(No Model.)

J. F. HOLDAM.

GAGE COCK.

No. 484,316. Patented Oct. 11, 1892.

Fig. 1

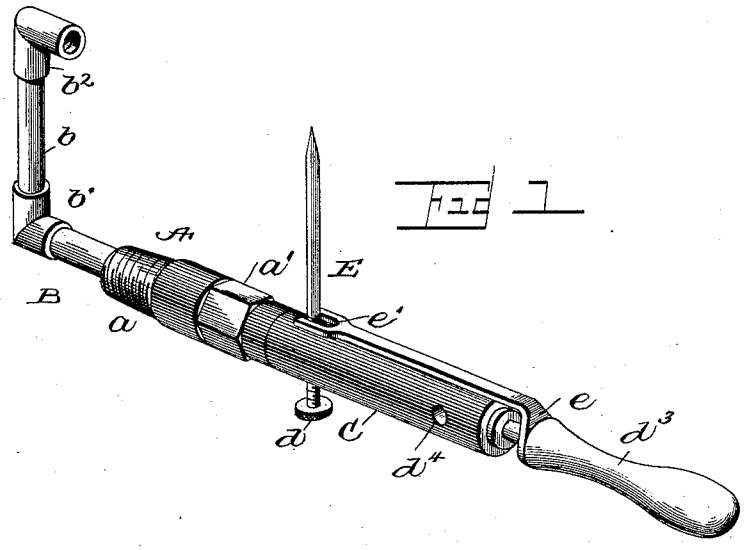
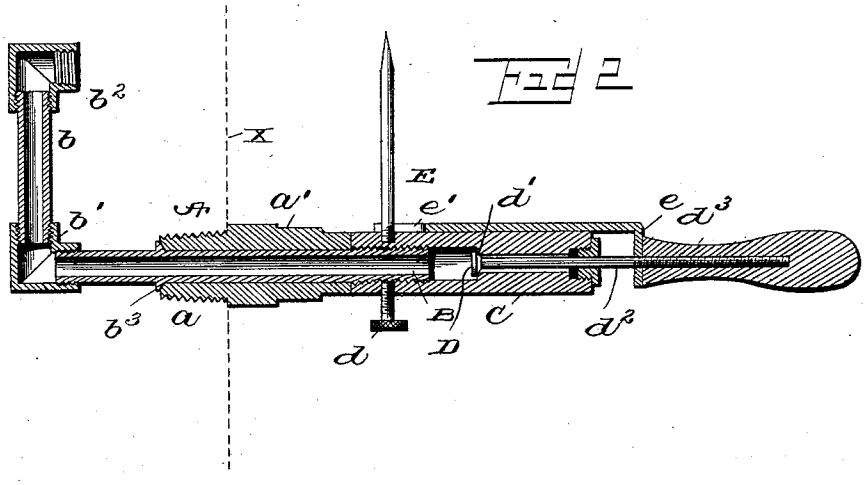


Fig. 2



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JAMES FRANKLIN HOLDAM, OF CRAB ORCHARD, KENTUCKY.

GAGE-COCK.

SPECIFICATION forming part of Letters Patent No. 484,316, dated October 11, 1892.

Application filed April 9, 1892. Serial No. 428,531. (No model.)

To all whom it may concern:

Be it known that I, JAMES FRANKLIN HOLDAM, of Crab Orchard, in the county of Lincoln and State of Kentucky, have invented certain new and useful Improvements in Gage-Cocks; 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 relates to certain new and useful improvements in gage-cocks for steam-boilers, and has for its object the production of a new and improved highly-efficient device of this nature whereby the height of water in a boiler can be readily and easily ascertained.

The invention consists in a gage-cock having a single tube projected through the wall of a boiler and having an inner right-angular portion and an outlet-valve which is held to its seat by the steam-pressure in said tube, the stem of said valve being provided with a handle which is in engagement with and controls the movement of said tube.

The invention further consists in a gage-cock having a plug or housing screwed into the wall of a boiler, a tube projected through said plug or housing and having an inner right-angular portion, an outlet-valve held to its seat by the steam-pressure in said tube, and a pointer positioned correspondingly to the inner right-angular portion of said tube and engaged with the handled stem of said outlet-valve, whereby said latter valve can be operated and the tube turned by moving said handled stem, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved gage-cock. Fig. 2 is a vertical longitudinal sectional view thereof.

