W. H. FOULOIS.

WATER CLOSET COUPLING.

APPLICATION FILED APR. 20, 1908.

911,486.

Patented Feb. 2, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

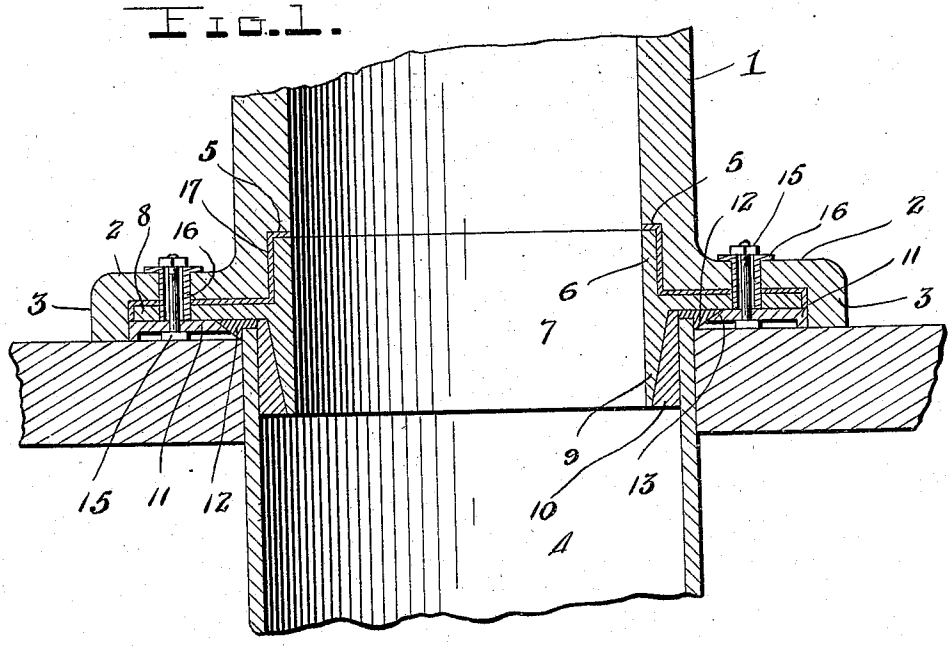


FIG. 2.

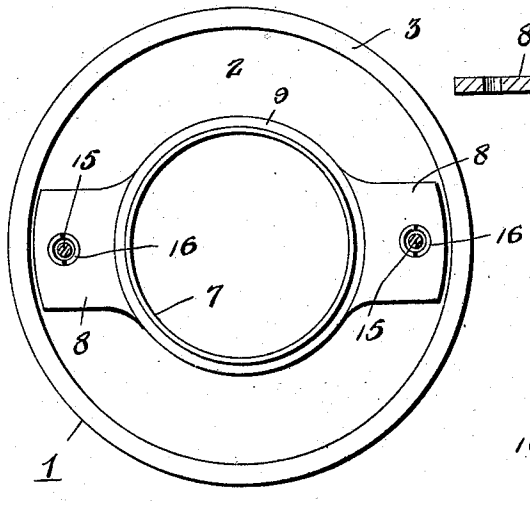


FIG. 3.

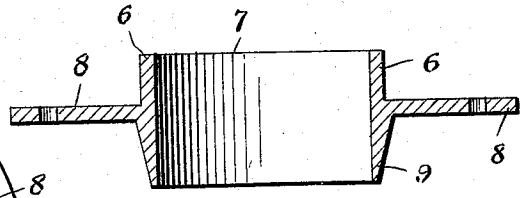
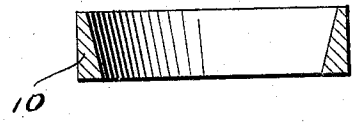


FIG. 6.



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2 SHEETS—SHEET 2.

FIG. 4.

