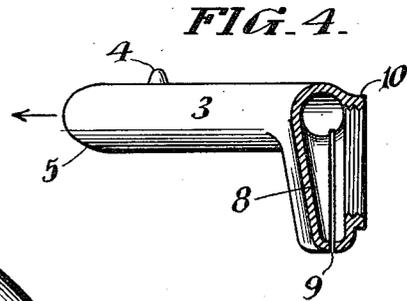
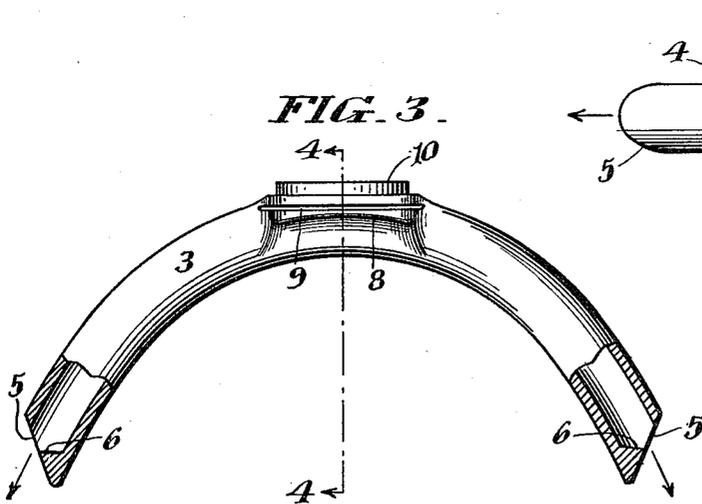
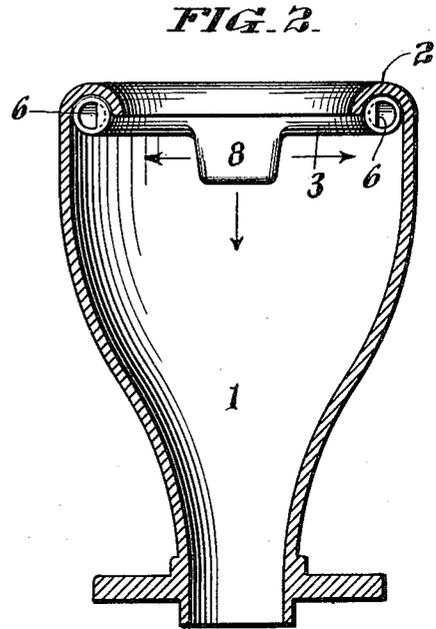
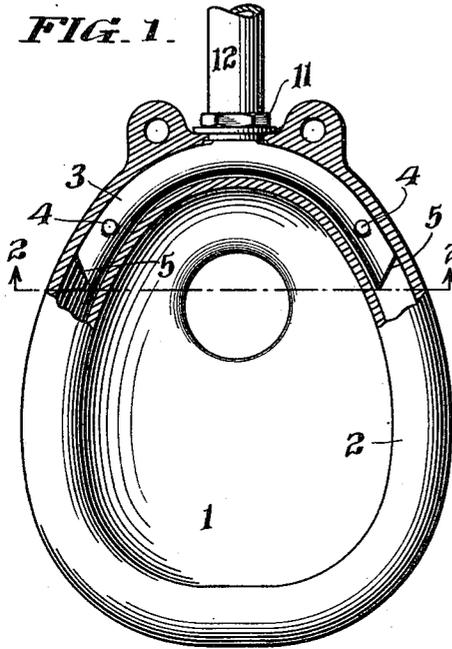


W. U. GRIFFITHS.
 DISCHARGING NOZZLE FOR WATER CLOSETS.
 APPLICATION FILED AUG. 23, 1913.

1,142,249.

Patented June 8, 1915.



WITNESSES
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DISCHARGING-NOZZLE FOR WATER-CLOSETS.

1,142,249.

Specification of Letters Patent.

Patented June 8, 1915.

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To all whom it may concern:

Be it known that I, WILLIAM U. GRIFFITHS, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Discharging- Nozzles for Water-Closets, of which the following is a specification.

My invention relates to nozzles for discharging water into the upper portion of a water closet hopper or bowl.

The difficulty heretofore has been to provide a discharging nozzle which would cause the water to spread so as to extend entirely around the interior surface of the hopper or bowl and in running down said sides cleanse all parts or portions of the inner surface thereof.

My invention has for its object to provide a simple and efficient nozzle which will cause the water so to spread as it is discharged therefrom that it will completely cover the entire interior surface of the hopper or bowl and efficiently cleanse the same, thereby overcoming the objections and deficiencies previously noted.

In the accompanying drawing I have illustrated one form of a convenient embodiment of my invention; but it will be understood that changes may be made in the details of construction within the scope of the claims without departing from my invention.

