

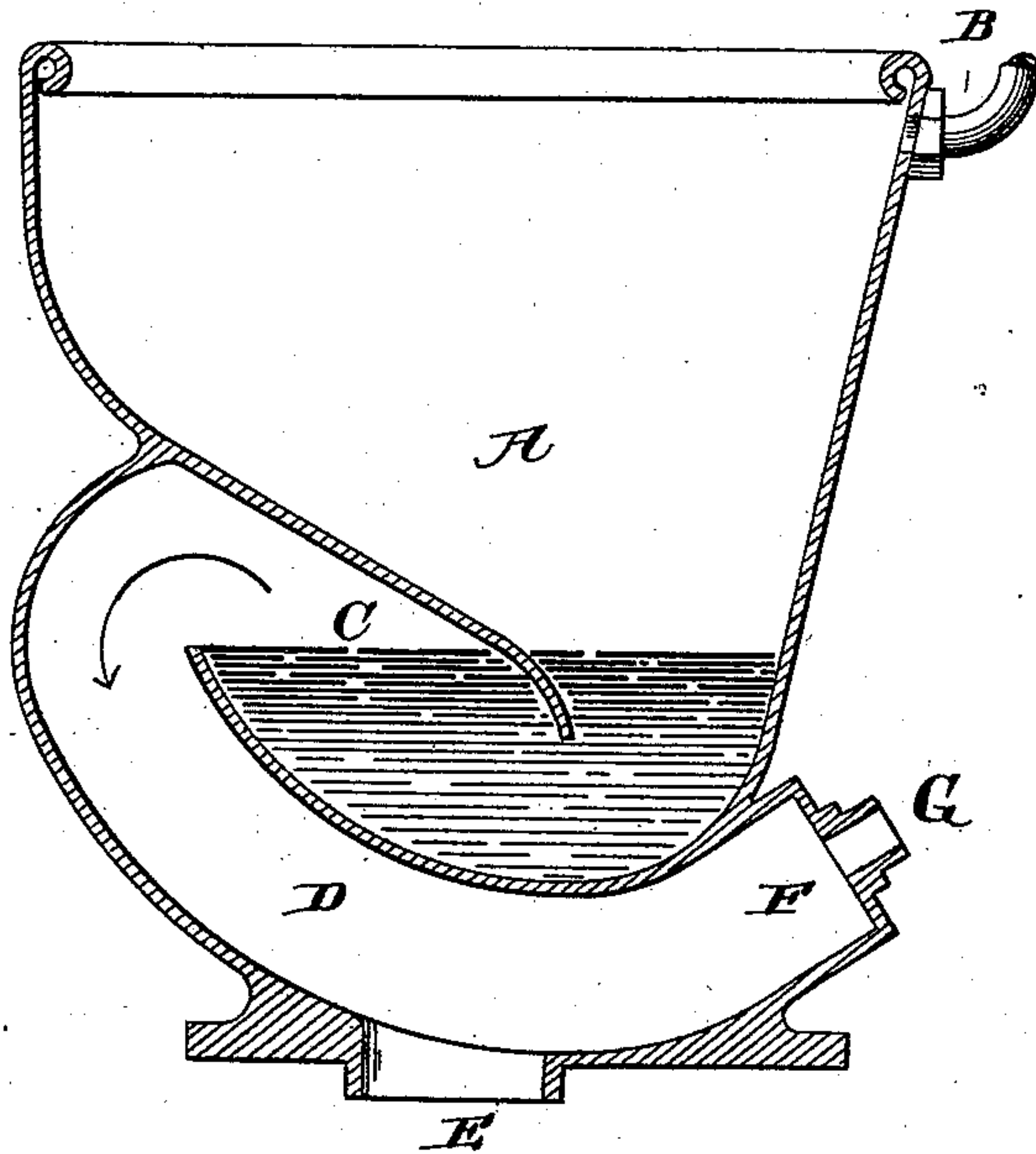
(No Model.)

C. H. COOK.

VENTING DEVICE FOR WATER CLOSET BOWLS.

No. 570,982.

Patented Nov. 10, 1896.



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UNITED STATES PATENT OFFICE.

CHARLES HOWELL COOK, OF TRENTON, NEW JERSEY.

VENTING DEVICE FOR WATER-CLOSET BOWLS.

SPECIFICATION forming part of Letters Patent No. 570,982, dated November 10, 1896.