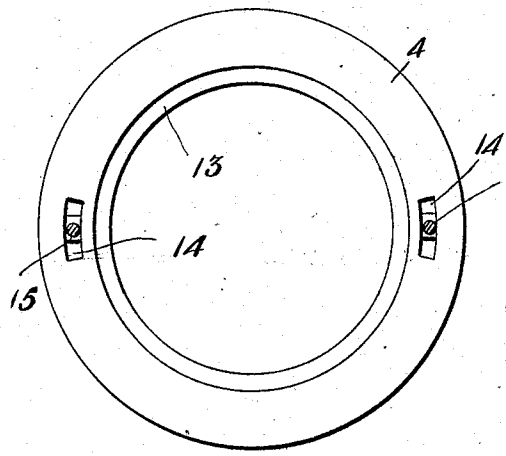
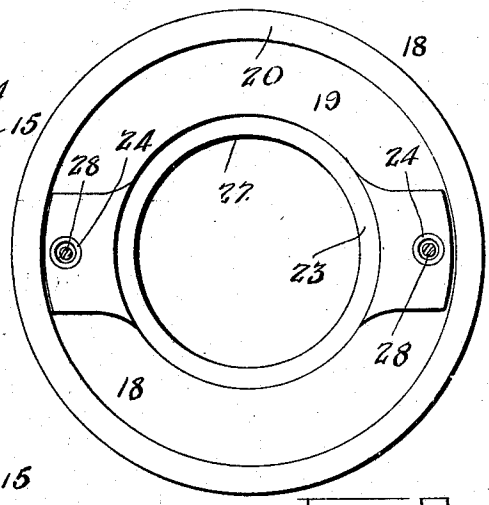


FIG. 6.



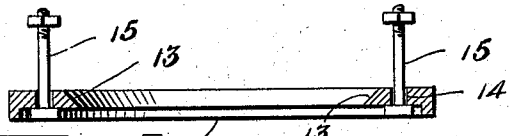


FIG. 5.

FIG. 9.

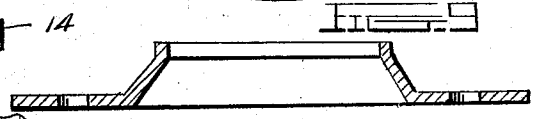
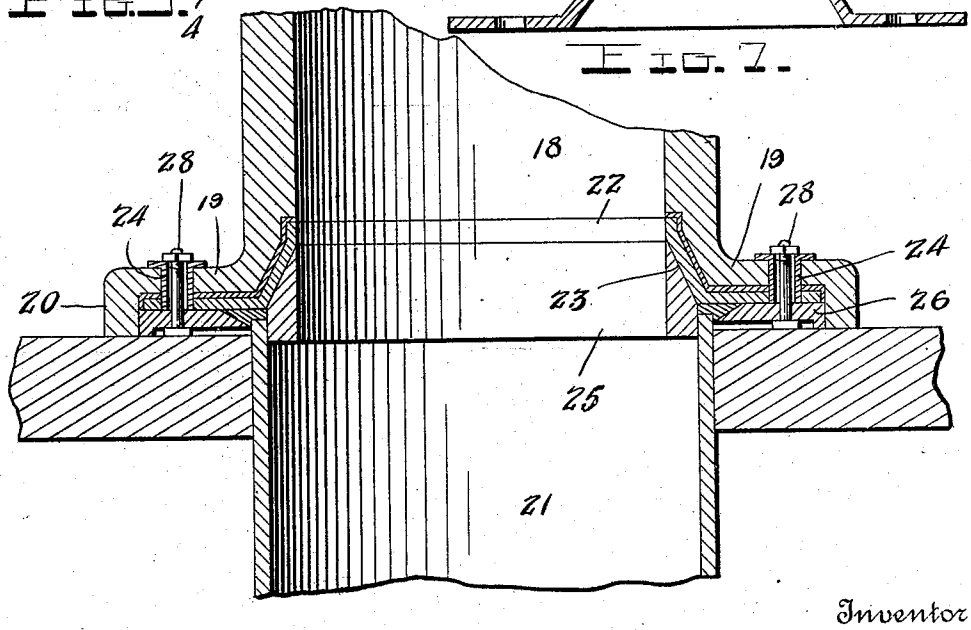


FIG. 7.



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UNITED STATES PATENT OFFICE.

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WATER-CLOSET COUPLING.

No. 911,486. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed April 20, 1908. Serial No. 428,106.

To all whom it may concern:

Be it known that I, WILLIAM H. FOULOIS, a citizen of the United States, residing at Washington Depot, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Water-Closet Couplings; and I do 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.

