No. 682,162. Patented Sept. 10, 1901.

W. H. & A. J. BAILEY.

VALVE FOR WATER GAGES.

(Application filed Jan. 29, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig: 1.

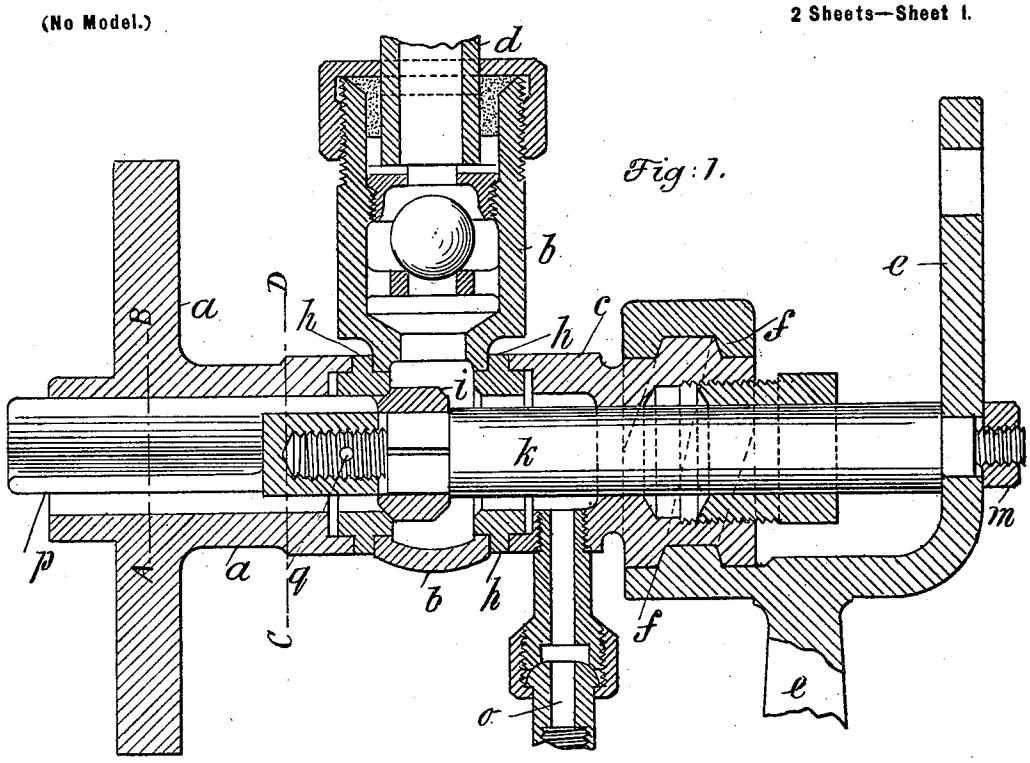
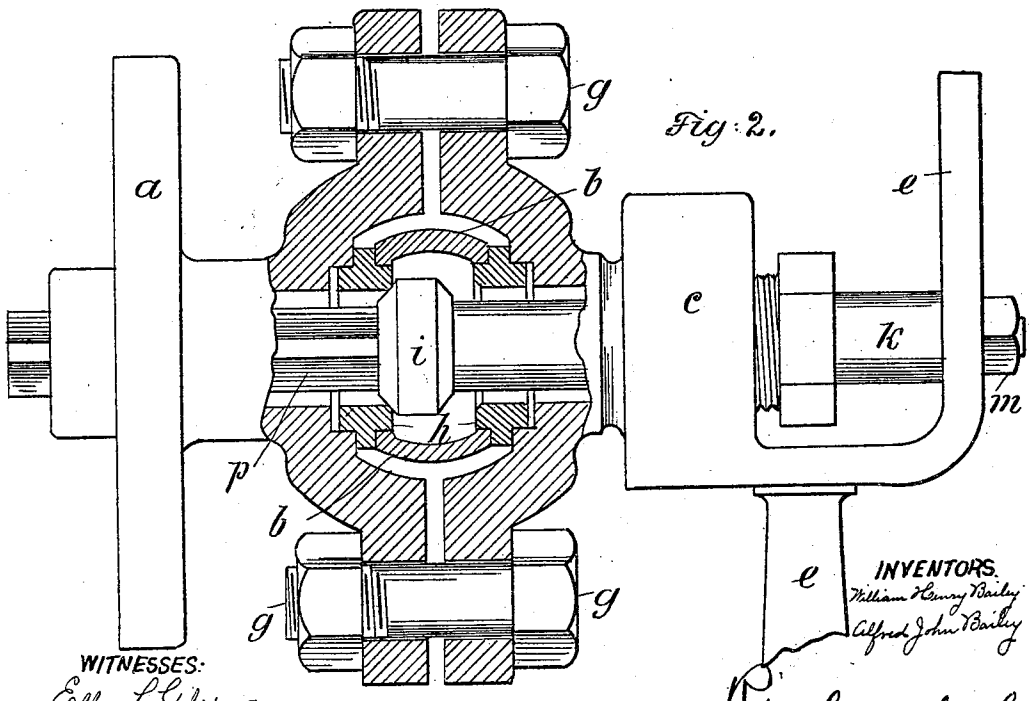


Fig: 2.



