

No. 812,826.

PATENTED FEB. 20, 1906.

P. CONNOLLY.

TUB.

APPLICATION FILED JUNE 15, 1894. RENEWED JULY 7, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

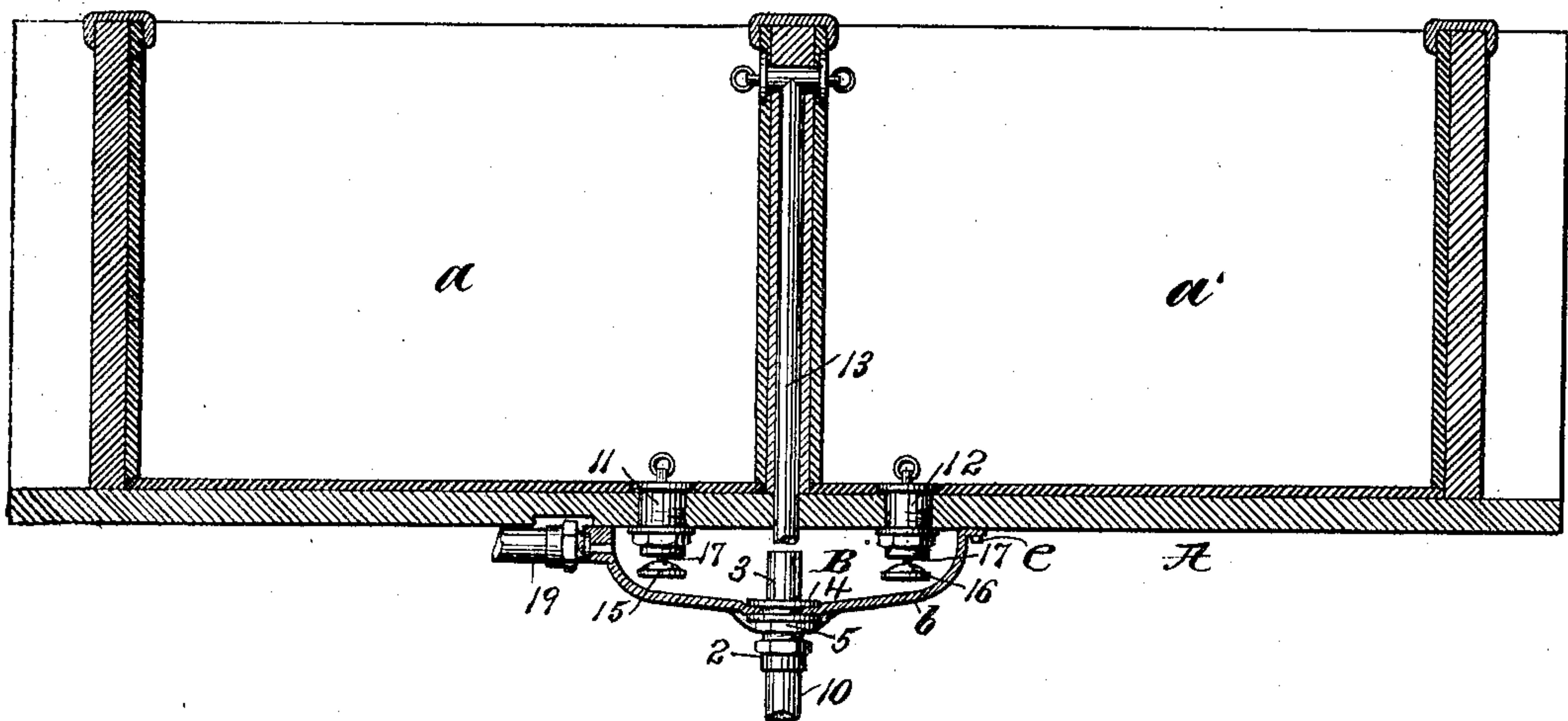


Fig. 2.

