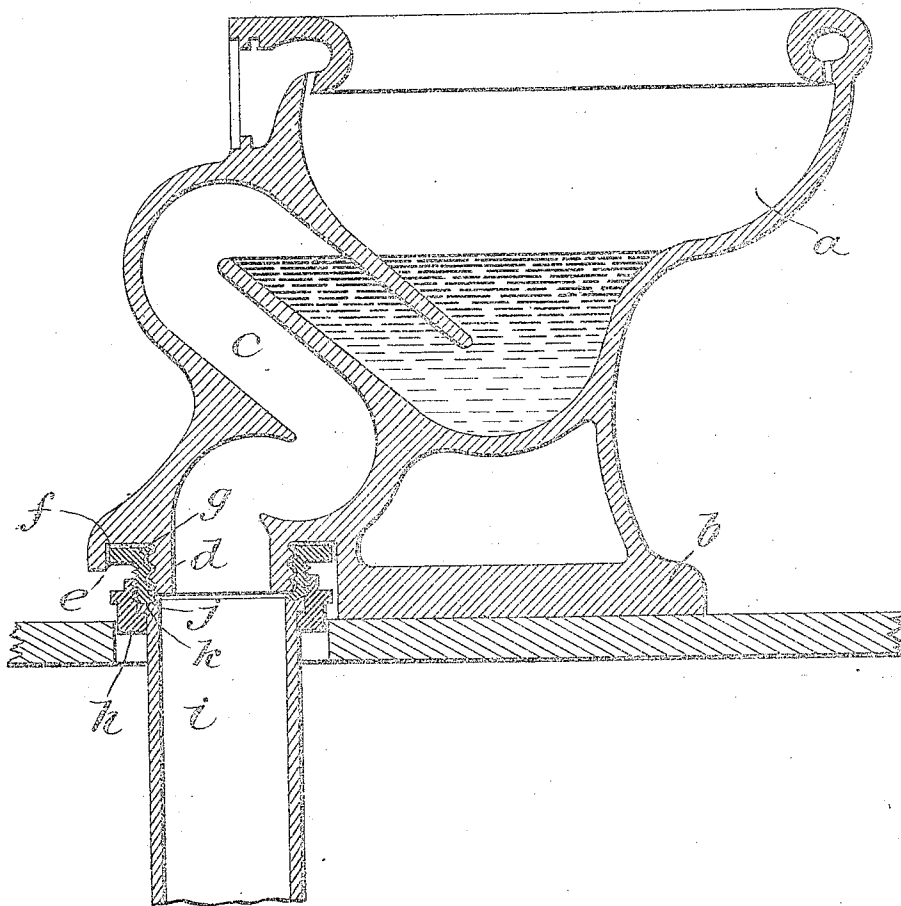


J. F. KELLY.  
 SOIL PIPE COUPLING FOR WATER CLOSETS.  
 APPLICATION FILED JULY 25, 1908.

934,975.

Patented Sept. 21, 1909.



Witnesses  
 N. M. Down  
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Inventor.  
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 By Emma Goldsborough White  
 Att'y.

# UNITED STATES PATENT OFFICE.

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

## SOIL-PIPE COUPLING FOR WATER-CLOSETS.

934,975.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed July 25, 1908. Serial No. 445,388.

*To all whom it may concern:*

Be it known that I, JOHN F. KELLY, a citizen of the United States, residing at Trenton, county of Mercer, State of New Jersey, have invented certain new and useful Improvements in Soil-Pipe Couplings for Water-Closets; 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 means for connecting water closet bowls and soil pipes, and has for its object to provide an improved form of coupling between the siphon discharge of a closet bowl and the soil pipe, which may be applied when the closet is in position and which may be adjusted or removed without changing the position of the closet; and to this end the invention comprises a closet in which the base portion is cut away about the outlet of the siphon discharge, and said outlet is provided with a nipple secured thereto, which nipple engages the end of the soil pipe projecting through the floor and is secured thereto by a swivel-nut which draws the nipple and soil pipe into close engagement and forms a fluid tight joint, the cut away portion of the base of the bowl allowing a sufficient space above the floor to admit of a wrench being passed into the same to engage the swivel-nut and adjust the same as desired.

The accompanying drawing is a longitudinal section through a water closet showing the invention applied thereto.

In the drawing, the invention is represented as applied to a siphon closet bowl, in which the siphon discharge is located at the rear of the bowl, but it will be understood that said invention is not limited to this particular type of closet, but is applicable to closets in which the outlet is located in other relations provided the outlet passes through the integral base of the bowl.

In the drawings, *a* indicates the bowl having an integral base *b* and provided with a siphon discharge outlet *c* at the rear of said bowl the outlet of said siphon being vertical and communicating with a soil pipe *z* passing upward through the floor.

The siphon discharge *c* forms the rear wall of the bowl and said discharge is supported at the inner portion of its lower end

or outlet upon the base *b*, with which it is made integral.

