

1,031,531.

The image contains six technical drawings of a mechanical device, labeled Fig. 1 through Fig. 6. The drawings are arranged in a 3x2 grid. Fig. 1 and Fig. 2 are side cross-sectional views of a device with a central vertical shaft and a horizontal base. Fig. 3 and Fig. 4 are top-down circular views of the device. Fig. 5 and Fig. 6 are side cross-sectional views of a component, likely a valve or plug, showing its internal structure and how it fits into a housing.

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UNITED STATES PATENT OFFICE.

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FLOOR CONNECTION FOR WATER-CLOSETS.

1,031,531.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM G. CRAMER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Floor Connection for Water-Closets, of which the following is a specification.

This invention relates more particularly to a joint for connecting the neck of a water-closet with the soil-pipe. Its object is to improve the construction of the joint or connection with a view of rendering the same absolutely water and gas tight.

In the accompanying drawings: Figure 1 is a fragmentary vertical section of a closet and soil-pipe connected by the improved joint, showing the parts in their normal position. Fig. 2 is a similar section showing the parts of the joint assembled preparatory to drawing them together. Fig. 3 is a horizontal section on line 3—3, Fig. 1. Fig. 4 is a horizontal section on line 4—4, Fig. 1, looking upward. Fig. 5 is a fragmentary sectional elevation at right angles to Fig. 1. Fig. 6 is a perspective view of the split clamping ring.

Similar letters of reference indicate corresponding parts throughout the several views.

A indicates the floor or similar support having an opening *a* for receiving the usual soil-pipe B and the neck *c* of the closet-bowl C. The bowl has the usual base-flange D provided with a depending rim *d*.

E indicates a socket, collar or thimble arranged in the enlarged upper portion of the opening *a* and surrounding the bowl-neck *c*. This collar has an outwardly-extending flange *e* which is fastened to the floor by screws *e*¹ or other suitable means. At its lower end the collar is provided with an inwardly-extending flange or lip *e*² upon which the flanged upper end of the soil-pipe is seated and to which it is preferably soldered.

F indicates a packing ring or gasket of asbestos or hemp covered with asbestos or of other suitable material interposed between the neck *c* of the bowl and a contractible clamping ring G seated in the collar E. In the preferred construction shown in the drawings, this ring is split and tapered downwardly both internally and externally, so that when the ring is forced down into

the collar, its wedge-shaped form causes it to be contracted, thereby not only compressing the packing ring vertically between the underside of the base-flange D and the flanged upper end of the soil-pipe, but also compressing the packing radially between the contractible ring and the bowl-neck and forming a tight and reliable joint between the bowl-neck and the soil-pipe.

As shown in Figs. 5 and 6, the split ring is preferably provided at one end with a tongue *g* adapted to enter a corresponding recess *g*¹ in its opposing end. This tongue thus extends across the joint between the ends of the ring, preventing the packing from being forced outward or buckled between said ends when compressed.

H indicates clamping bolts which connect the base-flange D of the closet-bowl to the flanged collar E, so as to firmly draw the parts of the joint together and secure the bowl to the floor. In the construction shown in the drawings, these bolts pass through radial slots *i* in said base-flange, their nuts and washers being located on the upper side thereof, as shown in Fig. 1. The lower ends of the bolts pass through curved slots *j* formed in the collar-flange *e*, the heads of the bolts being preferably beveled and bearing against the correspondingly-beveled or undercut lower edges of the slots. These slots are provided at one end with enlargements *j*² of sufficient size to receive the heads of the bolts H, so that after fastening the socket E to the floor, said bolts can be passed through the enlargements of the slots and then shifted into engagement with the latter.

In assembling the parts, the soil-pipe is soldered within the collar E after which the latter is screwed to the floor and the bolts H are placed in the slots of the collar. The split ring G is then passed over the packing ring F and the latter is slipped over the neck of the bowl, in the inverted position of the latter. The bowl is then righted and its neck with the surrounding packing ring and split ring inserted in the collar E, the slots of the base-flange D being passed over the bolts H, as seen in Fig. 2. Finally, the washers and nuts are applied to the bolts H and the nuts tightened, thereby causing the base-flange to approach the collar E and drawing the clamping ring into the latter. The packing ring is thus tightly seated

against the flanged upper end of the soil-pipe B and compressed between the neck of the bowl and the split ring by the contraction of the latter, as before described, producing a water and gas-tight joint which renders the connection between the bowl and the soil-pipe perfectly reliable and sanitary.

Ordinarily the frictional contact between the split-clamping ring and the packing is sufficient to retain the ring upon the packing, in turning the bowl from its inverted to its normal position, but as a measure of additional security the ring may be provided at its upper edge with inwardly-extending lugs or projections g^2 which overlap the top of the packing, as shown in Figs. 2 and 6.

The split ring may be constructed of brass or any other suitable material.

In order to confine the packing in the upper portion of the collar E, the latter is provided at its top with an annular rim e^3 which extends a short distance above the flange e . This rim also forms a comparatively sharp or edge-like bearing for the closet flange D, which better adapts itself to irregularities or imperfections of said flange than does a solid, flat surface.

I claim as my invention:

1. In a floor connection, the combination of a collar secured to the floor, a closet bowl provided with a base flange and having its neck arranged in said collar, a soil pipe engaging the bottom of the collar, a packing gasket of compressible, fibrous material surrounding said neck, a clamping ring surrounding said packing and bearing at its outer side against the inner wall of said collar

and at its upper edge against the base flange of the bowl, said ring being tapered on its outer side from edge to edge and split throughout its width, whereby upon forcing the clamping ring into the collar the ring is contracted throughout its width and the soft gasket is compressed radially and crowded vertically against the upper end of the soil pipe and the base flange of the bowl, and clamping means for connecting said base flange with said collar.

2. In a floor-connection for water closets, the combination of a collar secured to the floor, a closet-bowl having its neck arranged in said collar, a soil-pipe engaging the bottom of the collar, a split tapering ring seated in said collar, a packing ring interposed between said ring and the bowl-neck, said split ring being provided with projections adapted to engage the packing ring, and means connecting the bowl-base and said collar.

3. In a floor-connection for water closets, the combination of a collar having a projecting flange secured to the floor and a rim extending above said flange, a closet-bowl having its neck arranged in said collar, a soil-pipe engaging the bottom of the collar, a contractible ring seated in said collar, packing interposed between the ring and the bowl-neck, and means connecting the bowl-base and the collar.

Witness my hand this 3d day of May, 1910.

WILLIAM G. CRAMER.

Witnesses:

C. F. GEYER,
E. M. GRAHAM.