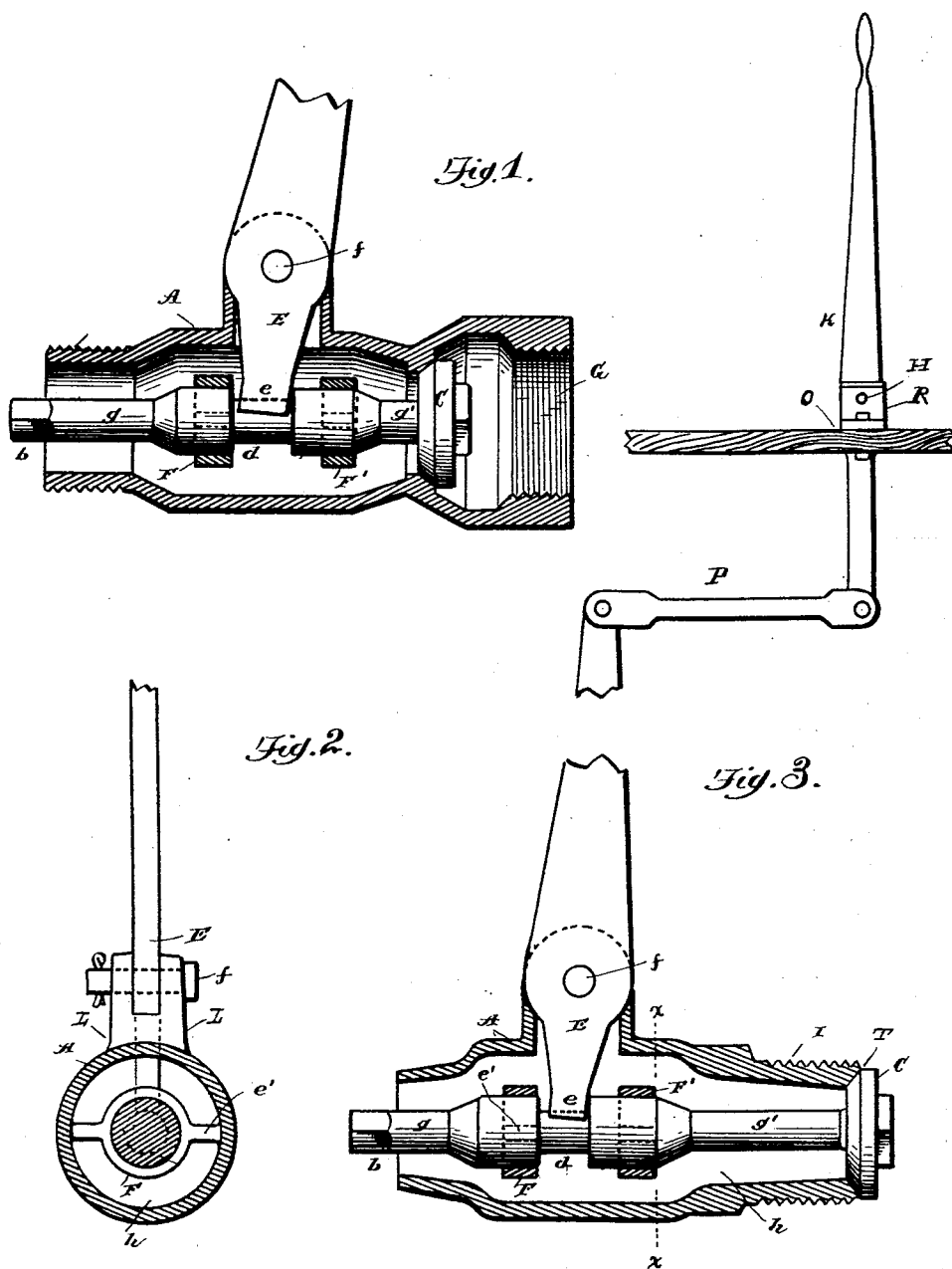


(No Model.)

J. ROONEY.
WASHOUT VALVE FOR STEAM BOILERS.

No. 586,368.

Patented July 13, 1897.



WITNESSES

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WASH-OUT VALVE FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 586,368, dated July 13, 1897.

Application filed February 5, 1897. Serial No. 622,070. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROONEY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Wash-Out Valves for Locomotive-Boilers and for other Uses; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object a novel wash-out valve for locomotive-boilers and for other purposes; and it consists of the construction, combination, and arrangement of devices hereinafter specified and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section illustrating my invention. Fig. 2 is a cross-section on the line *x x*, Fig. 3. Fig. 3 is a longitudinal section showing a modification in the construction of the valve-casing with parts in elevation, the lever-arm E being shown broken in two. These sectional views show certain parts in elevation.

It is well known that wash-out valves or blow-out cocks on locomotive-boilers now in common use cannot be operated while the locomotive is in use. To use the ordinary blow-off cocks, the steam must be let down in the locomotive-boiler, and the operation is usually effected when the locomotive is in the roundhouse. It is desirable, however, to accomplish the desired results at other times and more frequently than is practicable with the blow-off cocks in present use to prevent the formation of scale in the boiler, the deposit of sediment, and the foaming of the boiler.

