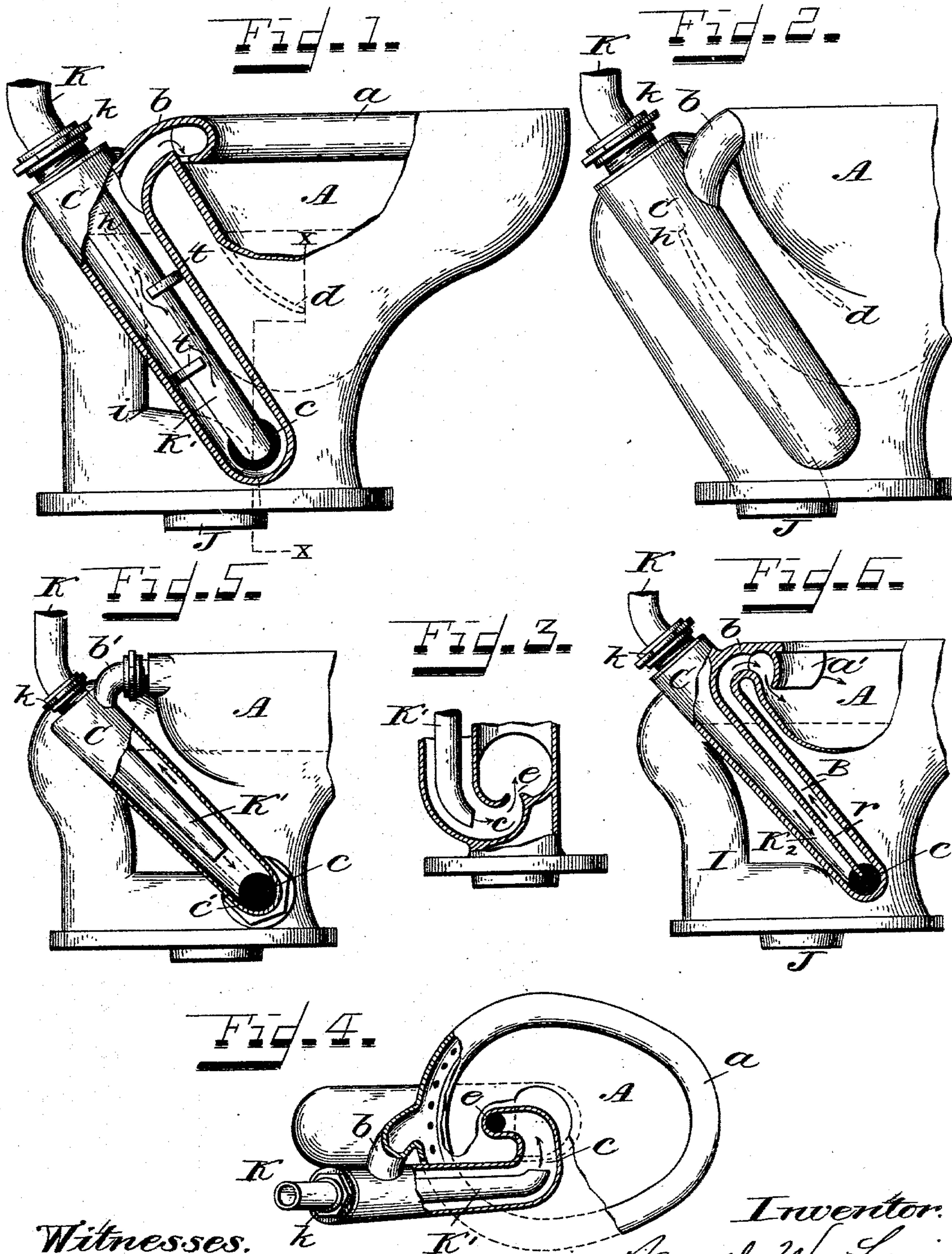


(No Model.)

S. W. LEWIS.
WATER CLOSET.

No. 515,914.

Patented Mar. 6, 1894.



Witnesses. *h*
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UNITED STATES PATENT OFFICE.

SAMUEL WALKER LEWIS, OF BROOKLYN, NEW YORK.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 515,914, dated March 6, 1894.

Application filed April 10, 1893. Serial No. 469,739. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL WALKER LEWIS, a citizen of the United States, residing at Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification.

My invention relates to that class of water-closets which are provided with a submerged upwardly directed jet flushing means consisting of one or more jets connected to a source of water supply and discharging into the trap, and embraces the specific construction of certain elements described in my pending application filed March 8, 1893, Serial No. 465,150. My object being to prevent the noise when in action caused by the unchecked flow and escape of air and water through the outlet at the rim of the bowl, and I obtain this object by arranging the supply or flushing connection to discharge within a chambered conduit on the outside of the closet bowl so that the contents of the supply or flush pipe shall be discharged beneath the water and, preferably though not wholly essential, at the jet delivery or into the entrance to the jet whereby the air in the supply pipe may be carried with the current under or into and through the jet flushing means, or discharged so far beneath the water as to be noiseless.

Another part of my invention is to produce a more gentle flushing of the upper part of the bowl and an increased force of jet action, which I attain by a natural overflow resulting from the back pressure caused by the restricted outflow of water through the smaller jet opening, and I also in some cases reduce the force of the overflow by the use of baffle plates or similar means to retard the flow of water up to the rim of the bowl, which also tends to increase the pressure at the jet.

