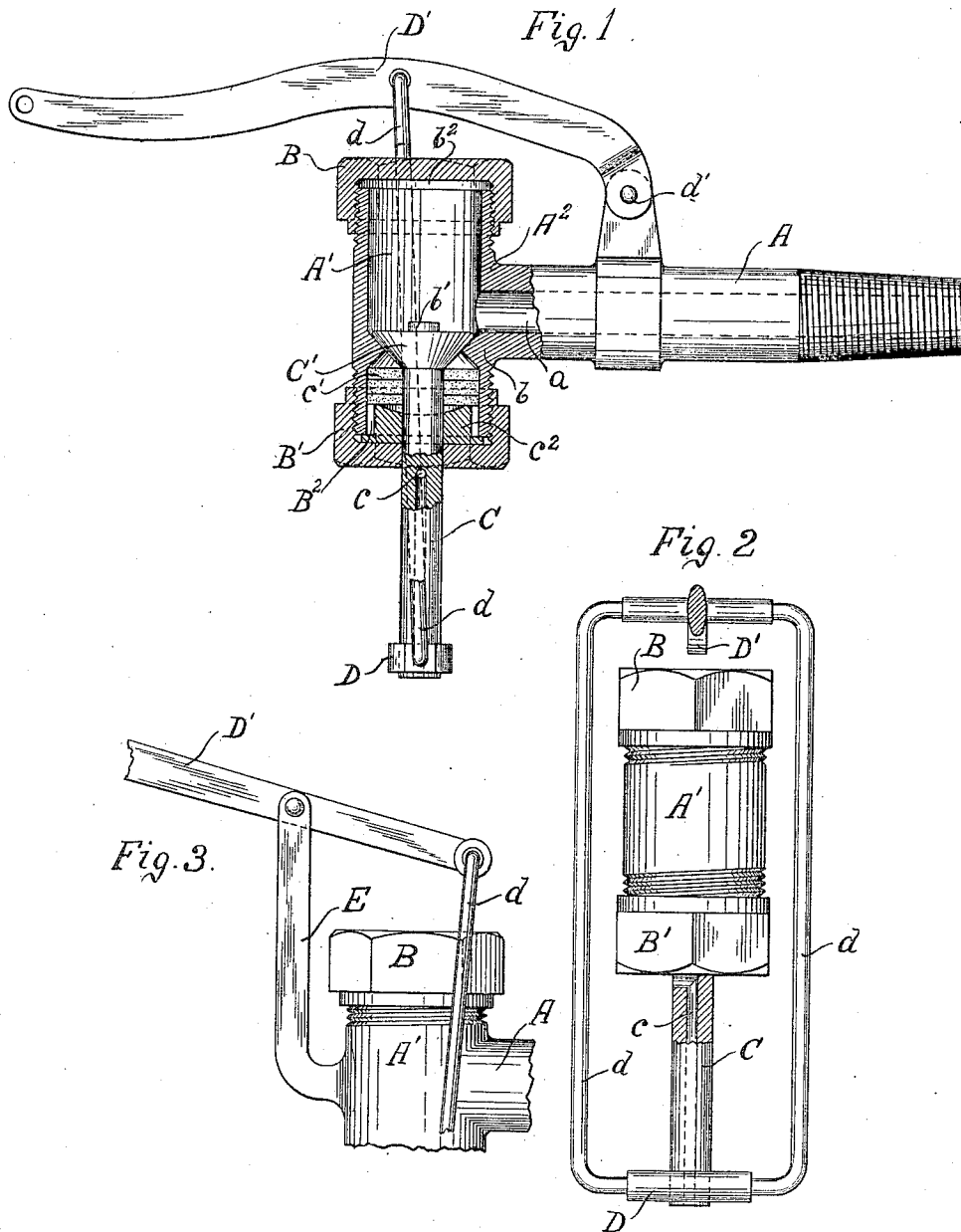


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STEAM AND WATER GAGE.
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971,268.

Patented Sept. 27, 1910.



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STEAM AND WATER GAGE.

971,268.

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To all whom it may concern:

Be it known that I, EDWARD HALLEY, a citizen of the United States, residing at Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Steam and Water Gages, of which the following, taken in connection with the drawings, is a description.

My invention has for its object the production of a steam and water gage, designed for use more particularly in testing steam boilers.

My device is simple in construction, comprises few parts, is easily and readily manufactured, and not liable to get out of order when in use.

This invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the drawings and pointed out in the claim, it being understood that changes in form, proportion, size and minor details may be made within the scope of the claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings Figure 1 is a side elevation, partly in cross section, of my invention; Fig. 2 is an end view of the same; and Fig. 3 is a modified form of the operating lever.

In carrying out my invention A represents the main stem of the gage, which enters a boiler. This stem is provided with an opening *a* therethrough which extends to the chamber A' formed inside of the casing A². Screw threaded upon each end of this casing is a cap B, B'. A gasket *b*² is provided inside of the cap B. Inside of the chamber A' and beneath the opening *a* is a circumferential valve seat *b*.

Extending through the aperture in the lower cap B' is a stem C carrying on the upper end thereof the valve C', which seats on the seat *b*. Beneath the valve seat *b* is a stuffing box B² inside of which and surrounding the stem C is the packing *c*' which is held in place by a gland *c*² which is placed inside of the cap B' and the lower part of the casing A'. An aperture *c* is provided

in the stem C and extends approximately 50 mediate of the length thereof, opening at the lower end of the stem and just below the cap B' when the valve is seated as shown in Fig. 1.

The valve C' is of smaller diameter than 55 the chamber A' in which it moves, and it has a small projection *b*' upon the top thereof for a purpose hereinafter described.

Extending transversely of the stem C is a cross arm D into which is secured a bail *d*, 60 which extends above the valve and casing as shown in Fig. 2. A lever D', fulcrumed at *d*' to a base extending from the main stem A, supports this bail above the casing A', and by means of which the stem C is operated. 65

In Fig. 3 I have shown a modified form of the lever D'. In this case a brace E extends from the casing A' to which the lever D' is pivotally secured, and is attached at one end thereof to the bail *d*, so that in the operation 70 of the stem with this latter device the lever is lowered to open the valve, while in the form shown in Fig. 1 the lever is raised to open the valve.

The operation of the device is as follows: 75 The stem A is screwed into a boiler so that there is an open communication between the boiler and the chamber A'. The pressure in the chamber A' will hold the valve to its seat and when it is desired to open the same 80 the operator moves the handle D' to raise the stem C and with it the valve C'. When the valve C' is raised to its highest position the projection *b*' is in contact with the top of the chamber and the valve being of 85 smaller diameter than said chamber, a steam chamber is provided around said valve whereby the pressure of the steam acts upon said valve to close it. When the valve is in this position the aperture *c* is in open com- 90 munication with the chamber A so that the steam or water will escape through said aperture *c* to atmosphere.

I claim:

In a steam or water gage, the combination 95 of a casing having communication with the interior of a boiler, a valve stem carrying a valve upon one end and having an elongated

opening through the lower part thereof, said
valve seating in the aforesaid chamber, a
projection extending upwardly from the
valve, a stuffing box surrounding said stem,
5 packing between the stem and stuffing box,
and means for operating the valve, substan-
tially as described.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

EDWARD HALLEY.

Witnesses:

WELLS GOODHUE,
CHARLES I. COBB.