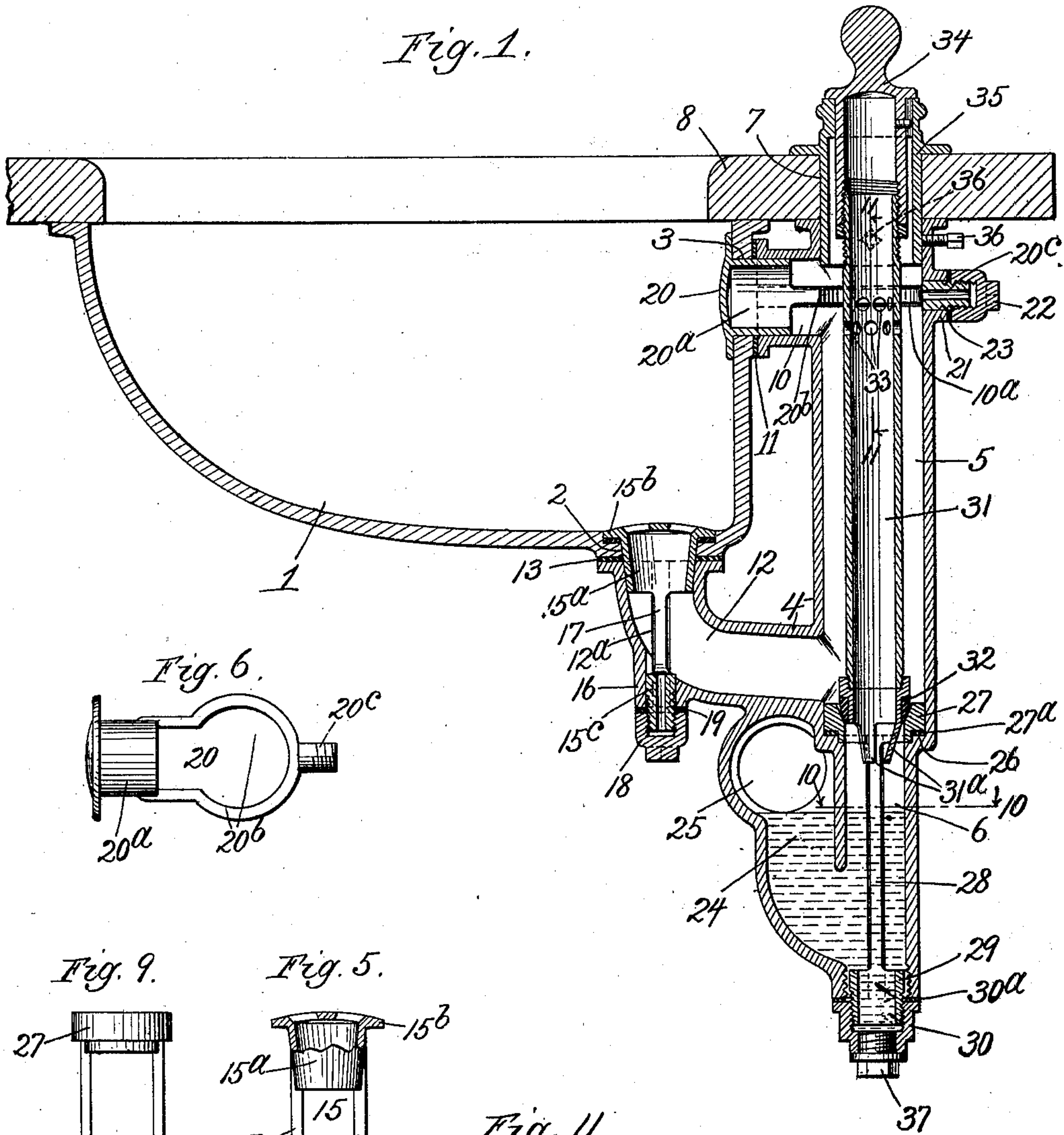
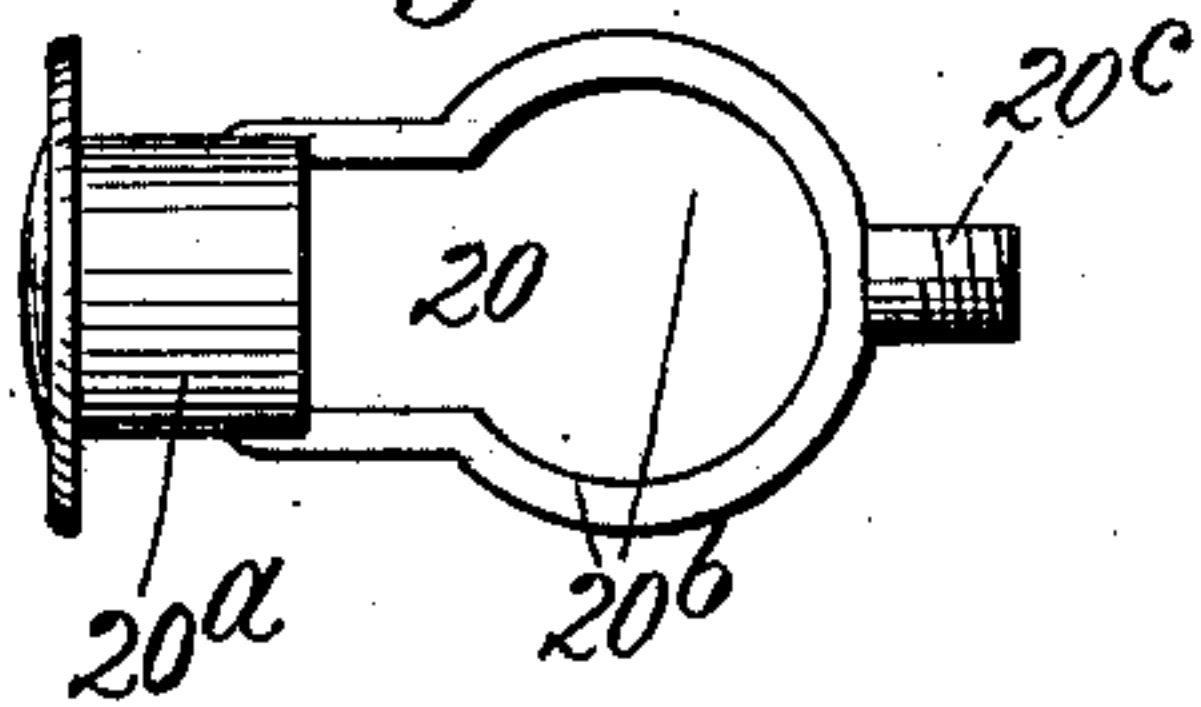
