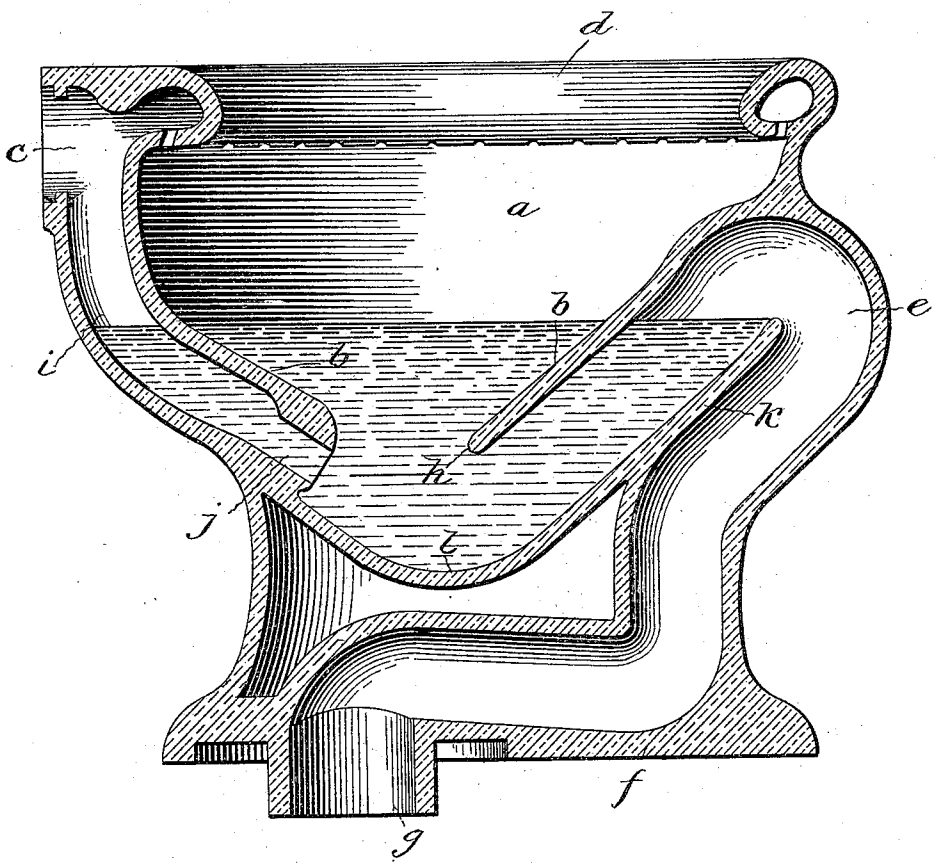
No. 820,051. PATENTED MAY 8, 1906.

J. F. KELLY.

WATER CLOSET BOWL.

APPLICATION FILED JUNE 22, 1905.



Witnesses:
D. W. Edelin.
Chas. J. Neill

Inventor:
John F. Kelly
by Penn & Goldsborough,
attys.

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

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UNITED STATES PATENT OFFICE.

JOHN F. KELLY, OF TRENTON, NEW JERSEY, ASSIGNOR TO THOMAS MADDOCK'S SONS COMPANY, OF TRENTON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

WATER-CLOSET BOWL.

No. 820,051. Specification of Letters Patent. Patented May 8, 1906.

Application filed June 22, 1905. Serial No. 266,428.

To all whom it may concern:

Be it known that I, JOHN F. KELLY, a citizen of the United States, residing at Trenton, Mercer county, State of New Jersey, have invented certain new and useful Improvements in Water-Closet Bowls; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to siphon-discharge water-closet bowls, and has for its object to provide a closet-bowl of this general type that shall be greatly simplified, structurally considered, cheaper of manufacture, and noiseless and sanitary in operation and that shall afford a larger water-surface than has been found possible in other bowls of this general character.

