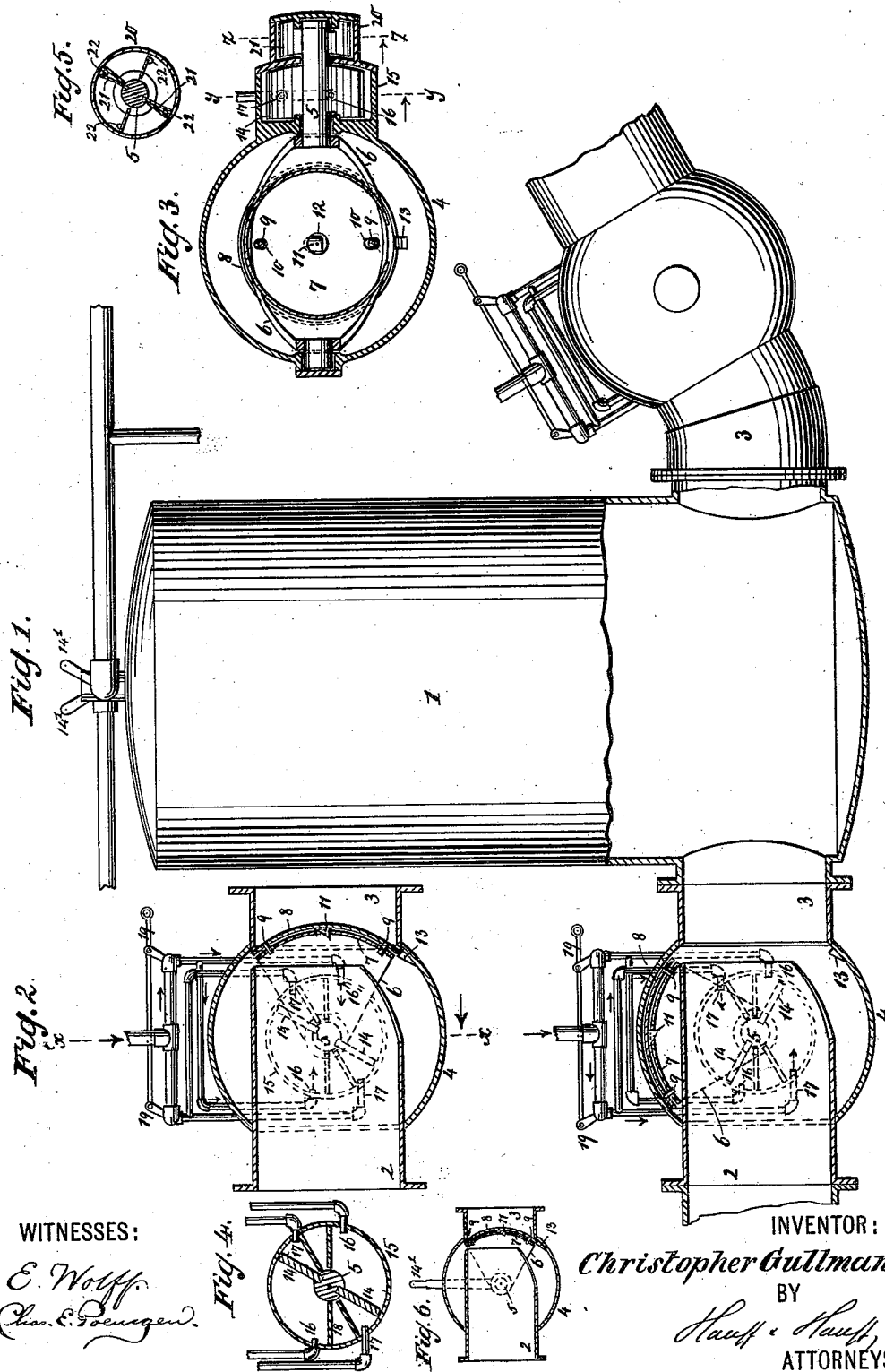


(No Model.)

C. GULLMANN.
VALVE.

No. 556,312.

Patented Mar. 10, 1896.



UNITED STATES PATENT OFFICE.

CHRISTOPHER GULLMANN, OF NEW YORK, N. Y.

VALVE.

SPECIFICATION forming part of Letters Patent No. 556,312, dated March 10, 1896.

Application filed June 27, 1895. Serial No. 554,233. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER GULLMANN, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Valves, of which the following is a specification.