In the drawing,—Figure 1 is a view partly in top plan and also partly in transverse horizontal section of a water closet hopper or bowl and showing also the top plan of a nozzle in position embodying my invention. Fig. 2 is a vertical longitudinal section on the line 2—2 of Fig. 1; Fig. 3 is a bottom plan view of a nozzle embodying my invention with the opposite end portions shown in longitudinal section; and Fig. 4 is a transverse central sectional view taken on line 4—4 of Fig. 3.

Referring to the drawing, 1 designates a water closet hopper or bowl and 2 the top rim of the same formed by an inwardly and downwardly curved portion of its upper edge. The hopper or bowl is secured to the floor or other support in any known manner as may be desired.

The nozzle consists of a curved pipe or tubular member 3 which is adapted to be situated and supported underneath the rim

2 at the top of the hopper and at the rear side of same. The curved pipe or tubular member 3 is provided, adjacent to its opposite ends and upon its upper sides, with lugs or projections 4 which rest against the inner surface of the rim when said nozzle is in position.

The opposite ends of the pipe or tube 3 are cut, as shown at 5, diagonally with respect to the axes of its end portions.

The openings in the ends of the pipe or tube 3 are restricted by means of the interior lugs or projections 6 formed therein and extending crosswise theretofore and forming what may be termed and regarded as a dam.

The pipe or tube 3 is provided at its central portion or section with a downwardly projecting relatively wide and hollow portion 8 having a narrow slot therein extending generally in the direction of the pipe or tube.

A screw threaded boss or projection 10 is formed upon the rear side of the projection 8 to which a coupling 11 is secured by means of which the pipe 12 is connected with the nozzle so that water which is received from a flush tank (not shown) may enter the chamber into projection 8 and pass therefrom into the pipe or tube 3, flowing toward and being discharged from both ends.

It will be observed that the narrow slot 9 extends up through both sides of the projection 8 to points partially coincident with the interior of the surface of the lower part of tube 3. By reason of this arrangement water escapes from said slot not only from the bottom of the projection 8 but from points entirely around what may be termed the end of the said projection. Simultaneously with the escape of water through slot 9 the water also escapes from the constricted openings in the ends of the pipe or tube. By reason, however, of the presence of the lugs or projections 6 which extend across the said ends, the unrestricted flow of water from the ends of the said pipe or tubes is prevented. The result is that the water from the said open ends is projected therefrom around the front side of the bowl or hopper a distance greater than would otherwise be the case, causing the converging streams of water to meet at the front side of the hopper or bowl.

Owing to the fact that the openings in the ends of the pipe or tube 3 are restricted by the presence of the lugs or projections 6,

the flow of water from the said pipe or tube through the open ends is retarded with the result that the water is forced through the slot 9 with greater pressure and is thus caused to project laterally a greater distance than otherwise would be the case so that it meets and combines with the streams of water which are discharged from the ends of the pipe or tube 3 and which flow over and around the side and front interior surfaces of the hopper or bowl.

I have found that by employing the construction of nozzles above described and illustrated in the accompanying drawings I cause the stream of water from the several discharges to open and meet and entirely cover the interior surface of the hopper so as to cleanse each and every portion thereof.

I claim:—

1. A nozzle for flushing water closet apparatus consisting of a tubular member having a relatively flat projection at its central portion to which water is supplied from a flush tank connection and the said projection having a slot in the bottom and side walls thereof which slot extends in the direction of the length of the said tube, the size of the openings in the ends of the said tubular member being less than the transverse area of the interior of said tubular member at a distance from said open ends whereby the discharge of the water from the said open ends is retarded and restricted, the water which is discharged from the slot in the said projection being discharged downwardly and also laterally, the laterally flowing portions meeting and combining with the water discharged from the ends of the said tubular member, whereby the entire surface of the water closet hopper or bowl is covered.

2. A nozzle for flushing water closet apparatus, consisting of a curved tubular member

having a relatively flat downwardly extending projection at its central portion, the said projection being provided with a slot through its bottom and side portions, said slot being situated in a plane extending in the direction of the length of the said tubular member and the said member having openings in its opposite ends and having means for partially closing the said openings, whereby the streams of water which are discharged from the restricted openings and from the portions of the slot in the sides of said projection meet and combine to entirely cover the interior surface of the water closet bowl or hopper.

3. A nozzle for flushing water closet apparatus, consisting of a tubular member having a relatively flat projection at its central portion, to which water is supplied from flush tank connection and the said projection having a slot in the bottom and side walls thereof which slot extends in the direction of the length of the said tube, the said tubular member having open ends and also having means situated in the said open ends for partially closing the said openings and retarding the flow of water therefrom, the water which is discharged from the slot in the said projection being discharged downwardly and also laterally, the laterally flowing portion meeting and combining with the water discharged from the ends of the said tubular member, whereby the entire surface of the water closet hopper or bowl is covered.

In testimony that I claim the foregoing as my invention, I have hereunto signed my name this 20th day of August, A. D. 1913.

WILLIAM U. GRIFFITHS.

In the presence of—

WM. HARRISON SMITH,
CARRIE E. KLEINFELDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."