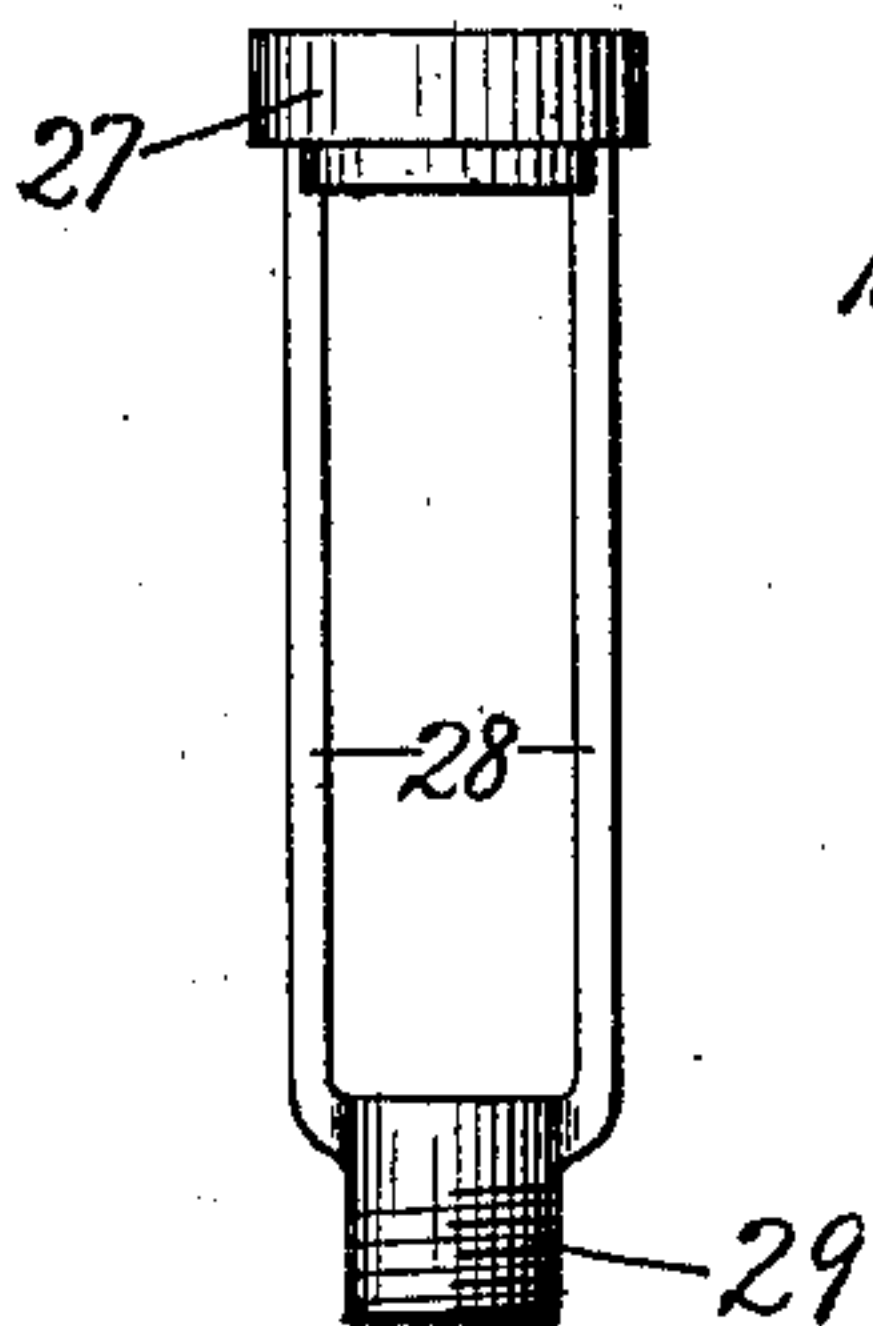
