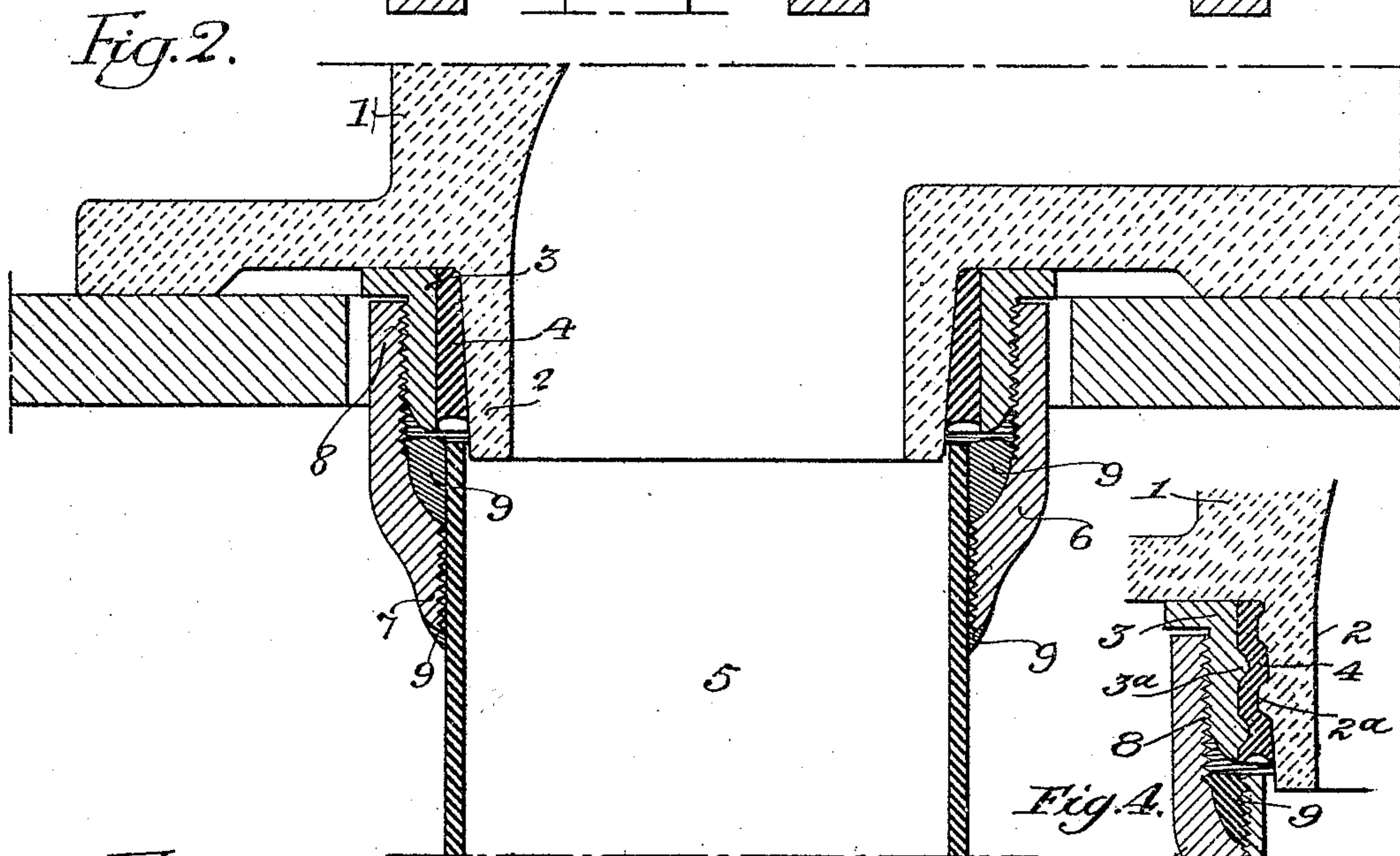