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Fig: 4.

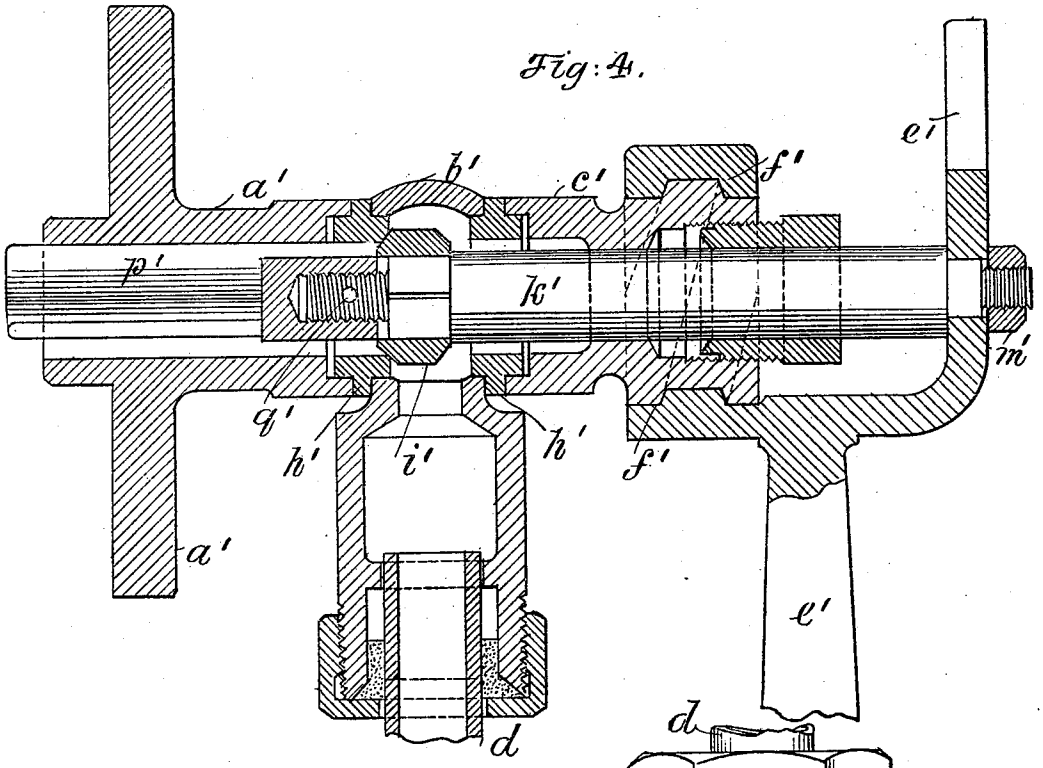


Fig: 3

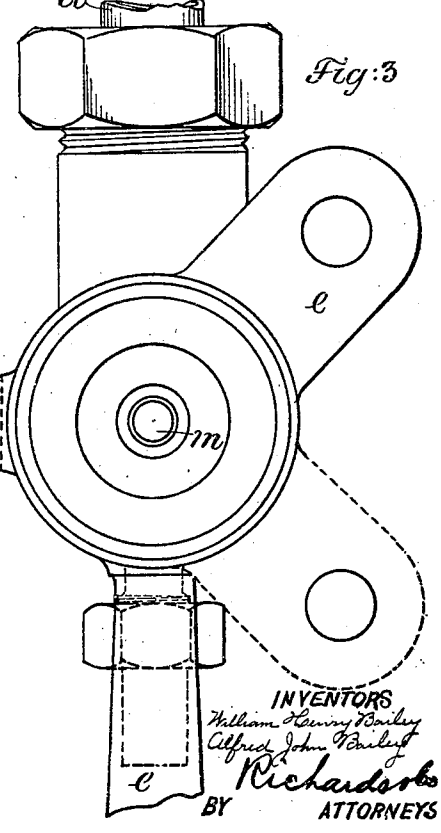


Fig: 5.

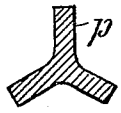


Fig: 6.



Fig: 7.

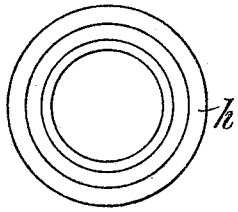


Fig: 9.

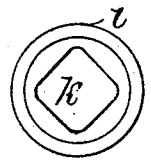


Fig: 8.

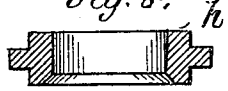
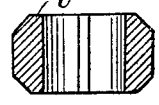


Fig: 10.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BAILEY AND ALFRED J. BAILEY, OF SALFORD, ENGLAND.

VALVE FOR WATER-GAGES.

SPECIFICATION forming part of Letters Patent No. 682,162, dated September 10, 1901.