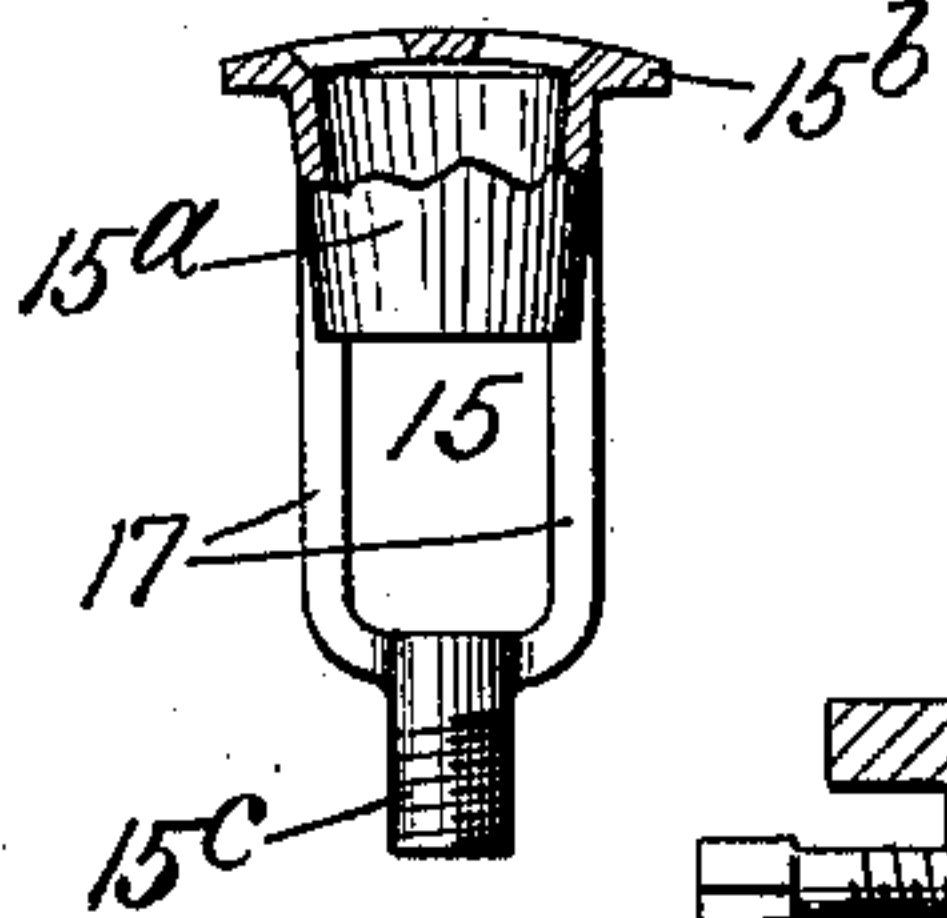
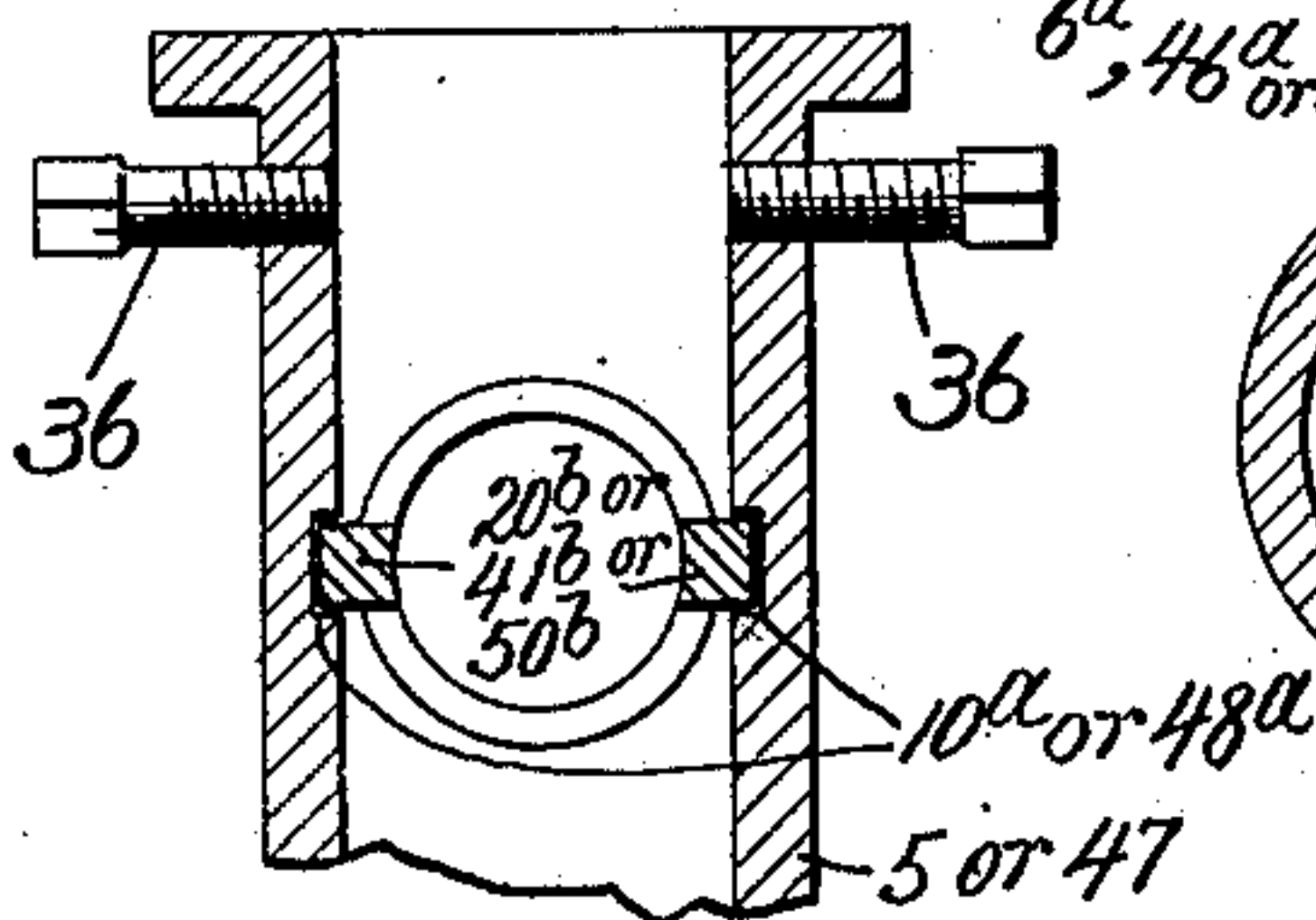