In the annexed drawings, Figure 1, is a view in side elevation partly in section of a closet bowl having a chambered conduit on its side integral with the bowl and in communication at its bottom with the jet flushing means and at or near its top with the rim flushing means, the supply connection extending down into said chambered conduit and terminating at the entrance to the jet. Fig. 2, is an external view of same. Fig. 3 is a

cross section on the line $x-x$ Fig. 1. Fig. 4 is a plan of Fig. 1. Fig. 5, is a modification showing the chambered conduit of a separate piece from the bowl and connected to the bowl at the jet and rim deliveries. Fig. 6, is a view similar to Fig. 1, showing a modified construction of the chambered conduit whereby the contents of the supply pipe are conveyed first to the jet through an extension of the supply connection formed by a division of said chamber.

The same letters of reference are used to indicate identical parts in all the views.

The bowl A is provided with a chambered conduit C which may be on any convenient part of the bowl and either curved or straight as may be necessary to accommodate the supply extension and shape of the bowl and preferably of the same piece of earthen ware integral with the bowl. The lower end of said chambered conduit communicates with the jet flushing means through the jet delivery c and its upper part communicates with the rim flushing means through the branch arm and rim delivery b .

In Figs. 1 and 4, a is a flushing rim formed in the usual manner, and a' Fig. 6, shows the more simple fan wash or spray. In Fig. 1, d , h , i , J , in dotted line, outline the course of the trap outlet, while in Fig. 2, the trap outlet is a straight return from the overflow h to its outlet J which is also shown by dotted lines, the object of these illustrated modifications being to show the adaptability of my invention to any closet bowl of the class described in the declaration of invention.

K is a supply pipe communicating with the bowl by the water tight connection at k , and K' is an extension of said supply pipe down into the chamber C beneath the water line, preferably but not essentially to the entrance of the jet, as stated in the declaration of invention.

In Figs. 1, 3 and 4, the extension pipe K' is carried down and turned in toward the entrance to the jet delivery c to more effectually discharge the air under the jet outlet e . In Fig. 5 it terminates above the level of the jet, but may be extended down as shown by dotted lines.

In Fig. 5, the chambered conduit C is made

separate from the bowl and connected to it at the jet delivery c' and rim delivery b' by union joints as shown or in any desired or convenient manner, and in Fig. 6, the extended water way from the supply pipe is formed by a partition r carried down as low as desired, the down flow being through the division K^2 , and the upward rim flow being through the division B. This form of chambered conduit may be made separate or integral with the bowl as may be desired. If the short pipe extension is used, as in Fig. 5, a portion only of the air will be carried by the conduit through the jet, and some of it will rise in bubbles and escape with the water at the rim outlet. The noise is thus brought under control, but not so effectually as when all or nearly all of the air is driven through the jet into the trap, hence I prefer to construct the apparatus with the supply extension K' carried down and turned in as in Figs. 1, 3 and 4. If the chamber C was contracted, the jet opening e enlarged sufficiently, and the extension pipe K' pointed up into the jet e , it would act as an ejector and prevent an upward flow, but if properly proportioned as illustrated the apparatus will fulfill all the required conditions and produce the results described.

In the operation of my preferred form, Fig. 3, all the contents of the supply pipe are discharged into the entrance to the jet, thus enabling or causing the air to escape through the jet e , at the same time owing to the resistance caused by the jet outlet being much smaller than the supply pipe a back pressure naturally results which causes the water surrounding the supply pipe in the chamber C, (or passage B Fig. 6) which is normally at the same level as in the bowl, to silently rise and overflow through the rim delivery b , which overflow may be checked as desired by one or more semi-annular baffle plates t , shown in Fig. 1, arranged on the extension pipe to retard the upward current by making the passage contorted or crooked to produce a friction resistance.

I do not limit my invention to the precise forms of construction described, as it is obvious from the modifications shown that similar means may accomplish like results provided the supply pipe is extended and arranged to discharge its contents within a chamber located on the outside of the bowl in line with the course of said discharge, and into or beneath the jet outlet or so far beneath the water as to be noiseless.

Having thus fully described my invention, I claim—

1. The combination with a water-closet bowl, provided with a submerged jet flushing means directed upward into the trap of the bowl and a rim flushing means, of a conduit in communication with the jet and rim flushing means and a supply connection extending down into and parallel with the walls of said conduit, whereby the contents of the supply pipe will be carried down into said conduit and discharged beneath the water and toward the jet flushing means, substantially as described.

2. The combination with a water-closet bowl provided with a submerged jet flushing means directed upward into the trap of the bowl and a rim flushing means, of a conduit in communication with the jet and rim flushing means, and a supply passage extended down into said conduit parallel with its walls and terminating at or near the jet, substantially as described.

3. The combination with a water-closet bowl provided with a submerged jet flushing means directed upward into the trap of the bowl and a rim flushing means, of a conduit on the outside of the bowl in communication with the jet and rim flushing means, and a supply passage extended down into said conduit parallel with its walls and terminating at or near the jet, substantially as described.

4. The combination with a water-closet bowl provided with a submerged jet flushing means directed upward into the trap of the bowl and a rim flushing means, of a conduit on the outside of the bowl in communication with the jet and rim flushing means, a supply pipe extended down into and parallel with the walls of said conduit and terminating at or near the jet, and baffle plates in said conduit to retard the upward overflow, substantially as described.

5. The combination with a water-closet bowl provided with a submerged jet flushing means directed upward into the trap of the bowl and a rim flushing means, of a conduit on the outside of the bowl in communication with the jet and rim flushing means, and a supply pipe extended down into said conduit parallel with the walls thereof, and having its discharge end turned in toward the jet, substantially as described.

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