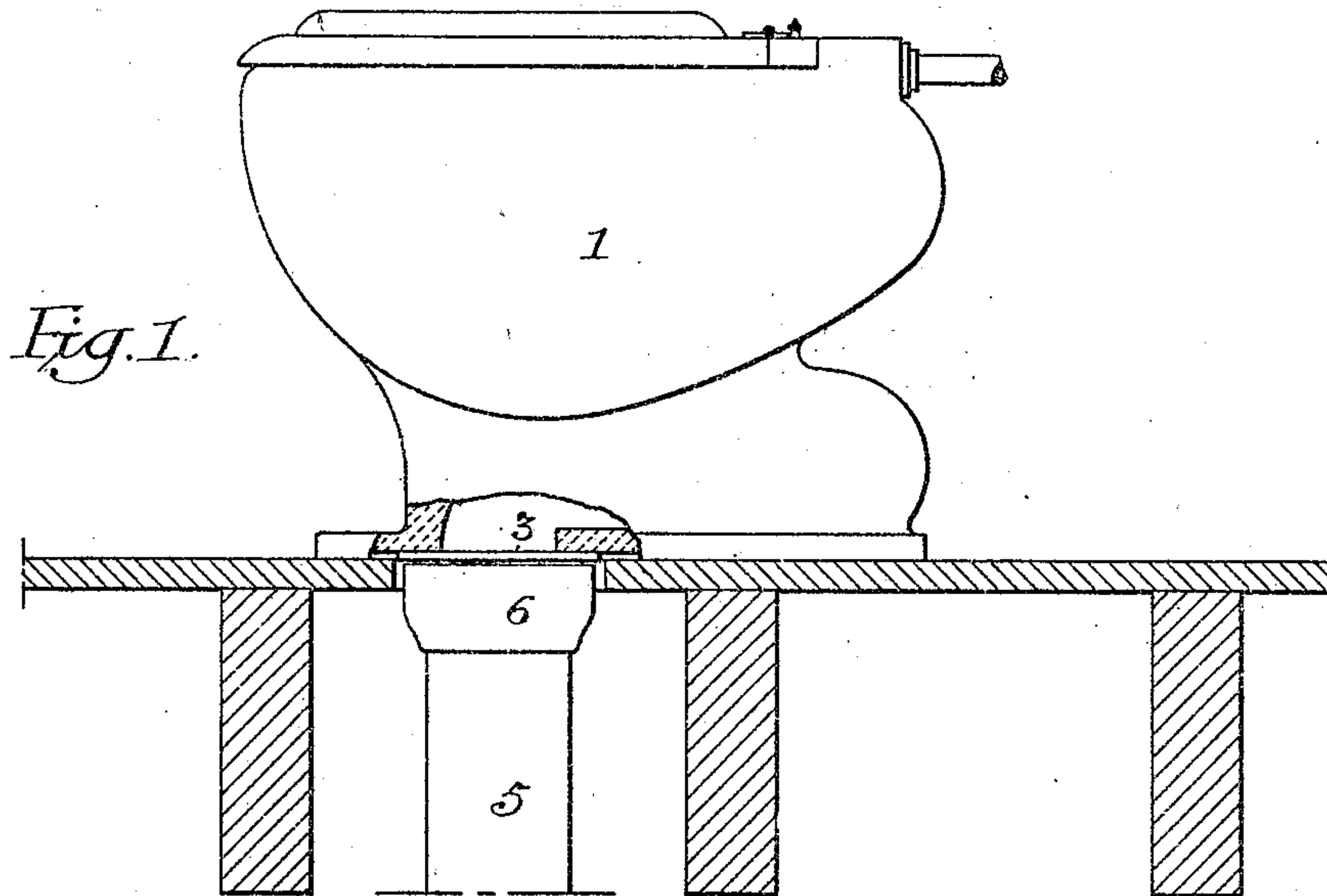


