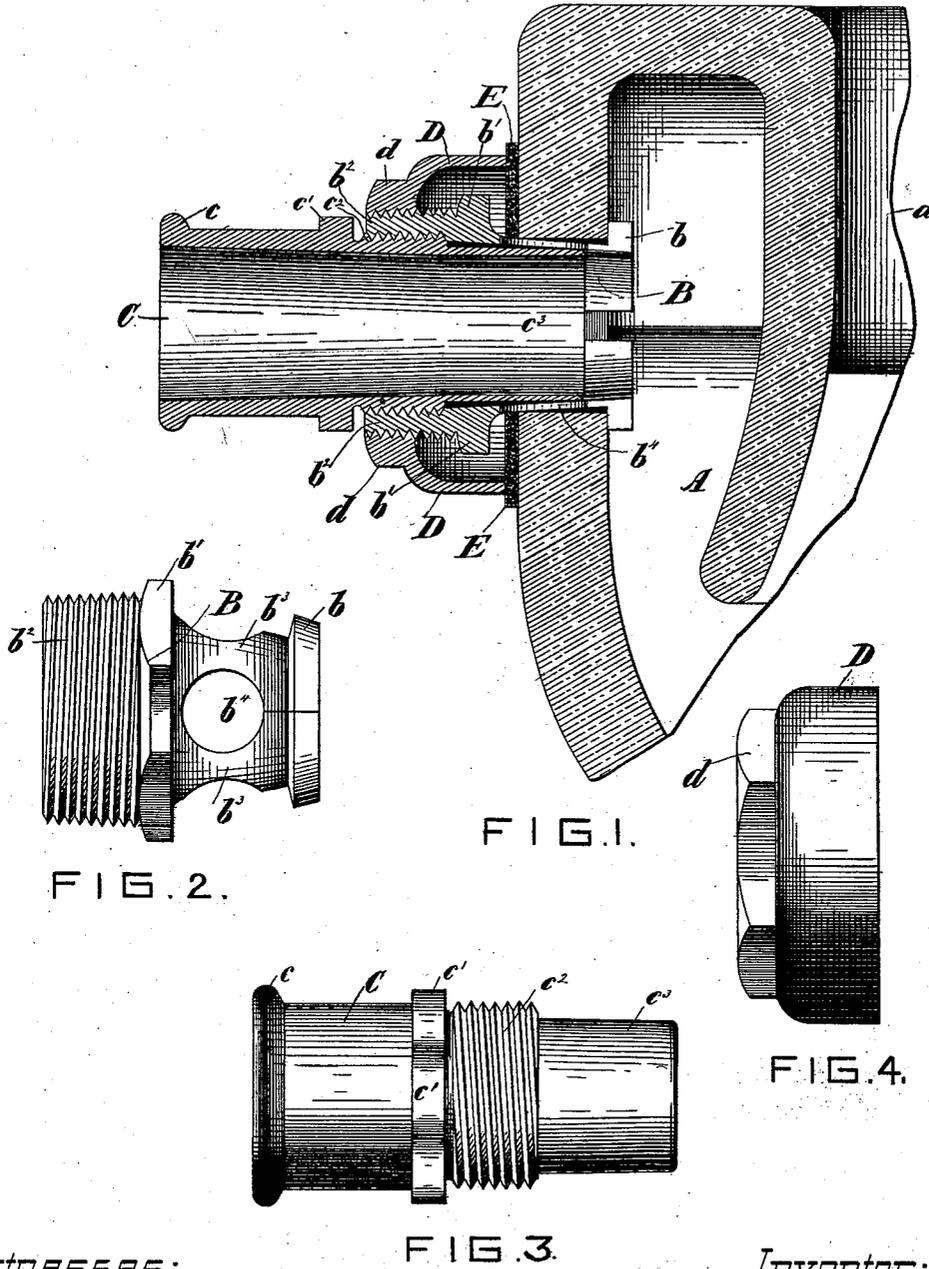


(No Model.)

J. PORTEOUS.  
WATER CLOSET COUPLING.

No. 531,425.

Patented Dec. 25, 1894.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOHN PORTEOUS, OF CINCINNATI, OHIO.

## WATER-CLOSET COUPLING.

SPECIFICATION forming part of Letters Patent No. 531,425, dated December 25, 1894.

Application filed March 12 1894. Serial No. 503,224. (No model.)

To all whom it may concern:

Be it known that I, JOHN PORTEOUS, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Water-Closet Couplings, of which the following is a specification.

This invention is an improved device for coupling pipes to vessels. It is primarily designed for coupling flushing pipes to water closet bowls.

The invention consists in the peculiar construction, arrangement and combination of parts illustrated in the accompanying drawings, hereinafter fully described and particularly pointed out in the claims.

