

(No Model.)

H. GILL.
CLOSET BOWL.

No. 551,584.

Patented Dec. 17, 1895.

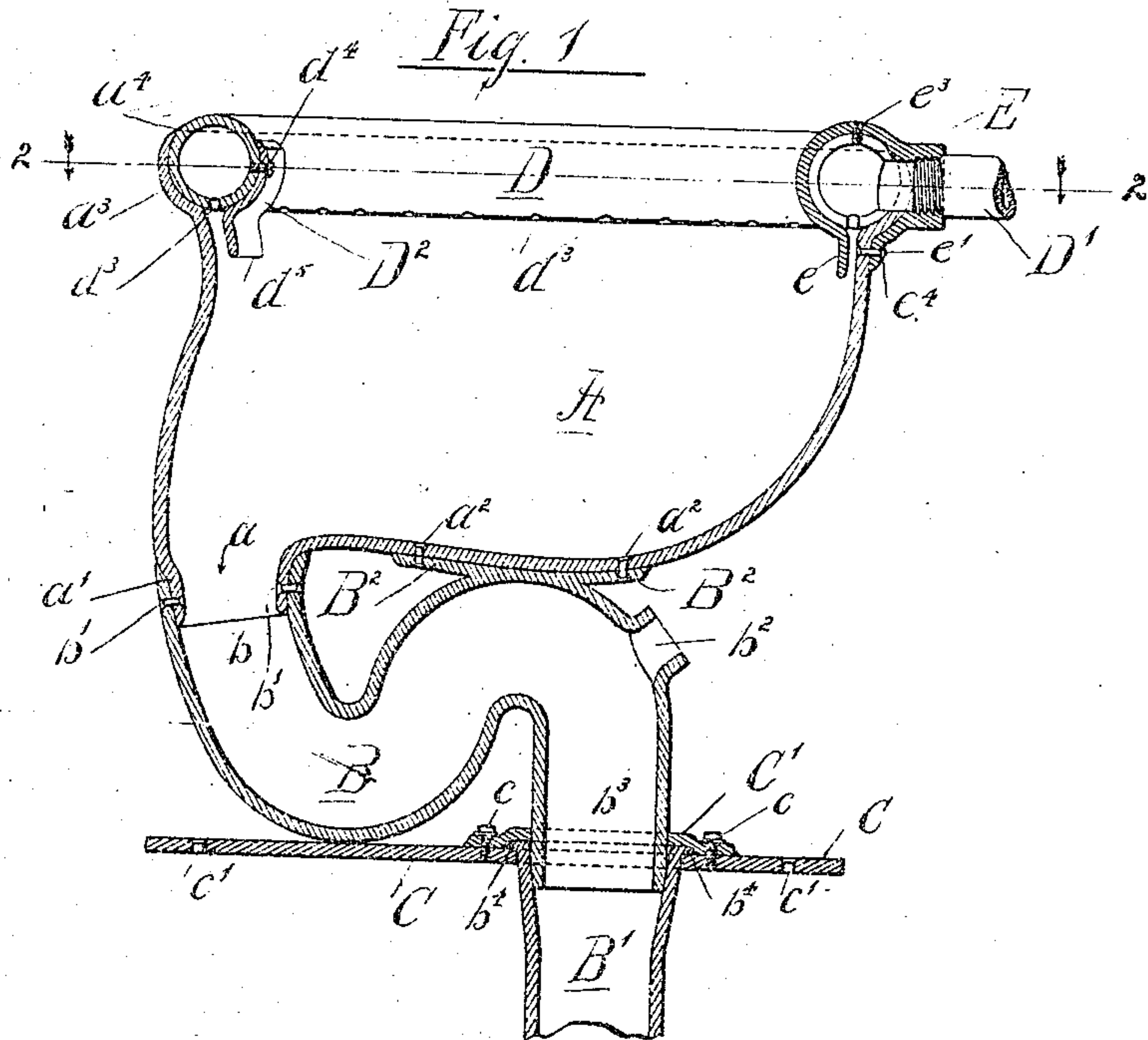


Fig. 3

