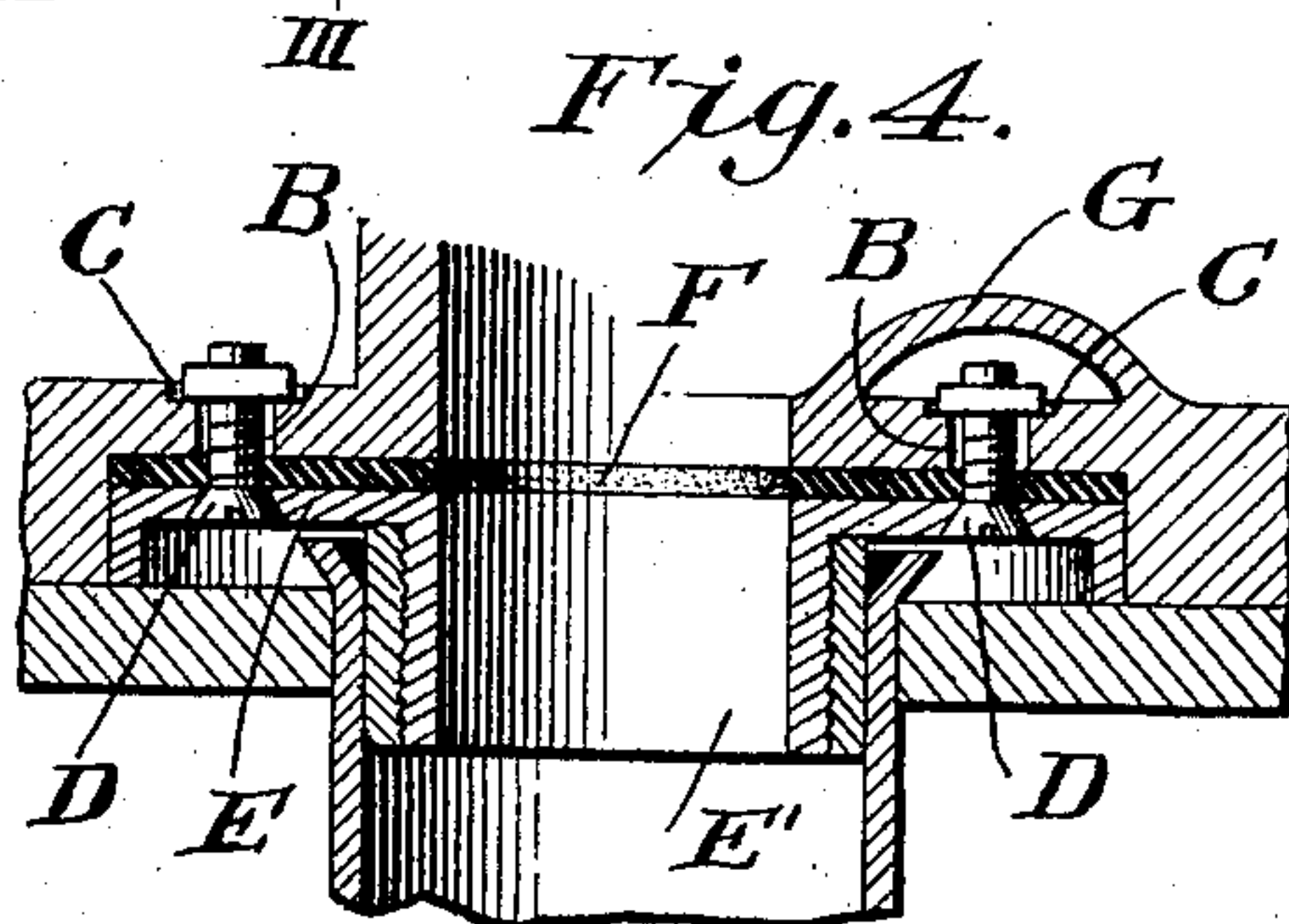