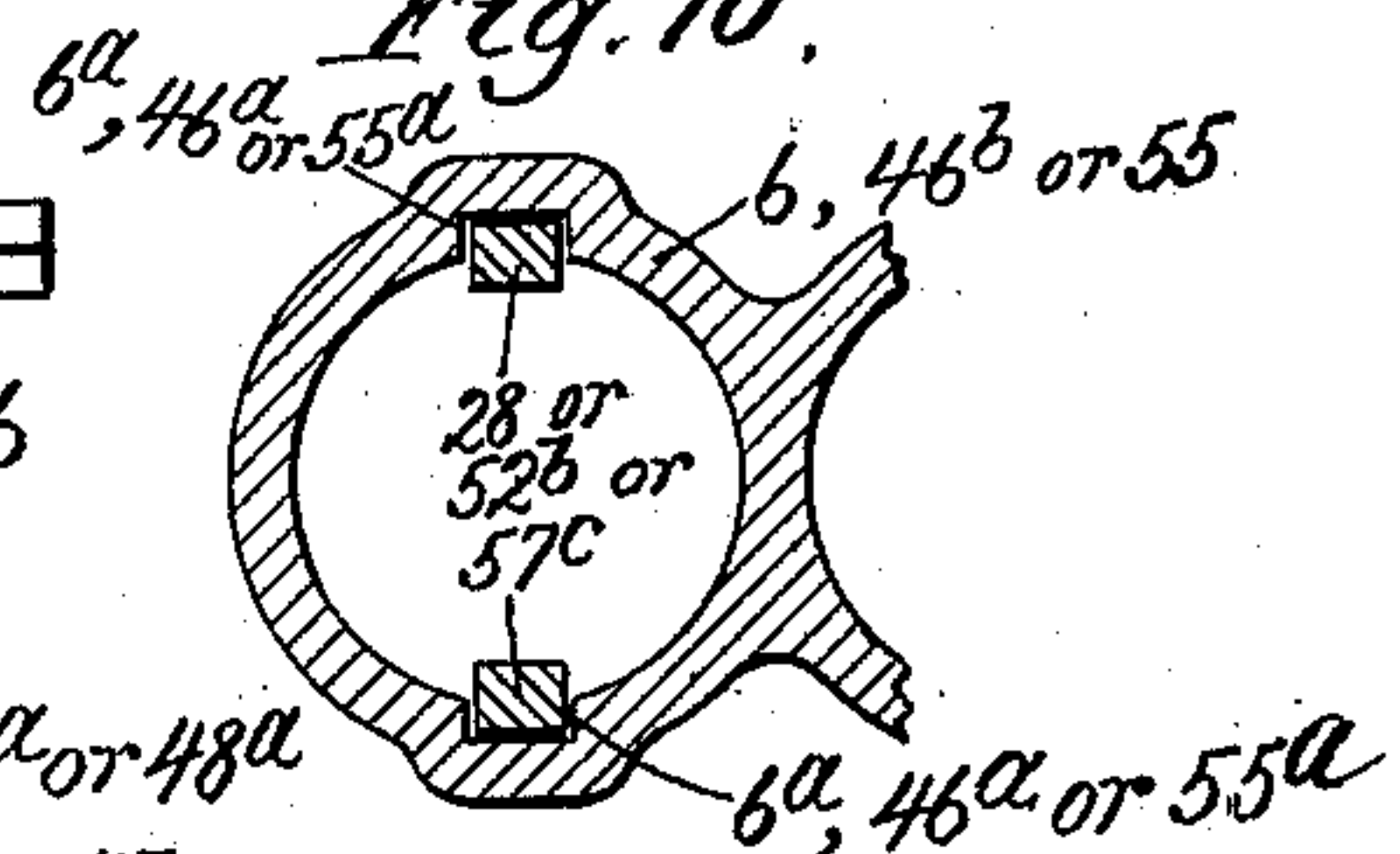