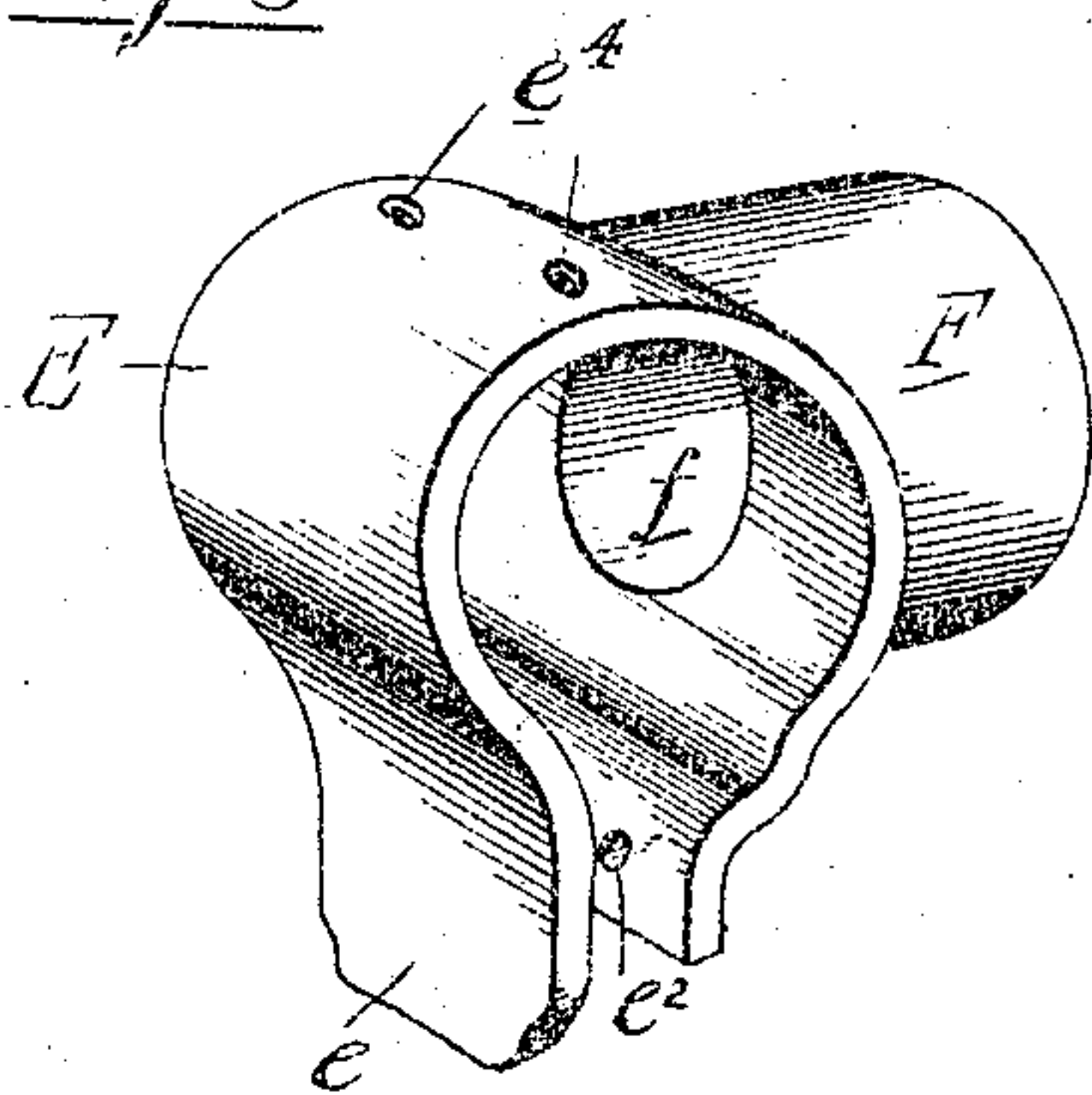
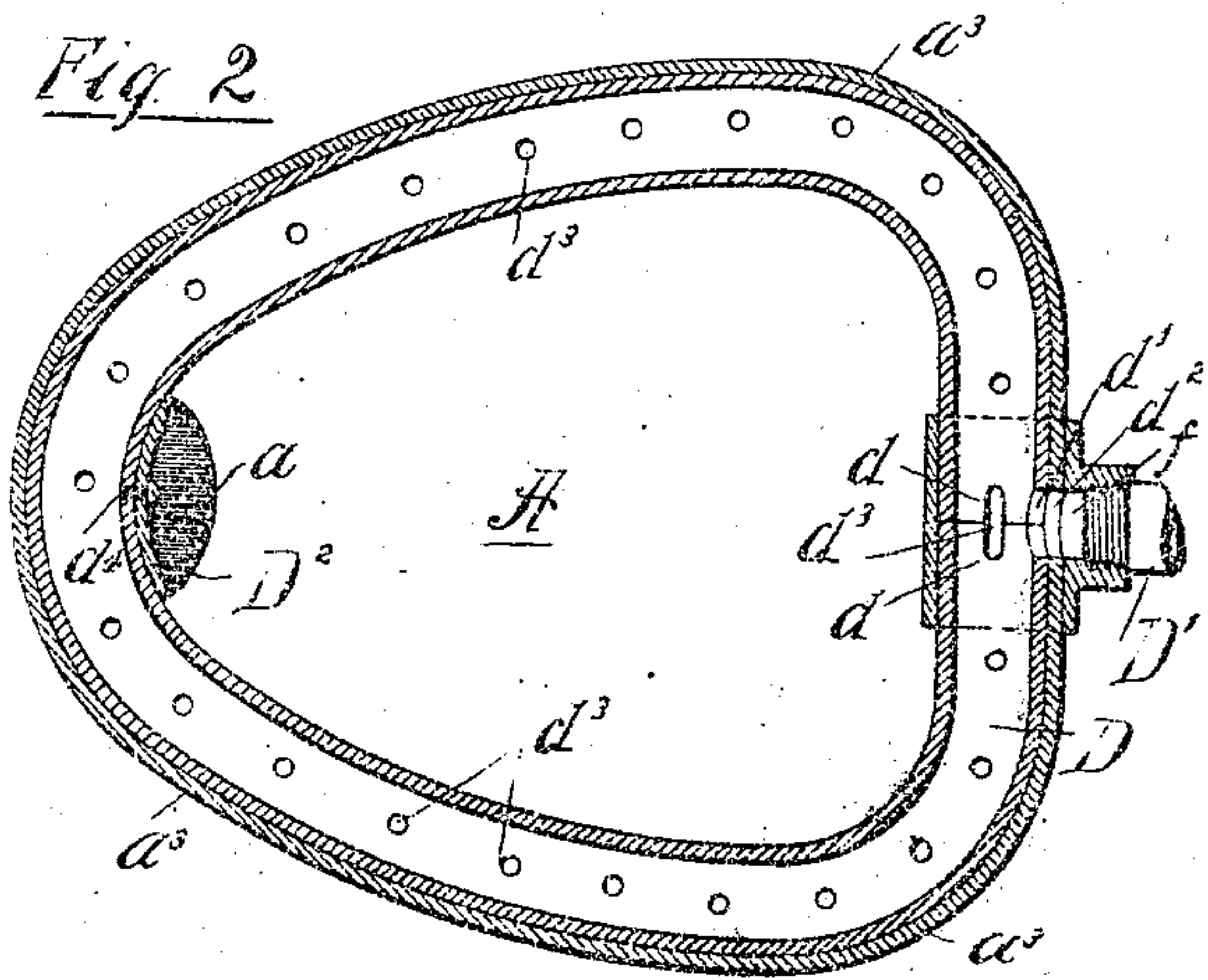


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY GILL, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF, ABRAM E. BURNER, AND HENRY W. CANNON, OF SAME PLACE.