Referring to the drawings, in which like parts are represented by similar reference letters wherever they occur throughout the various views, Figure 1 is a diametrical, sectional view of the improved coupling secured to a water closet bowl. Sufficient of the bowl is shown to illustrate the manner of applying the coupling. Fig. 2 is a longitudinal elevation of the coupling nipple. Fig. 3 is a similar view of a short tube or branch pipe secured within the nipple and having its outer end formed to receive the customary flexible joint, which connects the flushing pipe with the bowl. Fig. 4 is a side elevation of a cap or housing which is secured over the outer screw threaded end of the nipple and pressing the packing gasket or washer.

Referring to the parts, A represents the upper rear portion of a closet bowl of ordinary construction, except that the customary coupling horn surrounding the opening leading into the flushing rim, *a*, is omitted.

B is a coupling nipple which passes through the perforation in the bowl. This nipple is provided at its forward end with an outwardly extending flange, *b*, a wrench seat, *b'*, a screw threaded end, *b<sup>2</sup>*, and a tapering neck, *b<sup>3</sup>*, uniting the wrench seat, *b'*, and the annular flange, *b*. The neck is bored slightly cone shaped upon the inside, so that the metal is of uniform thickness, and the neck has four perforations, *b<sup>4</sup>*, and, after the nipple is molded, bored out true upon the inside and screw tapped, as shown, both inside and outside. The nipple is radially slotted through

the collar and into the perforations, *b<sup>4</sup>*, forming four segments.

The coupling tube, C, has an outwardly projecting bead or flange, *c*, to receive the flexible coupling, a wrench seat, *c'*, a screw threaded portion, *c<sup>2</sup>*, and a slightly tapering end, *c<sup>3</sup>*.

D is a cup shaped cap. It also has a wrench seat, *d*. E is a rubber gasket, against the edge of the cap, D, is forced, to make a water tight joint between the cap and the bowl, A.

The flanged end, *b*, of the nipple, B, before it is expanded, is of a size to pass through the perforation in the bowl, A.

To apply the coupling in place, the gasket, E, is first slipped over the tapering end of the nipple. The nipple is then inserted through the opening in the bowl and held against rotation by a wrench applied to the seat *b'*, while the tube, C, is screwed into it. The forward end of the tube expands the neck of the nipple until the flange, *b*, comes back of the inner wall of the bowl. When the neck is expanded, as shown in Fig. 1, the cap, D, is then screwed over the nipple and pressed firmly against the gasket. The screw threads upon the cap, D, and tube, C, as well as those upon the interior and exterior of the nipple, B, being right and left hand screws, by screwing the cap up tightly, the flange of the nipple is drawn firmly against the inside wall of the bowl, the packing, E, compressed, and the coupling held firmly in place.

While the coupling is especially adapted for washout closet bowls and dispenses with the weak and troublesome horn customarily used upon such devices, it is also applicable to basins and other earthen-ware articles, and it is obvious that many mere mechanical changes may be made in the structure, or in the parts, without departing from the spirit or scope of the invention. It should, hence, be understood that the invention is not limited to the specific details shown.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a coupling of the character described, the combination of the thimble, having one end screw threaded to receive the coupling tube, and its opposite end or neck formed of segments terminating in outwardly projecting

flanges or collars, the coupling tube exteriorly screw threaded to engage the screw threads in the thimble and having a plain tubular portion in advance of the screw threaded portion to bear upon the inner walls of the thimble segments and expand them as the tube is screwed into the thimble for the purpose of locking the thimble in place, substantially as shown and described.

2. The combination of the thimble having tapering neck and outwardly projecting flange, a bore cone shaped and severed into segments, and having the end opposite the neck screw threaded interiorly and exteriorly, the coupling tube having screw threaded portion to engage the interior screw thread of the thimble and a plain tubular portion in advance of the screw thread to expand the segments as the tube is screwed into the neck, and the cap, D, having its neck interiorly screw threaded to engage the exterior thread upon the thimble, substantially as shown and described.

3. The combination of the bowl, A, perforated to receive the coupling, and having a plain seat surrounding the outer end of the opening, the thimble having tapering neck formed of segments, having outwardly projecting flanges and screw threaded exteriorly and interiorly at the end opposite the flange, the coupling tube exteriorly screw threaded to engage the interior screw thread of the

flange and having tubular end to expand the segments of the flange as the tube is screwed in, the packing gasket around the neck of the thimble and the cap having interiorly screw threaded neck to engage the exterior thread of the thimble, and its edge pressing against the gasket, whereby the flanges of the thimble or segments are drawn firmly against the inner wall of the bowl as the cap is screwed up, and a water tight joint secured, substantially as shown and described.

4. The combination of the thimble, having its neck formed of segments having outwardly projecting flanges, its opposite end exteriorly and interiorly screw threaded, the one thread being a right and the other a left hand thread, a wrench seat intermediate the neck and screw threaded portion, the coupling tube having screw threaded portion, a wrench seat at one end of the screw threaded portion and a tubular extension at the opposite end to expand the neck segments as the tube is screwed into the thimble, the cap having its neck interiorly screw threaded to engage the screw threads in the exterior of the thimble, and a wrench seat to force the cap on the thimble, substantially as shown and described.

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Witnesses:

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