The rear portion of the foot or base *b* is cut away to leave a relatively narrow space between the floor and the bottom of the bowl surrounding the outlet of the siphon discharge *c*, which space is preferably open at the sides and rear to admit of a plumber's wrench being inserted, as will be hereinafter more particularly described. Said cut away portion *e* surrounds the outlet of the siphon discharge and said outlet projects downwardly in the form of a horn *d* into the space thus formed. The outer surface of said horn is preferably screw-threaded to receive a flanged annulus or nipple *g* which is screw-threaded on its interior surface to engage the threads on said horn *d*, and on its exterior surface to receive the threads on a swivel-nut *h* which is adapted to connect said nipple with the soil pipe. Said nipple *g* is provided with a horizontal flange *f* which engages an annular recess formed about said horn, and the nipple is rigidly secured to the horn and the bowl structure by means of cement or other suitable material, which also serves to make a fluid tight joint between the nipple and the bowl.

The upper rim of the soil pipe is preferably provided with a horizontal flange, the top surface of which is channeled out to form one member of a ground joint, the other member of which is a correspondingly convexed surface on the lower rim of the nipple. The swivel-nut *h* is loosely mounted on the soil pipe and provided with an internal flange adapted to engage the flange on the end of the soil pipe and internally screw-threaded to engage the outside threads on the nipple *g* which threads are located laterally of the horn or extension *d*. Said swivel-nut is likewise provided with angular faces to receive a wrench.

As thus described, it will be apparent that after the soil pipe has been set in place, the closet bowl may be moved to its approximate position so that the horn at the outlet end of the siphon discharge will lie over the end of said soil pipe. The swivel-nut is then moved upward on the end of the soil pipe until its threaded portion engages the threads on the nipple and by inserting a wrench through the opening formed by the cut away portion of the bowl base and engaging said swivel-

nut, the latter may be turned up on the nipple until the convex rim of the latter is forced into firm engagement with the concaved rim of the soil pipe, thereby forming a perfectly rigid, fluid-tight joint, which will prevent the escape of either gas or liquid between the bowl and the soil pipe.

Should the joint become loose at any time and permit the escape of gas or liquid, it will become at once apparent, and said joint may be readily tightened, and the leak stopped, by merely inserting a wrench in the opening or cut away portion of the base, and tightening the swivel-nut. By means of this simple connection, all of the objections inherent in the old form of slip-joint or the so-called permanent joints formed by a lining of cement or rubber between the bowl and the end of the soil pipe, are obviated, and should the joint become loose at any time, it may be readily tightened up and readjusted by an unskilled workman without in any way disturbing the closet bowl or any of the connections thereto.

25. What I claim is:—

1. A siphon-discharge water closet bowl having the outlet of its siphon discharge entirely cut away from the base of the bowl at one portion only.

30. 2. A siphon-discharge water closet bowl having the outlet of its siphon discharge entirely cut away from the base of the bowl at the outer or rear portion only, the inner portion of said outlet being formed integral with said base.

35. 3. In a water closet, the combination of a bowl having a siphon discharge, a base upon which the siphon discharge outlet is directly supported, the outer portion of the siphon discharge outlet being cut away, and a soil pipe connection accessible through said cut away portion.

40. 4. In a water closet, the combination of a bowl having a siphon discharge, a base upon which the siphon discharge outlet is directly supported, said outlet being cut away above the floor line, and a soil pipe connection extending above the floor line and accessible by means of the cut away portion of said outlet.

50. 5. In a water closet, the combination of a bowl having an integral base, a siphon discharge having the inner portion of its outlet formed integral with and supported on

the base of the bowl, the outer part of the siphon discharge outlet being cut away adjacent the floor, and a soil pipe connection with the siphon discharge which is accessible through the cut away portion.

6. In a water closet, the combination of a bowl having an integral base, a siphon discharge forming the rear wall of the bowl and having the inner portion of its lower end formed integral with and supported on the base of the bowl, the discharge end of the siphon discharge being cut away to form a downwardly directed horn freely accessible from the rear of the bowl, and a soil pipe connection applied to said horn.

7. In a water closet, the combination with the bowl having an integral base, a siphon discharge at the rear of the bowl and passing through the base, said base being cut away about the outlet and said outlet forming a downward extension into the cut away portion of the base, a threaded nipple screwed on said extension and having exterior threads located laterally of the latter, the soil pipe engaging said nipple, and a swivel-nut having interior threads engaging the exterior threads of the nipple and connecting the nipple and the soil pipe, said nut being accessible through the cut away portion of the base of the bowl.

8. The combination with a closet bowl having a siphon discharge at the rear thereof, the base of the bowl being cut away about the outlet of said siphon and forming a vertical horn at said outlet, a nipple threaded on said horn, a soil pipe engaging at its end with the lower end of said nipple, and a swivel-nut connecting said nipple and soil pipe.

9. The combination of a water closet having its foot undercut adjacent to the connection between said water closet and its related soil pipe; an annulus fixed to said water closet at the lower end of its discharge passage; a soil pipe; and a coupling uniting said annulus and said soil pipe, and accessible through said undercut in the foot of said water closet.

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

JOHN F. KELLY.

Witnesses:

ARTHUR L. BRYANT,  
CHAS. J. O'NEILL.