J. J. WADE.  
 BASIN OR BATH FITTING.  
 APPLICATION FILED OCT. 13, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

*Fig. 1.**Fig. 6.**Fig. 9.**Fig. 5.**Fig. 11.**Fig. 10.*

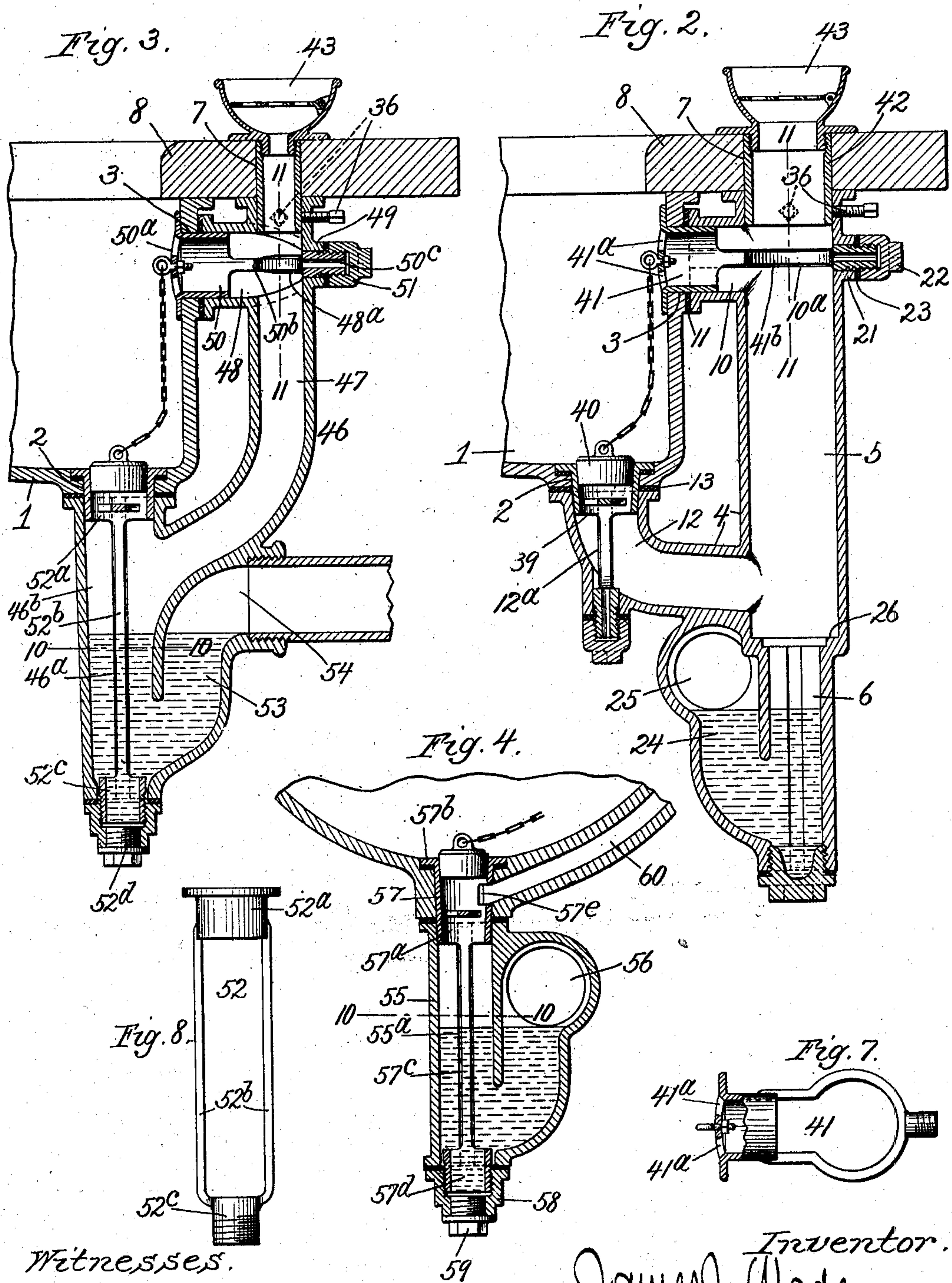
Witnesses:  
 Edward T. Wray.  
 Fred G. Fischer

Inventor:  
 James J. Wade  
 by *Benton Benton*  
 his Attys.

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2 SHEETS—SHEET 2.



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 Edward T. Wray.  
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Inventor.  
 James J. Wade  
 by Burton Burton  
 his Atty's.