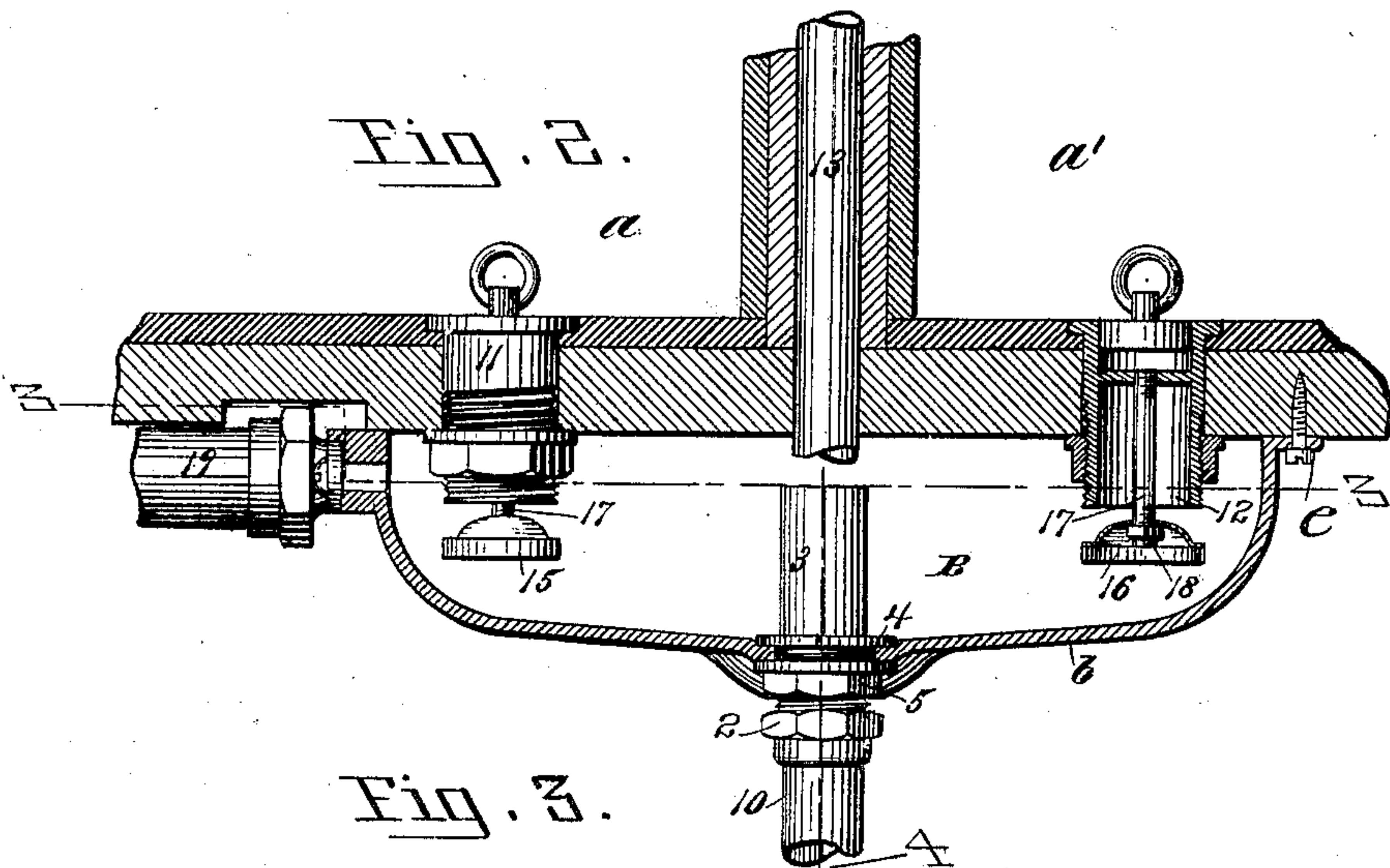
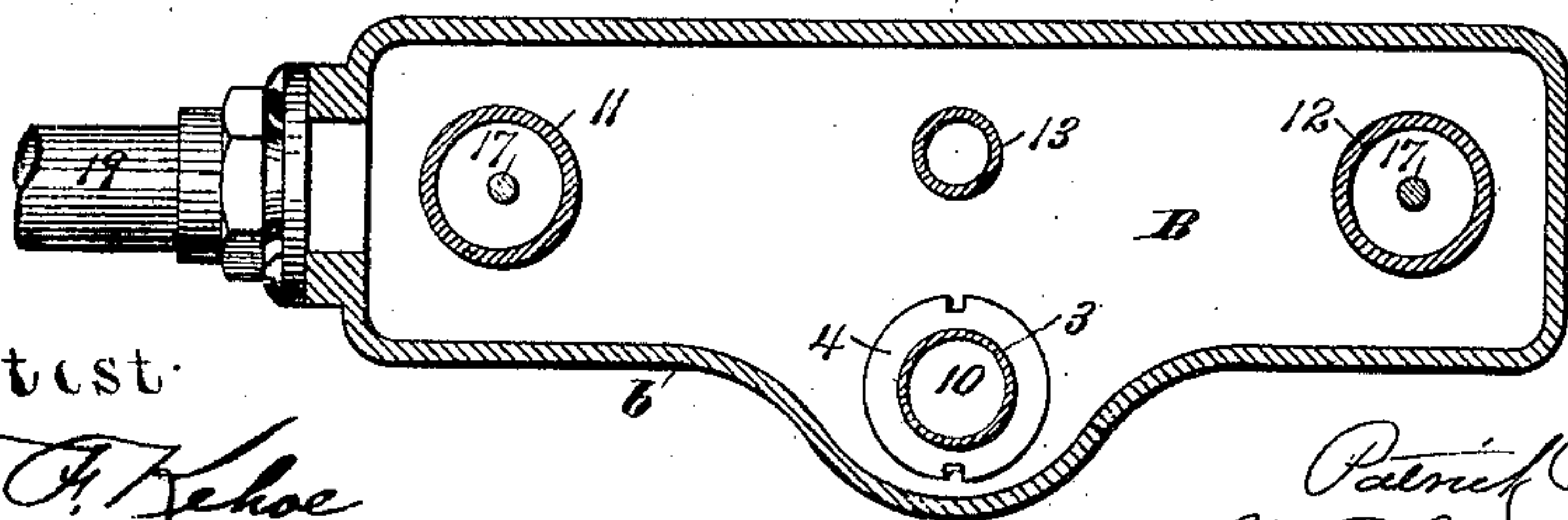


