E. E. GOLD.

VALVE.

APPLICATION FILED MAY 16, 1913.

1,137,129.

Patented Apr. 27, 1915.

Fig. 1.

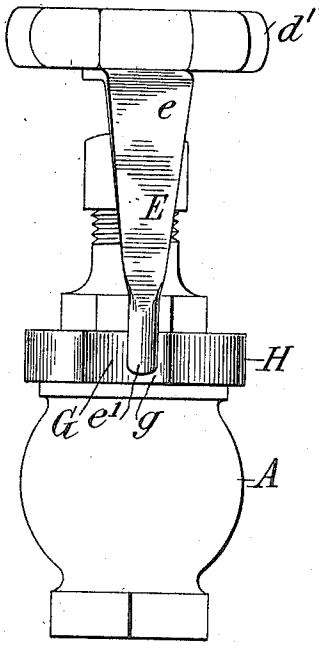


Fig. 2.

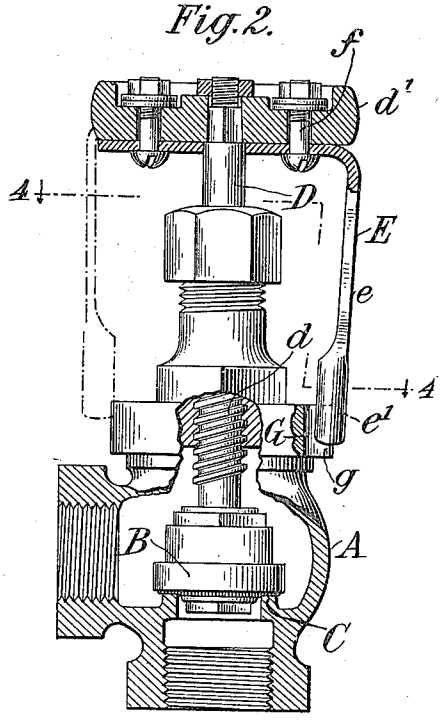


Fig. 3.

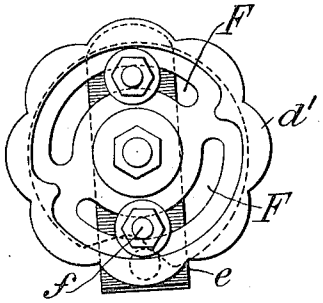
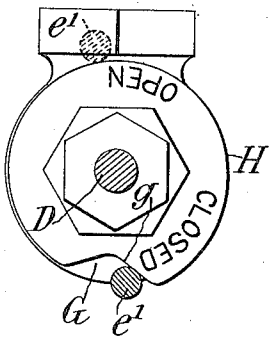


Fig. 4



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UNITED STATES PATENT OFFICE.

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VALVE.

1,137,129. Specification of Letters Patent. Patented Apr. 27, 1915.

Application filed May 16, 1913. Serial No. 768,060.

To all whom it may concern:

Be it known that I, EDWARD E. GOLD, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Valves, of which the following is a specification.

My invention relates to valves and is particularly adapted for use on steam valves.

It is illustrated in connection with a quick-acting valve provided with a coarse thread to which it is well adapted.

It has for its object to provide means whereby, when the valve is in a closed position, it is constantly pressed toward such position, so that the valve is held tight, and such means are made adjustable to compensate for wear on the face of the valve.

My invention further aims to provide means whereby the valve may be held against accidental movement in any position to which it may be adjusted.

In the accompanying drawing illustrating a desirable form in which my invention may be embodied, Figure 1 illustrates an elevation of a valve having my invention applied thereto; Fig. 2 is a view at right angles to Fig. 1, the handle being shown in section as well as the valve seat and its connected pipes. Parts are broken away to show the thread. Fig. 3 is a top view of the said device; and Fig. 4 a horizontal section on the line 4—4, Fig. 2.

In the accompanying drawings my invention is illustrated as applied to a valve which as a whole I designate A, and which has the usual valve head B and seat C. The valve is carried by the usual stem D which, as illustrated in the broken away portion, Fig. 2, is provided with a coarse or quick-acting thread *d*.

