushing-rim, an inlet-chamber for flushing-water connected with the flushing-rim, and connected rearward and upwardly extending ventilating-passages at either side of the inlet-chamber for flushing-water, provided at one end with adjacent openings into the bowl of the closet below the flushing-rim and said ventilating-passages joining at the other end into a single opening or mouth at the rear of the closet above the horizontal plane of the flushing-rim and top of the bowl, substantially as set forth.

4. A water-closet bowl comprising in a single piece or structure of porcelain a flushing-rim, an inlet-chamber for flushing-water connected with the flushing-rim and connected rearward and upwardly extending ventilating-passages at either side of the inlet-chamber for flushing-water provided at one end with adjacent openings into the bowl of the closet below the flushing-rim, and said ventilating-passages joining at the other end into a single opening or mouth at the rear of the closet above the horizontal plane of the flushing-rim and top of the bowl, there being a series of perforations extending rearward and downward through the porcelain wall separating the chamber for flushing-water and the connected ventilating-passages, substantially as set forth.

5. A water-closet bowl having an air-vent terminating in a substantially horizontal neck located above the plane of the top of the bowl

whereby in case the closet-trap becomes clogged, the contents of the bowl will flow over the edge of the bowl and not through the air-vent.

6. A water-closet bowl having a flushing-rim, and air-vent which has a mouth opening into the bowl below the flushing-rim, said vent extending upward and rearward and terminating in the neck which is located above the plane of the flushing-rim whereby in case the closet-trap becomes clogged the contents of the bowl will flow over the edge of the bowl and not through the air-vent.

7. A water-closet bowl having an outlet, a flushing-rim, and an air-vent having an unobstructed mouth communicating with the bowl between the outlet and the flushing-rim, said vent extending rearward and upward and terminating in a neck located above the plane of the flushing-rim.

8. A water-closet bowl having the usual outlet communicating with the trap, a flushing-rim, and an air-vent having an unobstructed mouth opening into the bowl between the said outlet and the flushing-rim, said air-vent extending at an inclination rearward and upward to the plane of the flushing-rim and then projecting horizontally rearward.

9. A water-closet bowl having the usual outlet communicating with the trap, a flushing-rim, and an air-vent having an unobstructed mouth opening into the bowl between the said outlet and the flushing-rim, said air-vent extending at an inclination rearward and upward to the plane of the flushing-rim and then projecting horizontally rearward, and being laterally elongated in cross-section.

10. A water-closet bowl having a flushing-rim, and a flushing-chamber communicating therewith, in combination with an air-vent opening into the bowl below the flushing-rim and extending rearward and upward beneath the said flushing-chamber and terminating in a rearwardly-projecting neck located above the plane of the flushing-rim.

11. A water-closet bowl having a flushing-rim, and a flushing-chamber communicating therewith, in combination with an air-vent opening into the bowl below the flushing-rim and extending rearward and upward beneath the said flushing-chamber and terminating in a rearwardly-projecting neck located above the plane of the flushing-rim, the upper and front wall of said vent constituting the lower and rear wall of said chamber.

12. A water-closet bowl having a flushing-rim, a flushing-chamber communicating with the said rim, an air-vent opening into the bowl below the flushing-rim and extending upward beneath the said chamber, and a flushing-conduit extending from the said chamber into the air-vent for flushing the latter.

13. A water-closet bowl having an air-vent extending upward and then rearward and terminating in a substantially horizontal neck



above the plane of the top of the bowl, and a bracket for supporting said neck, said air-vent including its neck, said bracket and said bowl being integral.

5 14. A water-closet bowl having an unobstructed air-vent terminating in a substantially horizontal neck, located above the plane of the top of the bowl, whereby in case the closet-trap becomes clogged, the contents of  
10 the bowl will flow over the edge of the bowl and not through the air-vent.

15 15. A water-closet bowl having a flushing-rim, an air-vent having an unobstructed mouth opening into the bowl below the flushing-rim, said vent extending upward and rearward and terminating in a neck which is located above the plane of the flushing-rim, whereby in case the closet-trap becomes clogged, the contents of the bowl will flow over  
20 the edge thereof, and not through the air-vent.

25 16. A water-closet bowl having a water-supply duct, a ventilating-duct, and a neck through which both of said ducts extend, the ventilating-duct being located above the plane of the top of the bowl.

30 17. A water-closet bowl having a flushing-rim, an inlet-chamber communicating with said rim, two rearwardly-extending vents located on either side of the inlet-chamber and having a common mouth above the plane of the flushing-rim.

35 18. A water-closet bowl having a flushing-rim, an inlet-chamber communicating with said rim, two rearwardly-extending vents located on either side of said chamber and opening into the bowl below the flushing-rim, and a neck located above the plane of the flushing-rim and communicating with both of said vents.

40 19. A water-closet bowl having the usual outlet communicating with the trap, a flushing-rim, and an air-vent having a mouth opening into the bowl between the said outlet and the flushing-rim, said air-vent extending at  
45 an inclination rearward and upward to the plane of the flushing-rim and then projecting horizontally rearward, and being laterally elongated in cross-section.

20. A water-closet bowl comprising at its

upper portion adjacent to the flushing-rim, an inlet-chamber for the flushing-water connect- 50 ed with the flushing-rim, and two rearward and upwardly extending ventilating-passages at either side of the inlet-chamber for flushing-water, provided at one end with adjacent 55 openings into the bowl of the closet below the flushing-rim, and said ventilating-passages joining at the other ends into a single opening or mouth at the rear of the closet substantially above the horizontal plane of the flushing- 60 rim, substantially as specified.

21. A water-closet bowl comprising in a single piece or structure of porcelain, a flushing-rim, an inlet-chamber for flushing-water connected with the flushing-rim and two rear- 65 ward and upwardly extending ventilating-passages at either side of the inlet-chamber for flushing-water, provided at one end with adjacent openings into the bowl of the closet below the flushing-rim and said ventilating- 70 passages joining at the other ends into a single opening or mouth at the rear of the closet substantially above the horizontal plane of the flushing-rim, substantially as set forth.

22. A water-closet bowl comprising in a single piece or structure of porcelain a flushing- 75 rim, an inlet-chamber for flushing-water connected with the flushing-rim and two rearward and upwardly extending ventilating-passages at either side of the inlet-chamber 80 for flushing-water provided at one end with adjacent openings into the bowl of the closet below the flushing-rim and said ventilating-passages joining at the other ends into a single opening or mouth at the rear of the closet sub- 85 stantially above the horizontal plane of the flushing-rim, there being a series of perforations extending rearward and downward through the porcelain wall separating the chamber for flushing-water and the two ven- 90 tilating-passages, substantially as set forth.

Signed by me this 1st day of September, 1899.

WM. H. LLOYD.

Witnesses:

MAX GOEBEL,  
HENRY MOSFORD.