No. 854,695. PATENTED MAY 21, 1907.

J. M. HAYDEN.

CLOSET BOWL AND SINK CONNECTION.

APPLICATION FILED SEPT. 24, 1906.

Fig. 1.

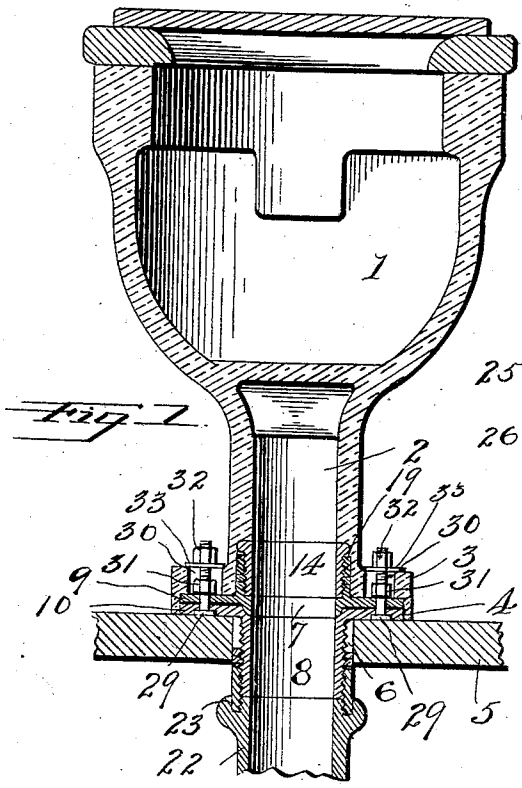


Fig. 4.

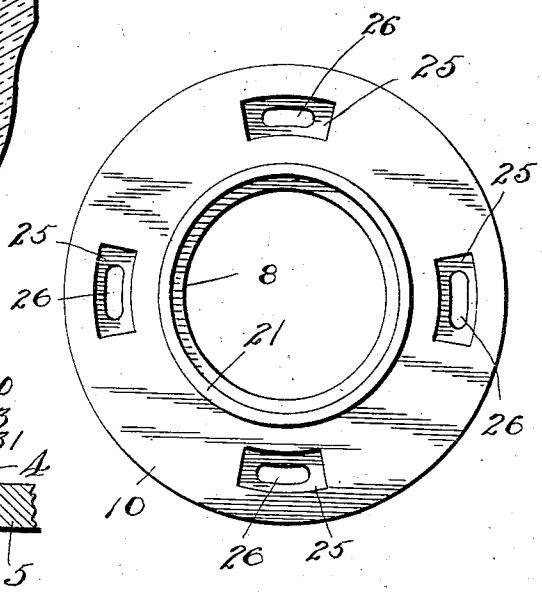


Fig. 2.

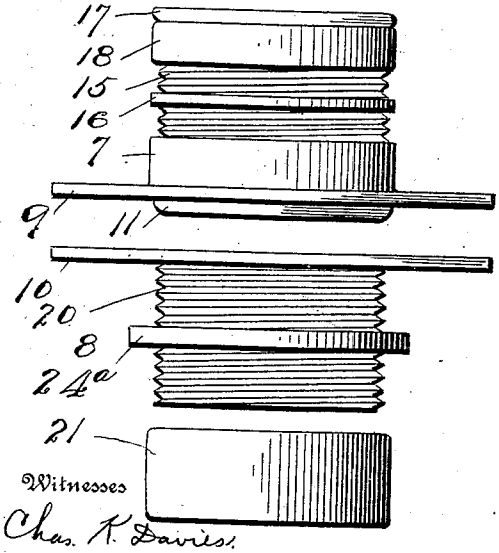
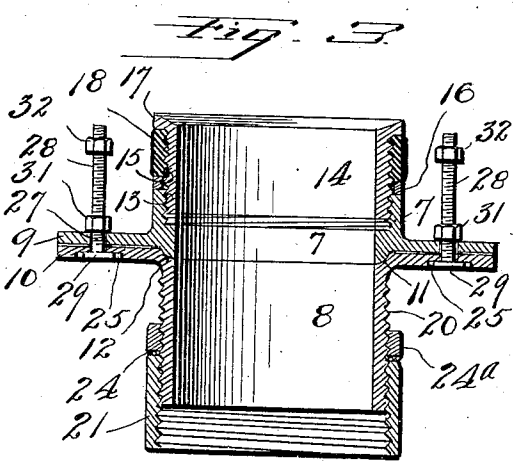


Fig. 3.



Witnesses

Chas. K. Davies.

John S. Pomes

Inventor

J. M. Hayden,

By Shepherd & Parker

Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN M. HAYDEN, OF NORFOLK, VIRGINIA, ASSIGNOR OF ONE-HALF TO HARVEY ABRAMES, OF NORFOLK, VIRGINIA.

CLOSET-BOWL AND SINK CONNECTION.

No. 854,695. Specification of Letters Patent. Patented May 21, 1907.

Application filed September 24, 1906. Serial No. 335,934.

