

(No Model.)

W. H. UMPLEBY.

2 Sheets—Sheet 1.

WATER CLOSET.

No. 349,293.

Patented Sept. 14, 1886.

Fig. 1.

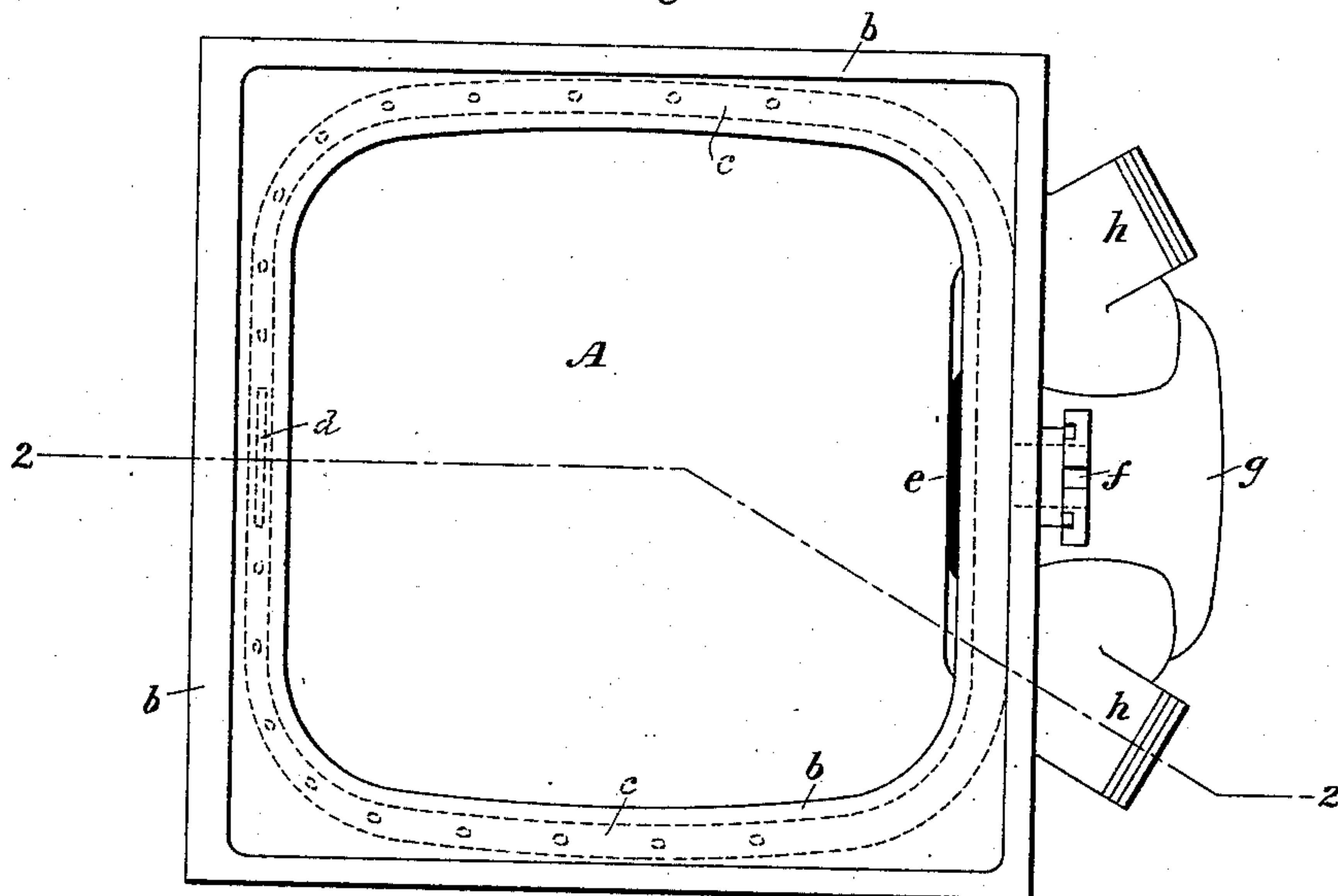
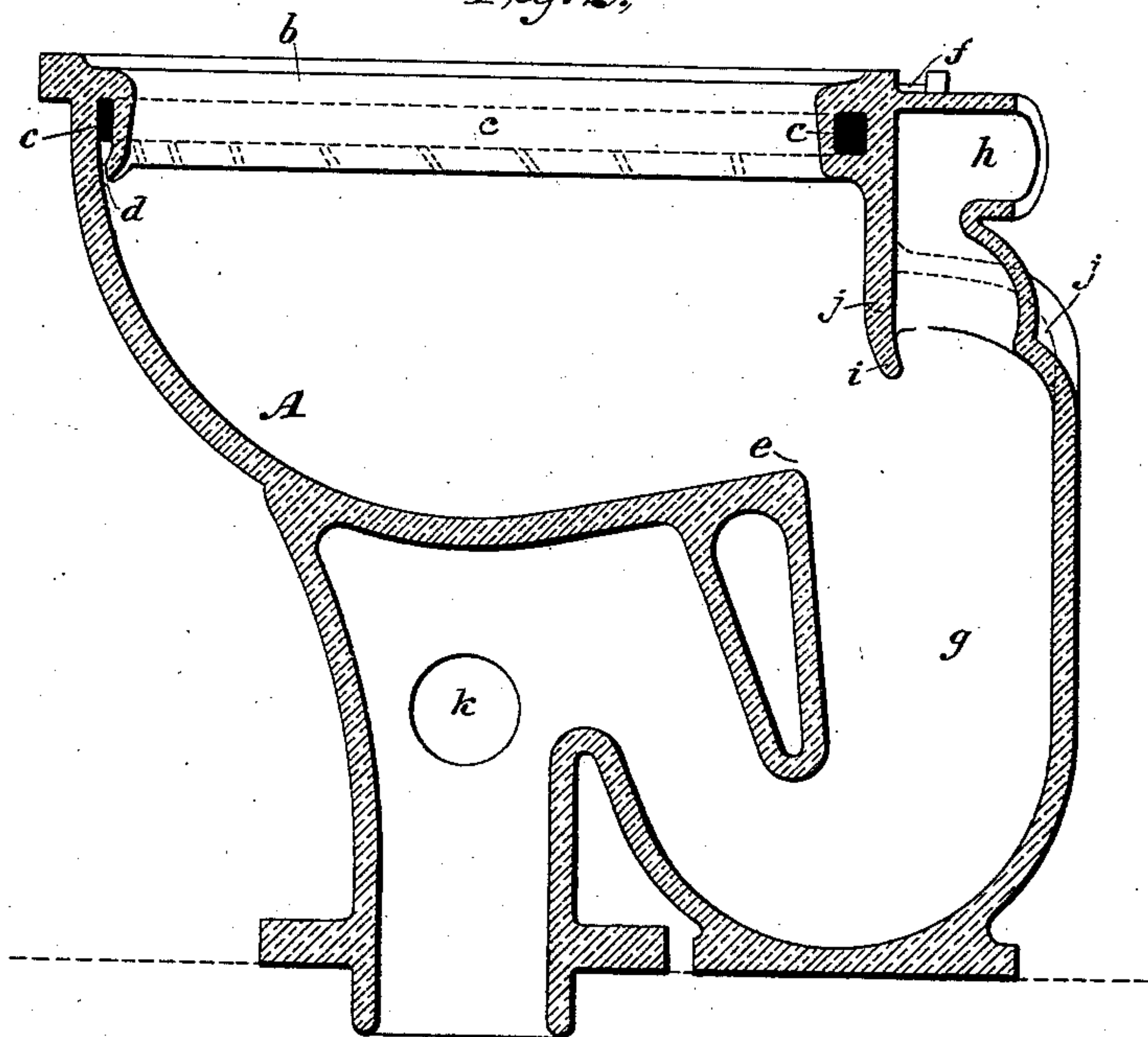


