

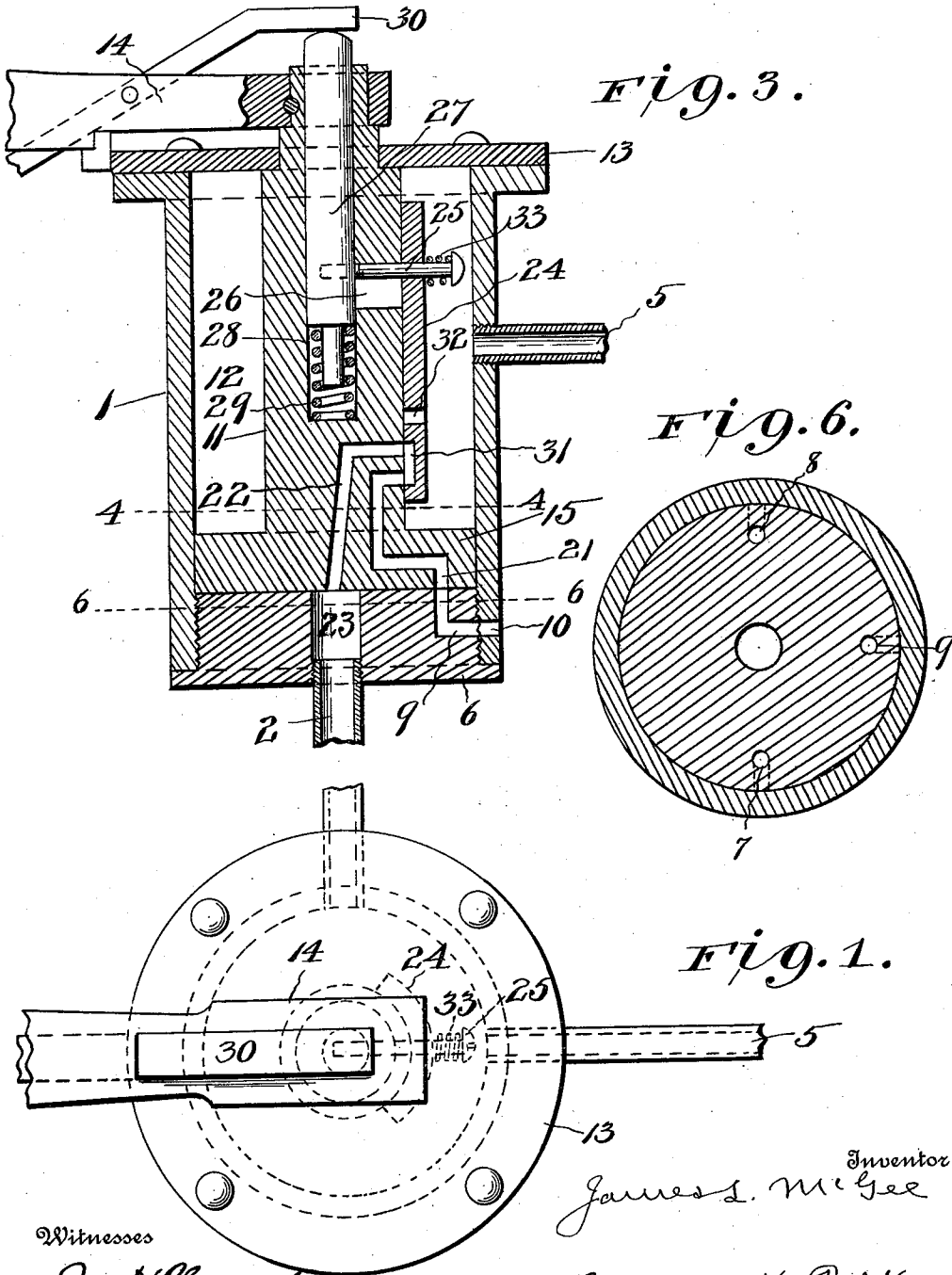
J. L. McGEE.
VALVE.

APPLICATION FILED JULY 21, 1910, RENEWED APR. 20, 1912.

1,028,947.

Patented June 11, 1912.

2 SHEETS—SHEET 1.



Witnesses

James H. Blackwood
W. B. Blackwood

Inventor
James L. McGee
By *James K. Polk*
Attorney

J. L. McGEE.
VALVE.

APPLICATION FILED JULY 21, 1910. RENEWED APR. 20, 1912.

1,028,947.

Patented June 11, 1912.

