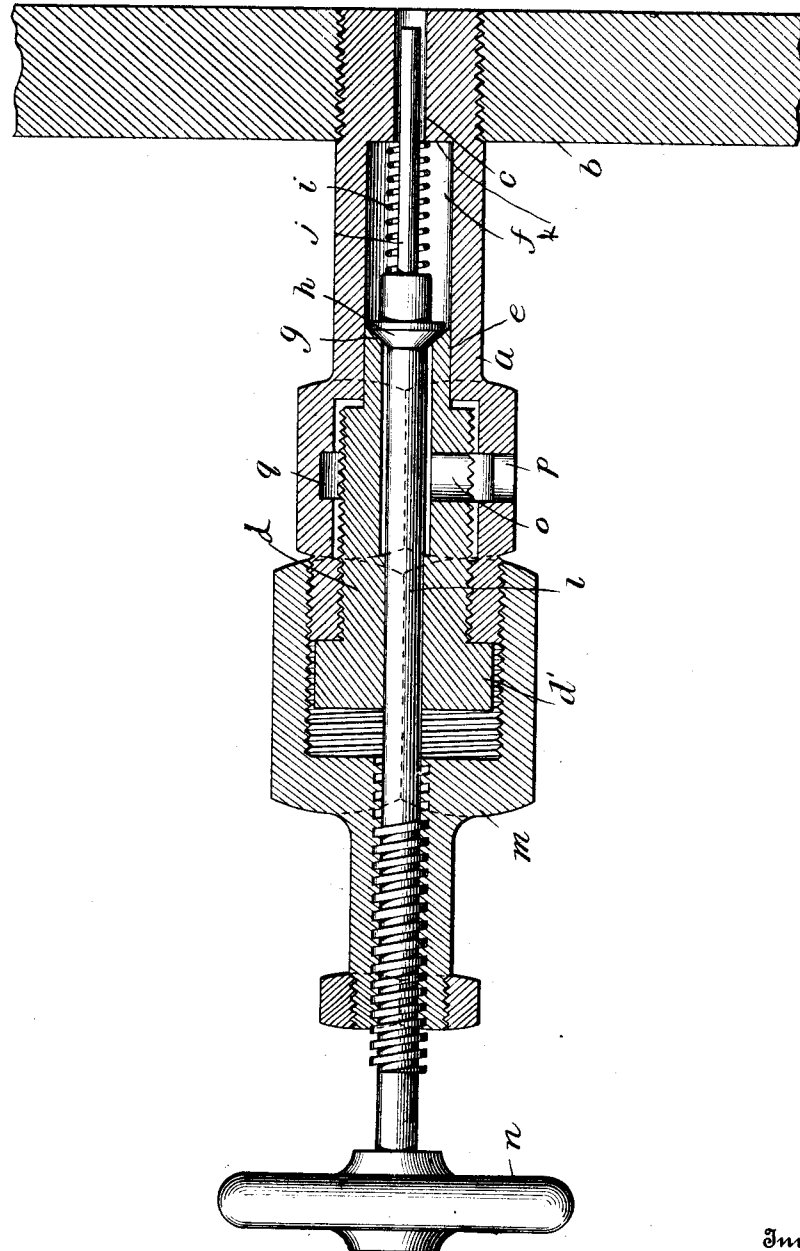


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Patented June 10, 1913.



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UNITED STATES PATENT OFFICE.

JOSEPH RICHARD WHEARY, OF EAST RADFORD, VIRGINIA.

GAGE-COCK.

1,064,409.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH R. WHEARY, a citizen of the United States, and a resident of East Radford, county of Montgomery, State of Virginia, have invented certain new and useful Improvements in Gage-Cocks, of which the following is a full and clear specification, reference being had to the accompanying drawings, in which is represented a longitudinal sectional view of the cock complete.

The object of this invention is to provide a gage cock which may be constructed at a minimum of expense and which will be durable as well as economical to maintain in first class condition; and this invention consists of certain novel features of construction hereinafter described and claimed.

In the drawing *a* designates the tubular casing or body of the cock which is adapted to be screwed or otherwise fastened to the boiler shell *b* in the usual manner, the inner end of the casing being provided with a hole *c* which communicates with the water and steam space of the vapor boiler. Screwed into the outer end of the casing *a* is a tubular plug *d* which at its inner end is formed into a reduced tubular extension *e* which closely fits into the narrowed tubular part *f* of the casing, the inner extremity of this extension *e* being beveled to form a valve seat *g*.

