

E. G. WATROUS.
CLOSET FLOOR CONNECTION.
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1,201,400.

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Fig. 1.

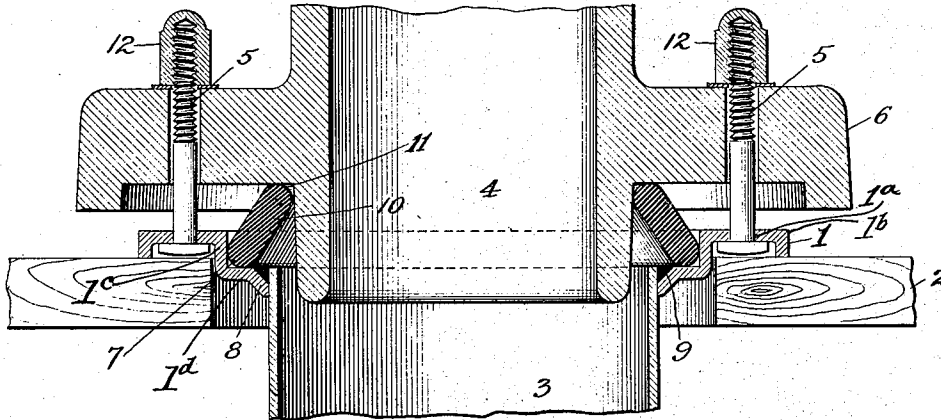


Fig. 2.

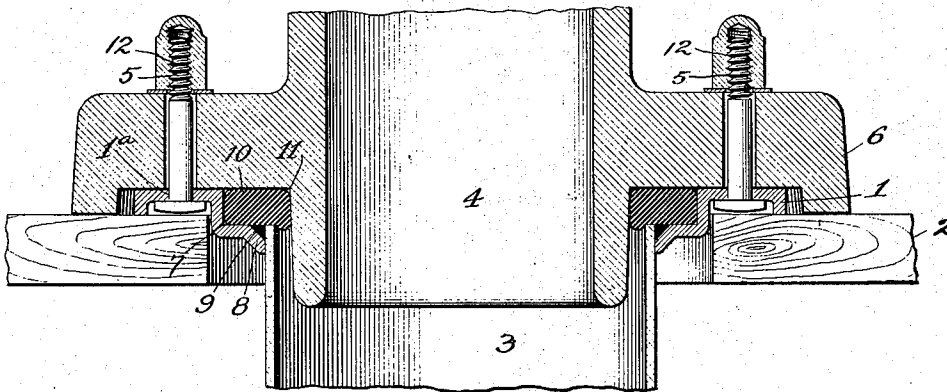
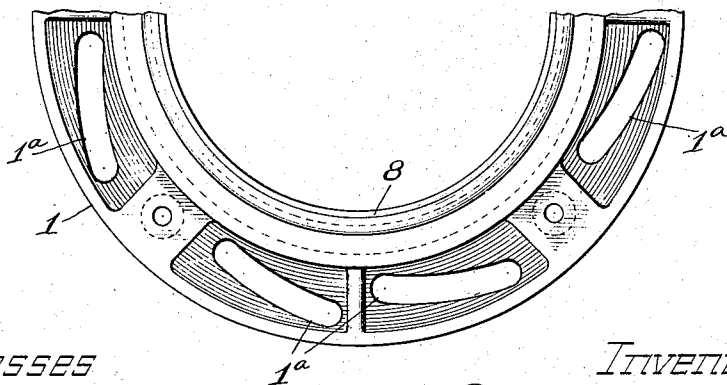


Fig. 3.



Witnesses
Martin H. Olsen
Robert Dobberman.

Inventor
Earl G. Watrous
By Hector, Kibben & Davis
His Atty

UNITED STATES PATENT OFFICE.

EARL G. WATROUS, OF CHICAGO, ILLINOIS.

CLOSET-FLOOR CONNECTION.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Closet-Floor Connections, of which the following is a specification.

My invention relates to floor connections for water closets and the like and the object thereof is to provide novel and efficient means whereby the joints or connections between the bowl and the floor connection may be sealed or made air or gas tight. In the present instance, I provide for such efficient sealing in the act of and as an incident to the fastening or clamping of the bowl to the floor flange, in which operation a packing ring is automatically caused to be compressed and forced into position at the joint between the bowl and the floor connection.

In the accompanying drawing Figure 1 is a sectional elevation of a structure embodying my invention and illustrating a floor connection and the lower part of a bowl, the parts being shown in their relative position after the bowl has been placed in position, but before the same has been clamped or secured to the floor connection; Fig. 2 a view similar to Fig. 1, but with the parts shown in fixed or clamped position; and Fig. 3 a bottom plan view of a part of the floor connection.