CLOSET-BOWL.

SPECIFICATION forming part of Letters Patent No. 551,584, dated December 17, 1895.

Application filed April 8, 1895. Serial No. 544,858. (No model.)

To all whom it may concern:

Be it known that I, HENRY GILL, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Closet-Bowls; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in the construction of closet-hoppers or bowls used in connection with flush or wash-out devices supplied with water through a connecting-pipe, and usually from an overhead tank from which said pipe leads, and particularly to that class of closet bowls or hoppers constructed of metal. Heretofore these devices have been largely and preferably constructed of earthenware, which, after being formed into a desired shape, have been baked and glazed and otherwise arranged for use. The upper portion of the bowl has been provided with an annular chamber or space extending usually around the entire interior of the bowl, having a plurality of small apertures through its under side and connected through a hollow extension, known as a "flush-stub," with a water-supply pipe, which latter was inserted in the stub, whereby the flush-water could enter this chamber or space and by passing out through the apertures enter the interior of the bowl and flush the same. In practice, notwithstanding the difficulty in constructing said earthenware bowls, the latter have been more generally used than metal bowls because of their more cleanly appearance and relative cheapness, and because of a peculiar and desirable shape or conformation earthenware bowls may be used in connection with an S-trap, while in the metal bowl a cylindrical or conical bowl is the only practical form, and this is undesirable, except for limited uses.

It has been found that the connection of the metal flush-pipe within the flush-stub of the earthenware bowl becomes leaky and permits the overflow of water into the room, doing damage to the floor of the room and to the ceiling of the room below. The flush-pipe is usually secured within the flush-stub by

means of melted brimstone, which leaves a thin shell on the outside of the flush-stub or earthenware, the pipe being rigidly secured, of course, to the wall or the tank above. Any undue jar to the earthenware bowl or the settling of the building has a tendency to and in practice is found to be sufficient to cause the breaking of this joint and of the flush-stub, which not only causes damage, but necessitates the purchase of an entire new bowl, because the flush-stub is integral with the earthenware bowl. There is usually a recess between the end of the flush-stub and the inner end of the larger recess or chamber, which fills with water, and which water remains continually there to saturate and rot the shell of the earthenware, and which, being affected by the slightest frost, contracts the earthenware and causes a leak in the joint, if not a breaking of the parts. This is a very common difficulty experienced during cold weather with earthenware hoppers as at present employed.

To remedy the difficulties as above mentioned, a rubber or cushion connection was made between the flush-pipe and the flush-stub; but it has been found in practice that the rubber joint soon becomes decayed and must often be renewed, and that if not renewed promptly causes a leak in the joint, which produces damage, as before stated.

This invention, therefore, has for its objects the construction of a metal bowl and flush-water space and connection thereto which shall obviate the above-mentioned difficulties and others not named, and which shall at the same time be practical, neat, relatively cheap and durable, and which may also be enameled or nickel plated, as desired, so as to present a cleanly and beautiful finish and appearance.

The invention will be more fully understood by reference to the accompanying drawings and the subjoined description thereof, and will be more clearly set forth in the appended claims.

In said drawings, Figure 1 illustrates a central longitudinal vertical section of a device embodying my invention. Fig. 2 is a horizontal section of the same, taken upon the line 2-2 of Fig. 1, looking downward, as indi-

cated by the arrows. Fig. 3 is an enlarged view in perspective of what I have herein-after called a "saddle" or "clip."

Like letters of reference indicate similar parts wherever used.