To all whom it may concern:

Be it known that I, JOHN M. HAYDEN, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Closet-Bowl and Sink Connections, of which the following is a specification.

This invention relates to new and useful improvements in plumbing connections and it particularly pertains to a sanitary closet bowl and sink connection wherein the joint with the sewer is securely sealed so as to prevent the escape of sewer gas and to effect a more sanitary coupling than has been heretofore attained.

The invention aims as one of its primary objects to provide two interfitting members adapted to be secured by an air tight joint to the closest bowl and sewer respectively and to form an air tight joint with each other even when the said members are not in exact alinement.

The invention also aims to provide a connection in which the constituent elements thereof may be readily assembled and placed in operative position without mutilating or changing the connected parts by the employment of additional positive locking means.

The invention further aims to provide a coupling of the above type which shall be simple in construction, inexpensive to manufacture and practical and efficient in use.

The detailed construction will appear in the course of the following description in which reference is had to the accompanying drawings forming a part of this specification, like numerals designating like parts throughout the several views, wherein,

Figure 1 is a central vertical section illustrating the manner of use of a coupling constructed in accordance with my invention. Fig. 2 is a plan view of a coupling, showing the constituent elements detached and in their respective relations. Fig. 3 is a central vertical section of a coupling, the constituent elements thereof being assembled, and Fig. 4 is an underneath plan view of the female member of the coupling.

Referring specifically to the accompanying drawings the numeral 1 designates a closet bowl or sink of any approved form provided with the usual discharge conductor 2 which at its base is formed with a laterally extending flange 3 and a recess 4 preferably enlarged as shown and concentric with the conductor 2. The flange 3 rests upon the floor 5 which latter is provided with an opening 6 designed to register with the conductor 2, the coupling members hereinafter described having portions extending within said conductor and said openings 6.

In the practical embodiment of my invention in its preferred form, I employ a coupling embodying tubular members 7 and 8, provided with flanges 9 and 10 respectively, which latter may be advantageously made annular and co-extensive as illustrated. Adjacent the flange 9, the member 7 is formed with a convex shoulder 11 which interfits and forms an air tight joint within an annular concave depression 12 formed in the member 8, adjacent the flange 10. The shoulder 11 extends sufficiently above the outer surface of the flange 9 so that it engages the walls of the depression 12 before the adjacent surfaces of the flanges 9 and 10 are in contact and thereby serves to hold said flanges out of engagement when they are in parallelism. The degree of curvature of the shoulder in my preferred embodiment is made corresponding with that of the inner surface of the depression 12 so that the former will form an air tight joint with the latter even when the tubular members 7 and 8 are not in exact alinement. Furthermore the space between the adjacent surfaces of the flanges 9 and 10 when in parallelism permit of the tubular members 7 and 8 being firmly secured together at a slight angle to each other. The advantage resulting from this arrangement is of great importance in facilitating the connection of closet-bowls, sinks and the like to sewers, particularly when the axis of said sewer is not exactly perpendicular to the plane of the floor at the point where the fixture is to be placed.

The member 7 is interiorly threaded as at 13 for the reception of a pipe section 14 provided with exterior threads 15 which mesh with the threads 13. Surrounding the section 14 is a follower 16 which is flat on its inner surface and freely movable up and down over the screw threaded surface 13. This follower co-acts with a laterally extending flange 17 provided at the upper edge of the section 14 to compress upon said section an

elastic packing ring 18 when the flange 17 and member 7 are forced toward each other.

The member 7, the section 14, the follower 16 and the packing ring 18 are designed to be received within the conductor 2 and to present their inner surfaces flush with the inner surface of said conductor. To this end the latter is formed at its base with an internal annular recess 19 within which the above named elements are received as is shown in Fig. 1.

The coupling member 8 is formed with an externally screw threaded surface 20 upon which is received an internally screw threaded pipe section 21 which is designed to be rigidly, hermetically and durably connected with the sewer or discharge pipe 22 by a wipe joint 23. The coupling member 8 preferably passes through the opening 6 in the floor and the space between the threads of said member and the section 21 is sealed by means of a packing ring 24 which is compressed by a follower 24^a threaded upon the external surface 20 of the member 8.

By reason of the employment of the packing ring 24 which is pressed into the screw threads on the surface 20 a permanent air tight joint is secured between the pipe section 21 and the coupling member 8. In the assembled relation of said members, the flanges 9 and 10 confront one another and in such disposition are seated upon the floor 5 and preferably within a recess 4 provided in the flange 3. The flange 10 is provided on its lower surface with a plurality of recesses 25, four of said recesses being illustrated. These recesses may be advantageously formed of substantially rectangular shape and are each provided with a longitudinal slotted opening 26 extending through the flange 10.

