No. 870,085. PATENTED NOV. 5, 1907.

J. J. COSGROVE.

WATER CLOSET CONNECTION.

APPLICATION FILED OCT. 25, 1906.

Fig. 1.

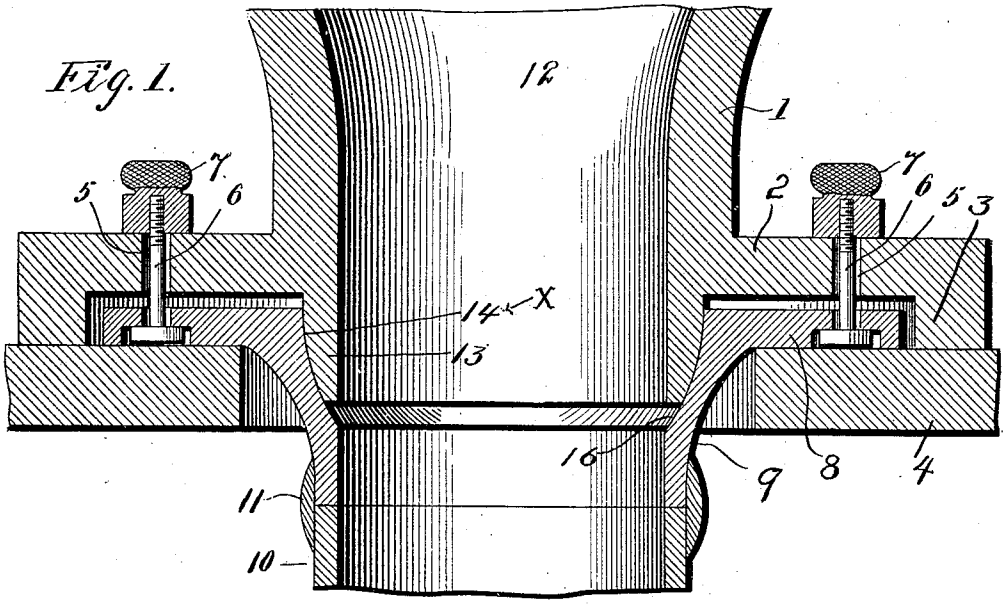
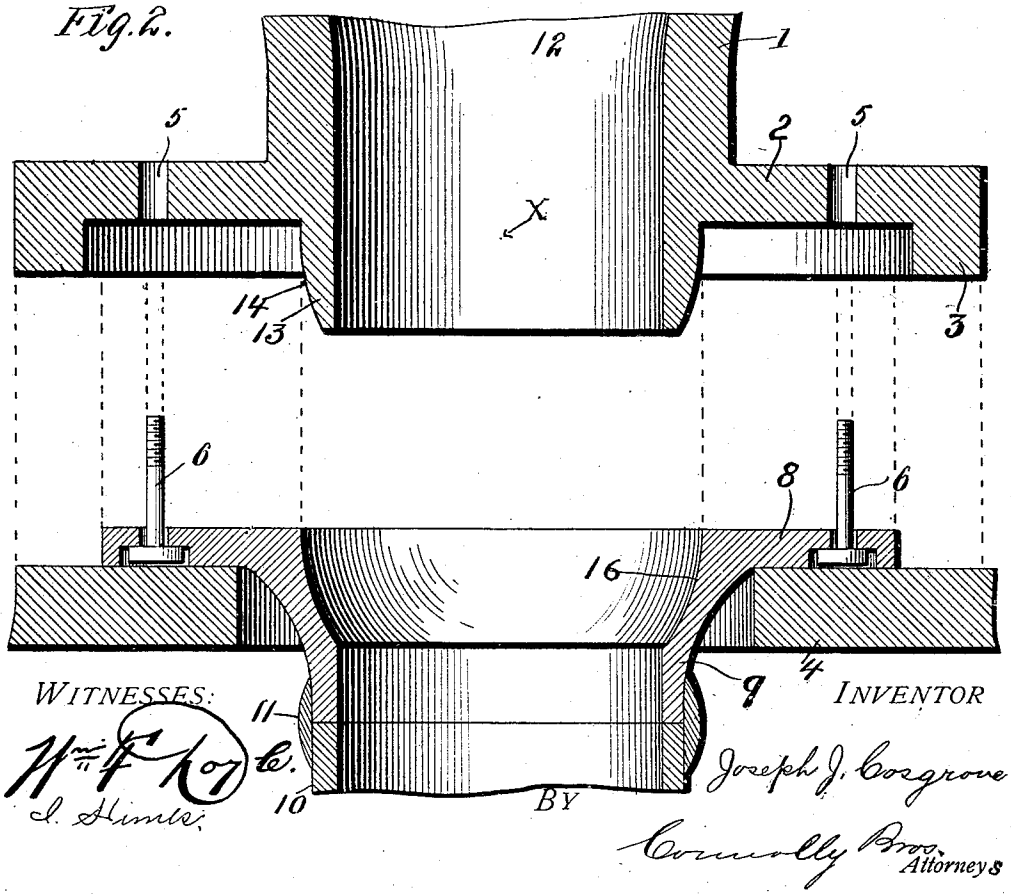


Fig. 2.