In said drawings the letter A represents the body or bowl proper of any desired configuration and provided with the usual discharge-opening a through a downwardly-directed annular flange a' , which latter flange fits within the upturned end b of a water-seal trap B, and is secured in position therein by means of rivets b' . The trap B is provided with the usual vent-opening b^2 , and its discharge end b^3 enters a suitable discharge-pipe B'. The latter is provided at its upper margin with an annular outwardly-extending flange b^4 that rests upon the usual base-plate C. An annular washer C' encircles the member b^3 of the trap, rests upon the flange b^4 of the discharge-pipe B' and is secured in position upon the base-plate C by means of small bolts c . The base-plate C may be secured to the floor or to any suitable fixture by bolts or other devices passing through suitable apertures c' conveniently positioned in the plate C.

The upper part of the trap B is provided with a bearing-flange B², the upper surface of which is made to conform to the exterior configuration of the bottom of the bowl A, which rests upon the supporting plate or flange B². In Fig. 1 this plate is shown as slightly concave, and the bowl is secured thereto by means of rivets a^2 . The upper part of the bowl A is finished so as to form a concave semicircular bearing place for the flush-water chamber D—that is to say, for a short distance from its top margin the walls of the bowl are curved outwardly, as shown in Fig. 1 at a^3 —and after the chamber D has been placed in position the upper edge a^4 is kerfed or chamfered off, so as to give as neat and finished appearance as possible to the union between the chamber D and the walls of the bowl A. The bending in of the margin of the wall a^3 , and which wall extends upwardly beyond the horizontal axis of the chamber D, serves to retain the chamber D properly in position within the bowl A.

The chamber D is preferably tubular in cross-section, of metal, and of such conformation as is given the bowl A, and as clearly shown in Fig. 2, with its adjacent ends d d united and abutting together at the rear of the bowl A. A portion of each of the ends d is cut away, as shown at d' , which cut-away portions form an aperture or passage-way from the interior of the chamber D through and registering with an aperture d^2 in the rear of the bowl, whereby communication may be had through any suitable flush-pipe D'. In the lower surface of the chamber D and at convenient intervals are placed a plurality of apertures d^3 through which water may exit from the chamber D to the bowl A. These apertures d^3 are shown in the drawings

as circular and as being placed at regular intervals apart; but it is obvious that they may be other than circular in shape, and that their size and number will depend upon the amount of flush-water fed to the chamber D and desired to be allowed to escape into the bowl A.

D² is an apron secured by screws or otherwise to the interior of the forward end of the chamber D, and provided with a depending portion d^5 extending somewhat below the lower margin of the chamber D to prevent the flush-water that escapes through the apertures d^3 that are located near the front of the bowl A from splashing inwardly and upwardly. The splasher-apron D², while desirable, may of course be omitted, if necessary.

E is a circular bent clip or saddle of sufficient length to extend some distance beyond the abutting ends d d of the chamber D inserted within said clip, and to afford sufficient bearing therefor. The front portion of said clip is provided with a depending guard e , which extends below the lower edge of the chamber D and thus prevents splashing of the water that passes through the apertures d^3 adjacent to the inlet into the chamber D. The rear side of the clip E extends over that part of the wall a^3 of the bowl A that is located in the rear and through which the aperture d^2 extends, and is secured to the rear wall of the bowl A by means of rivets e' that pass through suitable apertures e^2 in the lower portion of said rear wall of the clip E. The clip is secured at its upper portion to the chamber D by means of screws e^3 that pass through suitable apertures e^4 in the upper side of the clip and extend into and engage screw-threaded apertures in the said chamber D. By means of this clip E it will be readily understood that the rear and abutting ends d d of the chamber D are more firmly secured in position and together at the rear end of the bowl A, and that this securing-clip, taken in connection with the inturned upper margin a^4 of the wall of the bowl A, together firmly unite and secure the chamber D to the bowl A.

