(No Model.)

L. SHOOK.

GAGE COCK.

No. 321,761. Patented July 7, 1885.

Fig. 1.

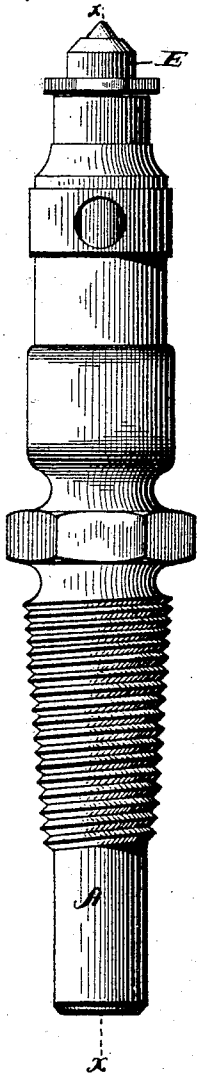


Fig. 3

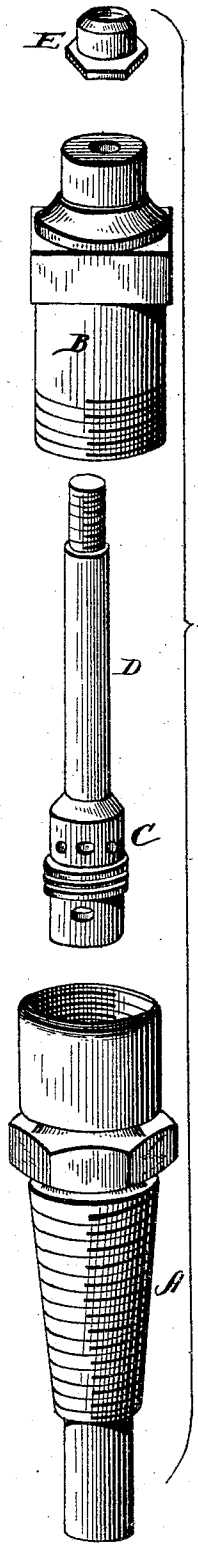


Fig. 2.

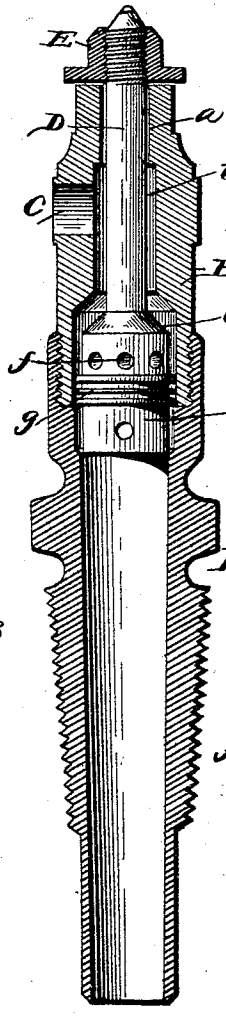
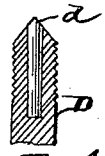


Fig. 4.



WITNESSES

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LEVI SHOOK, OF PITTSBURG, PENNSYLVANIA.

GAGE-COCK.

SPECIFICATION forming part of Letters Patent No. 321,761, dated July 7, 1885.

Application filed May 9, 1885. (No model.)

To all whom it may concern:

Be it known that I, LEVI SHOOK, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gage-Cocks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to that class of gage-cocks in which the valve is partially rotated by the escaping water or steam during the opening or closing of the valve; and it consists in certain details of construction, which will be fully described, and specifically set forth in the claims.

Referring to the drawings, Figure 1 is a view in elevation; Fig. 2, a sectional, and Fig. 3 is a perspective detail view, of my gage-cock. Fig. 4 is a detail sectional view showing the center steel point and strengthening-piece.

A is the plug, provided at one end with the usual tapering thread for attaching the cock to the boiler, and at the other end with an inside thread for attaching the cap B. This cap has three different-sized bores through its length. The outer one, *a*, is the bearing for the valve-stem, the next one, *b*, forms a passage for the escape of water or steam to pass the valve-stem to the opening *c*, and the inner one, *e*, forms the chamber for the valve, the upper end, as shown in the drawings, forming the seat for the valve.

C is the valve, and D is the stem, formed in one piece. The valve and stem being made of brass, the latter is liable to be bent upon pressing it to open the valve, and to provide against such an event I have secured in any suitable manner a steel center piece or rod, *d*, within the outer end of the stem, the rod and stem being conical in form, and serve as a bearing or center upon which the valve revolves. The valve is cylindrical in form, and is bored out longitudinally nearly to its face. About midway up the cylindrical portion of the valve are collars *g*, which fit the chamber *e*, and serve as a piston. The grooves between the collars collect the water and form a packing. At the outer end of the valve are holes *f*, bored tangentially to the axes thereof, which communicate with chamber *e* and the bore of the valve, and thus to the boiler.

To the outer end of the stem is secured a nut, E, which prevents the valve from being opened too far, and also the escape of steam or water from around the stem when the valve is opened.

From the foregoing description the operation will be readily understood, as follows: A stick is pressed against the end of the stem and the valve is opened, the water or steam passing through the center of the valve and out of the tangential openings *f* through bore *b*, and escaping through passage *c*. During the interval of time while opening or closing the valve it partially turns upon its axis, owing to the escape of steam or water through the angular openings *f*. The valve is prevented from turning, when opened, by the nut E coming in contact with the cap B.

My valve is not so liable to get out of order as a valve that is continually rotating while open, for the parts soon wear away and the valve becomes leaky. My valve simply changes its seating upon being moved by the stick.

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

1. In a gage-cock, the combination of the valve with the stem and the steel strengthening center piece, substantially as shown and described.

2. In a gage-cock, the combination of the cap and plug with a hollow valve provided with collars upon its outside and forming grooves for water-packing, substantially as described.

3. In a gage-cock, the combination of the cap and plug with a hollow valve provided with collars upon its outside, and with tangential holes to the axes of the valve, said holes forming communication to each side of the collar, substantially as set forth.

4. In a gage-cock, the combination of the hollow valve provided with tangential holes

and closed by pressure, with the valve-stem and the steel strengthening center piece, substantially as described.

5. The combination, in a steam gage-cock, of the body A, sleeve B, cylindrical piston-rod C *b*, having steel center piece, *d*, and nut E, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LEVI SHOOK.

Witnesses:
JOHN S. KENNEDY,
R. L. FRANZER.