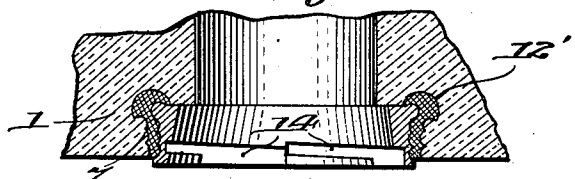
I. A. MANN.

WATER CLOSET.

APPLICATION FILED MAY 31, 1910.

1,017,437. Patented Feb. 13, 1912.

Fig. 4



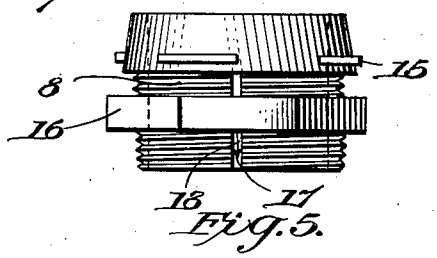


Fig. 5.

Fig. 2.

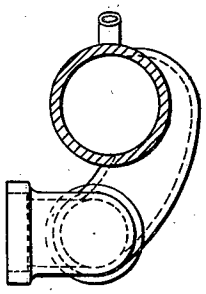


Fig. 1.

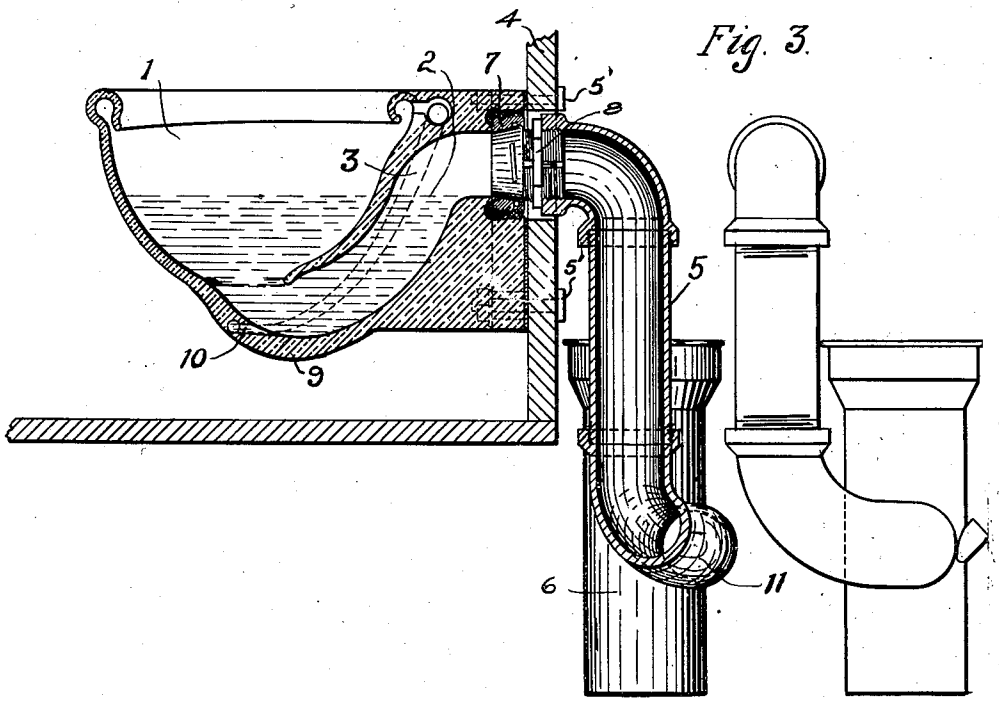


Fig. 3.

WITNESSES

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WATER-CLOSET.

1,017,437. Specification of Letters Patent. Patented Feb. 13, 1912.

Application filed May 31, 1910. Serial No. 564,045.

To all whom it may concern:

Be it known that I, IRA A. MANN, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification.

The invention relates to water closet constructions and particularly to wall closets. It has for its principal objects; the provision of a construction in which the bowl projects a minimum distance from the wall upon which it is positioned, and in which the closet is supported in an improved manner; and the provision of a construction in which the expansion and contraction of the soil pipe is provided for and the connection between the bowl and soil pipe relieved of undue strain and a tight joint insured. One embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a vertical section through the apparatus,

Figures 2 and 3 are top and rear views respectively of the long leg of the siphon employed.

Fig. 4 is an enlarged section through the joint member in the bowl, and

Fig. 5 is a side elevation of the coupling member.

Referring first to the general arrangement of the parts shown in Figures 1, 2 and 3, 1 is the bowl of the apparatus provided with the short siphon leg 2, and the jet passage 3; 4 is the partition or wall to which the bowl is secured by means of a series of bolts 5′; 6 is the outlet pipe located behind the wall 4; 5 is a pipe connecting the short leg of the siphon with the outlet pipe, and constituting the long leg of the siphon; 7 is an annular joint member secured to the bowl at the end of the siphon leg 2; and 8 is a coupling member for securing the member 7 to the pipe 5.

