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E. G. WATROUS.

FLOOR CONNECTION FOR WATER CLOSETS.

APPLICATION FILED MAR. 17, 1903.

Fig. 1

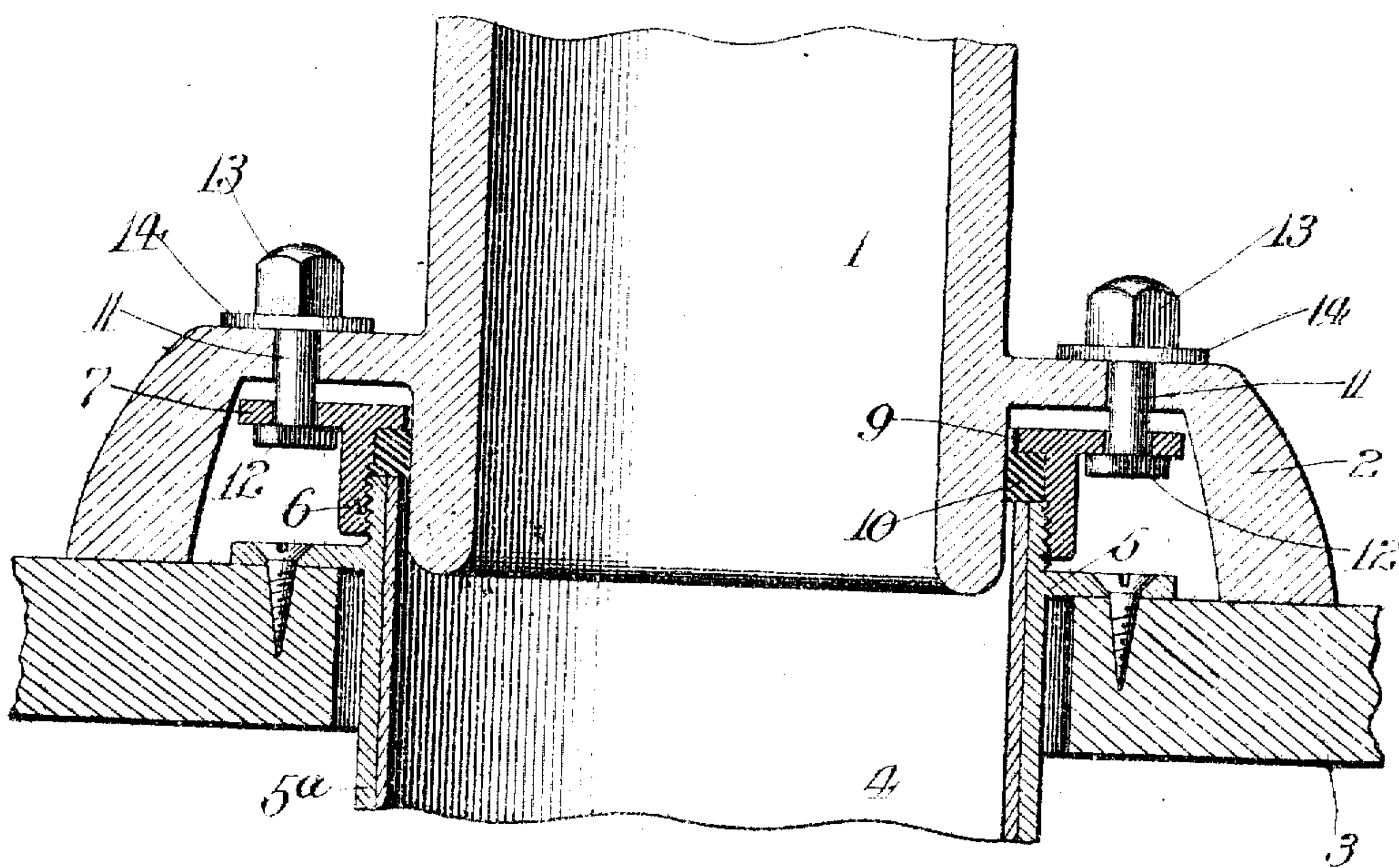
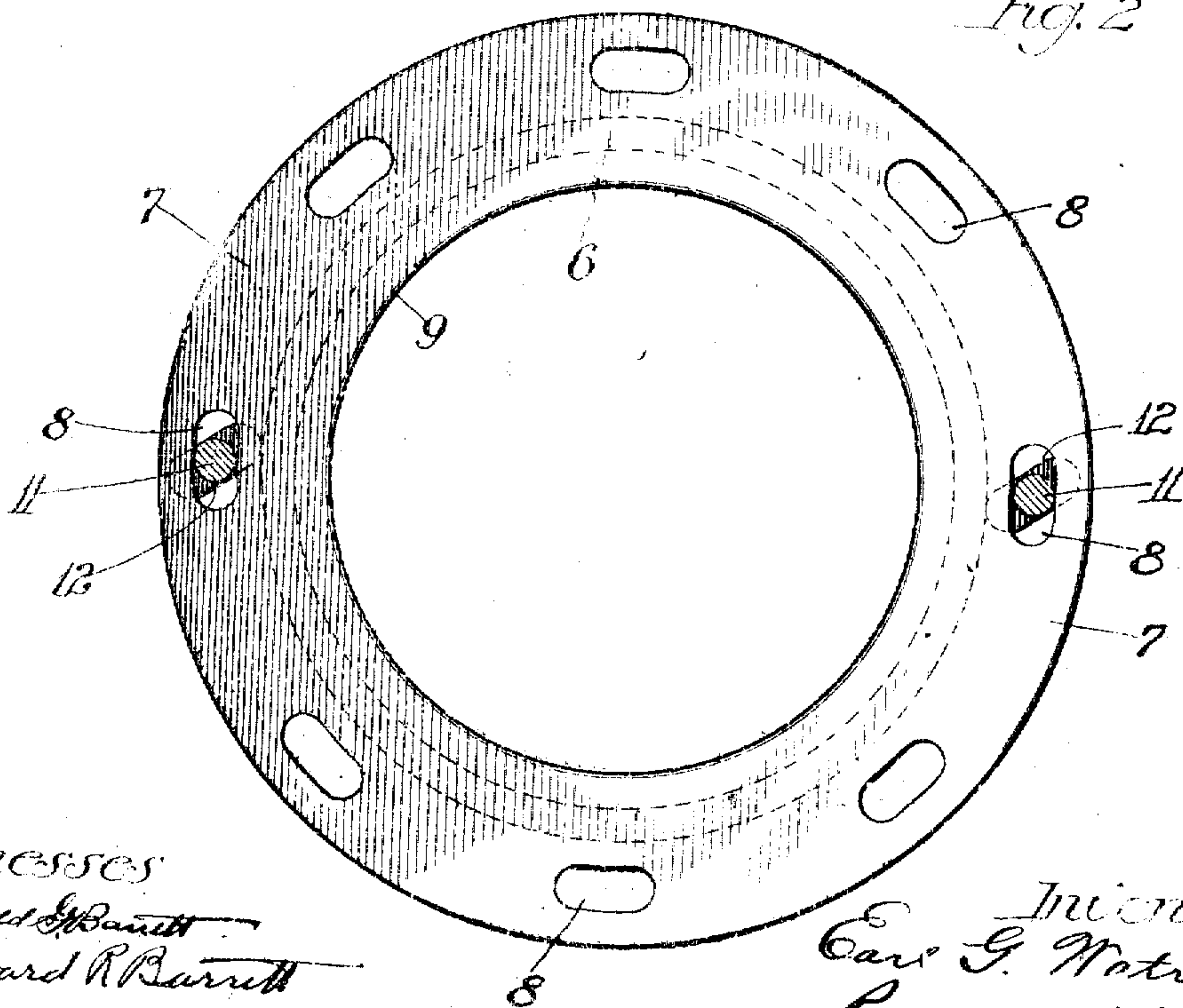