My invention is designed more particularly to enable the engineer of the locomotive to wash out his boiler at any time and as frequently as he may desire in a ready and convenient and efficient manner.

I carry out my invention as follows:

A represents a valve-case forming an interior water-chamber open at one end and arranged to be closed by a suitable valve toward the opposite end. The valve-case, as

shown in Fig. 3, is exteriorly threaded, as indicated at I, so as to be applied to a threaded orifice in the fire-box of a boiler. As applied to a locomotive-boiler the case is screwed into the fire-box. The case is provided with a valve-seat, (indicated in Fig. 3 at T.)

C is an endwise-moving valve to seat upon the seat T of the case, said valve provided with a stem *g'*, reciprocatory in guide-rings F and F', which are connected with the case, as indicated more particularly in Fig. 2, the guide-rings being provided with arms *e'*, projecting outward and connected with the case. The stem is cut away between the guide-rings or formed with an annular recess, as indicated at *d*. The opposite end of the stem, as indicated at *g*, may be squared, as shown at *b*, to receive a wrench to turn the valve and grind it to its seat when necessary.

The end of the valve-case opposite the valve is open to the atmosphere and may be constructed to receive an elbow, the same being threaded, as indicated at the left of Fig. 1, to receive an elbow.

E is a lever-arm jointedly connected with the valve-case, as indicated at *f*, its inner end, as indicated at *e*, projecting into the water-chamber within the case and into the annular recess *d* on the valve-stem to engage the wall or shoulder of the valve-stem on either side of said recess as the lever-arm E is thrown in one direction or the other.

K is a hand-lever which may be located in the cab of the locomotive and connected with the arm E by a connecting-bar P to operate the valve.

R is a bracket engaged upon the floor O of the cab, to which the lever K is jointedly connected, as shown at H. I do not, however, limit myself to the employment of the lever K and the connecting-bar P, as the lever-arm E may be actuated in any desired manner or by any desired means. The valve-case may be formed with lugs L to receive the pivot-pin *f*, uniting the lever-arm E therewith. The lever-arm E has preferably a ground-joint connection with the upper edges of the lugs L, as indicated, so as to make a water-tight joint thereat, the joint being in the nature of a ball-and-socket joint, the adjacent portion of the lever-arm E being of circular outline adjacent to the lugs L. It will be obvious

that by throwing the upper end of the lever E to the left from the position shown in the drawings the inner extremity *e* will force the valve open or off its seat, while an opposite movement of the lever-arm E, bearing upon the opposite shoulder of the recess *d*, will seat the valve. The pressure from the boiler will serve to hold the valve to its seat. The valve-case in the form shown in Fig. 1 is interiorly threaded, as indicated at G, to be attached to a stationary boiler. The same construction enables the device to be attached to feed-water pipes of locomotives.

The device can be applied to any kind of a boiler, as well as to feed-water pipes of locomotives, the valve-case being open, as indicated at *h*, straight through the case. The lever-arm E engages the stem intermediate its extremities.

By forming the valve-stem with the annular recess *d*, into which recess the point *e* of the lever-arm projects, it will readily be seen that the valve can be turned about upon its seat either to grind it to its seat or to enable the valve to variously seat itself on the case in a ready manner, which cannot be done with devices heretofore designed for blow-off cocks. The lever-arm E, projecting at an angle from the valve-stem, enables its being more conveniently manipulated from the cab of a locomotive. No packing-ring is required with this device. There are no flanges or joints to get out of order. The whole device is compact and of simple construction. It may readily be employed for a whistle-valve, if desired.

My device is light and simple in construction, being composed, essentially, of but three pieces, the case, the valve with its stem, and the actuated lever-arm E. It will be obvious that the water will flow over and about the guideways within the case, plenty of room being left therefor.

The construction whereby the valve may be turned on its seat is of special importance.

Should any deposit settle upon the valve-seat to hinder the close seating of the valve, it can be turned readily to dislodge the deposit and clear it out of the way.

What I claim as my invention is—

1. The combination of a valve-case forming an interior water-chamber, provided with a seat and with interior guides, a valve to seat upon said seat, said valve provided with a stem having an endwise movement within said guides, and a lever projecting through the case intermediate its ends to actuate the valve, said valve-stem constructed with an annular recess intermediate its ends to receive the inner end of the lever-arm, said lever-arm pivotally connected with the valve-case, and having a water-tight joint in connection therewith, substantially as described.

2. The combination of a valve-case open at one end and provided with a valve-seat toward the opposite end, and with interior guides, a valve provided with a reciprocatory stem having an endwise movement within said guides, and a lever-arm projecting through the case at an angle to the valve-stem, and engageable therewith to reciprocate the valve, said valve being rotatable independently of said lever-arm, substantially as described.

3. The combination of a valve-case provided with a seat toward one end thereof and being open at the opposite end, a valve provided with a stem recessed intermediate its extremities, and a lever-arm projecting through the valve-case intermediate its ends, to engage in the recess of the valve-stem, said valve being rotatable, said stem projecting through the open end of said case, whereby the valve may be rotated, substantially as described.

JOHN ROONEY.

Witnesses:

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JOHN J. FORBES.