Fig. 2.



Witnesses

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By his Attorney

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(No Model.)

2 Sheets—Sheet 2.

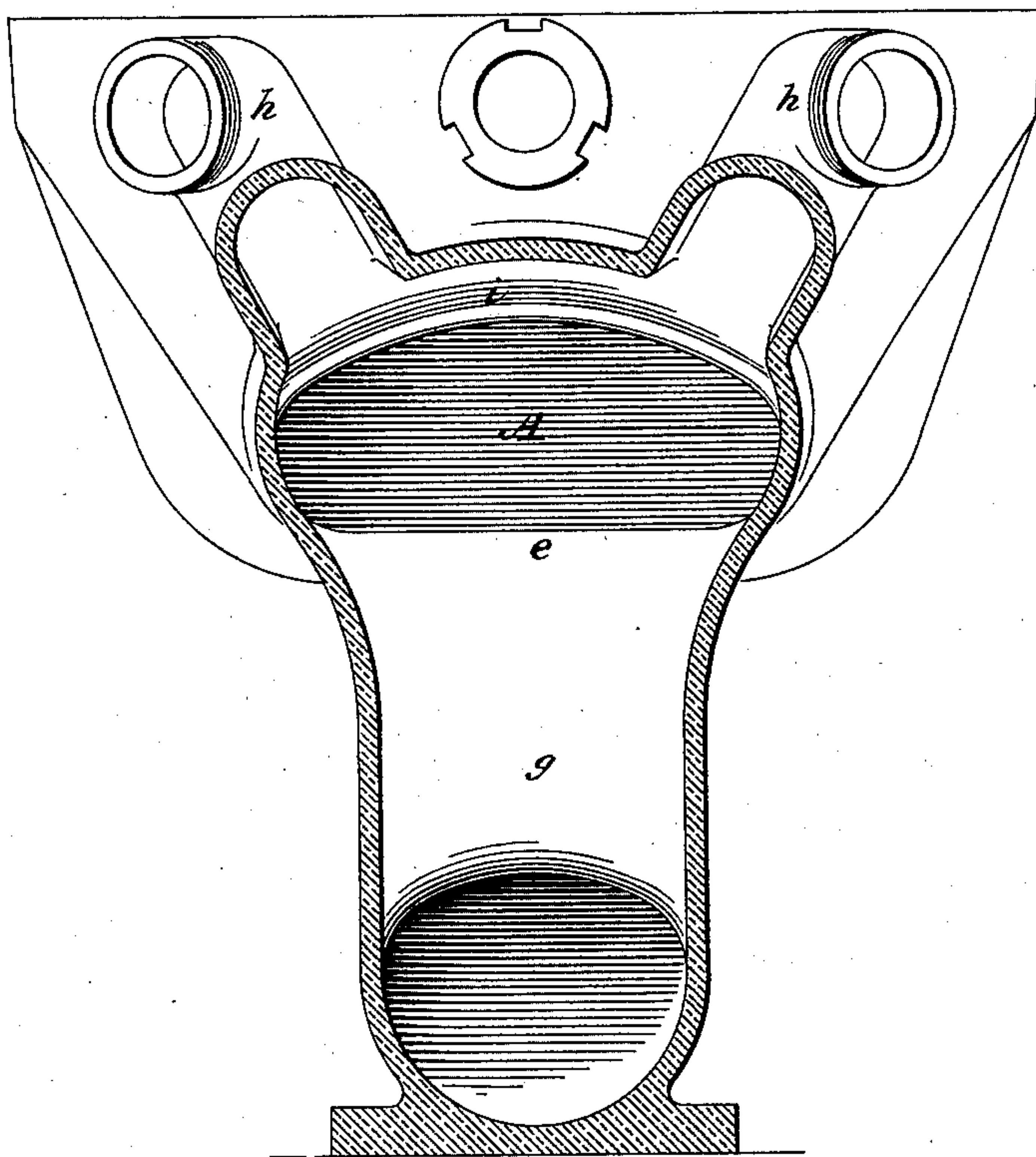
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Fig. 3,



Witnesses

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UNITED STATES PATENT OFFICE.

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WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 349,293, dated September 14, 1886.

Application filed January 9, 1886. Serial No. 188,093. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. UMPLEBY, a citizen of the United States, residing in the city of Trenton, in the county of Mercer and State of New Jersey, have invented a new and useful Improvement in Water-Closets; and I declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters and figures marked thereon, which form a part of this specification.