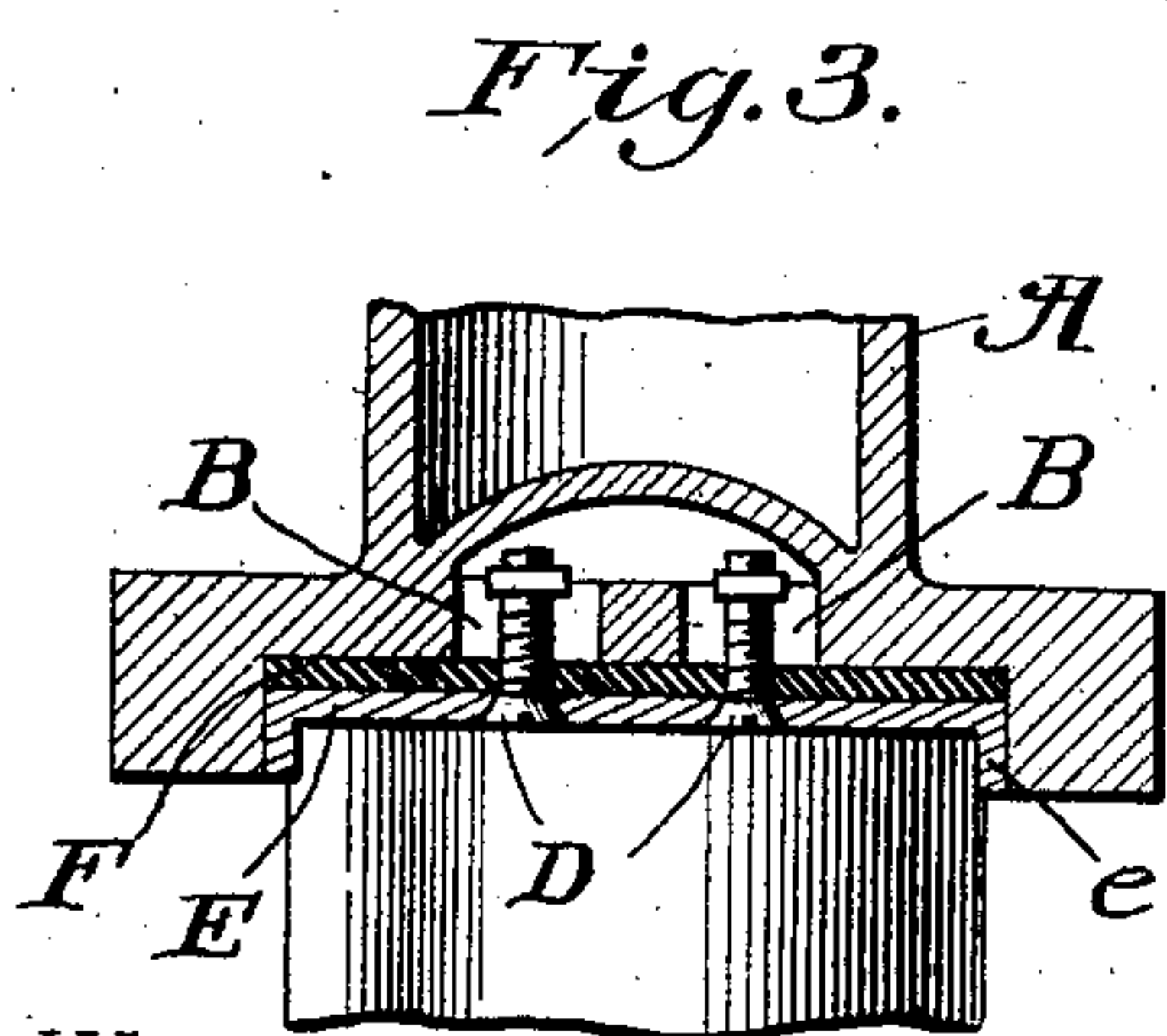
