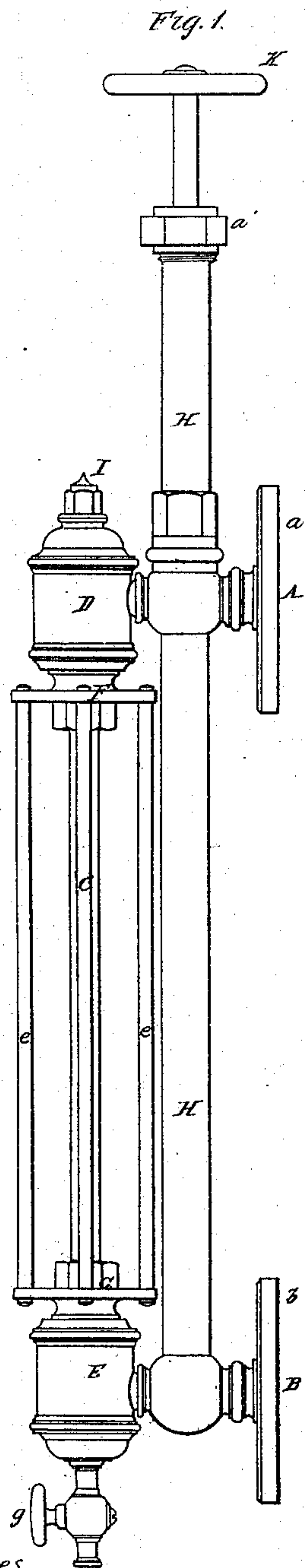


E. H. ASHCROFT.
STEAM GAGE.

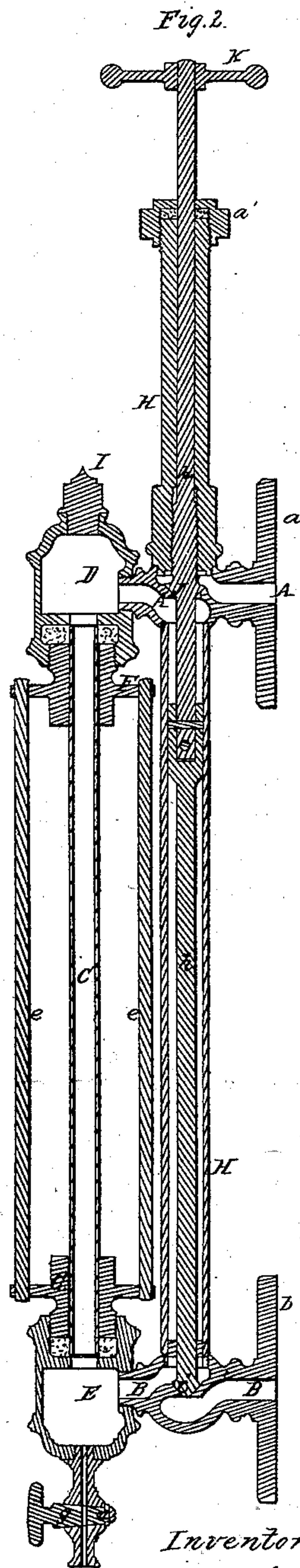
No. 66,063.

Patented June 25, 1867.



Witnesses.

*Joe L. Corrado
Theodore Lang*



Inventor.

*E. H. Ashcroft
by his atty
S. S. Babcock*

United States Patent Office.

E. H. ASHCROFT, OF LYNN, MASSACHUSETTS.

Letters Patent No. 66,063, dated June 25, 1867.

IMPROVEMENTS IN GAUGES FOR STEAM GENERATOR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, E. H. ASHCROFT, of the city of Lynn, county of Essex, in the State of Massachusetts, have invented a new and improved "Water-Gauge" for Steam Boilers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which like parts are indicated by like letters in the several figures.

The nature of my invention consists in a device for showing the height of water in "steam boilers."

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation. In the drawings—

Figure 1 shows an elevation of my water-gauge.

Figure 2, a central and vertical section through the same.

a and *b* are flanges by which my gauge is attached to a steam boiler, say by screws, or in any other suitable mechanical way. *A* and *B* are inlets from a boiler, the former for steam and the latter for water; *C* is a glass tube suitably secured in hollow chambers *D* and *E* at each end. This glass tube passes through stuffing-boxes *F* and *G* which are flanged, and which flanges serve for guard-rods *e*. Between these stuffing-boxes *F* and *G*, and the hollow chambers *D* and *E*, into which they screw, there is a suitable packing to secure the ends of the glass tube *C*. *I* is a screw-cap at the top of chamber *D*, through which to put in and take out the glass tube *C* when the gauge is attached to a boiler. Below chamber *E* is a pet-cock, *g*, by which to blow off any sediment or dirty water which may accumulate in the chamber of the water-gauge. Between the glass tube *C* and the boiler is a metal tube, *H*, in which works a screw-rod, *h*, made of two parts, suitably connected as seen. At the lower end of this rod is a valve, *i*, closing or opening a seat in inlet *B*. At the upper end is a similar valve, *j*, closing or opening the steam inlet *A* above valve *j*. The rod *h* has a screw on it working with a corresponding one on the upper part of metal tube *H*. There is a packing at the top of this tube *H*, and a stuffing-box, *a'*, and the rod *h* is operated by means of a wheel or lever, *K*, at its extreme end.

The operation is as follows: The drawings show my gauge in its normal or closed condition before connection with the boiler has been made, or water and steam let in. To let in both, turn the wheel or lever *K* so as to raise the rod *h*; this of course raises the valves *i* and *j*, letting the water into the tube *C* through inlet *B* and chamber *E*, as also steam through the inlet *A* and chamber *D*. Thus the height of the water in the boiler is seen by the height of the same in the glass tube. One operation secures this result, whilst common water-gauges require two separate ones. The rod *h*, carrying the valves *i* and *j*, may be operated in any equivalent mechanical manner, dispensing with wheel or lever *K*. In case of the breaking of the glass rod, from any cause whatever, it is very desirable the connection with the boiler should be cut off as speedily as possible, especially in locomotive boilers; and by my method I cut off both steam and water by one operation, simply turning the valve-rod *h*. The valves *i* and *j* may be replaced by cocks, both to be operated or moved at the same time; by any suitable mechanical device, not necessary to describe; this without altering the nature of my invention, such device being a mere equivalent one.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination of the valve-rod *h* with the valves *i* and *j*, and with the inlets *A* and *B*, and glass tube *C*, constructed, arranged, and operating in the manner substantially as shown and described and for the purpose set forth.

E. H. ASHCROFT.

Witnesses:

S. S. FAHNESTOCK,

J. W. MISTER.