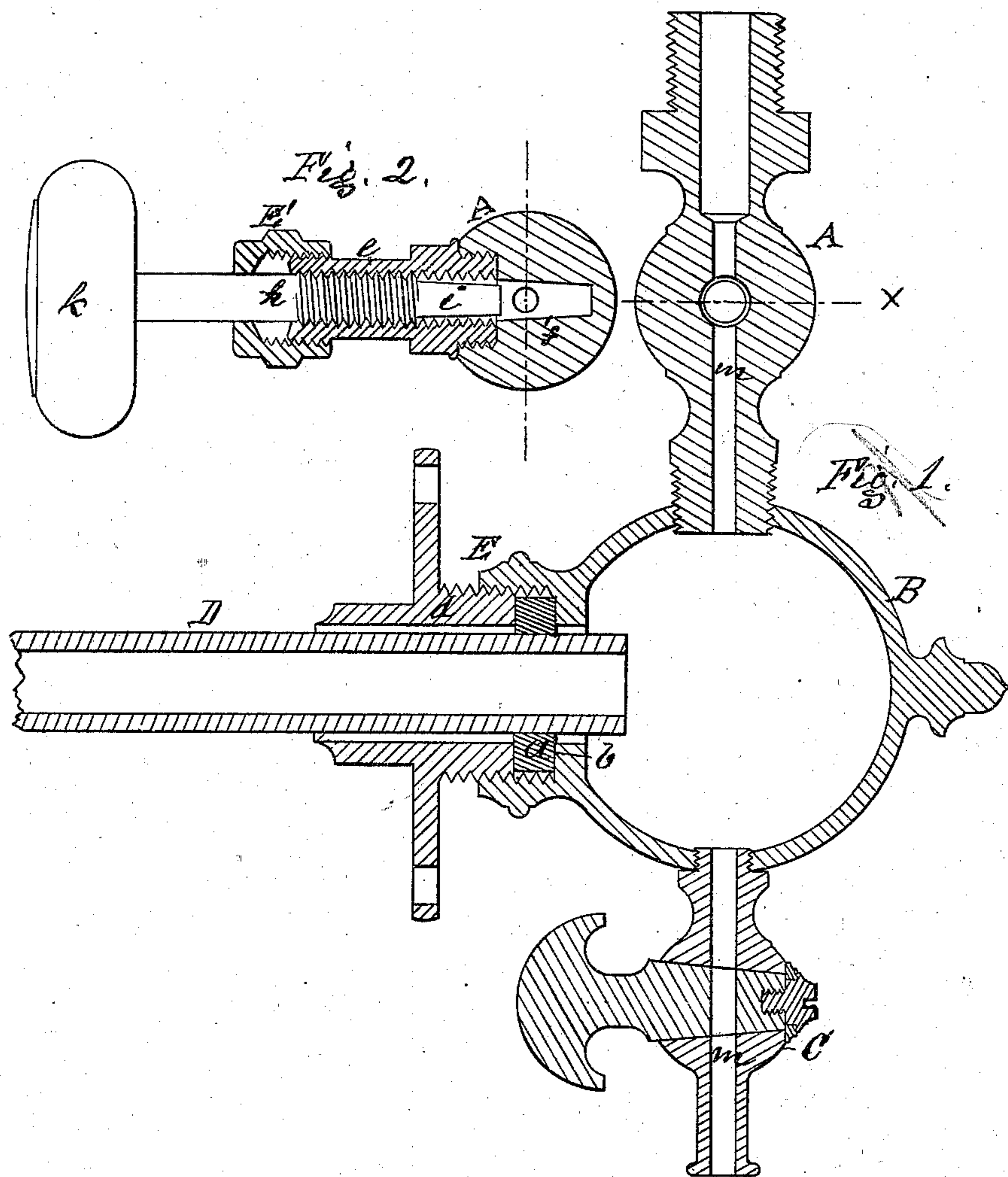


A. P. PITKIN.

Water-Indicator for Steam-Boilers.

No. 138,524.

Patented May 6, 1873.



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UNITED STATES PATENT OFFICE.

ALBERT P. PITKIN, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN WATER-INDICATORS FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. **138,524**, dated May 6, 1873; application filed January 20, 1873.

To all whom it may concern:

Be it known that I, ALBERT P. PITKIN, of the city and county of Hartford, and State of Connecticut, have invented certain new and useful Improvement in Water-Indicator for Steam-Generator; and to enable others skilled in the art to make and use the same I will proceed to describe it, referring to the drawing, in which the same letters indicate like parts in each of the figures.

The nature of this invention consists in combining a plug-valve, glass-tube holder, and pet-cock; so that, by the aid of said plug-valve, the stem or plug of which is arranged at right angles with the steam-passage from the generator, it is entirely closed from the tube-holder and glass indicator-tube to allow of repairs; or, by opening the plug-valve and pet-cock, a rod can be inserted through the discharge-orifice of the pet-cock, chamber of the tube-holder, and the eduction orifice of the plug-valve directly into the boiler. The object of this improvement is, first, to provide means for removing any obstruction in the valve-passages; and, second, to allow any repairs or adjustment of the indicator while under full head of steam.

In the accompanying drawing, Figure 1 is a section of this combination of the plug-valve, tube-holder, and pet-cock. Fig. 2 is a cross-section of the plug-valve through the line *x*.

A is a plug-valve, with its stem or plug arranged at right angles with the steam passage or orifice *m*. B is a tube-holder. C is a pet-cock. D is a glass indicating-tube. E E' are packing-boxes.

In practice two of these combined holders and cocks are secured into the boiler in a perpendicular line or position, one above the other, the upper one being inverted, so as to receive and secure the upper end of the tube D same as the lower end.

a is an elastic packing of substantial thick-

ness, the diameter of which fills and rests upon the seat *b* of the packing-box E, having an orifice in its center to receive one end of the glass tube D, so that when the screw-plug *d* is turned down it will firmly compress the elastic packing upon its seat *b*, and around the glass tube D, thus securing a perfect packing, and also secures the glass tube from contact with the metal. *e* is a jacket fitted into the side of globe portion of the valve A, and at right angle with the fluid-passage *m*, having a screw-thread cut on the inside of its orifice, said orifice being in exact uniformity with the taper seat *f* inside of the plug-valve A, into which is fitted the screw-threaded stem *h*, having a taper plug, *i*, which is closely fitted to the taper seat *f*, so that, by turning said stem *h* by the knob *k*, the steam or water passage *m* may be fully open or closed, as desirable.

Thus it will be seen that, by turning the screw-stem *h*, the taper plug *i* may be withdrawn one side of the passage *m*. Thus, by opening the pet-cock C, a rod may be inserted through the whole length of the passage *m* into the boiler when occasion requires; and, by turning the screw-plug *i* to its seat *f*, all the parts are free to be removed, repaired, and replaced while the process of generating steam is in full operation.

I believe I have thus shown the nature and advantage of this invention so as to enable others skilled in the art to make the same therefrom.

What I claim, and desire to secure by Letters Patent, is—

The valve A, cock C, in combination with tube-holder B and passage *m*, substantially as and for the purpose set forth.

ALBERT P. PITKIN. [L. s.]

Witnesses:

CHAS. A. PITKIN,
A. H. WALLACE.