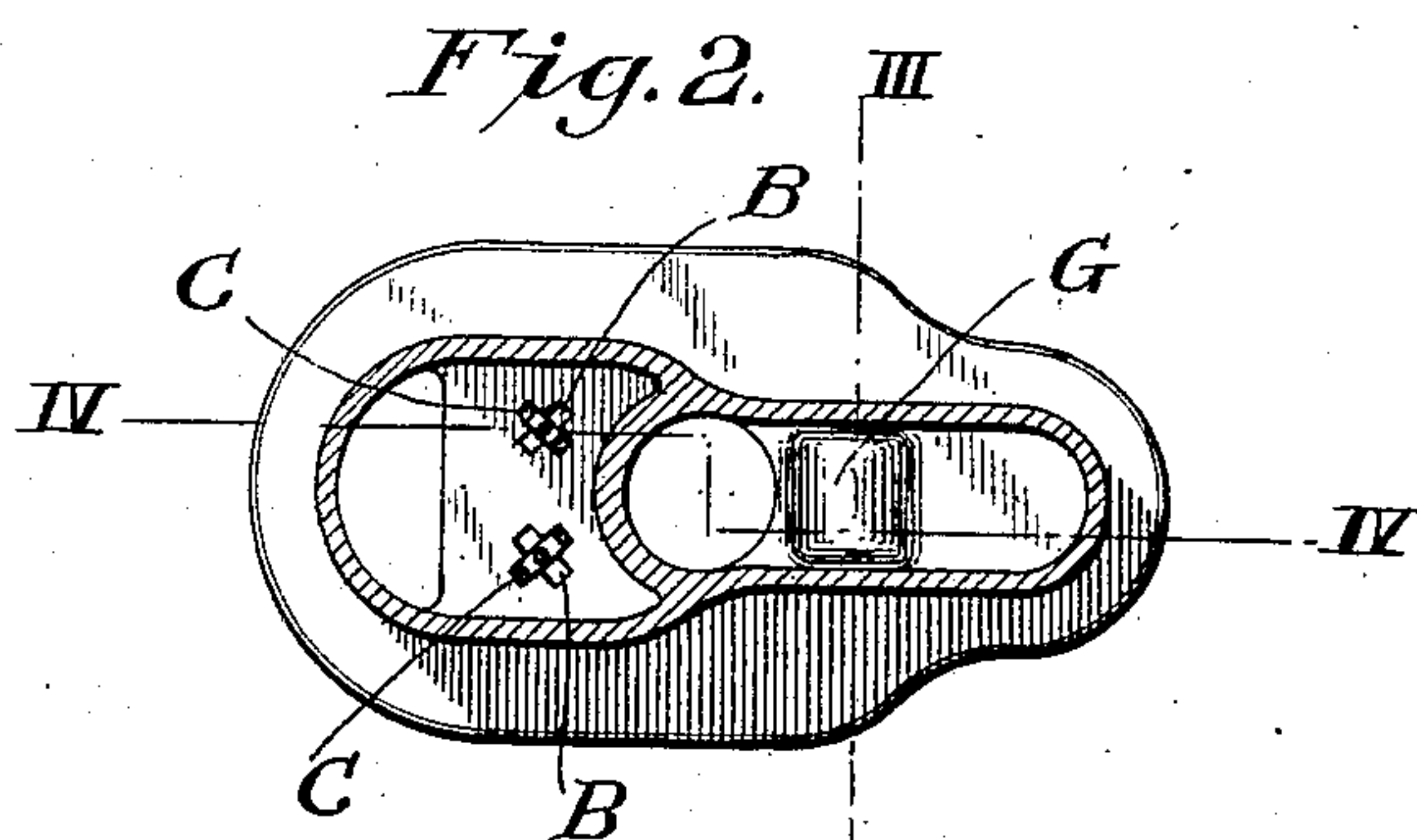