In the accompanying drawing, the figure is a vertical longitudinal section of a water-closet bowl involving the features of my invention.

Referring to the drawing *a* indicates the hopper of the bowl, having the gradually-inclined side walls *b*, which terminate in an outlet *h*, substantially centrally disposed with respect to the hopper. Near the upper rear edge of the bowl is the usual coupling nipple or horn provided with the water-inlet passage *c*, which communicates with the flushing-rim *d*, which may be of any preferred form and is illustrated as a hollow rim around the upper edge of the bowl provided with perforations to direct the water in jets over the interior surface or side walls of the bowl.

By providing the walls of the hopper with a gradual downward inclination instead of the usual straight or substantially vertical side and rear walls, as heretofore employed in bowls of this general type, a much larger water-surface is maintained in the bowl, which surface so nearly underlies the open top of the bowl as to cover practically all of the hopper-walls that would otherwise intercept and be soiled by the falling fecal matter.

Another important feature in connection with the special form of hopper is the provision of the centrally-disposed outlet *h* in the bottom thereof, which in contradistinction to the usual wash-down bowl, in which the outlet is located at the front or rear portion of the hopper, causes all of the matter to fall directly toward said outlet, thereby wholly avoiding the tendency of paper and fecal matter to adhere to the side during the flushing operation.

On one side of the bowl is located a siphon-discharge passage *e*, the rear wall of whose intake-leg is formed by the inclined wall of the hopper, said intake and discharge leg being separated by the portion *k*, forming a dam which determines the depth of the water in the bowl. Said discharge-leg is bent backward along the base *f* until it joins the nipple or horn *g*, which serves as the connection for the usual soil-pipe. On the side of the bowl opposite the siphon-discharge passage *e* is a water-passage *i*, whose inner wall is formed by the side wall of the hopper and whose outer wall is formed as an integral extension thereof. Said passage *i* connects with the inlet-passage *c* and, as indicated, is directed downwardly and inwardly along the exterior of the hopper and terminates in a constricted jet-orifice *j*, which delivers a powerful stream or jet of water against the concave bottom *l* of the bowl immediately below the discharge-opening *h* in the bottom of the hopper. This jet-orifice is located so that it lies below the edge or rim of the opening *h*, which insures said opening always being below the lowest possible level of water in the bowl and likewise maintains a considerable body of water in the passage, which conditions render the operation of the jet in the flushing operation practically noiseless. The jet or orifice is located directly opposite the intake end of the siphon-discharge passage *e*, so that it not only delivers a strong jet directly into the siphon to start the same, but immediately sweeps out all matter that has accumulated in the bottom of the bowl and creates a heavy transverse stream, which materially assists the suction of the siphon-discharge to clear all matter from the bowl in the shortest possible period of time.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An integral water-closet bowl, comprising a hopper having its sides gradually inclined to a central outlet, a siphon-discharge passage on one side of the bowl, and a water-passage terminating in a jet-orifice on the op-

posite side of the bowl, said jet being directed toward the bottom of the bowl.

2. An integral water-closet bowl, comprising a hopper having its sides gradually inclined to a central outlet, a siphon-discharge passage on one side of the bowl, and a downwardly-directed water-passage terminating in a jet-orifice on the opposite side of the bowl, said jet-orifice being below the lowest water-level in the bowl and delivering the jet against the bottom of the bowl, whence it is deflected into the siphon-discharge passage.

3. An integral water-closet bowl, comprising a hopper having its sides gradually inclined to the central outlet, a flushing-rim around the upper edge thereof, a siphon-discharge passage on one side of the bowl, and a downwardly-directed water-passage terminating in a jet-orifice on the opposite side of the bowl, said jet-orifice being below the lowest water-level in the bowl and delivering the jet against the bottom of the bowl, whence it is deflected into the siphon-discharge passage.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. KELLY.

Witnesses:

WALTER W. ANDERSON

W. M. READ.