Application filed January 29, 1901. Serial No. 45,222. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM HENRY BAILEY, knight, and ALFRED JOHN BAILEY, subjects of the Queen of Great Britain, and residents of Salford, in the county of Lancaster, England, have invented certain new and useful Improvements in the Valves Employed in Water-Gages for Steam-Boilers and the Like, of which the following is a specification.

Our invention relates to improvements in the valves employed in water-gages for steam-boilers and the like, and particularly to the construction now well known as the "scavenger-gage," the chief object of the invention being to make the seatings for the valves readily renewable. In this water-gage the bottom valve is composed of three parts: first, a fitting which is secured to the boiler or other vessel by means of a flange or other connection; second, the casting which supports the gage-glass, and, third, the part forming the blow-off valve and handle and screw. These parts are connected and clamped together by bolts. The seatings of the valves, which are preferably the same size and shape (so as to be interchangeable) and which can be made of any metal or material, are according to our invention fitted to both sides of the gage-glass casting in such a manner that by removing the bolts the seatings can be readily replaced. We may employ a like construction for the top valve for the gage-glass, with either a single valve-seating or two renewable valve-seatings.

In the accompanying two sheets of drawings, Figure 1 is a sectional elevation of the bottom valve of our improved water-gage. Fig. 2 is a sectional plan, and Fig. 3 is a front elevation, of the same. Fig. 4 is a sectional elevation of the top valve. Figs. 5 and 6 are transverse sections of the scavenger-blade, taken, respectively, on the planes of the lines A B and C D, Fig. 1. Figs. 7 and 8 are detail views of the renewable valve-seating, and Figs. 9 and 10 are detail views of the renewable valve.

In Figs. 1, 2, and 3 of the drawings, *a b c* designate the three parts which compose the bottom valve. Of these, *a* is the fitting, which is secured to the boiler or other vessel by means of its flange; *b* is the casting, which supports the gage-glass *d*, and *c* is the part comprising the blow-off valve and handle *e* and screw *f*. These three parts *a b c* are connected and clamped together by the bolts *g*, and an advantage of this construction is that by slackening the nuts on the bolts *g* the casting *b* can be adjusted and the gage-glass swiveled to any desired inclination as required to obtain the necessary alinement of the fittings when securing the gage to a boiler. The valve-seatings *h*, (see Figs. 7 and 8,) which are preferably of the same size and shape (so as to be interchangeable) and which can be made of any suitable metal or material, are according to our invention fitted to both sides of the gage-glass casting *b*, as clearly shown in Figs. 1 and 2, in such a manner that by removing the bolts *g* the seatings *h* can be readily taken out and replaced. The remainder of the bottom valve is made up in the usual way, the valve *i* (see Figs. 9 and 10) being mounted on the squared portion of the spindle *k*, which has the handle *e* fixed to it by the nut *m*. When the handle *e* is in the position shown in Figs. 1, 2, and 3, the valve *i* is held tightly against the left-hand seating *h*, and so shuts off communication from the boiler to the gage-glass. When the handle *e* is moved into the position indicated by dotted lines in Fig. 3, the coarse screw *f* actuates the valve-spindle *k* and brings the valve *i* tightly against the right-hand seating *h*, thereby fully opening the communication between the boiler and the gage-glass *d*. When the handle *e* is placed in the intermediate position, the valve *i* will be held midway between the two seatings *h*, and the communications will be open between the boiler, the gage-glass, and the blow-off pipe or passage *o*. We may attach a single scavenger-blade to the valve-spindle *k*, as hitherto, or two or more such blades. For example, we show three scavenger-blades *p* (see Figs. 5 and 6) screwed upon the threaded end of the valve-spindle *k* and made fast there by a pin *q*. We may, as illustrated in Fig. 4, employ a like construction for the top valve for the gage-glass. In this view the parts corresponding to the parts *a b c e f h i k m p q*, already described with reference to the bottom valve, are here designated *a'*, *b'*, *c'*, *e'*, *f'*, *h'*, *i'*, *k'*, *m'*, *p'*, and *q'*, while the gage-glass is marked *d*, as in Figs. 1 and 2. In this construction the part

c has no blow-off valve, but merely carries the handle *e'* and thread *f'* for actuating the valve-spindle *k'* and valve *i'*. The bolts corresponding to the bolts *g* are not shown, but would of course be required to clamp the parts *a' b' c'* together, as in the case of the bottom valve.

What we claim, and desire to secure by Letters Patent of the United States, is—

In a valve for a water-gage, the combination with a fitting by which the gage is secured to the boiler, a casting which supports the gage-glass at any desired inclination, and a third part carrying the handle of the valve-spindle and bolts for clamping the aforesaid parts together, of renewable valve-seatings fitted to both sides of the gage-glass casting substantially as and for the purposes herein set forth.

In witness whereof we have hereunto set our hands in presence of two witnesses.

W. H. BAILEY.
A. J. BAILEY.

Witnesses:
S. W. GILLETT,
HERBERT R. ABBEY.