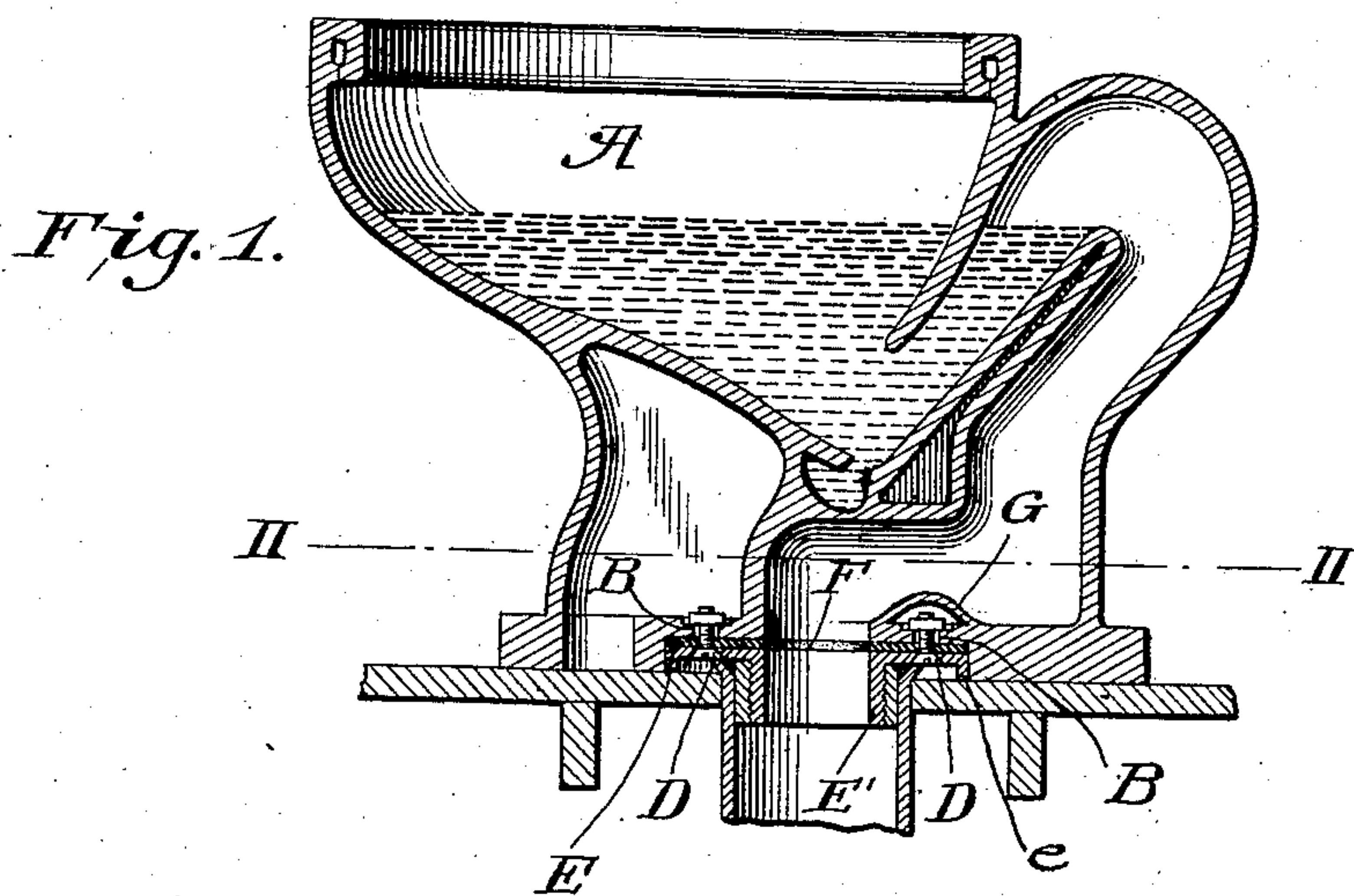