Fig. 2



Witnesses

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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, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Floor Connections for Water-Closets, of which the following is a specification.

My invention relates to those connections for water-closets known as "floor" connections, more particularly screw floor connections; and the object is to provide a novel and efficient connection of this character and one possessing desirable and advantageous features, which will be apparent from the description hereinafter given.

In the drawings, Figure 1 is a section of my floor connection, illustrating the outlet of a water-closet and the upper end of an ordinary lead-bend connection; and Fig. 2, a plan view of the coupling-nut employed.

The bowl of the water-closet is provided with the usual outlet 1 and is also provided with a projecting base 2, arranged to rest on the floor (represented at 3) and arched to form a socket or annular recess around the outlet. This outlet is adapted to communicate with a discharge-pipe of any character—as, for instance, the lead-bend connection 4 of a soil-pipe, as is generally the case—the object of my present invention being to provide an efficient water and gas tight connection between this bowl-outlet and the discharge. As shown, the discharge pipe or bend is fitted within the flange 5, which is secured to the floor in suitable manner.

In practice the upper ends of the flange and pipe 4 are soldered together to form a tight joint at this point. The upper portion of this flange is exteriorly screw-threaded to receive a coupling-nut 6, which has an annular marginal flange 7, provided with a series of elongated holes 8. The nut also has an inwardly-extending annular flange 9, between which and the upper ends of the pipe 4 and flange 5 in the connection when assembled is arranged a ring or packing 10, of rubber or like material suitable for the purpose.