This invention relates to a valve or faucet which during the opening movement is loosened or lifted from its seat and during the closing movement is pressed to the seat so as to effect firm closure; and the invention resides in the novel features of construction set forth in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation of the valve open and showing a manner of use. Fig. 2 is a sectional elevation of the valve closed. Fig. 3 is a section along line *xx*, Fig. 2. Fig. 4 is a view of a pressure-chamber sectioned along line *yy*, Fig. 3. Fig. 5 is a section along line *zz*, Fig. 3. Fig. 6 shows a modification.

In the drawings the valve is shown applied to use in connection with a pump-chamber 1, also known as a "pulsator" and familiar in such works as dredging; but of course the use of the valve need not be limited to such apparatus. The inlet 2 causes matter to be discharged into chamber 1 when a vacuum has been formed in the latter, and the outlet 3 takes off the matter discharged by pressure in the chamber 1, as known.

The inlet 2 is shown with a valve-chamber 4 having a valve-actuating shaft 5 from which extend arms 6 carrying the valve-lid part or section 7, to which is connected the lid part or section 8 by pin-and-slot connection 9 and 10 to allow the two lid parts 8 and 9 certain play or motion with respect to one another.

The lid part 8 has a nose or incline 11 extending into a hole or recess 12 in lid part 7. The closing movement of shaft 5 carrying the valve-lid 7 and 8 toward the stop 13 and the lid portion 8 being arrested by said stop while the lid portion 7 continues somewhat farther in the closing movement, the action or pressure of lid portion 7 riding along the wedge or incline 11 will press the lid portion 8 firmly to the seat to effect tight closure. A return or opening movement of shaft 5 and lid por-

tion 7 will take the said lid portion 7 out of contact with the higher or locking portion of wedge 11, so as to allow the lid portion 8 while opening to recede or move away from the valve-seat, so that the valve opens easily and is loosened in opening, and clogging is avoided.

The shaft 5 is actuated by the wings or blades 14 in pressure-chamber 15, having ports 16 and 17. When pressure enters through ports 16 and exhausts through ports 17 the blades 14 are moved to give a closing swing or turn to shaft 5, while an exhaust through ports 16 and pressure through ports 17 will cause the valve to be opened. The pressure-chamber 15 is suitably divided into compartments by partitions 18. The pressure entry and exhaust through ports 16 and 17, as known, is effected by suitable valves 19 worked by hand or by suitable well-known mechanism.

To prevent slamming of the blades 14 a dash-chamber 20 is provided. The portion of shaft 5 which projects into the dash-chamber is provided with blades 21, Fig. 5, and as the shaft rocks the blades 21 are arrested by striking soft pads or springs 22 suitably secured in the dash-chamber. Other forms of dash-chamber or dash-pot might answer, as by filling chamber 20 with fluid, but the construction shown is simple.

The outlet 3 may have a like valve as inlet 2, but a simple lid-valve or other valve may be made to answer for outlet 3.

In place of operating shaft 5 by pressure-wings 14, any other actuator—as, for example, a handle or lever 14'—may be taken as an equivalent for actuating said shaft.

The vacuum and pressure in pump-chamber 1 can be produced, as well known, by allowing steam to enter the chamber and then condensing the steam by a suitable dash or jet of water, thus causing a vacuum, while pressure in chamber 1 is readily created by allowing water or steam pressure to enter the chamber 1 as required. For controlling the water and steam inlets into chamber 1, valves as just described, actuated by a handle, as 14', are convenient.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a valve-chamber provided with an inlet, an outlet, and a valve-

lid, of a rotary shaft connected with the said
valve-lid, a pressure-chamber having sets of
inlet and outlet ports for the entrance and
exit of fluid, oscillatory wings arranged in
5 said pressure-chamber, secured to said shaft
and operated by the fluid introduced into the
pressure-chamber for oscillating the shaft to
open and close the valve-lid, a dash-chamber
located in juxtaposition to the pressure-
10 chamber and into which the rotary shaft ex-
tends, and dash-wings arranged in the dash-
chamber and secured to said shaft, substan-
tially as described.

2. A valve-chamber provided with a valve-

lid and an actuating-shaft for the lid, com- 15
bined with a pressure-chamber, actuating-
wings in said pressure-chamber secured to
said shaft, a dash-chamber, and dash-wings
in the dash-chamber secured to the shaft sub-
stantially as described. 20

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

CHRISTOPHER GULLMANN.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.