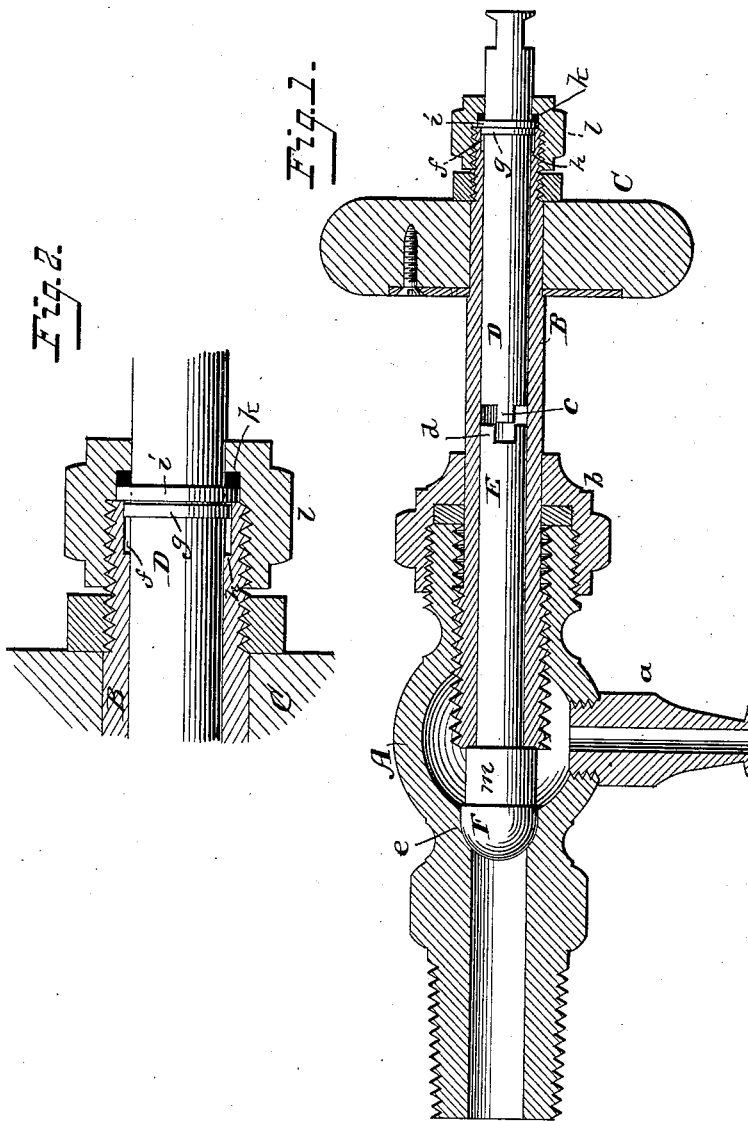


(No Model.)

J. H. LUCAS.  
STEAM GAGE COCK.

No. 306,937.

Patented Oct. 21, 1884.



Attest:  
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# UNITED STATES PATENT OFFICE.

JOHN H. LUCAS, OF SALAMANCA, NEW YORK.

## STEAM-GAGE COCK.

SPECIFICATION forming part of Letters Patent No. 306,937, dated October 21, 1884.

Application filed May 5, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. LUCAS, a citizen of the United States, residing at Salamanca, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Steam-Gage Cocks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a sectional elevation of a gage-cock constructed according to my invention, and Fig. 2 a detail view in section and on an enlarged scale.

The present invention has relation to certain new and useful improvements in gage-cocks for steam-boilers; and it consists in the several details of construction, substantially as shown in the drawings and hereinafter described and claimed.

In the accompanying drawings, A represents the shell or body of the cock of the usual form and provided with the nozzle *a* and stuffing-box *b*, through which passes the hollow stem B, screw-threaded at its inner end to engage with screw-threads on the interior of the shell or body, said stem having the usual hand-wheel C for turning it held thereon by a jam-nut.

The valve-spindle is constructed in two sections, D E, the outer section having its end adapted to receive a suitable wrench for operating it, and its opposite end having a feather, *c*, so that when the section is pushed in a direction toward the section E the projection will engage with a correspondingly-formed notch, *d*, in the end of said section, thus enabling the valve-stem to be turned on its axis.

It will be noticed that the valve F is of hemispherical shape, and the seat *e* sufficiently concave to form a close and water-tight joint when the valve is resting thereon.

The essential features of my invention lie in the particular construction of the outer end of the stem B and outer end of the valve-spindle D.

The bore of the stem B at its extremity is somewhat enlarged to form a space, *f*, sufficient in diameter to admit the circumferential flange *g* on the spindle-section D, as shown more clearly in Fig. 2, the movement of said

section being limited by the flange *g* abutting against a circumferential shoulder, *h*, formed by the space or enlargement of the bore, as hereinbefore described.

A ring, *i*, is passed over the end of the spindle-section D, and is of such diameter as to rest against the end of the stem B, a packing, *k*, being interposed between the ring and a stuffing-box, *l*. This ring holds the packing in place and from contact with the flange on the spindle-section, thereby enabling said section to freely move back and forth as required, and at the same time form a steam or water tight joint.

The flange on the spindle-section in connection with the shoulder on the stem form together a means for limiting the extent of movement of said section when coupling the two sections of the valve-spindle.

The valve F is formed with an enlargement, *m*, which abuts against the end of the stem B.

When the spindle-section D is in the position as shown in Fig. 1 and the stem screwed out sufficiently, the valve F will be free to move off of the seat *e* by the pressure of the steam against it; but when the stem is screwed into the shell A far enough to bring the valve tightly against its seat, it will be permanently held there, and by forcing in the spindle-section D until the feather *c* engages with the notch *d* on the section E the spindle will be as of one piece. By then applying a suitable wrench or tool to the outer end of the section D the two sections composing the spindle can be turned on its axis, and by the hemispherical form of the valve F and the form of the seat *e* the sediment can be effectually ground out while the boiler has on a full head of steam.

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

1. In a gage-cock, the combination, with a hollow screw-threaded stem, of a valve-spindle formed in two sections adapted to be connected or disconnected from each other, one of said sections having a hemispherical-formed valve, substantially as and for the purpose set forth.

2. In a gage-cock, a hollow screw-threaded stem having an enlarged bore at its outer ex-

5 tremity, a stuffing-box and packing secured thereto, in combination with a valve-spindle carrying a hemispherical valve, said spindle being formed in two sections adapted to be connected or disconnected from each other, and the outer section having a circumferential flange cast thereon and a loosely-fitting ring, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence 10 of two witnesses.

JOHN H. LUCAS.

Witnesses:

J. J. CRANDALL,  
L. H. ALL.