In ordinary washout water-closets, as there is no valve or similar device separating the vertical discharge-pipe from the basin or bowl, whatever foul gases and odors are given off from the matter remaining in the bottom of the discharge-pipe pass immediately into the bowl, and thence escape into the room. This is such a serious defect as to more than counter-balance the other advantages claimed for the washout-closet. To remedy this an ordinary ventilating-pipe was sometimes connected with the discharge-pipe near its upper end; but here again the force of the flushing-water, as it sweeps through the bowl, is such that the paper and other solid matter swept out of the bowl is thrown up at the mouth of the ventilating-pipe, and that pipe, soon becoming clogged or closed at its mouth, not only affords no outlet for the foul gases arising from the discharge-pipe, but itself supplies a lodgment for the solid matter thrown out of the bowl, and thus increases rather than decreases the foul gases discharged into the room.

My invention relates to an improvement in the means of ventilating a washout-closet, by which the above-mentioned defects are remedied; and it consists in the improved form of closet hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a top or plan view of my invention. Fig. 2 is a vertical section of the same closet on the broken line 2 2 of Fig. 1. Fig. 3 is a vertical section through the ventilating-pipes and the discharge-pipe.

Similar letters refer to similar parts in the drawings.

I am aware that washout water-closets have

been made before having tubular rims with perforations and a central supply-pipe, and I therefore do not claim these features alone, but only in combination with my improved system of ventilation, in which combination alone all the above features are united in one complete and perfectly-operating closet.

A is the bowl of the closet. It is made concave with sloping sides, and is square in general form, as in Fig. 1; but it may be made oval or of any other suitable form.

b is the tubular rim. The passage or channel in the rim is made of any convenient size. The water is introduced into the rim through the supply-pipe, which is preferably connected with the rim at its central back portion; but the supply-pipe may be connected with the rim at any point desired. The rim portion projects in a little over the bowl, and in the under surface of this projecting part is a series of holes extending around the three sides of the bowl, preferably excluding the side over the discharge-pipe. These holes slope toward the discharge-pipe, so that the water will be discharged through them in the direction of the discharge-pipe, and will tend, therefore, to wash the contents of the bowl in that direction. On the side of the bowl opposite the discharge-pipe there is a long slit or opening, d, on the under side of the rim, as if several of the holes were joined or run into each other. The effect of this is, that a larger body of water is discharged from this point, and is dashed down and across the entire width of the bowl, so as to completely remove the contents of the bowl. An additional force or impetus is given to this body of water, because the two streams of water that pass around the opposite sides of the tubular rim, meet immediately above the slot, and each stream serves to turn the other one directly down through the opening or slot with an increased force.

When the bowl is made square in general form, the sides of the bowl are so curved upward and outward as to form an edge at each corner on the outside of the bowl, and to make the upper surface of the rim square in form.

(See Fig. 1.) The inner portion of this upper surface of the rim is a little depressed. (See Fig. 2.)

e is the dam at the back of the bottom of the bowl. It is made almost as wide as the bowl, and has a straight or nearly straight edge, so that the sides of the dam are not higher than the middle point, except at the extreme ends of the dam, where it curves up into the sides of the bowl. The object of this is to enable the contents of the bowl to be swept over the dam at any point with equal ease, and thus to make a larger space for the discharge.

In Fig. 2, as the sectional line of plane 2 2 passes through the dam close to its end, the dam is shown in that figure as much higher than it is during the greater part of its length, and as approaching nearer to the lip than it does at its central and surrounding portions. Immediately back of the dam is the discharge-pipe *g*. The mouth of this discharge-pipe is as long as the dam, and is also quite wide across from the dam to its back-wall. Below the pipe is contracted in both directions. The discharge-pipe is bent or curved at the top, so as to meet the back wall of the bowl. In the drawings the ventilating-pipes are connected with this upper curved portion of the discharge-pipe.