The members 7 and 8 are secured together as well as to the flange 3 of the closet base by connections projecting through the slots 26 and through openings 27 provided in the flange 9 at the same intervals as said slots in the flange 10. These connections preferably consist of bolts 28 formed with flattened heads 29 conformable to and fitting snugly within the square recesses 25. These bolts project through enlarged openings 30 provided in the flange 3. The members 7 and 8 are locked in their assembled relation by nuts 31 threaded upon the bolts 28 and seated within the openings 30 upon the flange 9. As shown the closet bowl or sink is positively connected to the united coupling members 7 and 8 by means of securing nuts 32 threaded upon the bolts 28 and bearing against washers 33 spanning the openings 30 and resting upon the upper surface of the flange 3. The coupling may, if desired, be rigidly secured to the floor by suitable fastening means such as screws which may pass through the flanges 9 and 10, but this is ordinarily unnecessary, the connection with the sewer, supplemented by the engagement of the flange 10 upon the floor serving to firmly and durably secure the fixture in place.

In practical use the member 7 and its appurtenant elements are first placed within the conductor 2. The packing ring 18 is then compressed by rotating the member 7 with relation to the section 14. This may be conveniently done by using a spanner wrench, the legs of which are engaged in the openings 27 of the flange 9. The packing 18 is then compressed in the manner described, until a perfectly air tight connection is made between the conductor 2 and the coupling member 9. The pipe section 23 is then soldered to the sewer 22, a strong wipe joint being made. The coupling member 8 is then screwed into the pipe section 23 until the lower surface of the flange 10 rests upon the floor, the bolts 28 being positioned in flange 10 as shown in Fig. 3. An air tight joint is then made between section 23 and member 8 to prevent the passage of gas between said parts by compressing the packing ring 24 as hereinbefore described. The coupling member 7 which is carried by the bowl, is then secured to the coupling member 8. In this operation the bolts 28 are inserted through springs 27 and a socket wrench is employed to tighten the nuts 31 within the openings 30.

It will be readily apparent that when the nuts 31 are tightened the members 7 and 8 will be positively connected together and an air tight joint formed between the tubular members 7 and 8. Washers 33 are then slipped over the bolts 28 and the nuts 32 screwed down upon said washers. In this manner the bowl is firmly and hermetically secured to the sewer 22.

While the elements herein shown and described are well adapted to serve the functions set forth, it is obvious that various minor changes may be made in the proportions, shape and arrangement of the several parts without departing from the spirit of the invention which is to be contemplated as being commensurated in nature and scope with the subject matter of the appended claims.

Having fully described my invention, what I claim and desire to secure by Letters Patent is:—

1. A closet bowl and sink connection comprising a tubular section adapted to be secured in an air tight relation within the outlet conduit of a closet bowl or sink, a second tubular section adapted to be rigidly connected with a sewer in an air tight relation, said last named section being provided with external screw threads, a pipe section internally screw threaded and threaded upon said last named section, said pipe section being soldered to a sewer, a packing ring surrounding said last named last tubular section adjacent the said pipe section and means car-

ried by said tubular section to compress said packing and form an air tight joint between said tubular section and said pipe section.

2. A closet bowl and sink connection comprising the base of a fixture of the character specified, said base being provided with an outlet conduit, a tubular coupling member provided within said conduit, an out standing flange mounted upon the lower end of said coupling, a second tubular section provided with an out standing flange adjacent its upper end, said flange resting upon the floor upon which said fixture rests and contained within an opening in the base of said fixture, correspondingly shaped engaging bearing surfaces provided upon the said tubular sections and means engaging said flanges to secure the said sections together.

3. A closet bowl and sink connection comprising the base of a fixture of the character specified, said base being provided with an outlet conduit, a tubular coupling member provided within said conduit, said member having an out standing flange adjacent its lower end, a shoulder carried by the lower end of said member, a second tubular coupling member provided adjacent its upper end with a depression shaped to receive and form an air tight connection with the said shoulder, a flange carried adjacent the upper end of the last named coupling member, means to secure the said flanges together, and to the base of said fixture, said base being provided with a recess adapted to receive and conceal the said flanges.

4. A closet bowl and sink connection comprising a tubular member adapted to pass through a floor and be secured to a sewer in an air tight relation, a flat out standing flange carried by the upper end of said tubular member, said flange being adapted to rest upon the floor, a tubular member adapted to bear upon the first named member to form an air tight joint therewith, said tubular member being provided adjacent its lower end with a flat outstanding flange, means to secure said flanges together, and a closet bowl or sink having its outlet conduit connected in an air tight relation with said last named tubular section, said fixture having a recess in its base in which the said flanges are received and concealed, the base of said fixture being adapted to rest upon the floor around said flanges.

5. A closet bowl and sink connection comprising a sewer pipe, an internally screw threaded pipe section soldered thereto, a tubular section screw threaded within said pipe section, said tubular section being provided with a flat top to rest upon the floor upon which said closet bowl or sink is to be placed, the said closet bowl or sink having an outlet conduit, a second tubular section adapted to be received within said outlet conduit, means for rigidly securing the said section therein in air-tight relation, said first and last named sections being provided with similarly curved bearing surfaces adapted to engage each other and to form an air-tight joint between said sections, and means for drawing the said tubular sections together.

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

JOHN M. HAYDEN.

Witnesses:

CHAS. M. C. DORAN,

JAS. H. WELLS.