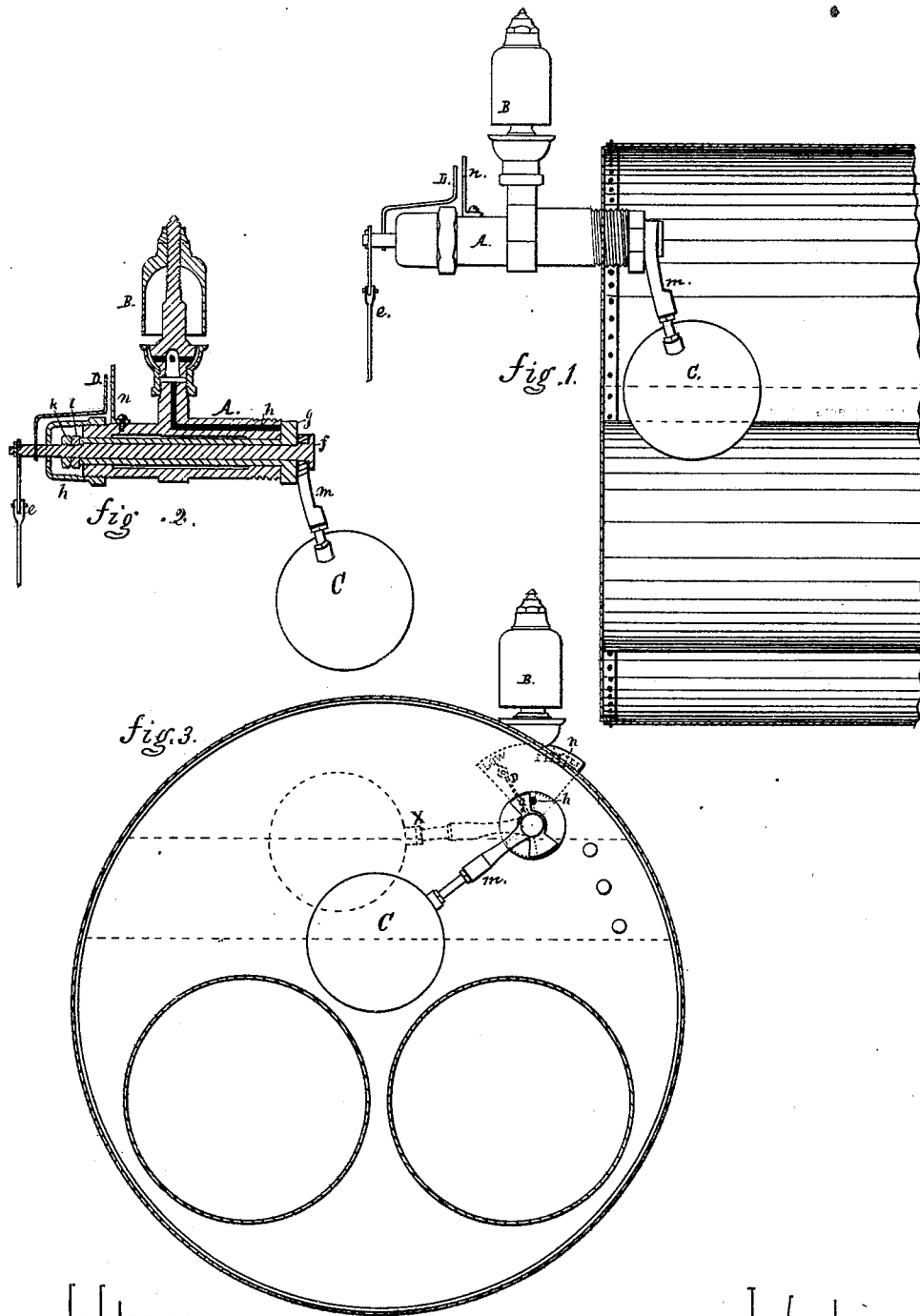


A. S. PATTON.
Water Indicator and Alarm.

No. 213,684.

Patented Mar. 25, 1879.



Witnesses
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UNITED STATES PATENT OFFICE.

ALEXANDER S. PATTON, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN WATER-INDICATOR AND ALARM.

Specification forming part of Letters Patent No. **213,684**, dated March 25, 1879; application filed June 6, 1878.

To all whom it may concern:

Be it known that I, ALEXANDER S. PATTON, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Water-Indicator and Alarm for Steam-Boilers, of which the following is a specification:

My invention consists in the application to a steam-boiler of a high and low water indicating device, so constructed that an alarm is given when the water in the boiler is below a safe line, and at the same time it automatically opens the water-supply sufficiently to furnish the required supply of water to the boiler.

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

In the accompanying drawings, which form part of my specification, Figure 1 is a section of an ordinary steam-boiler furnished with my improvement for low-water indicator. Fig. 2 is a vertical and longitudinal section of my improvement in low-water indicators. Fig. 3 represents the inner wall of the head of a steam-boiler when provided with my improvement for indicating low or high water, and for regulating the flow of water into the boiler.

In the accompanying drawings, A represents the main cylinder, which is provided with a steam-port, *h*, which is opened and closed by means of a valve, *g*, the stem of which enters the cylinder A. The stem of the valve *g* is hollow, and within it is placed a shaft, *f*, on the inner end of which is secured, by means of an arm, *m*, a float, C. The shaft *f* and valve *g* are secured in position in the cylinder A by means of jam-nuts *k l*, covered by a cap, *i*.

To the cylinder A is secured a dial-plate, *n*, having on it the words "High" and "Low;" and to the shaft *f* is attached an index-finger, D, which will point to the words "High" or "Low," in accordance with the state of water in the boiler.

On the outer end of the shaft *f* is connected a rod, *e*, leading to and attached to the valve of the water-supply pipe of the boiler, which rod *e*, in combination with the float C, will move the valve of the water-supply pipe so as to allow the flow of water through it to the boiler to be increased or diminished, in accordance with the state of the water in the boiler.

The cylinder A is furnished with an ordinary steam-whistle, for giving the alarm when the water is low or too high.

The valve *g* and its connections are so arranged with relation to each other that by pressing on the end of the shaft *f* the valve *g* will be moved back of its seat, so as to call the engineer, or give a signal-call for other purposes.

When the water is low in the boiler the float C will sink with the water, and the valve *g* will move from over the steam-port *h*, as shown in Fig. 3, allowing the steam to escape to the whistle B, thereby giving the alarm.

If the water is too high in the boiler, the valve *g* and float C will assume the position indicated by dotted lines *x* in Fig. 3, and give an alarm, thereby calling the attention of the engineer to the fact that the water is too high in the boiler.

Having thus described my improvement, what I claim as of my invention is—

1. A water-indicator for steam-boilers, consisting of the cylinder A, having a steam-port, *h*, shaft *f*, valve *g*, arm *m*, and float C, all constructed, arranged, and operating as herein described, and for the purpose set forth.

2. A water-indicator for steam-boilers, consisting of the cylinder A, provided with a steam-port, *h*, valve *g*, float C, whistle B, shaft *f*, and connecting-rod *e*, arranged and operating substantially as herein described, and for the purpose set forth.

ALEXANDER S. PATTON.

Witnesses:

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