

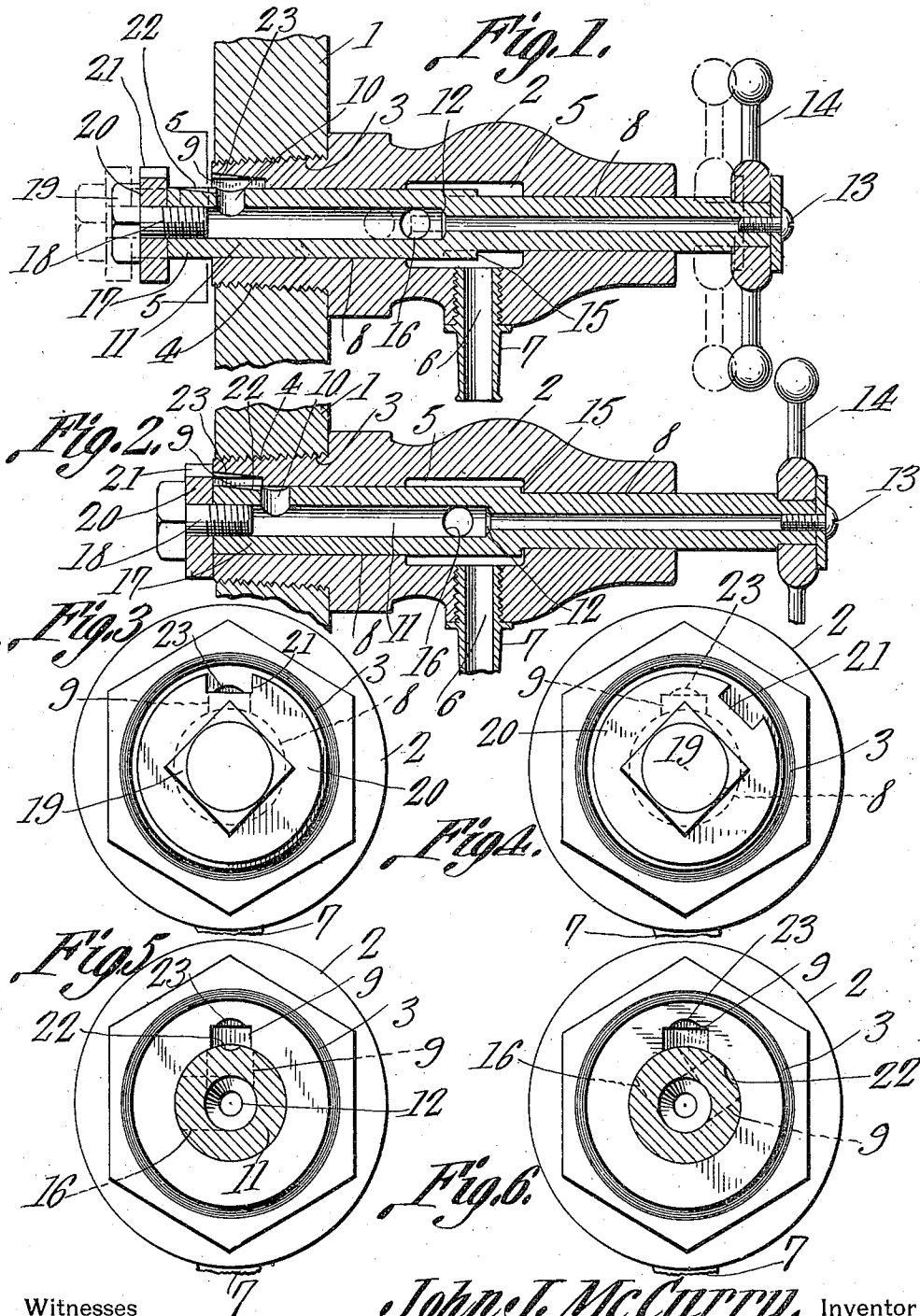
J. J. McCURRY.

VALVE.

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987,898.

Patented Mar. 28, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN J. McCURRY, OF GREENSBORO, NORTH CAROLINA.

VALVE.

987,898.

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To all whom it may concern:

Be it known that I, JOHN J. McCURRY, a citizen of the United States, residing at Greensboro, in the county of Guilford and State of North Carolina, have invented a new and useful Valve, of which the following is a specification.

It is the object of this invention to provide a cock, operating in a novel manner to throttle, or to cut off entirely, the passage of the fluid therethrough.

In the drawings,—Figure 1 is a longitudinal section showing the device mounted in place in a boiler, the valve stem being advanced; Fig. 2 is a similar view showing the valve stem retracted; Figs. 3 and 4 are end elevations of the valve casing, showing the rotatable portion of the structure in different positions; and Figs. 5 and 6 are sections upon the line 5—5 of Fig. 1, showing the rotatable portion of the structure in different positions.

In the drawings, a fragment of a boiler is shown, and denoted by the numeral 1. A tubular valve casing 2 is provided with threads 3, adapted to engage threads 4 upon the boiler 1, to hold the valve casing in place.