In order to clamp the base of the bowl to the coupling-nut, I employ bolts 11, in the present instance two in number and having elongated heads 12 and nuts 13 and also washers 14, resting upon the horizontal or flat portion of the base 2 of the bowl, all as clearly illustrated in Fig. 1. The heads 12 of the bolts are of a size to conveniently pass through elongated holes in the base 2 and

also through the similar holes 8 in the flange 7 of the coupling-nut, under which such heads engage when turned somewhat, as shown in the drawings, by reason of which arrangement or construction the bowl may for the purpose of installation at the right angle or position be adjusted with respect to the coupling-nut after being screwed up tight upon the floor-flange.

In practice after the connection is made between the floor-flange 5 and the discharge-pipe in the usual manner the bowl is turned over and the coupling-nut and packing are inserted in the socket or recess formed in the base. The bolts are now put in place and caused to engage the coupling-nut; whereupon the bowl is restored to upright position with the outlet 1 within the discharge-pipe 4. The entire body of the bowl and of course the coupling-nut thereto attached are now rotated, with the result that the coupling-nut will screw upon the floor-flange, owing to the fact that it is bolted to the bowl. The screwing down of this nut compresses the packing-ring 10 and forces it inwardly against the outer side of the bowl-outlet, so as to form a water and gas tight joint at this point. When the nut is thus screwed down as far as permitted, the floor connection is complete. However, if it should happen that at this time the bowl is at the wrong angle—as, for instance, pointing against a wall—the construction is such as to permit the bowl to be properly positioned by adjusting the bowl with respect to the coupling-nut. According to the described construction the bolts are removed and the bowl then swung around to the desired position or angle, whereupon the bolts are replaced and caused to engage those holes 8 which are nearest to or correspond at such time with the holes in the base of the bowl, through which the bolts pass.

The construction and arrangement of the parts of the connection are not only simple and efficient, but the same enable the bowl to be readily and conveniently set to the desired position or angle or to be readily replaced with a new bowl. Again, such construction and arrangement is such as to enable the bottom of the base and end of the outlet to lie in the same plane, and thereby be ground at the same time, with the additional advantage that the bowl when not in position is permitted to rest flat upon the floor without danger of tipping over and breaking,

as is the case with bowls whose outlet is necessarily extended below the plane of the base of the bowl. If desired, the cylindrical part 5^a of the floor-flange extending below the upper surface of the floor may be screw-threaded to receive fittings of other well-known types, such as the well-known Durham system. Furthermore, this cylindrical part of the floor-flange need not extend as far down as shown in the drawings, especially when a lead-bend connection is employed; but such part of the floor-flange may be cut off at or near the floor-line.

I claim—

1. A floor connection for water-closets comprising, in combination with the outlet of a water-closet bowl and a discharge-pipe, a floor-flange connected with the discharge-pipe and having a tubular portion communicating with the bowl-outlet, a coupling-nut adapted to engage the floor-flange, and means for connecting the nut and bowl in adjustable manner; substantially as described.
2. A floor connection for water-closets comprising, in combination with the outlet of a water-closet bowl and a discharge-pipe, a floor-flange connected with the discharge-pipe and having a tubular portion communicating with the bowl-outlet, a coupling-nut adapted to engage the exterior of the floor-flange, and bolts engaging the bowl and the nut for clamping the same together; substantially as described.
3. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl and a discharge-pipe, a floor-flange connected with the discharge-pipe, a coupling-nut adapted to engage the floor-flange, packing cooperating with the nut and the end of the flange and arranged to be forced against said outlet portion of the bowl, and means for adjustably connecting the nut and bowl; substantially as described.
4. A floor connection for water-closets comprising, in combination with the outlet of a water-closet bowl and a discharge-pipe, a floor-flange having a tubular portion connected with the discharge-pipe, a coupling-nut adapted to engage the exterior of the floor-flange, said nut having an annular flange 7 provided with bolt-holes, and bolts passing through the bowl and received by said holes whereby the bowl is clamped or secured to the nut; substantially as described.
5. A floor connection for water-closets comprising, in combination with a discharge-pipe and with the outlet of a water-closet bowl having a base 2, a floor-flange connected with the discharge-pipe and screw-threaded at its upper end, a coupling-nut screwing onto said floor-flange and provided with an outward annular flange 7 and an inward flange 9, packing arranged between the flange 9 and the end of the floor-flange, and bolts

passing through said base and engaging said flange 7 of the coupling-nut, whereby the bowl is clamped to such nut and floor-flange; substantially as described.

6. The combination, with the outlet 1 and base 2 of a water-closet bowl, of a discharge-pipe 4 in communication with said outlet, a floor-flange 5 having a tubular portion 5^a connected with the discharge-pipe, a coupling-nut 6 screwing on the floor-flange and provided with a flange 7 having a series of elongated holes 8, and bolts having elongated heads adapted to pass through the base and through said holes and engage beneath said flange 7 for clamping the bowl to the nut and floor-flange; substantially as described.