2 SHEETS-SHEET 2.

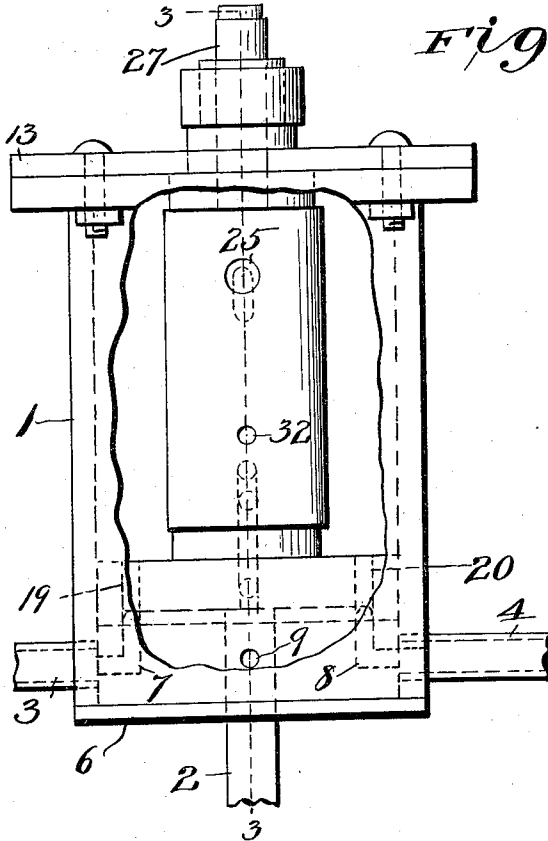


Fig. 2.

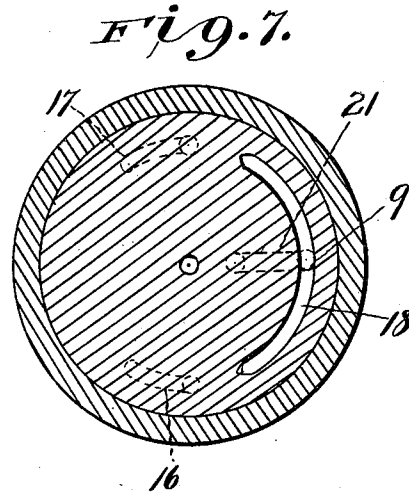


Fig. 7.

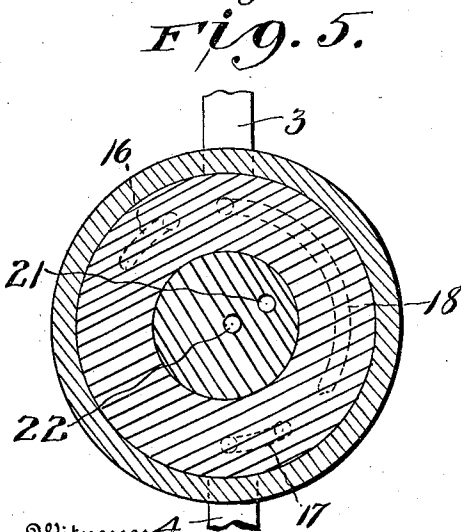


Fig. 5.

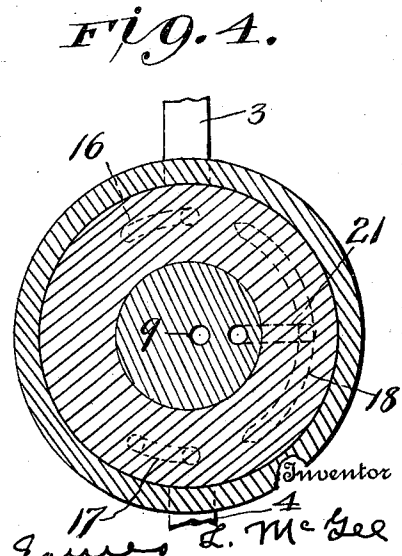


Fig. 4.

Witnesses
Jas. H. Blackwood
W. Blackwood

Inventor
James L. McGee
By James H. Poek
Attorney

UNITED STATES PATENT OFFICE.

JAMES L. McGEE, OF LA JUNTA, COLORADO.

VALVE.

1,028,947.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed July 21, 1910, Serial No. 573,070. Renewed April 20, 1912. Serial No. 692,212.

To all whom it may concern:

Be it known that I, JAMES L. McGEE, a citizen of the United States, and a resident of La Junta, in the county of Otero and State of Colorado, have invented certain new and useful Improvements in Valves, of which the following is a specification.

My invention relates to valves, and it has for its object the provision of a valve that is simple in construction and operation, and that is very reasonable in the cost of manufacture.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of the valve; Fig. 2, a front view of the valve, partly broken away; Fig. 3, a central longitudinal sectional view on the plane 3 3 of Fig. 2; Fig. 4, a cross-section of the valve on the plane 4 4 of Fig. 3, showing the valve in its normal position; Fig. 5, a similar view, showing the valve in position to admit pressure to pipe 4 and exhaust from pipe 3; Fig. 6, a section on the line 6 6 of Fig. 3, looking down at the plug in the lower end of the casing; and Fig. 7, a view on the same plane as Fig. 6, showing the bottom of the valve-piston.

