(No Model.)

J. PARKER.

INDICATOR FOR STEAM BOILERS.

No. 575,933. Patented Jan. 26, 1897.

Fig. 1.

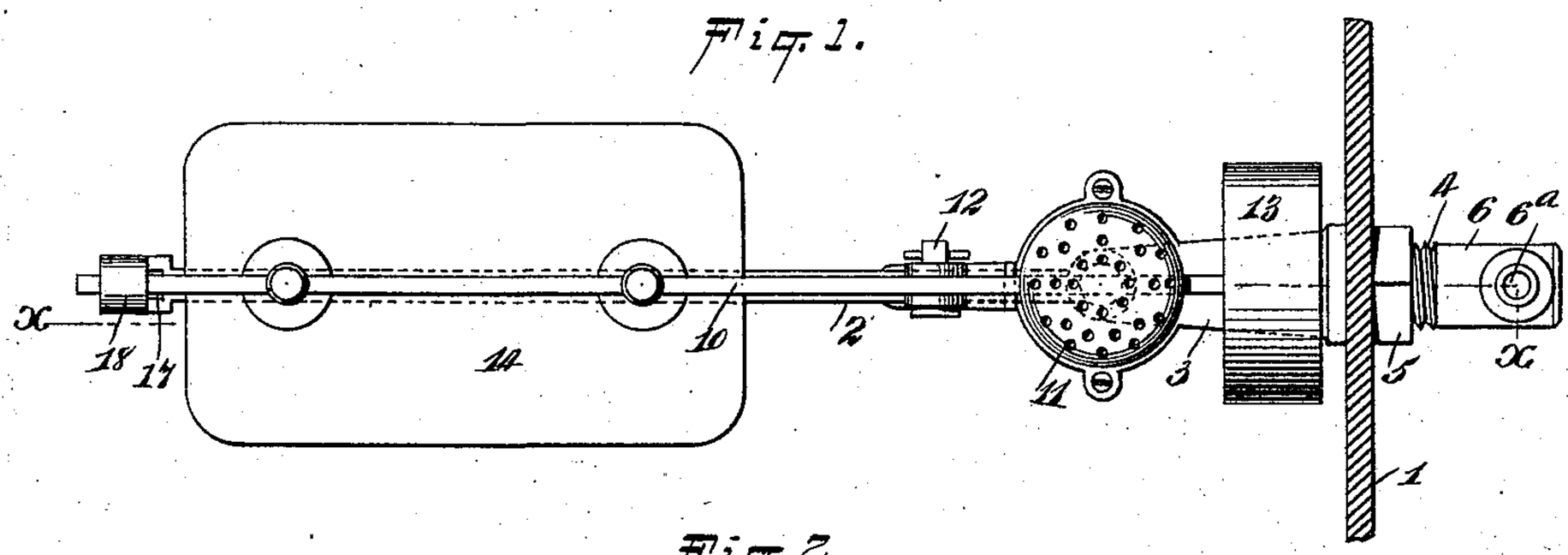

Fig. 2.

