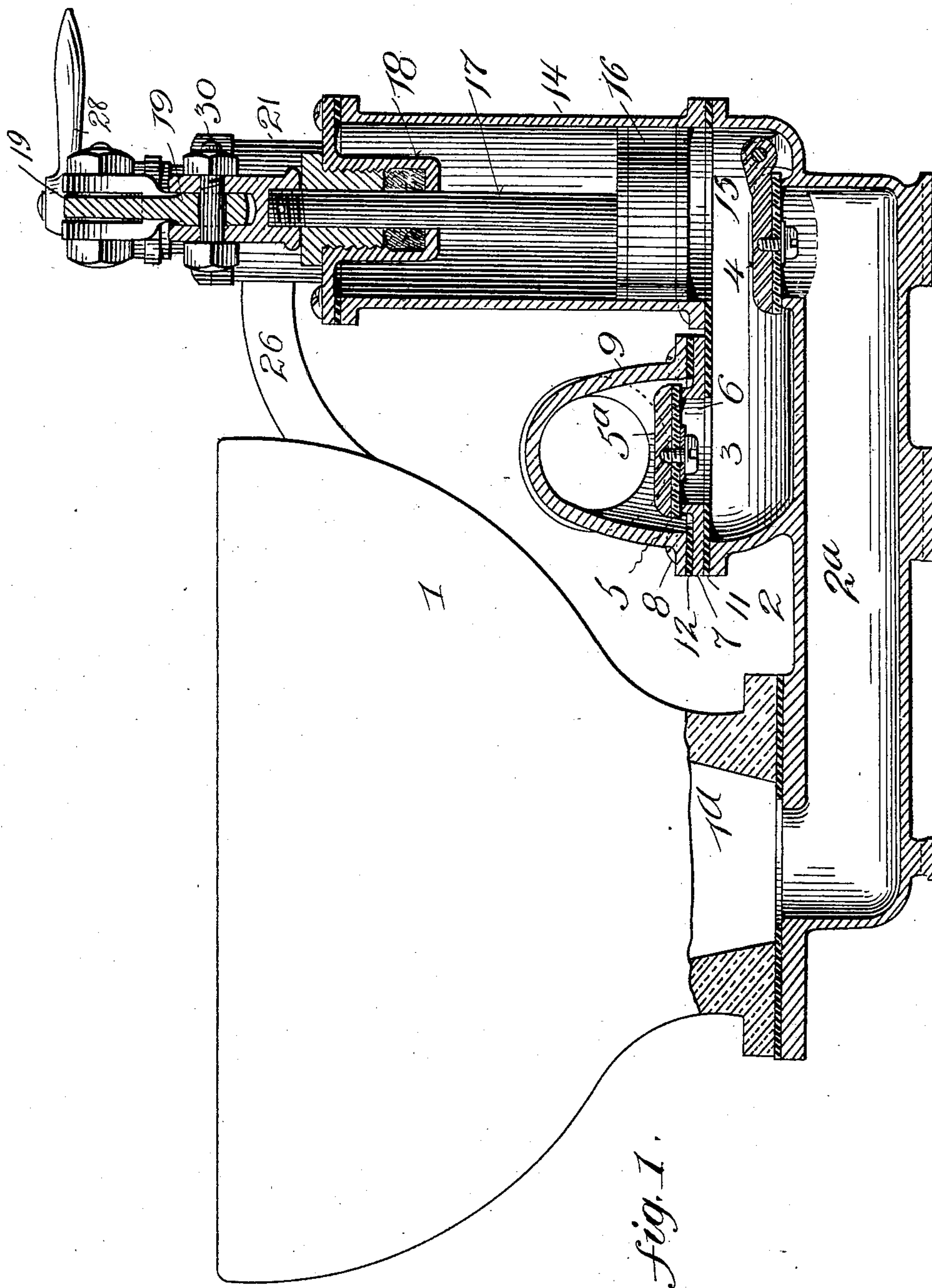


No. 863,843.

PATENTED AUG. 20, 1907.

W. H. GOBLET.
YACHT PUMP CLOSET.
APPLICATION FILED NOV. 28, 1906.

2 SHEETS—SHEET 1.



Witnesses
C. W. Benjamin
L. Burton.