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

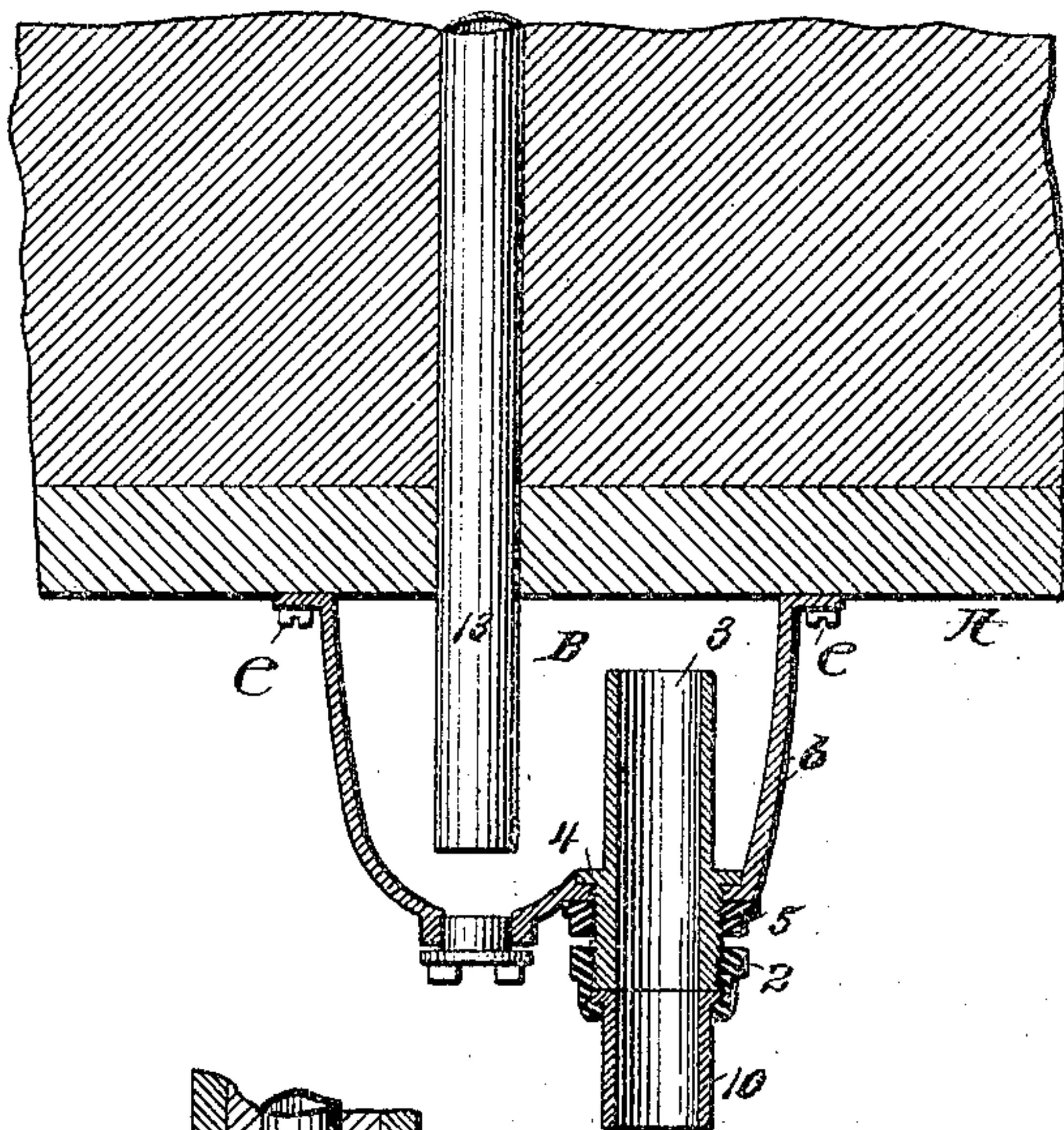


Fig. 5.

