

(No Model.)

2 Sheets—Sheet 1.

J. G. MORRISON.
WATER CLOSET.

No. 580,882.

Patented Apr. 20, 1897.

Fig 1.

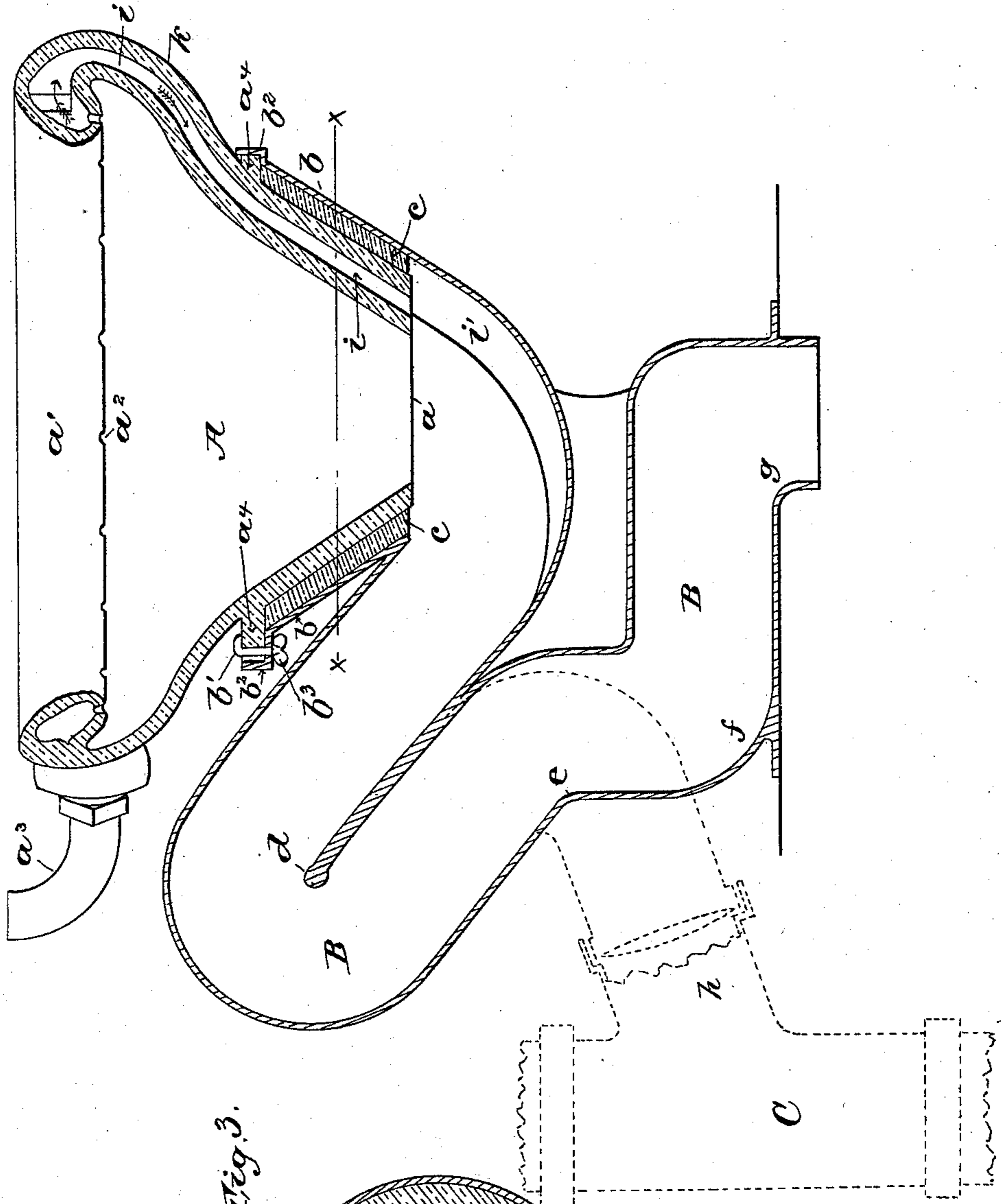
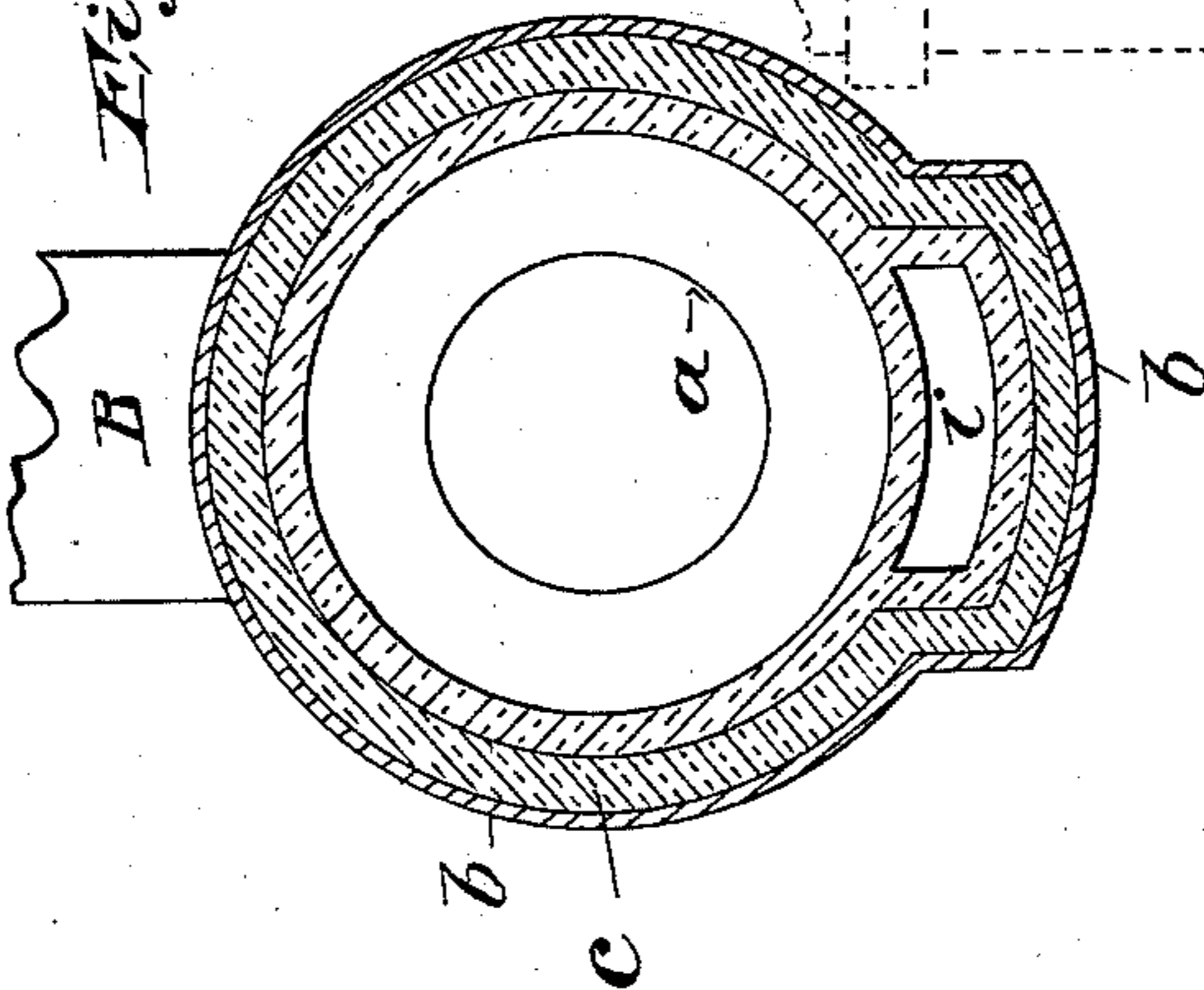