WITNESSES:

Wm. F. Kelly

L. Hinkle.

INVENTOR

Joseph J. Cosgrove

BY

Connolly Bros.

Attorneys

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

UNITED STATES PATENT OFFICE.

JOSEPH J. COSGROVE, OF SCRANTON, PENNSYLVANIA, ASSIGNOR TO STANDARD SANITARY MANUFACTURING COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

WATER-CLOSET CONNECTION.

No. 870,085. Specification of Letters Patent. Patented Nov. 5, 1907.

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To all whom it may concern:

Be it known that I, JOSEPH J. COSGROVE, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Water-Closet Connections, of which the following is a specification.

This invention has relation to soil pipe connections for metallic water closets, and has for its object the provision of a novel all-metallic connection between the outlet passage of the bowl of a metallic water closet and the soil pipe.

Heretofore many expedients have been resorted to for the purpose of securing an air tight and water tight connection of the soil pipe to the outlet passage of an all metallic water closet, the one most commonly employed being to interpose between these parts some form of cement or an elastic washer, but these types of connection are objectionable owing to the difficulty of making a tight joint, particularly where the longitudinal axis of the outlet passage is at an angle to the longitudinal axis of the drain pipe, such alinement being difficult to secure owing to the fact that the soil pipe is placed in position in the floor during the construction of the building, while the water closet is placed in position after the floor has been laid.

In carrying my invention into effect I provide an all-metallic closet with an integral metallic spigot at the extremity of the outlet passage of the closet which projects below the closet base and seats in a flanged bell or socket attached to the soil pipe, the spigot being spherical on its external surface and the bell or socket being formed with a spherical seat to receive the spigot, the contacting surfaces of the spigot and seat being preferably ground so as to secure a metal to metal contact and an air and water tight joint. In order to connect the bell or socket carried by the soil pipe with the closet bowl, I provide the bell or socket with a laterally extending flange which is pierced at appropriate points for the passage of bolts which pass through said flange and through a flange which is formed integral with the closet bowl and constitutes the base of the same.

In the accompanying drawing illustrating my invention; Figure 1, is a vertical transverse sectional view of a part of a water closet bowl and part of a soil pipe connected together by means of my improvement. Fig. 2, is a similar view with the bowl and soil pipe separated.

The bowl or closet proper is designated 1, and may be of any desired form and construction and is provided with the base 2, having the depending flange 3, at its edges, this flange resting on the floor 4, and being pierced at 5, 5, for the passage of bolts 6, 6, which carry nuts 7, 7, by means of which the closet is attached to the laterally extending flange 8, formed integral with the bell or socket 9, which latter is carried by the soil pipe 10, being preferably attached thereto by a wiped joint as shown at 11. The bowl or closet 1, is provided with the outlet passage 12, this outlet passage being located as usual about centrally of the bowl and the lower extremity of the outlet passage terminates in a spigot 13, which projects below the floor line, that is, below the bottom of flange 3.

The external surface of the spigot 13, is spherical as at 14, being formed on the arc of a sphere having its center at or about a point X and the bell or socket 9, is formed with a seat 16, which is spherical and formed on the same arc as the spigot, so that the spigot will fit accurately in the seat, and the contacting surfaces being ground, will insure an air tight and water tight joint, whether or not the longitudinal axis of the spigot and the bell or socket are in a straight line one with the other, the spigot fitting the bell or socket in the manner of a ball and socket joint.

I claim:

1. The combination with a water closet having an outlet passage and a soil pipe, of an integral spigot extending from said outlet passage and terminating in an externally spherical end, and a bell or socket carried by the drain pipe and formed with a spherical seat which receives the convex end of the spigot.

2. The combination with a water closet bowl having a laterally extending base, and having an outlet passage terminating in a spherical spigot end, of a soil pipe, a bell or socket carried by the soil pipe, said bell or socket being formed with a spherical seat to receive the spigot end of the outlet passage of the bowl and being formed with a laterally extending flange and bolts passing through the base of the bowl and through the flange of the bell or socket.

3. The combination of a water closet and a soil pipe having a ball-and-socket joint connection with each other.

4. A water closet having a spherical projection constituting an extension of its outlet passage and adapted to form a coupling member.

5. The combination with a water closet bowl having a base flange adapted to rest on the floor and having an integral spherical spigot terminating its outlet passage, of a spherical soil pipe bell or socket having a floor flange, the spigot and socket being adapted to contact and form an all metal joint while the closet and soil pipe socket flanges are out of contact.

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

JOSEPH J. COSGROVE.

Witnesses:
CLYDE B. WEIKERT,
THOS. A. CONNOLLY.