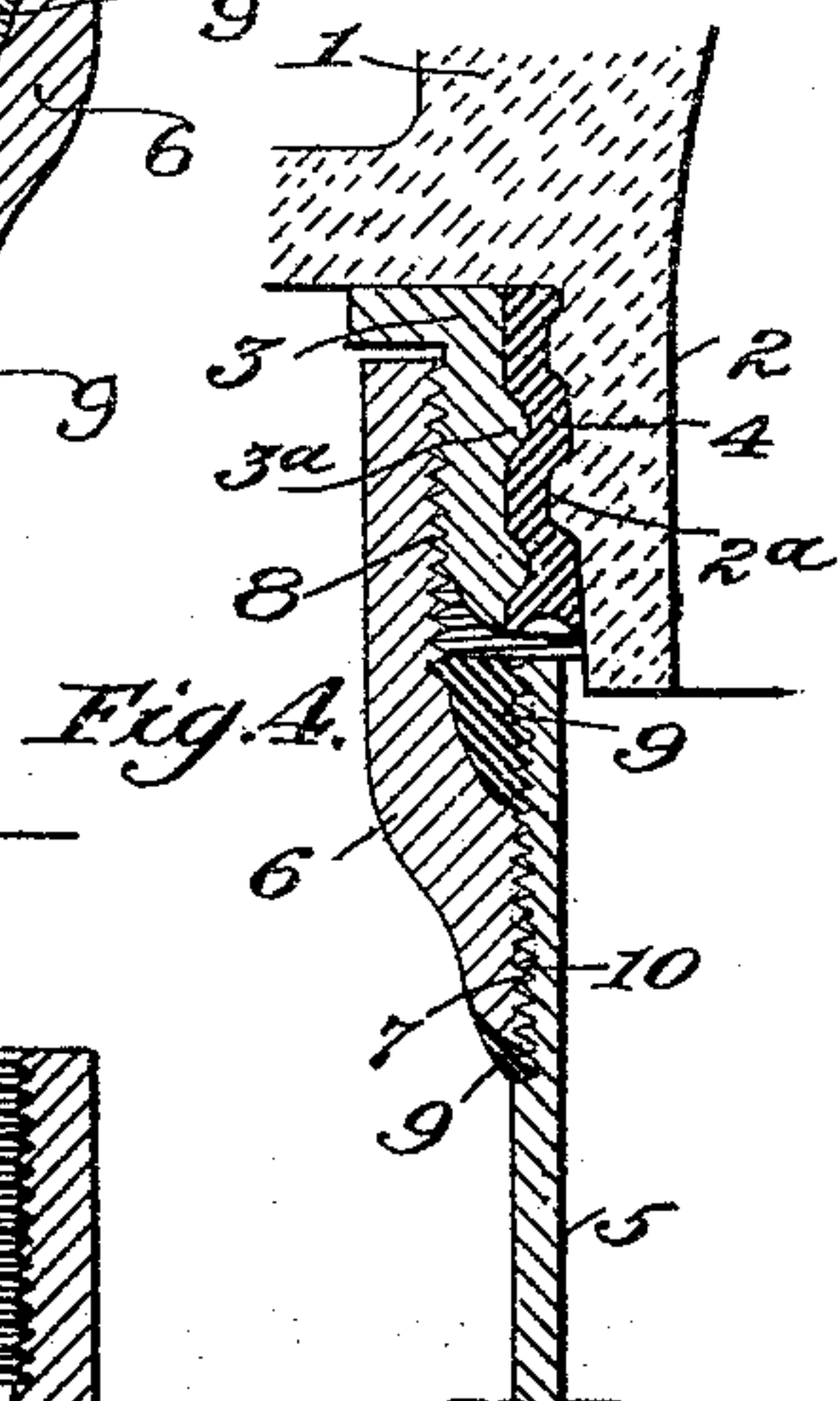
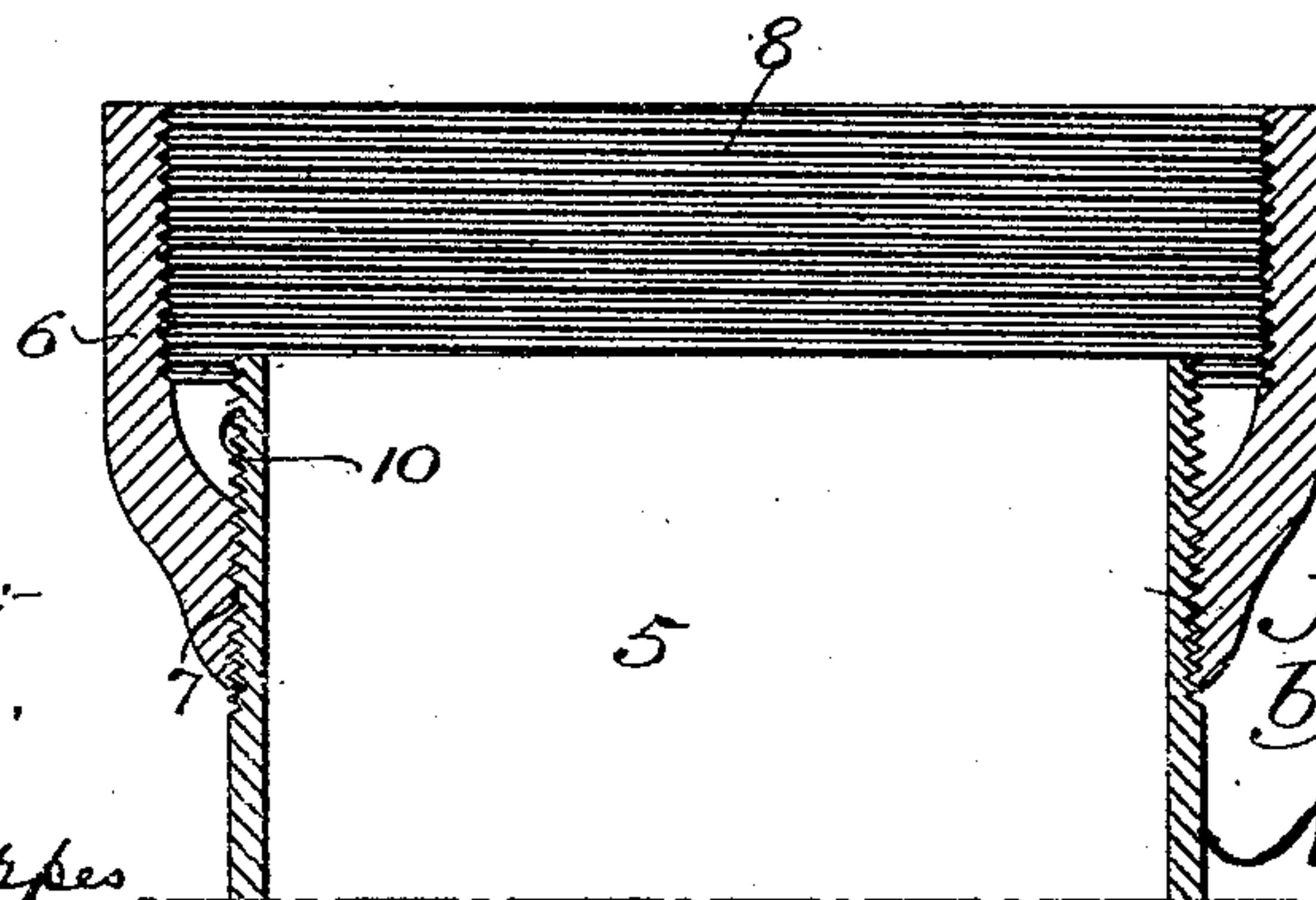
J. DOUGLAS.  
LEAD CALKED SCREW JOINT OUTLET.  
APPLICATION FILED OCT. 24, 1907.