Referring to the drawings, A designates a plug or housing of cylindrical form having a screw-threaded portion a for engaging a threaded opening in the end wall X of a steam-boiler, (not shown,) and also having a square or octagonal portion a' for the application thereto of a wrench or other tool for turning the plug or housing.

B is a tube or pipe extended through the cylindrical bore of plug or housing A and provided at its inner end with a right-angular arm or portion b, connected thereto by an elbow-joint b', a similar elbow b^2 being attached to the outer end of said angular portion b. A flange b^3 on tube B serves to close the inner end of plug A. Upon the outer threaded end of tube B is screwed a barrel or cylinder C, which acts as an elongation of tube B, said barrel or cylinder being rigidly held to said tube by a set-screw d, working in a hole or aperture and designed to engage said threaded portion of the tube. The inner end of the barrel or casing fits against the outer end of plug A. The bore of the barrel or cylinder C is reduced near its outer end to form a valve-seat d', against which is designed to be seated a valve D, the stem d^2 of which is extended beyond the end of said barrel or cylinder and provided with a handle d^3. An escape hole or port d^4 is formed in barrel or cylinder C, the same opening into the bore of said barrel at a point between the valve-seat d' and the outer end of said barrel.

E is a pointer or indicator projecting from barrel C at right angles thereto, said pointer occupying the same position relatively to the tube B as the inner right-angular arm of said tube. Hence the position of the pointer on the outside of the boiler will indicate the position occupied by the inner right-angular portion of the tube. From handle d^3 of valve D projects an arm e, having an outer forked end e', which hugs the pointer or indicator E, whereby by turning said valve-handle the barrel or cylinder and tube will be made to turn by reason of the connection between said handle and the pointer.

In practice the gage-cock is designed to be located at about the high-water mark of the boiler. The pressure of steam in the boiler will hold the flange b^3 of tube B tight against its seat, and the steam-pressure in said tube will likewise hold valve D tight against its seat in the outer end of said tube and prevent the escape of any steam. By pressing inwardly on valve D steam will pass out through the escape hole or port in the barrel or cylinder C. When it is desired to ascertain the height of the water in the boiler, supposing the pointer or indicator to be occupying a perpendicular position, the operator grasps the handle of the outlet-valve, and in

pushing the latter inward, allowing steam to escape, also turns said handle, causing through the connection between said handle and the pointer the turning of the tube B. As soon as the inner end of said tube is submerged in water the fact will be indicated by the escape of water through the outlet-port. The position of the indicator corresponding to that of the inner right-angular portion of the tube the operator can readily see at what height B, the water is in the boiler. Upon removal of hand-pressure on the outlet-valve the latter will be returned to its seat.

The advantages of my invention are apparent to those skilled in the art to which it appertains. It will be specially observed that the valve and flange of tube are automatically held to their seats by steam-pressure, and also that by providing the elbow on the extreme inner end of the tube water will not enter said tube until said end is submerged. It will also be observed that a gage-cock thus constructed is extremely simple and inexpensive and not liable to readily get out of order.

I claim as my invention—

1. The herein-described improved gage-cock, comprising the tube having an inner right-angular portion, an indicator corresponding to said right-angular portion, and an outlet-valve normally held to its seat by the steam-pressure in said tube and having its handled stem connected with said pointer, as set forth.

2. The herein-described improved gage-cock, comprising the plug or housing, the tube extended therethrough, having a flange against the inner end of said plug, and provided with an inner right-angular portion, an outlet-valve on the outer end of said tube, having a handled stem, a pointer projecting from said tube corresponding to said right-angular portion, and the forked arm projecting from said handled stem and engaging said pointer, as set forth.

3. The herein-described improved gage-cock, comprising the plug or housing, the tube having an inner right-angular portion, the outer end of which is bent or elbowed, the barrel or cylinder connected to said tube and having a valve-seat therein and provided with an outlet hole or port, the outlet-valve having a projecting handled stem, the set-screw binding said barrel or cylinder, the pointer, and the forked rod projecting from said handled stem and engaging said pointer, as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES FRANKLIN HOLDAM.

Witnesses:

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S. J. TATEM.