h h are my two ventilating-pipes, which open into the upper end of the discharge-pipe. These ventilating-pipes are curved, as shown in Figs. 1, 2, and 3, so that their mouths open into the discharge-pipe in a direction away from the bowl of the closet. The effect of this is, that when the flushing-water dashes the contents of the bowl against the back wall of the discharge-pipe, the mouth of each ventilating-pipe being turned away from the bowl, as above explained, the matter discharged from the bowl cannot be thrown directly up into the ventilating-pipe, and thus the ventilating-pipe is prevented from being stopped or choked up, as happens with the ordinary form of ventilating-pipe attached to the discharge-pipe. The escape for the bad gases generated in the bowl and discharge-pipe is in this way always kept open, and such gases are thus prevented from being discharged into the room. The upper part of the ventilating-pipes may be heated in any ordinary way, so as to cause a constant draft up and through the pipe. I prefer to use two ventilating-pipes, as shown, though one may be found sufficient.

In the old form of washout-closets the contents of the bowl are dashed against the back wall of the discharge-pipe, especially at its middle portion, with such force that a part of such contents is thrown upward and backward against the curved top of the discharge-pipe, and, following the curve of the top, is thrown back again into the bowl of the closet. My invention avoids this difficulty by means of the lip *i*, which projects down from the back wall of the bowl, and thus cuts off a small portion of the upper part of the large mouth

of the discharge-pipe from the bowl of the closet, and intercepts the water and other contents thrown back from the back wall of the discharge-pipe, and thus prevents them from being thrown back into the bowl. This lip also serves to protect the mouth of the ventilating pipe or pipes.

In Fig. 2 the lines *j j j* indicate the relative heights of the exact middle points of the lip and the top of the discharge-pipe. The discharge-pipe is curved around and up under the bowl, as shown in Fig. 2, thus making a trap integral with the rest of the closet. A ventilating-pipe, *k*, passes off from the upper part of this trap. (See Fig. 2.)

The two ventilating-pipes may be connected behind the closet.

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

1. In a washout earthenware water-closet consisting of a single piece of earthenware, the combination of a concave bowl or basin, a tubular rim, openings through the rim to discharge the water into the bowl, a front central slot in the rim, a central connection for the supply-pipe over or opposite the discharge-pipe, a dam at back of the bottom of the bowl, and a discharge-pipe at the back of the closet, with curved ventilating pipe or pipes connected with the top or side of the discharge-pipe, each ventilating-pipe having its mouth or opening pointing away from the basin, and a shielding plate or lip projecting downward for a short distance from the back wall of the bowl to catch any water or other matter thrown back from the wall of the discharge-pipe, and to further protect the ventilating-pipes, substantially as and for the purposes set forth.

2. In a washout water-closet, the combination of a concave bowl of any suitable shape or form, a tubular rim, perforations in the rim to discharge the water into the bowl, a front central slot in the rim, a central connection for the supply-pipe over or opposite the discharge-pipe, a dam at the back of the bottom of the bowl, and a discharge-pipe at the back of the closet, with curved ventilating pipe or pipes at the top or side of the discharge-pipe, each ventilating-pipe having its mouth or opening pointing away from the bowl, and a shielding plate or lip projecting downward for a short distance from the back wall of the bowl, to catch any water or other matter thrown back from the wall of the discharge-pipe, and to further protect the ventilating-pipes, substantially as and for the purposes set forth.

3. In a washout water-closet, a ventilating pipe or pipes connected with the upper part of the discharge-pipe, each ventilating-pipe having its mouth turned in a direction away from the bowl of the closet, substantially as and for the purposes set forth.

4. In a washout water-closet, a ventilating pipe or pipes connected with the upper part of the discharge-pipe, each ventilating-pipe having its mouth turned away from the bowl

of the closet, in combination with a shielding plate or lip projecting downward for a short distance from the wall of the bowl next to the discharge-pipe, so as to catch any water or other matter thrown back from the wall of the discharge-pipe, and to further protect the ventilating pipe or pipes, substantially as and for the purposes set forth.

5. In a washout water-closet, a protecting

plate or lip projecting down from the wall of the bowl next to the discharge-pipe, so as to catch any water or other matter thrown back from the wall of the discharge-pipe, substantially as and for the purposes set forth.

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Witnesses:

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