The reduced part of the casing constitutes the valve chamber *f* in that within it is inclosed the valve *h* which is adapted to be kept normally against the seat *g* by means of a coil spring *i*, said spring surrounding the stem *j* of the valve and being confined between the valve and an annular shoulder *k* formed at the inner end of the valve chamber. The stem *j* is long enough to extend a short distance into the passage *c* when the valve *h* is seated so that the act of opening the valve by pressing the valve inwardly toward the boiler causes the stem *j* to pass into and through the passage *c* and thus clear the same of accumulations of mud and scale, thus always preventing the passage *c* being clogged or plugged with deposits.

The valve is held normally to its seat by the spring *i* and the pressure from the boiler, and it is unseated by means of a rod *l* which extends through the tubular plug *d* and is mounted adjustably in a cap or bonnet *m* screwed over the outer end of the valve casing *a*, this rod being centrally threaded

through the center of the cap and provided with a hand wheel *n*. When the valve is opened by means of this rod the steam or water enters the interior of the plug *d* and thence escapes through a lateral opening *o* formed therein and thence out through an opening *e* in the valve casing. To properly position the seat *g* this tubular plug *d* is, as stated made longitudinally adjustable by being threaded into the outer end of the casing, and in order that the lateral escape opening *o* in the plug shall not at any time be obstructed by this longitudinal adjustment of the plug, I provide an annular chamber *q* in the casing *a* at a point coincident with the escape or discharge opening *p* in the casing, whereby the plug *d* will have a sufficiently wide range of adjustment without at any time closing the communication of the radial opening *o* with the discharge passage *p*.

One serious difficulty with the gage cocks now in use is that the engineer or fireman in closing the cock frequently forces the valve to its seat so hard that the valve and the seat are cut; with my device this is entirely overcome by reason of the fact that I rely upon the pressure from the boiler to automatically close the valve when the operator adjusts back the opening rod *l*.

It will be observed that the outer end of the plug *d* extends beyond the outer end of the casing *a* and is enlarged laterally and formed into a nut *d'* by which this screw may be readily adjusted; and it will be understood also that the valve casing and the cap or bonnet may be formed angular in transverse section for convenience in assembling the parts and attaching the device to the boiler.

Having this described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. In a gage cock, the combination of a casing adapted to be attached to a boiler and provided with an inlet passage at its inner end and a lateral discharge opening near its outer end, the interior of the casing being enlarged to form an annular chamber coincidental with said lateral discharge passage and the inner portion of the valve casing being contracted to provide the tubular valve chamber *f*, an adjustable plug screwed into the outer end of the casing and having a lateral passage communicating with the said annular chamber formed in

the casing and provided with a reduced tubular extension *e* fitting into the outer end of the valve chamber *f* and having its inner end formed into a valve seat, an inwardly opening valve normally seated against said seat, a valve opening rod extending through said plug, and a cap or bonnet supporting said rod and attached to the outer end of the casing.

10 2. In a gage cock the combination of a casing provided with an inlet passage at its inner end and having its inner end adapted for attachment to a boiler, said casing being provided with a lateral discharge opening at its outer end, a tubular plug fitted into the outer end of the casing and having its inner end formed into a valve seat facing inwardly, said plug being provided with a lateral passage putting its interior into communication with the discharge passage of the casing, a cap or bonnet secured to the outer end of the casing and inclosing the outer end of said plug, and an adjustable rod carried by said cap and extending longitudinally through the plug so as to be available for opening the valve, for the purposes set forth

3. A gage cock consisting of a tubular casing adapted at one end for attachment to the boiler and having its interior enlarged at the other end, this enlarged part being provided with internal screw threads and a lateral discharge passage, a tubular plug screwed into the enlarged outer portion of the casing and provided with a lateral passage which communicates with the interior of the enlarged part of the casing, the inner end of this plug being reduced in diameter to form an annular shoulder, this reduced portion extending into the narrow diameter of the casing and having its inner end formed into a valve seat, a cap screwed upon the outer end of the enlarged part of the casing, a valve opening stem working through said cap and said plug and adapted to project beyond the valve seat, and a valve normally closing against said valve seat.

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

JOSEPH RICHARD WHEARY.

Witnesses:

H. P. ANDERSON,
W. M. MARTIN.