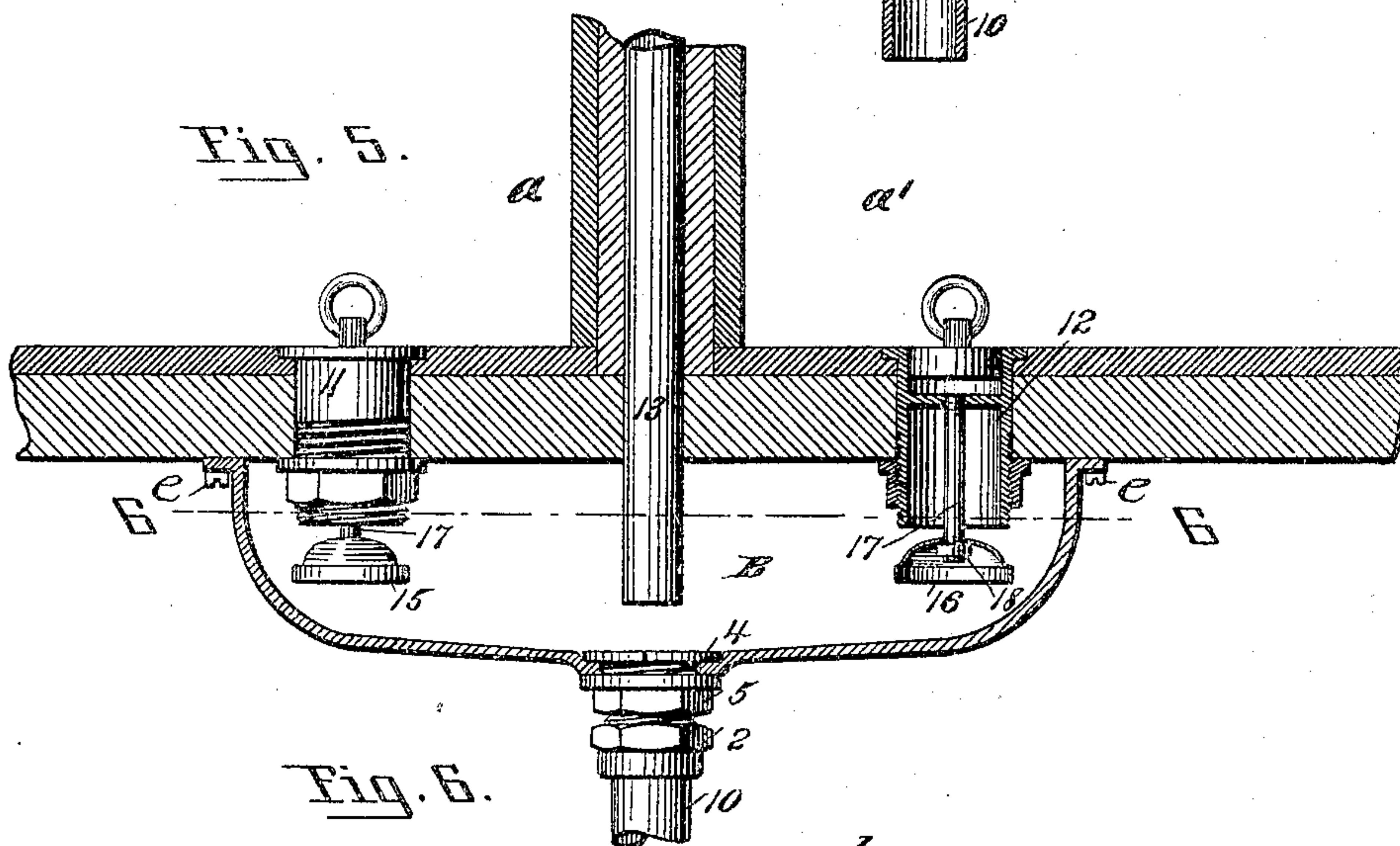
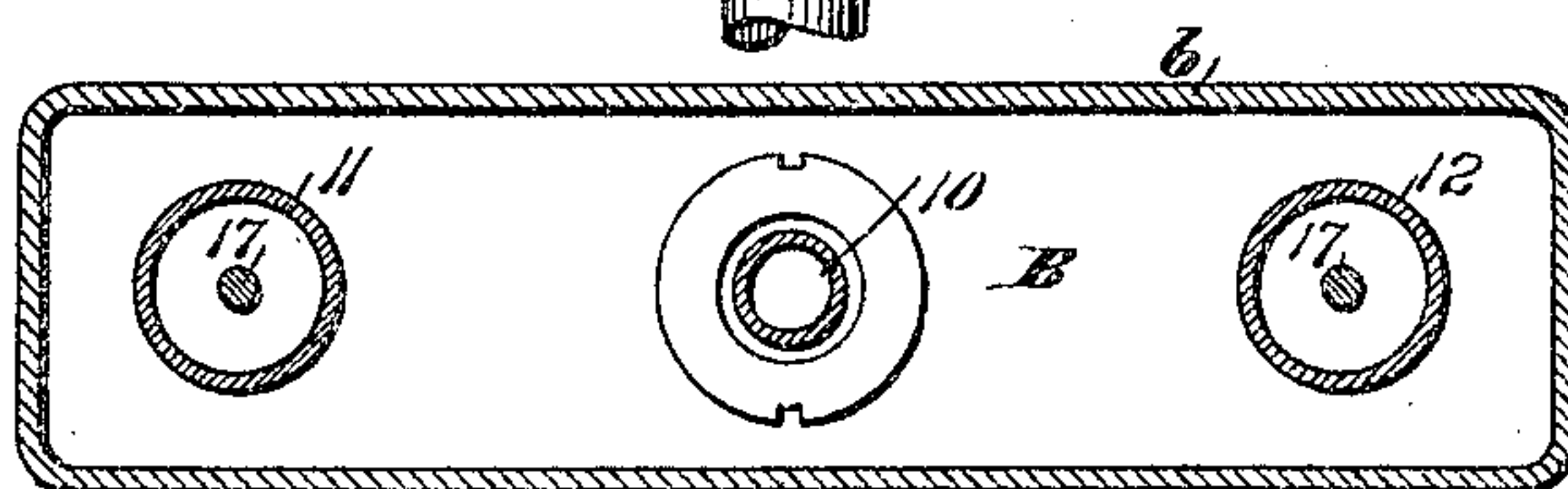


Fig. 6.



Attest:

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UNITED STATES PATENT OFFICE.

PATRICK CONNOLLY, OF BROOKLYN, NEW YORK, ASSIGNOR TO FRANK E. CONNOLLY, OF BROOKLYN, NEW YORK.

TUB.

No. 812,826.

Specification of Letters Patent.

Patented Feb. 20, 1906.

Application filed June 15, 1894. Renewed July 7, 1905. Serial No. 268,733.

To all whom it may concern:

Be it known that I, PATRICK CONNOLLY, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Tubs, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to the construction of the outlet and overflow arrangements of tubs, and relates more especially to that class of tubs generally known as "compartment-tubs," in which two or more tubs or com-
15 partments are made or set up side by side and generally used for laundry purposes, and the invention is especially applicable to tubs of this kind which have two compartments. Heretofore it has been the usual practice in
20 making the outlet and overflow connections of such tubs to run branch pipes from the waste-pipe to the outlet and overflow of each compartment. This requires quite a considerable amount of pipe-fitting, which in-
25 creases the cost of setting up the tubs, and the cost has been further increased by the necessity of setting a trap in the waste-pipe just beyond the branch pipes or a separate trap in each of the branch pipes.