Referring to the present embodiment of my invention as illustrated in the drawing, I employ a floor flange 1 which is arranged to be secured to the floor shown at 2 and to be secured or soldered in the usual manner to the soil pipe, whose upper end is shown at 3. The outlet 4 of a bowl is arranged to communicate with the soil pipe 3 in the usual manner and such bowl is adapted to be secured to the floor flange in the usual manner, as by means of the bolts 5, a series of which are employed. These bolts extend through a bottom flange 6 of the bowl and also through curved slots 1^a in the horizontal portion of the floor flange which rests upon the floor, the heads of such bolts being held or anchored to the underside of the floor connection, as clearly indicated in Figs. 1 and 2.

The floor flange comprises a flat or horizontal portion 1^b, a substantially cylindrical wall 1^c, a horizontal ring portion 1^a forming a shoulder and, with the cylindrical wall, a rabbet or recess 7 and an inwardly and

downwardly extending portion 8 forming the opening which receives the upper end of the soil pipe, and which, in connection therewith forms the canopy to receive the solder 9. The rabbet of the floor flange or connection is adapted to receive the outer edge of the packing ring 10, whose inner edge is received in the corner 11 of the under surface of the bowl, when the parts are in the position indicated in Fig. 1. This packing ring has a greater length than width in cross section with its longitudinal axis coinciding with a line drawn between the two corners 7 and 11. In other words, the ring prior to compression is, taken as a whole, tapering or frusto-conical. As a result of this construction, and the provision of the packing ring as described, the joint between the bowl and the floor connection is automatically sealed in the act of securing or clamping the bowl to the floor flange. As will now be obvious, the act of tightening the nuts 12 on the bolts 5 will draw the bowl downwardly to the floor and in such downward movement of the bowl the packing ring will be slowly turned from the oblique position shown in Fig. 1 to the horizontal position shown in Fig. 2 and at the same time such packing ring will be compressed to a considerable extent in the space provided for it, so as to press with considerable pressure against the vertical walls of such space formed by the floor connection and bowl outlet and thereby securely seal the joint between said parts.

The construction and arrangement of the parts is such that in the downward movement of the bowl in the act of clamping it to the floor flange, such bowl will have a considerable leverage upon the packing ring, inasmuch as the fulcrum point is at the lower end of such packing ring and in the angle 7, while the point of application of the power is at the upper end of such packing ring, with the result that very little resistance is offered to the clamping operation in the act of compressing and forcing the packing ring in its proper or sealing position. This compression and forcing of the packing ring into place is thus accomplished automatically and as an incident to the act of securing the bowl in place on the floor. The packing ring may be made of any material suitable for the purpose and the same is by preference formed as herein shown, the ring being truncated conical. Moreover,

the described construction and arrangement of parts relieves the flange 6 of the bowl of any strain or pressure that would tend to cause a fracture thereof inasmuch as the pressure of the packing ring is in a horizontal plane between the two vertical and parallel walls of the space formed by the floor connection 1 and the depending cylindrical outlet portion of the bowl. This relief from and protection against pressure upon the bowl flange, which, being of earthenware, is comparatively frangible, is important in practice, as it overcomes serious objections and enables the bowl to be connected to the floor without danger of breakage to the flange in tightening up the securing or clamping bolts. In addition, the clamping bolts are themselves relieved of strain or binding pressure by such described construction and arrangement of the parts.

I claim:

1. In combination with the outlet end of a bowl, a floor connection having a vertical flange parallel with said end of the bowl, a compressible, tapered packing ring arranged to contact with the bowl base at the angle between the bowl neck and floor portion of the bowl and to be forced to a horizontal position between said vertical flange and the end of the bowl, and means for securing the bowl and floor connection together; substantially as described.

2. The combination with the outlet of a bowl having a horizontal flange and a depending vertical flange together forming an angle 11, a floor connection having a rabbet, a compressible packing ring substantially oblong in cross section, compressed between the wall of the rabbet and the depending flange of the outlet and under stress tending to restore said ring to a frusto-conical shape.

3. The combination with the outlet of a

bowl having a horizontal flange and a depending vertical flange together forming an angle 11, a floor connection having a rabbet, an elastic packing ring substantially oblong in cross section, compressed between the wall of the rabbet and the depending flange of the outlet and under stress tending to restore said ring to a frusto-conical shape.

4. In combination with a bowl outlet having a horizontal securing flange and a substantially vertical depending flange, a floor connection having a horizontal flange, a cylindrical wall 1^c and a horizontal wall 1^a, said cylindrical wall and horizontal wall forming a rabbet and a packing ring of elastic material and substantially oblong in cross section arranged in the space formed between the rabbet and the flanges of the outlet with its longer diameter in a substantially horizontal plane compressed between the vertical wall 1^c and the depending flange of the outlet and under stress tending to restore said ring to a frusto-conical shape.

5. A method of packing the joint between a bowl having a horizontal securing flange and a substantially vertical depending flange and a floor connection having a rabbet with a substantially cylindrical and a substantially flat wall consisting in placing a frusto-conical ring of elastic material between the diagonally opposite corners of said bowl outlet and rabbet respectively and forcing said bowl and connection toward each other in an axial direction whereby said packing ring is flattened and compressed between the vertical walls of the outlet and connection respectively.

EARL G. WATROUS.

Witnesses:

EDWARD RECTOR,
LOUIS B. ERWIN.