Extending outwardly from the rear side of the clip E, and preferably integral with said clip, is a stub connection F provided with a longitudinal aperture f , which registers at its inner end with the aperture d^2 in the wall of the bowl A, and which aperture f is screw-threaded throughout all or a portion of its length to receive the screw-threaded end of the flush-pipe D'. It will thus be understood that when the flush-water is permitted to come down through the pipe D' it will pass through the passage-way f , the apertures d^2 d' , and will rapidly enter the chamber D, and from this it will pass into the bowl A through the plurality of apertures d^3 in a familiar manner.

The bowl A is made entirely of sheet metal pressed into the desired shape or form, and while brass or other sheet metal may be used I prefer sheet-steel. After being pressed into

the desired form, the ends of the chamber D are placed within the clip E, and the chamber and clip then placed into position on the bowl A, the clip being secured by the rivets *e'* to the bowl and the chamber being further secured to the bowl by turning in the upper margin of the bowl, as described. The trap B may be secured to the bowl A either before or after the chamber D has been itself secured thereto, and the entire device, after the several parts have been secured together, will be submitted to the proper plating or enameling process by which any desired finish will be imparted thereto, and the sheet metal, if enamel is used as a finish, will be caused to resemble the familiar earthenware closet-bowl.

The trap B may be of the form shown, or may be made in any of the familiar forms upon the market, which latter I do not deem necessary either to describe or illustrate.

My device is strong and durable and when constructed as described affords no opportunity for breakage of the stub and no leaking through the connection whereby the flush-pipe D is secured to the bowl.

I claim as my invention—

1. The metal closet bowl described, comprising the bowl proper, having its upper edge bent or inturned to form a recess, a tubular chamber resting in said recess, a clip for securing the adjacent ends of the tubular chamber together and to the bowl, a water inlet communicating through said clip to the interior of said chamber and a plurality of apertures in said chamber communicating with the interior of the bowl, substantially as described.

2. The combination of a metal closet bowl provided with a recess in its upper end formed by flaring the upper margin outward, with a tubular flush chamber adapted to rest in said recess, said chamber being secured in said recess by turning in the upper part of the wall of the recess to and against the side of the flush chamber, substantially as described.

3. The combination with a water closet bowl provided with an outwardly bent portion in its upper margin and constituting a bearing recess, a tubular metal chamber located in said bearing recess and having its ends abut-

ting each other, a retaining clip secured to said bowl and embracing the said abutting ends of said metal chamber, means for securing said abutting ends to said clip, and a connecting stub integral with said clip and provided with a screw threaded aperture, substantially as described.

4. The combination, of a metal bowl and a metal trap, the latter provided with an upturned receiving member and with a horizontally extending supporting flange, rivets securing said bowl to said flange, and a metal extension to said bowl forming an exit passage, the walls of which enter the open end of the upturned member of the trap and are riveted thereto, a tubular metal flush chamber secured in the upper end of the bowl, a passage way for the inflow of the flush water to said chamber, and a plurality of apertures for the exit of flush water from said chamber, substantially as described.

5. As a new article of manufacture, the clip for closet bowls shown and described, comprising an inverted U-shaped member, as E, its lower ends being separated, one side of the clip having a vertical extension provided with an aperture, as *e'*, whereby the clip may be secured to the closet bowl, the other side having an extension into the bowl proper constituting a guard or apron, as *e*, to prevent splashing, and a hollow stub, as F, integral with the said clip E and adapted to be secured to the flush pipe, substantially as described.

6. The clip for closet bowls described, comprising a main portion E adapted to engage the flush chamber and the side of the bowl, an aperture, as *e'*, through one side whereby the clip may be secured to said bowl, and an integral stub, as F, provided with a passage way, as *f*, therethrough, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of witnesses, this 5th day of April, A. D. 1895.

HENRY GILL.

Witnesses:

TAYLOR E. BROWN,
ABRAM E. BURNER,
HENRY W. CANNON.