30 My invention aims to improve and simplify and lessen the cost of the outlet and overflow connections of tubs, and especially of compartment-tubs, by providing a fitting to be attached to the under side of the tub to
35 form a chamber into which open the outlet and overflow from each compartment and from which the waste-pipe leads and by so arranging the pipes leading into and from this chamber as to avoid the necessity of a
40 trap being placed in the waste-pipe; and a further object of the invention is to prevent all backflow of water to the tubs, which object I accomplish by providing the outlet
45 from the tubs, or from each compartment in case of a compartment-tub, with a check-valve of suitable construction, all as will be hereinafter more fully described, and specifically pointed out in the claims.

50 All further preliminary description will be omitted, and a detailed description of a construction embodying the features of the invention in preferred forms will be given in

connection with the drawings forming a part of this specification, in which—

Figure 1 is a longitudinal sectional view of 55 a two-part compartment-tub provided with my improved outlet and overflow connections. Fig. 2 is an enlarged detail view of said connections. Fig. 3 is a section on line 3 of Fig. 2. Fig. 4 is a section on line 4 of 60 Fig. 2. Fig. 5 is a view similar to Fig. 2, but without the waste-pipe being extended up within the chamber to form a trap. Fig. 6 is a section on line 6 of Fig. 5.

Referring first to Figs. 1 to 4, A is a com- 65 partment-tub having the tubs or compartments *a a'*, and which may be of any usual construction, but is shown as constructed of wood with a pottery or stone lining. Secured to the under side of the tub is a casing 70 *b* of such a shape as to form a chamber B beneath the tub. The casing *b* may be of any suitable shape and of any suitable material, but is preferably a metal casting of about the shape shown, and it may be secured to the 75 tub in any suitable manner, preferably detachably, as by screws *e e*. Leading from the chamber B is a waste-pipe 10, which may be connected to the casing in any suitable manner, but preferably as shown, the waste- 80 pipe proper being connected by a coupling-nut 2 to an outlet pipe or nozzle 3, passing through the casing *b* and having a flange 4 inside the casing and having its outer portions threaded to receive a nut 5, by which it is se- 85 cured to the casing, and to receive the coupling-nut 2. Outlet-pipes or wastes 11, 12 from the compartments *a a'* are positioned so as to communicate with the chamber B, and the overflow-pipe 13, which is preferably 90 placed in the partition between the compartments and has communication at its upper end with both compartments, a single pipe thus serving to take the overflow from both compartments, also leads into the chamber 95 B. It will be seen that the casing *b* forms a fitting which may be easily attached to and readily detached from almost any form of tub and that in setting up a tub with one of the casings attached it is necessary only to 100 connect the waste-pipe to the outlet of the chamber in order to provide for carrying away the waste water and overflow from both or all of the compartments, and as the

casings may be very cheaply made and attached to the tubs much trouble and expense is saved by the use of such casings.

To prevent the waste water backing up through the outlets 11 and 12 into the tubs, I provide the outlets 11 and 12 with suitable check-valves 15 and 16, which may be of any suitable form and material, but preferably are made of suitable sheet metal, as sheet copper or brass, pressed to about the shape shown, and are preferably supported on rods 17, which rods are carried by cross-pieces within said outlets, the valves being free to slide vertically on said rods, and adjustably supported thereon by nuts 18.

By this construction all flooding of the tubs due to backflow through the outlets from any cause whatever is prevented. If, for example, in the construction shown the compartment *a* is empty and water is flowing out of the compartment *a'*, if the waste-pipe 10 does not carry the water out of the chamber B as fast as it can flow into the chamber B from the compartment *a'*, so that water tends to flow from the chamber B into the compartment *a*, the valve 15 will rise and prevent any such backflow of the water, so that if the stopper should have been left out of the outlet of the compartment *a* there will be no danger of the water flowing back into that compartment when the other compartment is being emptied, or if the stopper is in place it will not be thrown out by back pressure. Providing check-valves in the outlets of the tubs to prevent backflow into the tubs is in itself an important feature of the invention, and such valves may be used independently of the other features of the invention—as, for example, check-valves may be arranged in outlet-pipes which lead directly to a common waste-pipe or in the outlet from a single tub. The application of check-valves in overflow-outlets of tubs is also to be understood as within the invention.