# UNITED STATES PATENT OFFICE.

JAMES J. WADE, OF CHICAGO, ILLINOIS.

## BASIN OR BATH FITTING.

SPECIFICATION forming part of Letters Patent No. 746,419, dated December 8, 1903.

Application filed October 13, 1902. Serial No. 127,065. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES J. WADE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Basin or Bath Fittings, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

This invention consists of improvements in overflow and waste fittings for basins, baths, and sinks, the features of which are set out in the claims.

In the drawings, Figure 1 is a vertical section through the overflow and waste passages of hand-basin having my improved appliances in a form adapted to what is known as "standing" and "secret" waste and overflow. Fig. 2 is a similar view of my invention as applied in a similar way without the secret and standing waste. Fig. 3 is a similar view of a modified form of the device applied so as to yield an ordinary overflow and waste. Fig. 4 is a similar view showing the leading feature of my invention embodied in a fitting applied to a common or old-style form of basin in which the overflow-passages are formed in the body of the basin. Fig. 5 is a partly-sectional side elevation of the binder for attaching the fitting to the basin-outlet in the form shown in Figs. 1 and 2, section being made axially at the upper part. Fig. 6 is a similar view, but not sectional, of the binder employed for attaching the fitting to the overflow in the form shown in Fig. 1. Fig. 7 is a view similar to Fig. 5, showing a modification of the device of the preceding view, Fig. 6, where employed for attaching the fitting and forming the strainer for the overflow in the form shown in Fig. 2. Fig. 8 is a similar view of the binder for attaching the fitting to the basin-overflow in the form shown in Fig. 3, which is also identical with the form of said binder for attaching the fitting shown in Fig. 4. Fig. 9 is a similar view of the device analogous to the binder of the last preceding figure employed to form the seat for the valve in the secret waste-passage of the form shown in Fig. 1. Fig. 10 is a section such as might be taken across the waste-passage in any of the forms shown, as at line 10 10, disregarding difference in dimensions, in Figs. 1, 2, 3, or

4, the same appearance resulting from each section at the two places indicated on Fig. 1. Fig. 11 is a view which might be obtained at a section longitudinally in the overflow-passage of either of the forms shown in Figs. 1, 2, or 3, as at line 11 11 on said figures, disregarding differences of dimension.

The specific purpose of my invention is to make a fitting for the waste and outlet passages adapted to be fastened to the bowl without cement or wiped joints by the use of ordinary gaskets to close the joints and which may be made in iron or other metal, so as to be cast cheaply with a minimum of machine or tool work and in respect to the form designed for secret and standing waste, so that the necessary valve-seat can be applied and secured without cement or other difficult joints and may be removed readily without breaking any joints of a character designed to be permanent.

The fixture 1 I have shown as a basin of common form, having apertures 2 and 3 for the waste and overflow outlets, respectively. In the form shown in Fig. 1 the aperture 3 being not required for overflow purposes serves, nevertheless, as a means for attaching the fitting, while in the forms of Figs. 2 and 3 it serves this purpose in addition to that of an overflow-outlet. I will first describe the most complex form of my device. (Shown in Fig. 1.) In this form an integral fitting 4, which may be made of cast-iron enameled to match the bowl to which it is to be attached, has a continuous vertical passage made up of portions 5 and 6 extending from the upper end, where it registers with an aperture 7 in the slab 8, to the lower end, where it is closed by a cap-nut 30. An offset 10 at the upper end is adapted to seat around the aperture 3 of the basin and to be bound firmly thereto with intervening gasket 11, and a branch 12, offsetting from the main passage at a point sufficiently low down, is made to terminate upwardly with proper form to seat about the outlet-passage 2 and be bound tightly to the basin with an intervening gasket 13. To secure this fitting to the basin at the bottom outlet, I provide a binder 15, which at the upper end constitutes a thimble 15<sup>a</sup>, with strainer passing through and covering the outlet-aperture 2, having its flange 15<sup>b</sup> suit-



ably seated about the margin of the aperture. At the lower end this binder has a threaded terminal 15<sup>c</sup>, which extends out through an apertured boss 16, formed on the fitting, in axial line with the upper mouth of the outlet offset or branch 12. This terminal 15<sup>c</sup> is connected with the thimble portion by two side bars 17 17, and the fitting is furnished with grooves at 12<sup>a</sup> 12<sup>a</sup> at opposite sides of the outlet-passage through the offset branch 12, in which said bars 17 17 lodge and are accommodated without intruding into the wastewater passage. A cap-nut 18, screwed onto the end of the terminal 15<sup>c</sup>, with suitable packing-gasket 19 interposed between it and the head of the boss 16, serves to bind the thimble snugly into its seat in the basin-aperture and at the same time to clasp the fitting onto the basin about the outlet-aperture 2.

For securing the fitting at the side of the basin toward the top and rendering it suitably rigid and secure a similar binder 20 is provided. When this binder is employed with the secret and standing waste, it serves only the purpose of the binder, and the thimble 20<sup>a</sup> at the inner end need not be open. The junctions are made tight by a gasket 11, interposed between the basin and the end of the offset 10, and a gasket 23, interposed between the cap-nut 22 and the boss 21. Most conveniently and preferable, therefore, the threaded terminals of both these binders are hollow, and they are not necessarily so reduced in diameter from that of the thimbles at the other end, as shown in the specific forms illustrated, though in the particular situations in which they are used this reduction is economical and convenient.