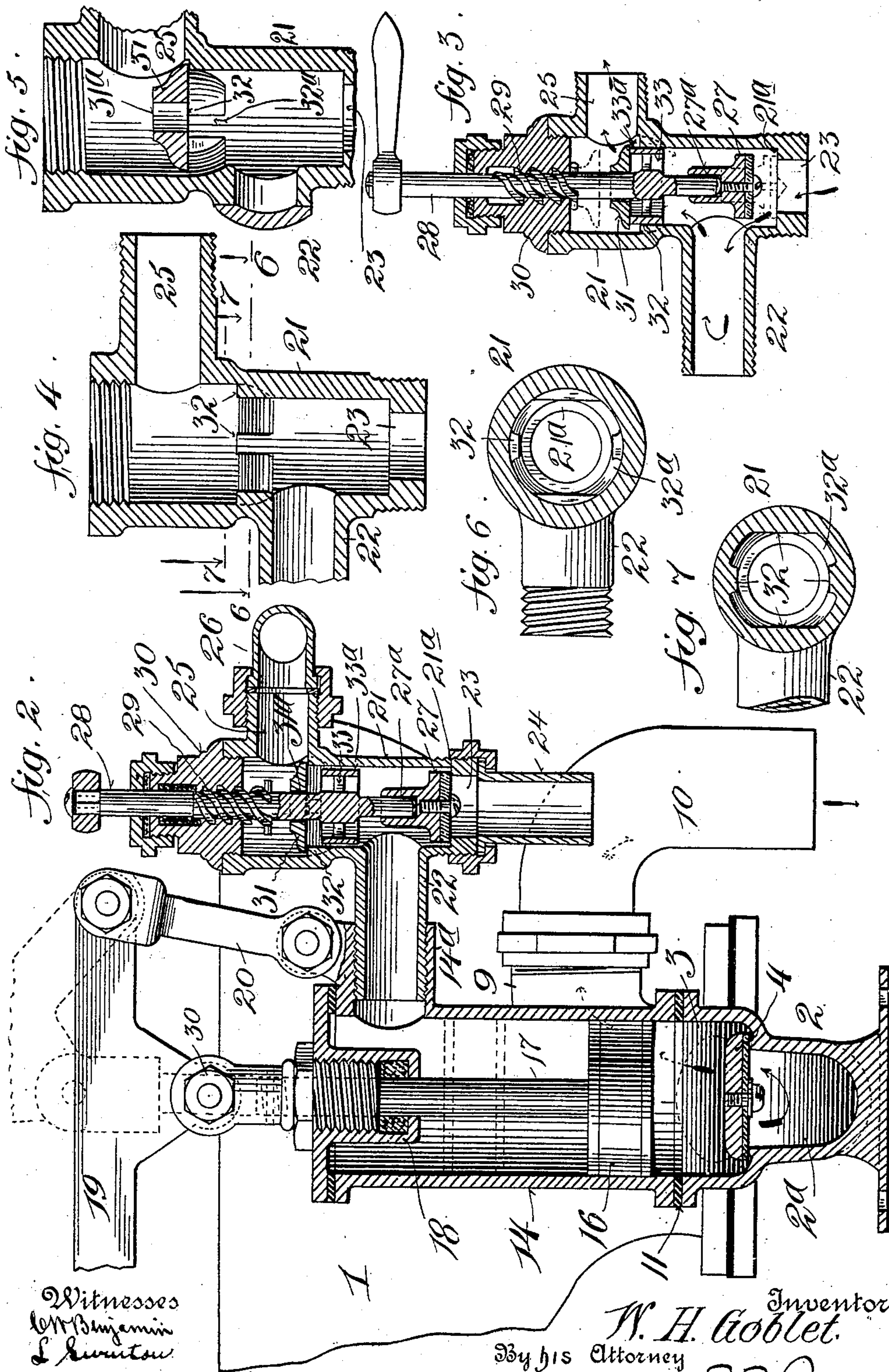
W. H. Goblet ^{Inventor}
By His Attorney *T. F. Bourne*

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

WILLIAM H. GOBLET, OF NEW YORK, N. Y., ASSIGNOR TO GOBLET-DOLAN COMPANY, A CORPORATION OF NEW YORK.

YACHT PUMP-CLOSET.

No. 863,843.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed November 28, 1906. Serial No. 345,484.

To all whom it may concern:

Be it known that I, WILLIAM H. GOBLET, a citizen of the United States, and a resident of New York city, borough of Richmond, New York, have invented certain new and useful Improvements in Yacht Pump-Closets, of which the following is a specification.

My invention relates to improvements in pumps especially adapted for exhausting the contents of closets or bowls and for flushing or cleansing the same, and has particular reference to such closets used on yachts and other boats, and one of the objects of my invention is to provide a valve adapted to admit air to the pump chamber to relieve or break the vacuum therein during pumping or exhausting the closet, and also to permit water to be pumped through said valve into the closet for cleansing the latter.

A further object of my invention is to provide an improved arrangement of pump chambers and valves for exhausting the contents of the closets, to the end that the same may be simplified in construction and reduced in cost over the present form of such pumps as known to me.