To avoid the necessity of a trap being placed in the waste-pipe beyond the chamber B, I make the waste-pipe 10 communicate with the interior of the chamber B at a higher level than the outlet-pipes 11 and 12 communicate therewith, said outlet-pipes preferably extending some distance down into the chamber B and the waste-pipe or in the construction shown the outlet-pipe 3 extending up into said chamber above the level of the bottom of the outlet-pipes 11 and 12. The overflow-pipe 13 also extends down into the chamber B below the level of the top of the pipe 3. I thus provide a water seal or trap within the chamber B, which effectually seals the outlet-pipe 11 and 12 and the overflow-pipe 13 against any gas which may flow back through the waste-pipe 10, and I thus avoid the additional expense of a trap to be inserted in the waste-pipe 10 beyond the chamber B and the labor of fitting such a trap in place.

To provide for the escape of gas which may collect in the upper part of the chamber B, a vent-pipe 19 is preferably connected to said chamber and communicated with the upper part thereof.

Although the invention is especially applicable to compartment-tubs, as in the preferred constructions shown in the drawings, yet it is to be understood that the various features of the invention may be applied to a single tub, and such applications thereof as claimed are within the invention. It will likewise be understood that the invention is applicable to a tub having more than two compartments, the casing then being made of proper shape to embrace the outlets from all the compartments and the compartments being arranged so that their respective outlets may be quite near each other, as if there are four compartments by arranging them in pairs and back to back, as will be readily understood. The invention may be adapted to a tub having three compartments in a line by running a connecting-pipe from the chamber B to the outlet of the third tub.

Figs. 5 and 6 illustrate a construction in which the waste-pipe is not extended up within the chamber to form a trap, in which case the vent-pipe 19 may be omitted, as shown. It will also be understood that in such a construction it is not necessary to have the outlet-pipes 11 and 12 extend down into the chamber B.

Various modifications in the details of construction and arrangements of the parts described will suggest themselves to those skilled in the art, and it will be understood that such modifications are within the invention.

What is claimed is—

1. The combination with a tub having two or more compartments, of a chamber beneath the tub formed by detachably securing a casing *b* to the under side of the tub, outlets leading from said compartments to said chamber, and a waste-pipe leading from said chamber, substantially as described.

2. The combination with a tub having two or more compartments, of a chamber beneath the tub formed by detachably securing a casing *b* to the under side of the tub, outlets leading from said compartments to said chamber, check-valves on said outlets to prevent backflow, and a waste-pipe leading from said chamber, substantially as described.

3. The combination with a tub having two or more compartments, of a chamber beneath the tub formed by detachably securing a casing *b* to the under side of the tub, outlets leading from said compartments to said chamber, and a waste-pipe open to said chamber at a higher level than the openings of said outlets into the chamber, substantially as described.

4. The combination with a tub having two or more compartments, of a chamber beneath

the tub formed by detachably securing a casing *b* to the under side of the tub, outlets leading from said compartments to said chamber, check-valves on said outlets to prevent back-
5 flow, and a waste-pipe open to said chamber at a higher level than the openings of said outlets into the chamber, substantially as described.

10 5. In combination with a tub, of a chamber beneath the tub formed by detachably securing a casing *b* to the under side of the tub, an outlet leading from the tub to the chamber, a check-valve on said outlet to prevent backflow, and a waste-pipe open to the
15 chamber at a higher level than the opening of said outlet into the chamber, substantially as described.

20 6. The combination with a tub having two or more compartments, of a chamber B formed by detachably securing a casing *b* to the under side of the tub, outlet-pipes 11 and 12 leading from said compartments into said chamber, overflow-pipe 13 communicating with both compartments and leading into

said chamber, and waste-pipe 10 open to said 25 chamber above the level of the openings of pipes 11, 12 and 13, substantially as described.

7. The combination with the tub A having compartments *a* and *a'*, of chamber B formed 30 by securing a casing *b* to the under side of the tub A, outlet-pipes 11 and 12 leading from said compartments into chamber B, check-valves 15 and 16 carried by rods 17, overflow-pipe 13 communicating with both said com- 35 partments and leading into chamber B, waste-pipe 10 open to chamber B above the level of the openings of pipes 11, 12 and 13, and a vent-pipe leading from said chamber, substantially as described. 40

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PATRICK CONNOLLY.

Witnesses:

T. F. KEHOE,
ARTHUR L. KENT.