For the purpose of the secret and standing waste a valve-seat is necessarily provided below the entrance of the waste-passage through the offset 10 into the vertical passage 5, which latter passage constitutes the down-limb of the trap, whose up-limb 24 is preferably turned inward, so as to be under the offset branch 12, the final outlet 25 being made at the side, as seen in the drawings. For the purpose of affording a suitably-accurate seat and one which can be made of material not liable to be damaged by corrosion, as it would be if it were formed directly in the iron of the fitting, I form in the latter a shoulder 26 just below the entrance of the outlet-passage 12, and a seat-fitting 27 is made adapted to lodge on said shoulder, with packing material or gasket 27<sup>a</sup> interposed, said seat-fitting being necessarily annular and having its aperture flaring or conical at the upper end, while from the lower end at opposite sides bars 28 28 to an exterior-threaded terminal 29 at the lower end, which emerges through the lower end of the fitting and receives a cap-nut 30, which being secured onto it against a suitable packing-gasket 30<sup>a</sup>, interposed between the cap-nut and the end of the fitting, binds the seat 27 securely in place in the packing, thereby

adapting it when the valve is suitably lodged in it to completely cut off the exit of water from the fixture. The overflow-tube and valve are formed in a familiar manner, comprising the tubular valve-stem 31, terminating in the valve 32, which seats in the seat 27 and has suitable terminal guide-fingers 31<sup>a</sup> to insure its entering the seat and prevent it from damaging the latter, said tube being apertured toward the upper part at 33, so that the water rising in the passage 5 around the tube can overflow at the apertures whose position when the valve is seated determines the height at which the water will stand in the basin. The tubular stem 31 extends up between the side bars 20<sup>b</sup> of the binder 20 and is screwed into a pull-handle 34, having the usual lodgment on the upper end of the sleeve 35, which extends through the slab 8 and enters the upper end of the fitting 4 and when provided with suitable means for securing it to the latter assists in binding the slab into place at the top of the fitting and bowl. For the purpose of thus securing it to the fitting and adapting it to slabs of different thickness set-screws 36 36 may be provided in the upper end of the fitting impinging on the sleeve and which being once set when the fixture is erected require no adjustment in use.

A fitting entirely similar to that above described may be employed with a basin of the same form when it is not to be adapted for secret and standing waste merely by dispensing with the valve-seat binder 27, closing the lower end of the fitting with a plug, and modifying the binders at the overflow and outlet passages by adapting the former to serve as a strainer instead of closing the passage and adapting the latter to receive a plug instead of serving as a strainer. It will be noticed that in the form above described the lower end of the fitting is interiorly threaded where the threaded terminal of the valve-seat binder emerges through it and that the cap-nut 30 is apertured at the end and provided with a plug 37, which can be withdrawn to give access to the trap for cleaning, if desirable, without loosening the valve-seat fitting. The interior threading of the fitting at this end adapts it to be used in the form shown in Fig. 2 without the valve-seat fitting by receiving a plug screwed into it, as above mentioned. In said form of Fig. 2 instead of the binder 15 I employ a binder 39, in all respects similar to 15, except that instead of being adapted at the upper end to operate as a strainer it is entirely open and is adapted to serve as a seat for plug 40. Similarly, in lieu of the binder 20 (shown in Fig. 1) I employ a binder 41, entirely similar, except that instead of being closed at the inner end it is perforated and adapted to serve as a strainer, as seen at 41<sup>a</sup>. In this form all the features pertaining to the standing and secret waste are omitted. A sleeve 42, however, is employed in place of the sleeve 35,



being secured to the upper end of the fitting in the same way and having a soap-cup 43 screwed into it at the upper end and provided with a flange to bind upon the top of the slab.

In the form shown in Fig. 3 the fitting 46 has the down-limb of the trap arranged directly in line below the outlet instead of being in line with the overflow-passage 47, which follows the contour of the basin, and at the upper end the offset 48 to the overflow-outlet of the basin is formed so as to seat properly against the outer side of the latter, and a hollow boss 49 is formed opposite to it, the binder 50 being similar in form to the binder 15, having its head 50<sup>a</sup> constructed as a strainer, its side bars 50<sup>b</sup> accommodated in grooves 48<sup>a</sup>, and its threaded hollow terminal 50<sup>c</sup> emerging through the hollow boss 49 and secured by a cap-nut 51, suitable gaskets being interposed on the outside of the basin and between the cap-nut and the boss 49. At the outlet the binder 52 is formed at the upper end with the thimble portion 52<sup>a</sup> open and adapted to serve as a seat for the plug. The side bars 52<sup>b</sup> are accommodated in grooves 46<sup>a</sup> in the sides of the down-limb 46<sup>d</sup> of the trap, and the binder extends through the whole length of the trap, its threaded and hollow terminal 52<sup>c</sup> emerging at the lower end and being secured by a cap-nut, which is apertured and provided with a threaded plug 52<sup>d</sup> in the same manner as the cap-nut at the bottom of the trap in the form shown in Fig. 1. In this form the up-limb 53 of the trap terminates in the final outlet 54 in position for an outlet-pipe in the same general vertical plane as the other passages of the fitting.