Fig 3.



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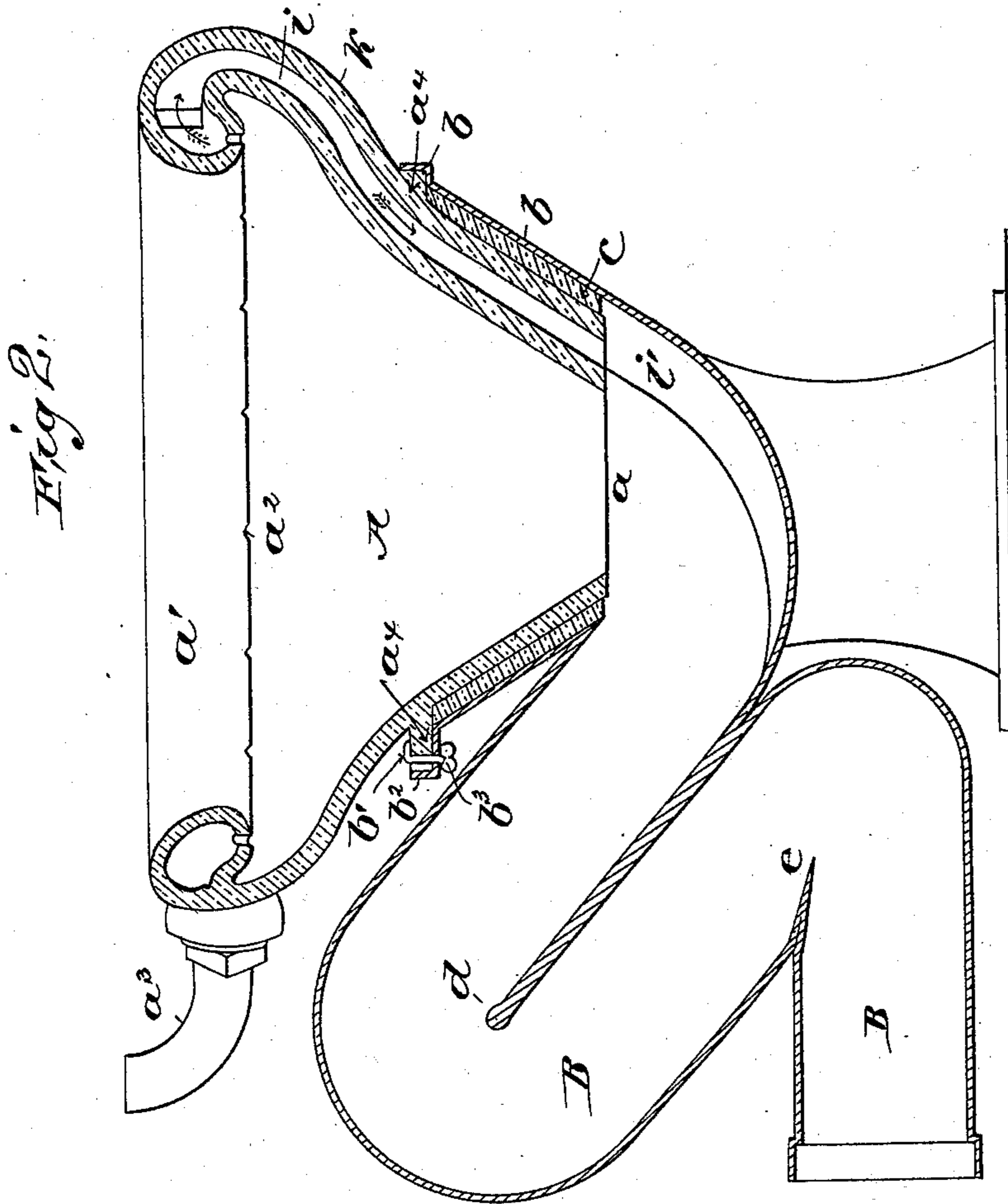
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Geo. J. Brennan

INVENTOR

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UNITED STATES PATENT OFFICE.

JOHN G. MORRISON, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO
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WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 580,882, dated April 20, 1897.

Application filed May 5, 1894. Renewed September 26, 1896. Serial No. 607,118. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. MORRISON, a citizen of the United States, and a resident of Jersey City, county of Hudson, and State of New Jersey, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification.

My invention relates more particularly to that class of water-closets in which the contents of the bowl are discharged by siphonic action, and involve in their construction an earthenware bowl and a metal discharge-pipe or body, the object of the invention being to provide a water-closet of this class which, while permitting of a deeper seal in the bowl, shall at the same time more positively insure the discharge of its contents when required than has been possible with the closets of this class as heretofore constructed.

To the ends thus specified the invention consists in the employment, with the bowl and the metal discharge-pipe or body, of a peculiarly-arranged water-passage formed within such parts and leading from the flushing-ring in a downward direction to a point beneath the bowl, all as will hereinafter more fully appear.

Referring to the accompanying drawings, which form a part of this specification, Figure 1 is a central sectional elevation of a water-closet constructed in accordance with my invention, showing also in dotted lines a slightly-modified construction of discharge-pipe or body and its connection with the soil-pipe; Fig. 2, a similar central sectional elevation of a water-closet constructed in accordance with my invention, but with a metal discharge-pipe or body of a further modified form; and Fig. 3, a horizontal transverse section of the closet, taken in the plane xx of Fig. 1, looking in a downward direction.

In all the figures like letters of reference are employed to designate corresponding parts.

A indicates a water-closet bowl which is or may be constructed of earthenware, and is provided with a contracted open bottom a . Formed around its upper edge is a flushing-ring a' , which is preferably, though not necessarily, provided on its under side with a series of apertures a^2 , and is connected with

a pipe a^3 , leading from a flushing-tank or other source of water-supply. (Not shown.)

B indicates a separable discharge-pipe or body which is preferably constructed of metal, and is provided with an open flaring mouth b at its upper end for reception of the lower portion of the bowl A, which is secured therein. For securing these parts together I preferably make use of the clamping-hooks b' , which, passing up through orifices in the flange b^2 , formed on the upper end of the pipe or body B, engage with their hook portion the lugs or flange a^4 , formed on the exterior of the bowl A, and are provided with their lower ends with suitable nuts b^3 , as shown, the space between the exterior of the bowl and the interior of the flaring mouth b of the discharge-pipe or body being filled with cement or putty, as illustrated at c , whereby to insure a thoroughly tight joint between them.