The invention also comprises the novel arrangements and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein

Figure 1 is a central sectional view of a pump embodying my improvements, shown connected with a closet or bowl, Fig. 2 is a central section through the pump and its valve, looking from the right in Fig. 1, showing the air and water valve closed to permit the passage of air only to the pump piston chamber. Fig. 3 is a similar section of said valve showing the same opened to permit the passage of water, Fig. 4 is an enlarged sectional view of the valve casing, Fig. 5 is a view similar to Fig. 4, taken at a different angle, also showing the air valve in place, Fig. 6 is a section on the line 6, 6, of Fig. 4, and Fig. 7 is a section on the line 7, 7, in Fig. 4.

Similar numerals of reference indicate corresponding parts in the several views.

The numeral 1 indicates a closet or bowl of any suitable construction, to the outlet 1^a of which is attached a casting 2 having a chamber 3 above the passage 2^a, and at 4 is a suitable valve controlling the flow from passage 2^a to chamber 3 and preventing the return flow from said chamber. The chamber 3 extends inwardly over and along casting 2 from the valve 4, and the lower and side walls of said chamber are shown as made or cast integral with the casting 2. Chamber 3 at its inner end, or on its side adjacent the closet or bowl 1, is shown provided with a valve seat 5 for a valve 5^a at the outlet 6, which seat may be formed on and said outlet in a plate 7 detachably held upon chamber 3, as by screws

8. Over the valve 5^a and outlet 6, resting upon the plate 7, is a suitable housing 9 connected with a suitable outlet pipe 10, which may lead through the boat to the water below. At 11, 12 are shown gaskets for making water-tight joints, and the screws 8 may pass through the flanges of housing 9 for holding the housing, the gaskets and plate 7 upon chamber 3. At 14 is a pump chamber of suitable construction shown mounted upon the material of chamber 3, resting on gasket 11, and communicating with an opening 15 leading to chamber 3. The piston 16 of the pump may be operated in any suitable manner, and is arranged to draw and propel water on its opposite sides within the pump chamber. The piston rod 17 is shown passing through a suitable stuffing box 18 and operated by a lever 19 shown pivotally connected with a link 20 supported by the pump.

With the arrangement above described, when the piston is raised it will draw the contents from the closet or bowl through passage 2^a, past valve 4, into chamber 3 and the pump and on the return stroke said contents will be forced from said chamber and the pump through housing 9, and outlet 10.

At 21 is a valve casing embodying my improvements, that is shown connected by a branch or passage 22 with the upper part of pump chamber 14, as to the hub 14^a, above piston 16. Casing 21 has a water inlet 23 which may be connected through the boat with the water beneath, as by pipe 24, and said casing also has a branch or passage 25 above the branch 22 to be connected by a pipe 26 with the upper part of closet or bowl 1, as to its rim, in any well known manner. At 27 is a valve within casing 21 beneath branch or inlet 22, adapted to close upon the seat 21^a, and at 28 is a stem passing through casing 21 and adapted to control valve 27. Said valve is shown provided with a recess 27^a receiving the lower end of stem 28, whereby said valve may be held tight against its seat 21^a, as in Fig. 2, or relieved therefrom when stem 28 is raised to permit the free passage of water into the casing and prevent the return flow thereof, as in Fig. 3. Said stem may be operated by screw threads 29 working in a threaded aperture in cap 30, secured upon casing 21 as by screw threads. At 31 is a valve shown provided with an aperture 31^a receiving stem 28, whereby said valve is loosely mounted for independent movement along said stem, and said valve normally rests upon a seat 32 within casing 21 between the branches 22 and 25 to permit the passage of air from pipe 26 into the pump chamber above the piston through casing 21 and branch 22, and also permits the flow of water from casing 21 through pipe 26. For this purpose said seat is shown cut away at one or more places, as at 32^a, to permit the flow of water around said valve, said valve also serving to check return flow of water. The valve stem 28 also carries

a spider or spider-like guide 33 beneath valve 31, the ringlike part or seat 33^a of said spider for valve 31 being guided within the adjacent tubular portion of casing 21. Said spider is so located with respect to valve 31 that when stem 28 is moved down to close valve 27 upon its seat (as in Fig. 2) valve 31 will be free to rest upon its seat 32^a, and when stem 28 is raised to release valve 27, spider 33 raises valve 31 from its seat (as in Fig. 3), and by then resting upon ring 33^a valve 31 stops back flow from pipe 26, causing suction of water through inlet 23 when the piston descends.