The feature of my invention, which consists in the form of binder and fitting adapted to it, may apply to a basin of old and familiar type in which the overflow-passage is formed in the substance of the basin, as seen in Fig. 4. For this purpose a similar fitting 55, comprising the down-limb of the trap leading directly from the outlet and an up-limb terminating in a final outlet 56, is bound on to the basin-outlet, which terminates, as usual, in a boss below the inlet-mouth of the overflow-passage by means of a binder 57, the upper end of which is formed as a thimble, 57<sup>a</sup> constituting a plug-seat and having a binding-flange 57<sup>b</sup> at the upper end, such thimble being formed with a lateral aperture 57<sup>c</sup> in position to register with the overflow-passage 60. The side bars 57<sup>c</sup> are lodged in grooves 55<sup>a</sup> out of the path of the waste water, and the hollow threaded terminal 57<sup>d</sup> emerges at the lower end of the fitting and receives the cap-nut at 58 for securing it, and thereby binding the fitting, to the basin, such cap-nut being apertured and having a plug 59 to give access to the trap without loosening the fitting.

I claim—

1. In a water-fixture, a binder for securing

the outlet-fitting to the fixture, consisting of an annulus which seats on the inner wall of the fixture at the margin of the aperture; side bars extending from the annulus protruding from the fixture into a passage of the fitting, and a terminal which said side bars connect with the annulus, in combination with a fitting having a terminal adapted to seat on the fixture-wall at the exterior margin of the aperture, having itself an aperture axially in line with the fixture of the aperture when thus seated, a portion of the fitting-cavity intervening and having lateral grooves in its inner wall, the side bars of the annulus being lodged in such grooves substantially out of the water-passage through the fitting, and means on the binder beyond the fitting for clamping the parts together.

2. In combination with a water-fixture and a fitting having the outlet-passages therefrom, a binder for securing the fitting to the fixture comprising an annulus which seats on the inner wall of the fixture at the margin of the aperture; side bars extending from the annulus and aperture in a passage or cavity of the fitting along opposite unapertured walls thereof, said walls being grooved or recessed to accommodate such side bars and prevent them from protruding in the watercourse through the fitting; and a terminal which said side bars connect with the annulus, the fitting having a terminal adapted to seat on the fixture at the exterior margin of the aperture of the latter, and having itself an aperture through which the terminal of the binder protrudes, and a nut on the protruding end of the binder for clamping the parts together, suitable packing being interposed between the fixture and the fitting and between the fitting and the nut.

3. In a water-fixture, in combination with a fitting having the outlet-passages, including trap-passages; an annulus constituting a valve or plug seat at the upper end of the down-limb of the trap; side bars extending from such annulus along unapertured walls of said down-limb, such walls being grooved or recessed, and the side bars being lodged in such grooves or recesses, and thereby accommodated out of the watercourse through the down-limb; a terminal at the lower end of the side bars which said side bars connect with the annulus, the fitting having an aperture at the lower end of the down-limb through which such terminal protrudes, and exterior means for binding the valve-seat to the fitting.

4. In a water-fixture, in combination with a fitting having the outlet-passages including trap-passages; an annulus constituting a valve or plug seat at the upper end of the down-limb of the trap; side bars extending from such annulus along unapertured side walls of said down-limb, such walls being grooved or recessed, and the side bars being accommodated in such grooves or recesses out of the watercourse through said down-limb;



an annular terminal at the lower end of the side bars, the fitting having at the lower end of said down-limb an aperture through which said annular terminal protrudes, and a cap-  
5 nut for closing the aperture and clamping the valve-seat to the fitting, such cap-nut having an aperture, and a plug for closing such aperture; whereby the trap may be opened  
10 at the bottom without releasing the valve-seat from the position at which it is clamped by the cap-nut.

5. In combination with a water-fixture, a fitting having the outlet-passages from the fixture comprising a trap, the down-limb of the  
15 trap being in line with the waste-outlet of the fixture, and the fitting having at the upper end of said down-limb suitable terminal for seating about the exterior margin of such waste-outlet; a binder for securing the fitting  
20 to the fixture at such outlet, comprising an annulus which constitutes a plug or valve

seat having a flange which seats on the inner margin of the waste-outlet; side bars extending from such annulus along inner unapertured walls of the down-limb of the trap, said  
25 walls being grooved or recessed, and such side bars being accommodated in such grooves or recesses out of the watercourse through said down-limb; a terminal which said side bars connect with the upper annulus, the fitting  
30 having an aperture at the lower end of the trap through which such terminal protrudes, and a nut on said protruding terminal for clamping the parts together by means of the binder.  
35

In witness whereof I have hereunto set my hand, at Chicago, Illinois, this 9th day of October, A. D. 1902.

JAMES J. WADE.

In presence of—

CHAS. S. BURTON,

FREDK. G. FISCHER.