In the drawings similar reference characters indicate corresponding parts throughout all of the views.

My improved valve consists of a casing 1, having a plug 6 secured in its lower end, into which is tapped a pipe 2, and other pipes 3 and 4 are tapped into the barrel of the casing on opposite sides thereof and in alinement with angular ducts 7 and 8 in said plug.

5 indicates a pipe connecting the casing with any desired source of pressure supply (not shown).

9 indicates another angular duct ninety degrees removed from ducts 7 and 8 and having its upper end extended to the top of the plug, while its other end is alined with opening 10 in the casing 1 and serves as an exhaust-port for the valve, as will more fully appear hereinafter.

11 indicates the valve-piston, having its major portion appreciably smaller in diameter than the inner portion of casing 1, and forming an air-chamber 12, in which air is kept at all times under pressure from the source of supply through pipe 5, which is tapped into the casing. The upper end of

the valve is revolubly mounted in the cap-plate 13 and has an operating-handle 14 secured thereto.

The lower end of the piston forms a circular plate 15, that fits the casing air-tight, and its under side forms a ground joint with the top surface of plug 6. The under side of plate 15 is provided with short segmental grooves or depressions 16 and 17 that are adapted to register with the upper ends of ducts 7 and 8, and a longer segmental groove or depression 18 that is constantly in position to drain into the exhaust-duct 9. 19 and 20 indicate vertical ducts connecting the top of plate 15 with grooves 16 and 17, and 21 a duct connecting groove 18 with the side of piston 11.

22 indicates a duct leading from the side of the piston 11 to the approximate center of plate 15, where it alines with the central orifice 23 in plug 6, the upper opening of duct 22 being vertically alined with the opening to duct 21.

24 indicates a segmental plate slidably mounted on the reduced portion of the valve 11 and secured by means of a pin 25, extending through a slot 26 in the valve 11, with a plunger-rod 27, slidably mounted in a central bore 28 in the valve, said rod being held in a raised position normally by means of a coil-spring 29, and depressed by means of a lever 30 fulcrumed on handle 14.

31 indicates a vertical groove on the inner face of plate 24 that connects the orifices of ducts 21 and 22 when the plate 24 is in a raised position, so as to relieve the pressure in pipe 2. 32 indicates an opening in plate 24 that registers with duct 22 when the plate is in its lowermost position to admit air under pressure to the pipe 2.

33 indicates coil-spring engaging plate 24 and the head of pin 25 to hold the plate in engagement with the valve.

It will be understood from the above description and an inspection of the drawings that when the valve is in the position shown in Figs. 1, 2, and 3, pressure will be established in both pipes 3 and 4, while pipe 2 will be in communication with exhaust-port 10, through orifice 23, duct 22, groove 31, and ducts 21 and 9. When it is desired to establish pressure in duct 2, the lever 30 is moved so that the plunger-rod 27 is depressed to move the plate 24 downwardly until opening 32 therein is in alinement with duct 22.

By turning the handle 14 to right or left, as desired, pressure will be released from one or the other pipes 3 or 4 and the end of groove 18 being brought into alinement 5 with the duct 7 or 8, connected with the pipe that is relieved from pressure in the pipe, will exhaust through said groove 18 and duct 9 to the exhaust-port 10.

It will be apparent that the grooves 16 10 and 17 provide for maintaining pressure in either one or the other pipes 3 and 4 while exhausting from the other pipe and also for maintaining pressure in both pipes, if desired.

15 Having thus described my invention, what I claim is—

A valve comprising a casing, a plug in one end of the casing, said plug having a central orifice, a pipe tapped into said orifice, 20 other pipes tapped into the sides of the casing on opposite sides of the plug, the plug provided with ducts 7 and 8, communicating with the last-mentioned pipes, and an exhaust-duct 9 between the ducts 7 and 25 8, a valve-piston revolubly mounted in the casing and having one end fitting the casing and plug air-tight, the end of said piston

provided with grooves 16 and 17, adapted to register with ducts 7 and 8, and a groove 18 constantly in communication with ex- 30 haust-duct 9, the head of the piston also provided with ducts 19 and 20, communicating with said grooves 16 and 17, a duct 21 leading from groove 18 to the side of the piston, another duct 22 connecting the sides 35 of the piston with the approximate center of the end of the piston and in alinement with the central orifice in the plug, a segmental plate slidably mounted on the side of the piston, said plate provided with a 40 groove adapted to connect the ends of ducts 21 and 22 and a transverse opening adapted to register with the duct 22, a supply-pipe tapped into the casing, and means to operate said valve-piston and segmental plate, sub- 45 stantially as shown and described.

In witness whereof, I have hereunto set my hand in presence of two subscribing witnesses.

JAMES L. McGEE.

Witnesses:

HENRY W. ALLEN,
FRANK R. DEFENBAUGH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."