According to my invention means are provided for holding the valve in closed position and for constantly pressing the same in the direction of closing, so that the valve will be held at all times tightly closed. Such means, as illustrated, take the form of a spring member E which is preferably flattened out, as at *e* both to increase its spring action and for ease of attachment. The said spring member E is suitably attached to the stem D so as to turn therewith, and for this purpose I prefer to make such attachment through the usual handle d^1 with which the stem is provided. This handle has two slots F, which receive bolts *f* whereby by means of suitable nuts and washers the spring member E is adjustably attached to the handle. The lower end or toe e^1 of the spring member E is constantly pressed, by reason of its spring action, toward the casing. At Fig. 4 is indicated, by the letter G, a recess, which is so located that it receives the spring member E when the valve is closed. This recess is provided with an inclined wall *g*, down which, owing to its spring action, the toe e^1 of the spring member E will tend to pass when the valve is closed, and inasmuch as the spring E is at this time under tension it will constantly tend to ride down toward the bottom of the recess G and thereby will maintain the valve in closed position and will compensate for wear on the parts and maintain a tight fit of the valve with its seat, notwithstanding such wear. The said device as illustrated is also provided with means whereby the valve may be held against accidental displacement in any position to which it may be adjusted, and the said means take the form of a track H located peripherally of the casing of the valve A and against which the spring member E is adapted to press with considerable pressure so as to hold the valve in any position to which it may be adjusted. This pressure, however, is such that the valve may be turned for adjustment. Preferably I locate the spring member E in the form shown, so that it extends axially of the valve and substantially parallel with the stem D; but obviously this arrangement is not essential.

The provision of the coarse thread *d* enables me to produce a quick-acting valve whereby the valve is opened completely in substantially a half turn. For this purpose the spring member E may also serve as an indicator in connection with the designations "Open" and "Closed" as the same appear upon Fig. 4. The dotted line position of the toe e^1 indicates the open position of the valve, whereas the full line position in the recess G indicates the closed position. Likewise, in Fig. 4, the depending portion of the spring member is shown in dotted lines, in the open position of the valve, and in full lines in the closed position.

The illustrated form is one of the most desirable forms of my invention that are

known to me, but it is not necessarily limited to an embodiment in such form, as numerous modifications may be made therein within the limits of the appended claims.

I claim as my invention:—

1. A rotary valve having a stem, a spring member attached to the stem and turning therewith, a casing, and an inclined surface thereon against which said spring member is adapted to bear, said valve and valve stem and spring member having a reciprocating movement and said inclined surface located at the end of the travel of said spring finger in the closing movement of the valve, and inclined toward the axis in the direction of such closing movement of the valve and said spring finger adapted to bear on said inclined surface when the valve is seated, whereby the said spring finger has a tendency to slide down said surface and maintain a tight fit of the valve to its seat.

2. A rotary valve having a stem, a spring member attached to the stem and turning therewith, and means for adjusting said spring finger relatively to said stem, a casing, and an inclined surface thereon against which said spring member is adapted to bear, said valve and valve stem and spring member having a reciprocating movement and said inclined surface located at the end of the travel of said spring finger in the closing movement of the valve, and inclined toward the axis in the direction of such closing movement of the valve and said spring finger adapted to bear on said inclined surface when the valve is seated, whereby the said spring finger has a tendency to slide down said surface and maintain a tight fit of the valve to its seat.

3. A rotary valve having a stem, a spring member attached to the stem and turning therewith, a casing, a quick acting threaded connection between said stem and said casing and an inclined surface on said casing against which said spring member is adapted to bear, said valve and valve stem and spring member having a reciprocating movement and said inclined surface located at the end of the travel of said spring finger in the closing movement of the valve, and inclined toward the axis in the direction of such closing movement of the valve and said spring finger adapted to bear on said inclined surface when the valve is seated, whereby the said spring finger has a tendency to slide down said surface and maintain a tight fit of the valve to its seat.

4. A rotary valve having a stem, a casing, a spring member attached to the stem externally of the casing and extending substantially parallel with the stem and adapted to turn therewith and an inclined surface on said casing against which said spring member is adapted to bear, said valve and valve stem and spring member having a reciprocating movement and said inclined surface located at the end of the travel of said spring finger in the closing movement of the valve, and inclined toward the axis in the direction of such closing movement of the valve and said spring finger adapted to bear on said inclined surface when the valve is seated, whereby the said spring finger has a tendency to slide down said surface and maintain a tight fit of the valve to its seat.

5. A rotary valve, a casing, a valve stem, a spring member attached to the stem, a track for said spring member upon said casing on which said member presses in adjusting the valve whereby the valve is held in adjusted position, said valve, valve stem and said spring member having a reciprocating movement, and a recess in said track at substantially the end of travel of the spring finger in the closing movement of the valve, said recess having a wall forming a portion of said track and inclined axially therefrom and said spring finger adapted to rest on said inclined wall when the valve is seated, whereby the spring finger has a tendency to slide down said surface and maintain a tight fit of the valve to its seat.

6. A rotary valve having a reciprocating movement, a casing, and a valve stem, a spring member on one of said last two mentioned parts and the other of said two parts having a surface inclined in the direction of the closing movement of the valve, said spring member adapted to bear against said inclined surface when the valve is seated and tending to maintain a close fit of the valve to its seat.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD E. GOLD.

Witnesses:
HENRY M. TURK,
FRED WHITE.

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