No. 883,896.

PATENTED APR. 7, 1908.

J. W. LYONS.
FLOOR CONNECTION FOR WATER CLOSETS.
APPLICATION FILED AUG. 30, 1907.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN W. LYONS, OF TRENTON, NEW JERSEY.

FLOOR CONNECTION FOR WATER-CLOSETS.

No. 883,896.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed August 30, 1907. Serial No. 390,737.

To all whom it may concern:

Be it known that I, JOHN W. LYONS, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Floor Connections for Water-Closets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to floor-flange screw-connections for earthenware closet bowls.

The objects of the invention are to provide a simple, efficient and inexpensive floor-flange with screw-connection for attachment to the soil-pipe or lead bend which extends beneath the floor, and to provide concealed securing means within and below the base of the bowl, so as to give a neat and finished appearance to the closet when set, and at the same time to avoid obstructions or projections within the water passages upon which paper and other material may lodge and choke the water passages.

A further object is to adapt the floor-flange screw-connection for attachment to the base of the water closet bowl and to effectually seal the joint by using either cement or a gasket of asbestos, rubber, or other suitable material placed between the metallic floor-flange and the base of the earthenware bowl. Various contrivances have been devised for this purpose, in which a screw connection is employed, but such devices are usually complex in construction and expensive in manufacture, and are more or less unreliable in use, on account of the difficulty of securing a perfectly tight joint and the liability to leakage and to get out of order. There is also more or less difficulty in removing and replacing such devices, because of their complex character, and the nature of the fastening devices, rendering it difficult to disconnect the flange.

It is well known that all earthenware shrinks in firing and that in making such articles with many grooves and edges, as is commonly done in most if not all of the connections of a similar character heretofore used, there is great liability to breakage and to the formation of imperfect or non water-tight joints, as any slight untrueness in the

earthenware will be liable to make the joint imperfect, and render it impossible to secure a proper seal or water-tight connection, but with my improvement the joint can be made perfectly water-tight, even though the earthenware bowl is not perfectly true. All of these difficulties are obviated by my improvement, which consists of only a few parts adapted to be readily joined together and forming a strong, durable and perfectly water-tight joint which may be easily disconnected and replaced, if desired, in case of breakage or injury to the bowl.

My invention will first be hereinafter more particularly described, with reference to the accompanying drawings, which are to be taken as a part of this specification, and then pointed out in the claims at the end of the description.

In said drawings, Figure 1 represents a vertical sectional view through a water-closet bowl provided with my improved floor-flange screw-connection; Fig. 2 is a horizontal section taken on the line II—II of Fig. 1; Fig. 3 is a detail sectional view on a slightly enlarged scale taken on line III—III of Fig. 2, and Fig. 4 is a detail sectional view also on an enlarged scale taken on the line IV—IV of Fig. 2.

Referring to said drawings, in which the same reference letters are used to denote corresponding parts in different views, the letter A denotes a water closet bowl having a base flange in which is provided the usual outlet or discharge opening around which, on the under side thereof, is preferably provided an annular recess into which may be fitted a correspondingly shaped portion of a metallic floor-flange with screw-connection hereinafter described. On opposite sides of said outlet or at suitable points adjacent thereto, the base flange of the bowl is provided with vertical apertures B which are preferably elongated to permit the insertion therethrough from below of suitable nuts, also preferably elongated in form, which may be given a quarter turn to prevent them from dropping out, and by means of a recess or recesses C, provided to receive the nuts when so turned they are prevented from rotating when the fastening bolts or screws for securing the floor-flange to the base of the bowl are screwed into said nuts.

The letter E denotes a metallic floor-flange,

preferably of brass, which may be provided with a marginal depending rib or flange *e*, and with a screw threaded boss or tubular projection *E'* on which may be screwed the usual screw threaded socket or end of a soil pipe. Bolt holes through said floor-flange, adapted to register with the apertures in the base flange of the bowl, are provided for the insertion of suitable bolts or screws *D*, adapted to be screwed into the nuts previously inserted through the apertures in the base flange, and if necessary said nuts may be initially held stationary until the threaded bolt has engaged the threads of the nut by any suitable instrument, as a wire with a hook extending up through the elongated aperture in the base flange to engage and hold the nut while the bolt is being screwed into it.

