D. C. JESTER.

VALVE.

APPLICATION FILED NOV. 7, 1916.

1,406,869.

Patented Feb. 14, 1922.

Fig. 1.

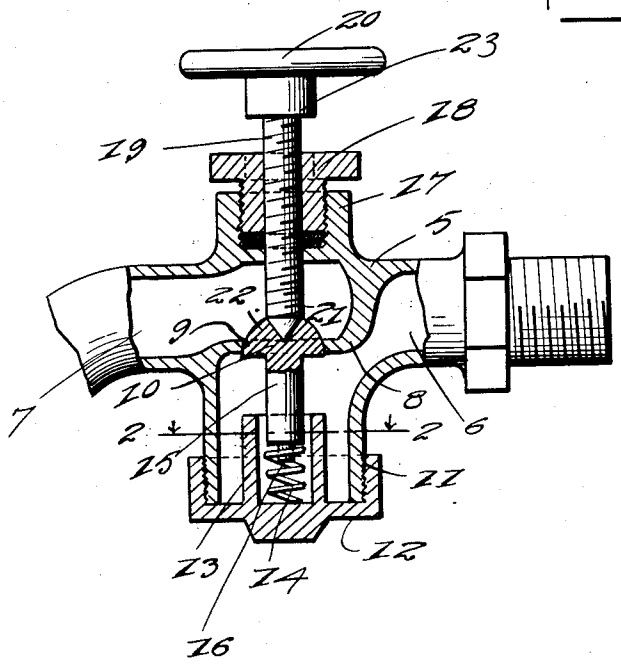
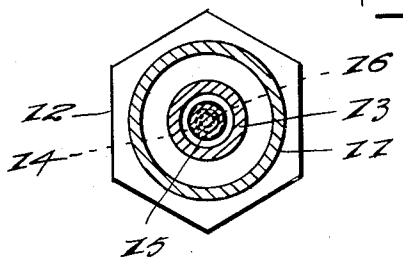


Fig. 2.



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UNITED STATES PATENT OFFICE.

DANIEL C. JESTER, OF COLEMAN, GEORGIA.

VALVE.

1,406,869. Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed November 7, 1916. Serial No. 129,992.

To all whom it may concern:

Be it known that I, DANIEL C. JESTER, a citizen of the United States, residing at Coleman, in the county of Randolph and State of Georgia, have invented certain new and useful Improvements in Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object to provide an improved valve structure in which the valve is normally retained closed by spring means and the pressure of fluid admitted to the valve casing, and may be opened by an adjusting screw fitted in the casing and rotatable independently of the valve.

Another object is the provision of a valve structure embodying a novel type of valve and support therefor, whereby the valve will quickly and accurately seat itself.

With these and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as will be hereinafter specifically described, claimed and illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation, partly in section,

Figure 2 is a transverse sectional view on the line 2—2 of Figure 1.

Referring to the drawing in detail, wherein similar reference numerals designate corresponding parts throughout the several views, the numeral 5 indicates the valve housing or casing having the usual inlet and outlet ports or passages 6 and 7, respectively. A partition 8 is formed in the hollow casing 5 and is provided with a port 9 in the horizontally disposed portion thereof adapted to receive the valve 10.

The medial portion of the casing 5 is formed with a hollow depending extension 11 over which is threaded a removable cap 12, provided with an integral annular guide flange 13 receiving the coil spring 14. The valve 10 is of hemispherical formation and the edge of the port 9 in the partition or seat 8 is ground so as to snugly fit the external contour of the valve 10. A stem 15 is formed integral with the valve, extends downwardly into the guide flange 13 in which it is loosely received and is provided with a reduced lower terminal 16, receiving the upper terminal of the spring 14, which latter is confined between the cap 12 and the valve stem 15, and normally tends to move the valve 10 into the seat 9 to close communication between the inlet and outlet passages 6 and 7, respectively.

The top portion of the casing 5 is formed with an internally screw threaded flange 17, in which is fitted a nut 18, having an internally screw threaded aperture formed axially therethrough receiving the screw 19, which latter is provided at its upper terminal with a hand wheel 20 and is tapered at its lower end, as indicated at 21, to engage in the recess 22 formed in the center of the convex surface of the valve 10, whereby the latter is moved downwardly out of the port 9. It should be noted that by having the recess 22 conical and the inner end of the adjusting screw tapered to conform to the conical recess this structure will serve to retain the valve in proper alinement with the adjusting screw and therefore serve as means for guiding the valve into proper position for seating upon the valve seat. Therefore, there will be less danger of the valve head being scarred and thus caused to leak. The screw 19 is formed with an integral collar, forming a stop flange 23, adapted to engage the nut 18 and limit the downward movement of the screw and valve 10. In use, the valve 10 is normally retained in closed position by the pressure of the fluid entering the valve casing through the inlet passage 6, the pressure of the fluid being assisted by the tension of the spring 14, which presses the stem 15 and valve 10 upwardly. To open the valve, the screw 19 is rotated in a direction to advance it into the casing 5, thereby engaging and unseating the valve. Owing to the loose mounting of the stem 15 in the guide flange 13 it is evident that the valve may move in such manner as to compensate for wear of the parts.

What I claim is:

A valve having a casing with a control port therein and a valve chamber below the same, a closure for said chamber, said closure having an inwardly extending tube, a valve for the port having a head provided with a spherical surface and a stem extending from the head into the tube, said valve having its seat at said port and the wall of the seat being shaped to correspond to the

spherical wall of the head so that the valve will be self centering, said tube being enlarged relatively to the stem to permit substantially universal movement of the valve, and a depressible operating means for and independent of said valve to avoid undue interference with the seating of the valve.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL C. JESTER.

Witnesses:
WM. H. JOINER,
T. F. HARPER.