This invention relates to couplings, and particularly to floor joints for water closets.

The object of the invention is to provide a tight and durable joint between the metallic soil pipe and the closet bowl of earthenware, porcelain or other material, and also to simplify the work of attaching the same.

Heretofore many schemes have been adopted for securing an air and water-tight connection of the soil pipe with the outlet passage of the closet bowl, and, in former instances, the use of putty, white or red lead and similar substances was predominant, which resulted in the connection becoming leaky by reason of decay or disintegration of the material used in making the joint.

While it is the object of my invention to provide as near an all metallic connection as is possible, it has been found that a hard cement connection between the floor-ring and the bowl outlet is considerably better than a threaded or gasket connection, and such a cement is shown herein to join these parts.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a fragmentary vertical sectional view of a closet bowl connected to a lead soil pipe; Fig. 2 is a bottom plan view of the bowl outlet with the metallic base piece in position; Fig. 3 is a sectional view of the metal base piece; Fig. 4 is a plan view of the floor ring; Fig. 5 is a sectional view thereof; Fig. 6 is a sectional view of the metallic ferrule used; Fig. 7 is a modification; Fig. 8 shows a bottom plan view of the metal base used in Fig. 7; Fig. 9 is a sectional view of the metal base piece employed in Fig. 7.

Referring more especially to the drawings, and particularly to Figs. 1 to 6, 1 represents the discharge pipe of the water closet, which is provided with an annular flange, 2, having a peripherally depending rib, 3, which hides the connection with the soil pipe, 4, of lead or other suitable material. The inner circumference of the pipe, 1, adjacent to its outlet opening, is recessed as at 5, to receive the upstanding collar, 6, of the metallic base piece or gasket, 7. This metallic base piece has projecting wings, 8, and a depending conical collar, 9, whose inner periphery is in alinement with the inner periphery of the collar, 6, and whose outer face is conical so as to receive the conical inner face of the ferrule, 10, which is located inside of the pipe 4 and projects slightly above so as to be connected to the floor ring, 11, by solder, 12. This floor ring is provided with a central hole to admit the pipe 4, and is beveled off as at 13 to receive the solder, 12.

I preferably provide the ring with a pair of diametrically opposite slots, 14, adapted to allow the passage of the clamping bolts, 15, which extend through tubular rivets, 16, and tend to draw the pipe, 4, the ferrule, 10, and the floor ring, 11, against the underside of the metallic base piece, 7, so as to clamp the ferrule, 10, with its concave face into engagement with the convex face of the collar, 9. The tubular rivets 16 hold the metallic base piece 9 tightly in position upon the outlet pipe 1, and to secure a proper joint, I preferably insert cement, 17, between the pipe 1 and the collar, 6, so as to insure a thoroughly water and air-tight joint.

In the modification illustrated in Figs. 7 to 9, inclusive, I have shown a bowl outlet pipe, 18, having the usual flange and rib, 19, 20, respectively, adapted to hide the connection of the soil pipe, 21, therewith. In this instance, the metallic base piece, 22, is provided with a conical collar, 23, cemented to the pipe, 18, and held in position thereon by tubular rivets, 24. The ferrule, 25, as used in this instance is similar to that shown in Fig. 6, except that it is carried higher in the pipe, 21, and is adapted to fit the inner surface of the collar, 23. As in Fig. 1, it is secured to the pipe, 21, and to the metal floor ring, 26, by solder, 27, and the floor ring and pipe are clamped to the metal base piece by bolts, 28, which pass through the tubular rivets, 24.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion

and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:

In a coupling, the combination with an outlet pipe having an annular recess formed in its lower end, a laterally recessed flange on said pipe, a gasket having laterally projecting arms, said gasket seated in the annular recess and said arms seated in the lateral recesses in the flange, cement between the pipe and gasket, tubular rivets passing through the arms and flange to secure the gasket to the pipe, a soil pipe, a ferrule in the end thereof, a floor ring, means connecting the floor ring to the soil pipe and ferrule, and bolts passing through the floor ring and rivets to secure the ferrule in engagement with the gasket.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. FOULOIS.

Witnesses:

THOMAS S. WILLIAMS,

HENRY T. CADY.