Within the annular recess of the base flange around the discharge opening and between said boss and floor-flange may be placed a gasket *F* of asbestos, rubber, or other suitable material to provide a perfect seal; or, if desired, instead of the gasket, any suitable cement such as ordinarily employed in this class of devices may be used for this purpose and may completely fill the crevices and openings in and about the base of the bowl and the floor-flange, and also form a layer of cement between said base and floor-flange.

In order that no obstruction may be presented for the lodgment of paper and other material upon the bolt heads within the down leg of the siphon, the base of the bowl is provided or preferably formed integrally with a suitable cap *G* for covering the apertures and heads of the bolts inserted through the same.

A similar cap or caps may also be provided if desired to cover the apertures at the opposite side of the discharge opening, but are necessary in the water passage. I thus provide a floor-flange screw-connection for the attachment of the soil pipe, which has all of the advantages of the more complex devices heretofore employed for this purpose, without their defects and objectionable features, and which provides a strong, reliable, efficient and durable connection, that may be manufactured at a comparatively small cost.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A floor-flange screw-connection for the attachment of the soil-pipe of an earthenware water closet bowl, comprising a bowl having an outlet opening in its base, and vertical apertures extending through said base adjacent to said opening, said apertures being constructed to permit the insertion upwardly therethrough of polygonal nuts, a

metallic floor-flange having holes therein adapted to register with said apertures and a pendent screw-threaded projection for the attachment of a screw-threaded socket or end of a soil-pipe, together with means for forming a perfect seal, and threaded means entering said holes and apertures from below and engaging said nuts so as to bind the floor-flange and base flange of the bowl firmly together, the nuts and projecting ends of the threaded means being concealed within the base of the bowl.

2. A floor-flange screw connection for the soil pipe of an earthenware water closet bowl, comprising a bowl having an outlet opening in its base and vertical apertures therein adjacent to said opening adapted to permit the insertion upwardly therethrough of polygonal nuts, suitable recesses being provided at the upper terminals of said apertures to receive said nuts when given a quarter turn and prevent rotation thereof when the bolts are being screwed therein, a metallic floor-flange having bolt holes therein adapted to register with said apertures and a pendent screw threaded projection for the attachment of a screw threaded end of a soil pipe, and threaded bolts entering said bolt holes and apertures and engaging the nuts so as to bind the floor-flange and base flange of the bowl firmly together with concealed fastenings.

3. A floor-flange screw connection for the soil-pipe of an earthenware water closet bowl, comprising a bowl having an outlet opening in its base and elongated apertures therein adjacent to said opening for the insertion upwardly therethrough of elongated nuts, suitable recesses being provided arranged at an angle to said apertures to receive the ends of the elongated nuts and prevent rotation thereof when the bolts are being screwed therein, a metallic floor-flange having bolt holes therein and a pendent screw threaded projection for the attachment of a screw threaded end of a soil pipe, and threaded bolts entering said bolt holes and apertures and engaging the nuts so as to bind the floor flange and base flange of the bowl firmly together with concealed fastenings.

4. A floor-flange screw-connection for water closet bowls, comprising a suitable bowl having a base-flange with apertures there-through through which nuts may be inserted from below, a metallic floor-flange having a depending screw threaded tubular boss for connection with the soil pipe, and concealed nuts and bolts for securing said parts together by first inserting the nuts through said apertures and then engaging the bolts therewith.

5. A floor-flange screw-connection for water closet bowls, comprising a suitable bowl having a base-flange with apertures there-

through through which nuts may be inserted
from below, a metallic floor-flange having a
depending screw threaded tubular boss for
connection with the soil pipe, and concealed
5 nuts and bolts for securing said parts to-
gether by first inserting the nuts through
said apertures and then engaging the bolts
therewith, and a cap in the water passage of

the bowl covering the heads of the bolts and
nuts entered through the apertures therein. 10

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

JOHN W. LYONS.

Witnesses:

WARNER PALMER,
ROBERT R. WARNER.