The operation of my improvements is as follows: When the contents of closet or bowl 1 is to be exhausted stem 28 is turned to close valve 27 upon its seat, and then when piston 16 is reciprocated it will draw the water etc., from closet 1 and force it through chamber 3 and outlet 10, and at the same time air can flow back and forth through pipe 26 past valve 31 within casing 21 and thence through branch 22 into and from pump chamber 14 above its piston, and thus relieves or breaks any vacuum that would be formed over said piston, and thereby the operation of the pump is rendered relatively easy as distinguished from this class of pumps known to me wherein a vacuum or partial vacuum is formed at the back of the piston when the contents of the bowl is being exhausted, my pump operating without back pressure or air resistance to the piston. When the closet is to be cleansed, the stem 28 is raised and relieves valve 27, and the spider engages valve 31, and thereupon as piston 16 is reciprocated water will be drawn through inlet 24 into casing 21, past valve 27, on the down stroke of the piston, and on the up stroke of the piston valve 27 will close and valve 31 will rise permitting the outflow of water through spider 33 past valve 31 and through pipe 26 to the closet or bowl. During such operation the opposite or lower side of the piston will be relieved from vacuum through valve 4, or will draw the cleansing water in the closet or bowl through said valve, and exhaust it on the return stroke through valve 5^a.

Thus, it will be understood that by means of my improvements, the casing 21 and pipe 26 serve the double function of supplying air to the upper side of the piston 16 when the contents of the bowl are being exhausted and as a passage for cleansing water after the bowl has been emptied by the simple adjustment of valve stem 26 down or up as required.

Changes may be made in the details of construction and arrangements set forth without departing from the spirit of my invention.

Having now described my invention what I claim is:—

1. The combination of a pump having a piston, with a casing connected with the pump on one side of the piston, a water inlet for the casing having a valve, said casing having an air-inlet, and a valve and its seat arranged to permit the flow of air back and forth through said air inlet, and means to permit the outflow of water therefrom.

2. The combination of a pump having a piston, with a casing connected with the pump on one side of the piston, a water inlet for the casing having a valve, said casing having a passage for air and water above said inlet, and a valve and its seat within the casing arranged to permit the in-flow of air from said passage to the casing and pump during one stroke of the piston and means to permit the

outflow of water through said passage on the return stroke of the piston.

3. The combination of a pump having a piston, a casing connected with the pump on one side of the piston, a water inlet for the casing having a valve, said casing having a passage for air and water above the connection with the pump, a valve arranged to permit the inflow of air from said passage to the casing and pump and the outflow of water through said passage, and a stem to control the first named valve.

4. The combination of a pump having a piston, a casing connected with the pump on one side of the piston, a water inlet for the casing having a valve, said casing having a passage for air and water above the connection with the pump, a valve arranged to permit the inflow of air from said passage to the casing and pump, and a stem to control the first named valve, the second named valve being mounted to slide freely upon said stem.

5. The combination of a pump having a piston, a casing connected with the pump on one side of the piston, a water inlet for the casing having a valve, said casing having a passage for air and water above the connection with the pump, a valve arranged to permit the inflow of air from said passage to the casing and pump, a stem to control the first named valve, the second named valve being mounted to slide freely upon said stem, and a spider carried by said stem between said valves and provided with a seat for the second named valve when raised by said stem.

6. The combination of a pump having a piston, with a casing having a branch connected with the pump on one side of the piston, a water inlet for the casing having a valve below said branch, said casing having a passage for air and water above said branch, means to control the first named valve, and a valve above said branch arranged to permit the flow of air back and forth through said passage and also permit the flow of water from said casing through said passage.

7. The combination of a pump having a piston, with a casing having a branch connected with the pump on one side of the piston, a water inlet for the casing having a valve below said branch, said casing having a passage for air and water above said branch, means to control the first named valve, a valve above said branch arranged to permit the flow of air back and forth through said passage and also permit the flow of water from said casing through said passage, a stem to control the first named valve, the second named valve being mounted freely upon said stem, and a spider carried by the stem, and provided with a seat adapted to lift the second named valve when the first named valve is released from its seat.

8. The combination of a pump having a piston, a casting having a chamber connected with a passage in the casting, a valve to control said passage, said pump on one side of its piston being connected with said chamber, said chamber having an outlet and a valve to control said outlet, with a casing connected with said pump on the opposite side of its piston, said casing having a water inlet, a valve to control said inlet, said casing also having a passage for air and water above said inlet, and a valve arranged to permit flow of air through said passage to and from the casing and pump, a movable hollow seat for said valve, and means to raise and lower said seat.

9. The combination of a pump having a piston, a casting having a chamber connected with a passage in the casting, a valve to control said passage, said pump on one side of its piston being connected with said chamber, said chamber having an outlet and a valve to control said outlet, with a casing connected with said pump on the opposite side of its piston, said casing having a water inlet, a valve to control said inlet, said casing also having a passage for air and water above said inlet, a valve arranged to permit flow of air through said passage to and from the casing and pump, a hollow seat for said valve, and means to control the first named valve of said casing and said hollow seat.

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Witnesses:

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