Application filed February 11, 1893. Serial No. 461,895. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HOWELL COOK, a citizen of the United States, and a resident of the city of Trenton, county of Mercer, and State of New Jersey, have made certain new and useful Improvements in Venting Devices, of which the following is a specification.

My invention relates to that class of water-closet bowls in which the discharge-pipe is situated at the forward part of the bowl, so that a considerable portion of the bowl lies between the discharge-pipe and the wall. Difficulties have arisen in venting the discharge-pipe in this class of water-closets, and which did not exist in the older form of closet-bowls, wherein the discharge-pipe was situated at the back of the closet. It is obvious that the venting of a closet in which the discharge-pipe is situated substantially at the rear of the bowl, near the wall of the room in which said bowl is set, is comparatively easy, as the discharge-pipe is, to a large degree, hidden by the closet and the distance to the wall is slight. On the other hand, in closets of the character to which my invention is applicable, whether of the form known as the "hopper-and-trap" closet or the "siphon-closet" or other desired form, and in which the discharge-pipe is substantially in front of the bowl or so situated that a considerable portion of the bowl lies behind it, great difficulties lie in the way of properly venting the discharge-pipe. These difficulties are mainly that if the closet is vented above the siphon or trap there is danger of breaking the siphon or breaking the seal of the trap, and also of leakage into the room of the gases which the vent is intended to carry off. If the vent is in the discharge-pipe itself, below the siphon or trap, the distance back to the wall is so great and the closet-bowl itself stands so much in the way of the vent that an unsightly and easily-broken structure is apt to result.

Closets with a front discharge-pipe have been vented, prior to my invention, in two ways, neither of which has been found in all respects satisfactory. In one well-known form a pocket is cast in the earthenware of which the closet is made just back of the discharge-pipe and in communication there-

with. A vent-pipe is then coupled to an opening through the side of the closet into said pocket or vent-chamber. This vent-pipe is then led around on the outside of the closet to the wall, where it discharges into a chimney or in some other way communicates with the air outside the house. In the other form a similar outside vent-pipe is used, but is coupled to the discharge-pipe instead of to a vent-chamber. In both these structures, aside from their unsightliness, the objections arise that the vent-pipe has to be attached by the plumber in each case when the closet is put up, instead of being done at the pottery as a part of the manufacture of the closet, and also that the coupling is very apt to become broken by reason of the fact that the exposed pipe is very liable to be stepped upon by a person desiring to inspect an overhead tank and is liable to be struck accidentally and started from its connection with the closet.

My invention overcomes all these difficulties and accomplishes the venting of a front discharge-pipe as readily as was previously the case with the rear discharge-pipes, the main portion of the venting device being constructed at the pottery as part of the manufacture of the closet.

My invention as applied to the form known as the "hopper and trap" is shown in the accompanying drawing. Its application to a siphon-closet will be readily understood by those familiar with the art to which this invention applies.

A is the bowl or hopper.

B is the flushing device, of usual construction.

C is the trap, ordinarily sealed with water, as shown.

D is the passage connecting the trap with the discharge-pipe E.

F is the vent-channel leading through the earthenware from the mouth of the discharge-pipe to the rear of the closet.

G is a projecting spud cemented to the bowl and adapted to receive the usual outside or exterior vent-pipe.

The exact position of the discharge-pipe with regard to the forward end of the bowl is a matter of taste and convenience and depends upon the character of inclination de-

sired for the passage D, leading from the trap. Obviously, the more nearly vertical this passage is made the more nearly will the discharge-pipe approach the forward edge of the closet; but my invention is applicable to any
5 form of closet in which a substantial portion of the bowl lies back of the discharge-pipe.

I claim—

1. In combination in a one-piece closet, the
10 hopper or bowl, the overflow or siphon formed with the wall of said hopper or bowl, the discharge leading therefrom, and the rear vent-channel extending rearward and lying against or formed with the said wall, substantially as
15 set forth.

2. In combination in a closet, the hopper or bowl thereof, the overflow or siphon, the discharge E, the descending passage or leg D extending downward from the said overflow

or siphon into the said discharge, and the rear
20 vent extending rearward from a point adjacent to the junction of the said passage D and the said discharge beneath the said hopper or bowl, substantially as set forth.

3. In combination in a closet, the siphon or
25 trap at the front of the bowl, the discharge E, the descending passage or leg D conforming to the said bowl and extending downward and rearward into the said discharge, and the rear vent F extending rearward from the
30 junction of the said passage D and the said discharge E, and lying against and substantially conforming to the said bowl, substantially as set forth.

CHARLES HOWELL COOK.

Witnesses:

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