From the lower end of the flaring mouth b the discharge-pipe or body extends upward in an inclined direction to the point d , forming thereby the short arm of a siphon. From the point d the discharge-pipe bends back upon itself and descends in an inward-inclined direction to the point e , and from this point it passes to the stand or soil pipe, the downward and inward inclined portion and the portion leading therefrom to the stand or soil pipe constituting the long arm of such siphon.

For connecting the downward and inward inclined portion of the discharge-pipe with the stand or soil pipe such pipe may be continued in a downward direction from the point e to the point f , thence in a horizontal direction to the point g , and thence in a downward direction for entrance into the upper end of said stand or soil pipe, as shown in full lines in Fig. 1, or the discharge-pipe or body B, instead of being thus continued in a downward direction from the point e and thence in a horizontal direction to the point g , may be continued in a downward and outward inclined direction for engagement with a branch h of the stand or soil pipe, which may be arranged in rear of the closet, as shown in dotted lines at C in said figure, or, as a still further arrangement, the discharge-

pipe may be continued from the point *e* in an outward horizontal direction for engagement with a branch from the stand or soil pipe, also arranged in rear of the closet, as shown in Fig. 2.

Leading from the flushing-ring *a'* to a point beneath the center of the bowl A or slightly beyond is a passage-way *i i'*, through which water is conducted from the former to a point beneath the supply in the bowl to initiate and set up the necessary siphonic action to cause the discharge of the contents of the closet when the flushing of the same is required. This passage-way is preferably constructed in the walls of the bowl and discharge-pipe or body, with the portion *i* extending through the bowl in the form of a tube and the portion *i'* extending along the discharge-pipe or body in the form of an open-top channel-way, gradually diminishing in depth from its upper to its lower end. When thus constructed, I find it convenient to provide the bowl with a rib *k*, extending from the flushing-ring *a'* down along the exterior of the bowl to its lower edge, and form longitudinally through this, from the interior of such flushing-ring *a* to the lower end of said rib, a tubular passage-way of preferably an oblong cross-section, as shown at *i* in Fig. 3. To receive this rib and likewise form the open-top channel-way *i'* in the discharge-pipe or body B, in continuation of the passage-way *i* in the bowl A, I indent or otherwise form in the interior of the walls of said discharge-pipe or body a groove *i*, which, extending longitudinally from the upper edge of the open flaring mouth *b* down along the same to a point beneath the center of the bowl or slightly beyond, is made of the proper cross-section to receive the rib *k* on the exterior of the bowl, as shown more clearly in Fig. 3, and gradually diminishes in depth from the bottom of the bowl A to its lower end. By this construction of parts, as will be seen, a continuous passage-way is formed down along the side of the bowl and the discharge-pipe or body from the flushing-ring *a'* to a point beneath the center of the bowl, which is closed on all of its sides from its upper end to a point some distance beneath the surface of the water contained within the bowl, and from this latter point to its lower end is left open on its upper surface, whereby the water in passing along the same will in its course be confined only by the side walls and bottom of the channel-way *i'*. As thus constructed when the flushing of the

closet is effected the water admitted to the flushing-ring *a'* through the pipe *a³* will be forced down through the passage-way *i i'* beneath the water in the bowl, and thence up along the under surface of the upwardly-inclined portion of the discharge-pipe or body, causing the water in that portion of the said discharge-pipe or body to flow over the point *d*, and thereby initiate and set up the necessary siphonic action to cause the discharge of the contents of the closet, which discharging action will be continued thereafter for the proper length of time to effect the proper flushing of the closet by the conjoint action of the water passing through such passage-way and that discharged through the apertures *a²* in the flushing-ring *a'*.

I am thus enabled to produce a closet of the cheaper class which, in addition to insuring a more positive and effective discharge of the contents of the closet than has been possible with the closets heretofore in use, at the same time permits, as a consequence of such action, of a very much deeper seal being maintained within the bowl than has hitherto been considered possible.

Having thus described my invention and specified certain of the ways, among others, in which it is or may be carried into effect, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a water-closet bowl provided with a flushing-ring and a rib extending down along its side, through which is formed a tubular passage-way, of a metal discharge-pipe or body provided with a channel for reception of such rib, substantially as described.

2. The combination, with a water-closet bowl provided with a flushing-ring and a rib extending down along its side through which is formed a tubular passage-way, of a separable discharge-pipe or body provided with an open channel-way leading from its upper end to a point beneath said bowl and of gradually-diminishing depth from its upper to its lower end, to receive said rib and form a water-passage in prolongation of that in such bowl, substantially as described.

In testimony whereof I have hereunto set my hand this 1st day of May, 1894.

JOHN G. MORRISON.

Witnesses:

SYLVANUS L. TRIPPE,
GEO. J. BRENNAN.