The bore of the valve casing 2 is denoted by the numeral 8, a portion of the bore 8 being enlarged in diameter, to form a chamber 5. An outlet pipe 7 is mounted radially in the casing 2, the bore 6 of the outlet pipe communicating with the chamber 5.

Slidably and rotatably mounted in the bore 8 of the valve casing, is a tubular valve stem 11, the bore of which is denoted by the numeral 12. The bore 12 of the valve stem extends through the stem from end to end, thus facilitating the cleaning of the inlet end of the stem. In the side wall of the valve stem 11 there is an opening 16. By advancing and retracting the valve stem longitudinally in the casing 2, the opening 16 may be brought into alinement with the chamber 5, or be moved beyond the chamber 5. When the opening 16 is in communication with the chamber 5, as shown in solid line in Fig. 1, the steam which admitted to the inner end of the bore 12 of the stem, will pass into the chamber 5 and out of the pipe 7; but when the opening 16 is positioned beyond the chamber 5, as shown in dotted line in Fig. 1, steam cannot pass from the bore 12 of the stem into the chamber 5.

The valve stem 11 may be reciprocated longitudinally, and rotated, by means of a

handle 14, of any desired construction, the handle being secured to the outer end of the valve stem, by means of a screw plug 13 or the like.

Adjacent its inner end, the valve stem 11 is supplied with an opening 10, a rotation of the valve stem 11 serving to position this opening 10 in and out of alinement with a longitudinal recess 9 formed in the inner end of the bore 8 of the casing 2. The recess 9 communicates with a longitudinal depression 23, extended radially into the casing 2, beyond the contour of the recess 9. In the outer face of the valve stem 11 there is a longitudinal depression 22, communicating at its inner end with the opening 10.

Into the end 17 of the valve stem 11, a screw plug 18 is threaded, the plug being ordinarily fashioned from soft metal, and being held in place by shellac, lead or the like. The screw plug 18 terminates in a head 19, adapted to bind a valve disk 20 against the inner end of the valve stem 11. In the periphery of the valve disk 20 there is an opening 21. The valve disk 20 is of sufficient diameter so that when, as shown in Fig. 2, the disk is drawn into abutment with the inner end of the casing 2, the depression 23 will be closed. Intermediate its ends, the valve stem 11 is reduced in diameter, to define a shoulder 15 which, abutting against the casing 2 at one end of the chamber 5, serves to limit the sliding movement of the valve stem.

When the parts are positioned as shown in Fig. 1, steam from the boiler will pass freely through the recess 9, through the opening 10, through the bore 12 of the stem 11, through the opening 16, into the chamber 5 and out of the pipe 7. If the stem 11 be slid toward the boiler 1 until the handle 14 assumes the dotted line position shown in Fig. 1, the opening 16 will move out of alinement with the chamber 5, and assume the dotted position shown in said figure, the opening 16 being thus disposed in the bore 8, and the outflow of steam being entirely cut off.

When the parts are positioned as shown in Figs. 2 and 3, the stem 11 being retracted until the disk 20 bears against the inner end of the casing 2, the opening 21 in the periphery of the disk 20, and the depression 22 being alined with the longitudinal recess 9, steam will pass in a restricted jet through the depression 23, into the recess

9, through the depression 22 and the opening 10 into the bore 12 of the stem 11, through the opening 16 into the chamber 5, and thence out of the pipe 6.

5 Referring still to Fig. 2, if the stem 11 be rotated slightly until the opening 21 is out of alinement with the longitudinal depression 23, the disk 20 will close the depression 23 so that no fluid can pass through the device. If, when the cock is thus closed, 10 the stem 11 is slid slightly toward the boiler 1, so as to space the disk 20 from the boiler, the recess 9 will be uncovered, permitting steam to pass into the bore 12 by way of the depression 22 and the opening 10 and thence 15 out of the cock by way of the opening 16, the chamber 5 and the pipe 7. Obviously, when the parts are positioned as shown in Fig. 2, the fluid pressure within the boiler 20 will maintain the disk in abutment with the inner end of the valve casing 2.

Having thus described the invention what is claimed is:—

25 In a device of the class described, a tubular casing having a portion of its bore enlarged to form a chamber provided with an

outlet; a hollow stem slidable and rotatable in the bore and having an opening adapted to pass into and out of alinement with the chamber when the stem is slid; there being 30 a longitudinal recess in one end of the bore of the casing, and a longitudinal depression in the outer wall of the recess, the stem having an opening adapted to be moved into and out of alinement with the recess when 35 the stem is rotated, the stem having a longitudinal depression communicating with the opening; and a disk secured to the end of the stem and slidable with the stem into abutment with the casing to close the recess 40 and the depression in the casing, the disk having a peripheral opening adapted to be alined with the depression in the casing, upon a rotation of the stem.

In testimony that I claim the foregoing 45 as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN J. McCURRY.

Witnesses:

ED. V. WALFE,
H. G. LEWIS.

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