7. The combination of an outlet 1 of a water-closet bowl, a base 2 for the bowl, having a series of elongated holes and forming with said outlet an annular recess or socket, a discharge-pipe 4 with which the outlet communicates, a floor-flange 5 with which the pipe 4 is connected, a coupling-nut 6 screwing upon the flange 5 and arranged in said recess or socket, said nut being provided with an annular flange 7 having a series of elongated holes, and bolts provided with elongated heads to pass through the holes in the bowl-base and flange 7 and engage under the latter; substantially as described.

8. The combination of an outlet 1 of a water-closet bowl, a base 2 for the bowl, having a series of elongated holes and forming with said outlet an annular recess or socket, a discharge-pipe 4 with which the outlet communicates, a floor-flange 5 with which the pipe 4 is connected, a coupling-nut 6 screwing upon the flange 5 and arranged in said recess or socket, said nut being provided with an annular flange 7 having a series of elongated holes, and also provided with an inwardly-directed annular flange 9, bolts provided with elongated heads to pass through the holes in the bowl-base and flange 7, and engage under the latter, and packing 10 arranged below the flange 9 and adapted to be compressed when the nut is screwed upon the floor-flange and to be thereby forced inwardly against the outer surface of the bowl-outlet; substantially as described.

9. The combination of an outlet 1 of a water-closet bowl, a base 2 comprising an annular portion or skirting whose bottom lies in the same plane as the lower end of the outlet 1, a discharge-pipe in communication with the bowl-outlet, a floor-flange connected with the discharge-pipe, a coupling-nut screwing onto said flange within the space between said outlet 1 and base 2, and means for securing the base to the coupling-nut; substantially as described.

10. The combination of an outlet 1 of a water-closet bowl, a base 2 comprising an annular portion or skirting whose bottom lies in the same plane as the lower end of the outlet

1, a discharge-pipe in communication with the bowl-outlet, a floor-flange connected with the discharge-pipe and within which the lower end of the outlet depends, said flange
 5 extending over the flange of the base between the outlet 1 and the annular portion or skirting, a coupling-nut screwing onto the flange, and means for adjustably securing the bowl-base to the coupling-nut; substantially as de-
 10 scribed.

11. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl
 15 depends, a floor-flange connected with the discharge-pipe, and a coupling-nut adapted to engage the floor-flange, and means for securing the bowl to the coupling-nut; substantially as described.

12. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl
 20 depends, a floor-flange connected with the discharge-pipe, and a coupling-nut encircling the outlet portion of the bowl and adapted to engage the floor-flange, and means for securing the bowl to the coupling-nut; substantially as described.

13. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl
 25 depends, a floor-flange connected with the discharge-pipe, and a coupling-nut arranged to engage the exterior of the floor-flange, and means for securing the bowl in different adjusted positions angularly with respect to the coupling-nut; substantially as described.

14. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl
 30 depends, a floor-flange connected with the discharge-pipe, a coupling-nut engaging the floor-flange, and an expansible joint between such nut and the outlet portion of the bowl, and means for securing the bowl to the coupling-nut; substantially as described.

15. A floor connection for water-closets

comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl depends, a floor-flange connected with the discharge-pipe, a coupling-nut engaging
 35 the floor-flange, and an expansible and slip-joint connection between said nut and outlet portion of the bowl, and means for securing the bowl to the coupling-nut; substantially as described.

16. A floor connection for water-closets comprising a discharge-pipe, a floor-flange connected therewith, a nut engaging said floor-flange, in combination with a bowl hav-
 40 ing an outlet portion 1 and a base portion 2 terminating in substantially the same plane, said outlet portion 1 depending into the discharge-pipe and forming a slip-joint connection with said nut, and means for securing the bowl to the coupling-nut; substantially as
 45 described.

17. A floor connection for water-closets comprising a discharge-pipe, a floor-flange connected therewith, a nut engaging said floor-flange, in combination with a bowl hav-
 50 ing an outlet portion 1 and a base portion 2 terminating in substantially the same plane, said outlet portion 1 depending into the discharge-pipe and forming a slip-joint connection with said nut, and bolts 11 passing
 55 through said base 2 and engaging the nut; substantially as described.

18. A floor connection for water-closets comprising a discharge-pipe, a floor-flange connected therewith, a nut engaging said
 60 floor-flange, in combination with a bowl having an outlet portion 1 and a base portion 2 terminating in substantially the same plane, said outlet portion 1 depending into the discharge-pipe, and an expansible pack-
 65 ing-ring interposed between the nut and floor-flange and adapted to be pressed against the exterior of the outlet portion 1 of the bowl to form a joint, and means for securing the bowl to the coupling-nut; substantially as
 70 described.

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Witnesses:

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