The placing of the long leg 5 of the siphon behind the partition wall 4 instead of in front of such wall is advantageous in that the center line of the bowl can be placed much closer to the partition 4 than would be the case if the long leg of the siphon were placed in front of the partition. Furthermore by this arrangement the siphon legs can be made of any desired length without locating the bowl at too high a point above the floor. It will be noted that the lowest point upon the exterior of the bowl is at 9, and that such point is at a distance removed from the wall 4. This is desirable, as in case of any dripping from the bowl, such dripping will be at a point removed from the wall instead of at the wall as in the case of apparatus as heretofore constructed. The outlet end 10 of the jet passage 3 is preferably located at a point above the lowest point upon the interior of the bowl, so that the jet passage may be entirely drained when the bowl is emptied. The downward inclination of such end 10 also assists in the thorough drainage of the passage, and with the passage thus arranged there is no danger of the end 10 becoming clogged, as any small article falling into the bowl will naturally lodge in the lowest portion of such bowl instead of becoming lodged in the end 10. The lower end of the long leg 5 of the siphon is bent at 11 to improve the siphonic action. The flanges of the bowl are provided with a plurality of slots 12 for the reception of the holding bolts 5′, which arrangement permits of a vertical adjustment of the bowl, and permits the bowl to accommodate itself to the expansion of the outlet pipe 6. The pipe 5 is made in sections as shown in Fig. 1 in order to permit of an adjustment of the upper elbow upwardly and laterally to suit conditions, and in order to permit such elbow to be reversed in case the partition and closet are on the other side of the outlet pipe 6.

The joint construction is shown in Figs. 4 and 5, and from these figures it will be seen that the outlet end of the short leg of the siphon is enlarged, and that a metal joint member 7 is seated in this enlargement, a lead, or other similar packing being inserted between the exterior of the annular member 7 and the face of the enlargement in the bowl. This joint member 7 is provided with lugs to prevent the rotation of the member, and the enlargement is correspondingly cut out to receive such lugs.

The member 7 is provided with the inclined grooves 14 adapted to receive the lugs 15 carried by the coupling member 8, the entering portion of the coupling 8 being beveled so as to fit a correspondingly beveled surface upon the interior of the member 7, and a rotation of the member 7 with respect to the member 8 will cause the beveled surfaces to be forced tightly together. The inclination of the grooves 14 is such that

only a fraction of a revolution of the bowl and the member 7 is necessary in order to bring the beveled surfaces tightly together. This is advantageous, as in some cases it is not possible to give the bowl a full revolution because of the interference with the floor or the side wall. The outer portion of the coupling 8 is screw threaded into the long leg of the siphon 5 (Fig. 1), and the lock nut 16 serves to make a tight joint between the coupling 8 and the pipe 5, a packing being inserted between the side of the nut and the end of the pipe 5. In order to provide against the rotation of the coupling upon the pipe 5, a groove 17 is provided through the thread of the coupling and a short key 18 is driven along this groove cutting its way through the screw threads upon the pipe 5 and this preventing any rotation of the coupling upon the pipe. It will be seen that by this arrangement the coupling 8 can be adjusted in and out upon the pipes 5 so that the beveled end of the coupling can be made to project exactly the right distance through the partition or floor in which it is used. The placing of the joint member 7 interiorly of the bowl portion with which it is used is also desirable as the thickness of vitreous material thus surrounding the joint is very considerable, and there is no danger of such vitreous material being cracked when the packing material 12′ is tamped tightly into position. In adjusting the joint, the coupling member 8 is first screwed into the pipe 5 the desired distance and locked by means of the key 18, and lock nut 16, screwed down making a tight joint. The bowl 1 is then pressed up against the partition so that the ends of the grooves 14 receive the lugs 15, and the bowl is given a quarter revolution to bring it to the position shown in Fig. 1, thus bringing the beveled surfaces on the members 7 and 8 tightly into engagement, after which the bolts 5′ are inserted through the flanges of the bowl and the bowl thus secured in position relieving the pipe joint of a portion of the strain of supporting the bowl.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

1. In combination in a closet construction, a partition, an upright outlet pipe adjacent the rear thereof, a bowl mounted for relatively free vertical movement upon the front of the partition and provided with the short leg of a siphon leading through the partition and a longer siphon leg connected thereto and rigidly secured to the outlet pipe, whereby the closet is supported by the outlet pipe.

2. In combination in a closet construction, a partition, an upright outlet pipe adjacent the rear thereof, a bowl mounted for relatively free vertical movement upon the front of the partition and a rigid outlet connection between the said bowl and the said outlet pipe, whereby the closet is supported by the outlet pipe.

3. In combination in a closet construction, a partition, an upright outlet pipe adjacent the rear thereof, a bowl bearing against the partition, connections holding the bowl against the partition but permitting vertical sliding movement thereon, and a rigid outlet connection between the said bowl and the said outlet pipe whereby the closet is supported and held by the outlet pipe against downward movement.

4. In combination in a closet construction, a partition, an upright outlet pipe adjacent the rear thereof, a bowl of vitreous material bearing against the partition for relatively free vertical movement and having an outlet through its rear portion, an annular metal member rigidly secured in the bowl surrounding the said outlet, and a rigid metal screw connection between the said annular metal member and the outlet pipe whereby the bowl is supported and carried by the said outlet pipe.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

IRA A. MANN.

Witnesses:
J. C. BRADLEY,
I. M. BLAINE.