956,314.

Patented Apr. 26, 1910.



*Fig. 3.*



Witnesses:  
William H. Hoover.

Augustus B. Coppes

Inventor  
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By His Attorneys,  
Hudson & Hudson



# UNITED STATES PATENT OFFICE.

JOHN DOUGLAS, OF PLEASANT RIDGE, OHIO.

LEAD-CALKED SCREW-JOINT OUTLET.

956,314.

Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed October 24, 1907. Serial No. 398,895.

*To all whom it may concern:*

Be it known that I, JOHN DOUGLAS, a citizen of the United States, and a resident of Pleasant Ridge, Hamilton county, Ohio, have invented certain Improvements in Lead-Calked Screw-Joint Outlets, of which the following is a specification.

My invention relates to the outlet connections for water-closets between the bowl and soil pipe; and the object of my invention is to provide a joint that may be quickly and easily attached and connected, and one that may be readily separated for repairs or other purposes.

My invention is fully shown in the accompanying drawings, in which:

Figure 1, is a side elevation of a water-closet bowl, having its outlet connected to a soil pipe by means of the improved joint forming the subject of my invention; Fig. 2, is a sectional view on an enlarged scale of such joint, and Figs. 3 and 4, are sectional views illustrating a detail of my invention.

A water-closet bowl is indicated at 1 and may be of the usual or ordinary type having a depending boss or projection 2 surrounding its discharge outlet. Encircling said boss or projection 2 is an externally threaded metal collar 3, somewhat larger than the projection, and the space between the latter and the collar is filled with lead, indicated at 4, which lead is driven into place and serves to retain the collar in permanent relation or engagement with the boss. Any metal may be employed for the collar, but I prefer to use brass. The lead may be of a spongy nature and compressed into place by the use of a calking tool, or in some instances I may pour molten lead into the space between the collar 3 and the projecting boss 2. It may be desirable to provide the boss 2 with external annular ribs 2<sup>a</sup> and the collar with internal annular ribs 3<sup>a</sup> so that the lead will be keyed in place, as shown in Fig. 4.

The soil pipe is indicated at 5 and may be of iron, lead, or other metal as desired. Carried by the soil pipe is a reducing sleeve 6 of iron, brass, or other suitable metal, internally threaded at each end; the threaded portion 7, of least diameter, fitting over the soil pipe, while the threaded portion 8, of greatest diameter, engages the collar 3 carried by the projecting boss of the water-closet bowl. This arrangement may be reversed, and the sleeve 6 may be of the same internal diameter throughout, without de-

parting from my invention. When the sleeve is fitted to a lead soil pipe, it may be desirable to insure its position with respect to said pipe by the application of solder inside and outside said sleeve, as indicated at 9 in Fig. 2. If the soil pipe is of iron, however, its end may be threaded, as indicated at 10, in Figs. 3 and 4, for engagement with the smaller diameter of the sleeve 6. Solder may or may not be applied to the structure shown in Fig. 3, as desired. In both cases, the sleeves 6 may be of the same character, and if soldered in place to the iron pipe, the threads of the latter afford additional holding means.

The projection 2 of the closet bowl may extend sufficiently below the latter to enter the soil pipe as shown in Fig. 2, and if desired, under such condition, the upper end of the soil pipe may be accommodated by a slight cavity in the lead packing left between the collar and the projecting boss of the bowl.

I claim:

1. In combination with a water closet bowl having a base with the usual outlet passing therethrough and a depending projection surrounding the aperture of said passage and extending below the plane of said base, an externally threaded collar surrounding said projection and engaging the base and held thereto by metallic packing interposed between the projection and the collar, a soil pipe, and a sleeve adapted to be mounted exteriorly of the soil pipe and to receive said collar.

2. In combination with a water closet bowl having a base with the usual passage and a depending projection surrounding the aperture of said passage and extending below the plane of the base, an externally threaded collar engaging the base and surrounding said projection, a permanent packing of lead interposed between the projection and collar and securing the latter in place, a soil pipe, and a sleeve mounted on the soil pipe and having threaded engagement with said collar.

3. In combination with a water closet bowl having the usual base with a passage extending therethrough and a depending projection surrounding the aperture of said passage and extending below the plane of the base, a threaded collar carried by said projection, a packing of lead interposed between said projection and the collar for se-



curing the latter in place, a soil pipe, and an internally threaded sleeve mounted on the soil pipe into which said collar may be screwed, said soil pipe being threaded to receive the opposite end of said sleeve.

4. In combination with a water closet bowl having the usual base with a passage therein and a projection surrounding the outlet of said passage and extending below the plane of said base, an externally threaded collar larger than said projection and held thereto by a permanent packing interposed between the projection and collar, a soil pipe, and a reducing sleeve soldered to the outer wall of said soil pipe and internally threaded to receive said collar.

5. In combination with a water closet bowl having the usual passage through its base and a projection surrounding the aperture of said passage and extending below the plane of the base, said projection having external annular ribs, an externally threaded collar larger than said projection and surrounding the same and having internal annular ribs, a packing of sponge lead interposed between said boss and collar and com-

pressed in place, a soil pipe, and a reducing sleeve mounted exteriorly of the soil pipe and threaded to receive said collar.

6. In combination with a water closet bowl having a base with the usual passage therein and a depending projection surrounding the aperture of said passage, a threaded collar carried by said projection and engaging the base, a packing of sponge lead compressed into place and interposed between said projection and collar, a soil pipe, and an internally threaded sleeve having an end of one size to receive the collar and an end of smaller size to receive the soil pipe, said soil pipe being threaded to engage the smaller end of the sleeve, and said bowl projection extending into said soil pipe.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN DOUGLAS.

Witnesses:

CASPER H. SCHULZ,  
LEO H. MERLING.