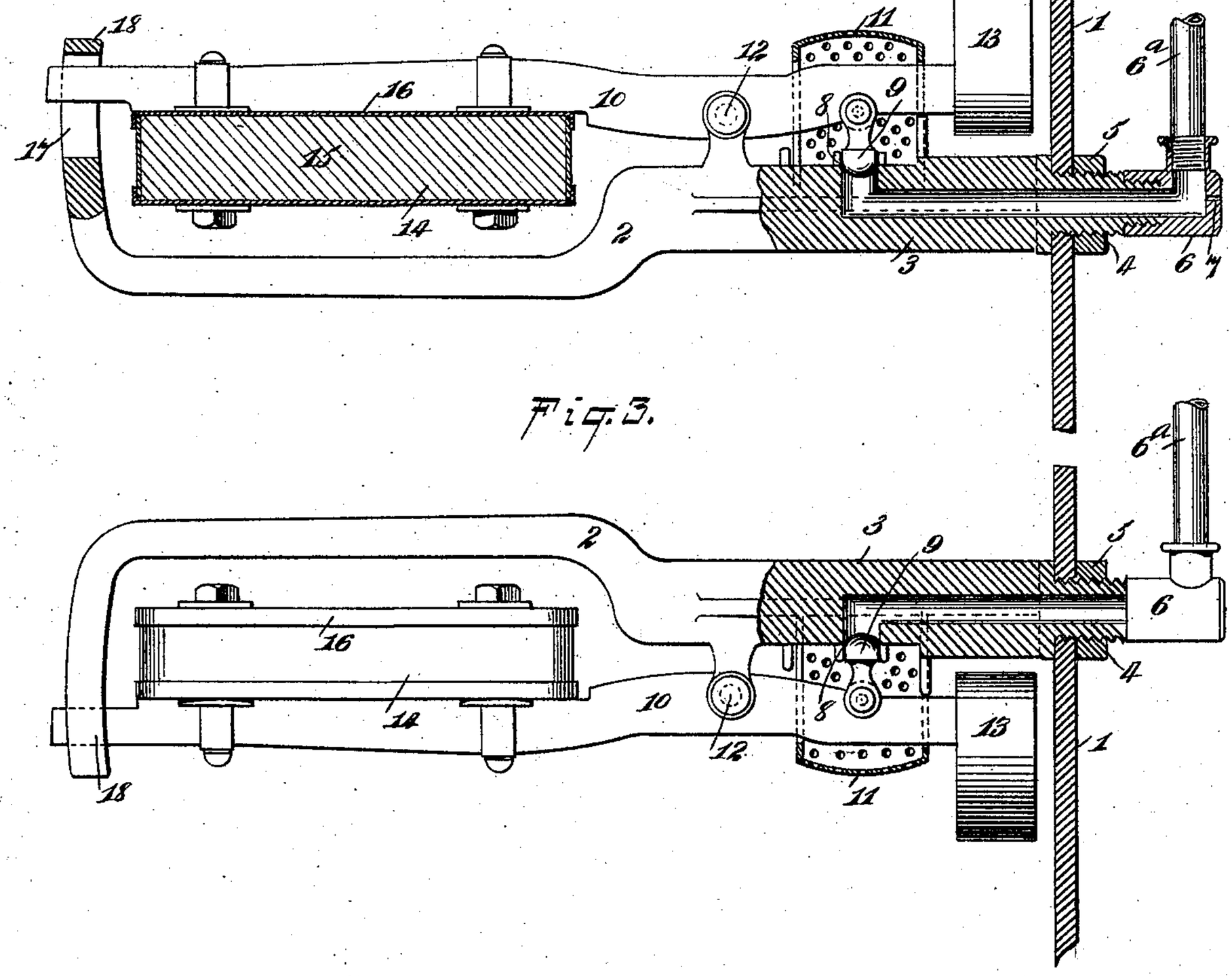

Fig. 3.

WITNESSES:

William P. Taebel.

J. B. Barbiger

INVENTOR

J. Parker.

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN PARKER, OF BRADFORD, ENGLAND, ASSIGNOR OF TWO-THIRDS TO HARRY PARKER, OF TULLAHOMA, TENNESSEE.

INDICATOR FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 575,933, dated January 26, 1897.

Application filed October 23, 1895. Serial No. 566,589. (No model.) Patented in England October 3, 1894, No. 18,706.

To all whom it may concern:

Be it known that I, JOHN PARKER, of Clyde Terrace, Wakefield Road, Bradford, county of York, England, have invented a new and Improved Indicator for Steam-Boilers, (patented in Great Britain, No. 18,706, dated October 3, 1894,) of which the following is a full, clear, and exact description.

This invention relates to certain improvements in indicators for steam-boilers and the like, such as are employed for indicating excessive rise or fall of the water-level in the boiler; and the object of the invention is to provide a device of this character of a simple and inexpensive construction adapted to be differently located in or on the boiler in order to effect different and desirable results.

The invention contemplates certain novel features of the construction, combination, and arrangement of the various parts of the improved indicator, whereby certain important advantages are attained and the device is made simpler, less expensive, less liable to derangement, and otherwise better adapted for use than various other similar devices heretofore employed, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view showing the device constructed according to my invention in place in a boiler for indicating the rise of the level of the water therein. Fig. 2 is a view showing the same in sectional side elevation, being taken in the plane indicated by the line *x x* in Fig. 1. Fig. 3 is a view similar to Fig. 2, but showing the device arranged in inverted position for indicating the fall of the water-level in the boiler.

Referring primarily to Figs. 1 and 2, 1 represents a fragment of the shell of a boiler to which my improved device is applied for use, and 2 represents the frame of the device, one end, 3, of which is tubular, being provided with an exteriorly-threaded end 4, arranged to be passed through the shell 1, as clearly seen, the device being located inside the boiler, and when so passed through the shell said screw-threaded end 4 is arranged to project to receive a nut 5, whereby the device is secured in place. Beyond the said screw-threaded portion the end 4 is still further reduced and screw-threaded, as clearly seen in Fig. 2, to receive a coupling 6, whereto a pipe 6^a may be connected, leading in any desired direction, and by preference said coupling 6 is further provided with a vent-hole 7 for purposes to be hereinafter explained.

At its inner end the bore of the tubular portion 3 of the frame is directed upward, as indicated at 8, and provided with a seat to be engaged by a plug or valve 9, pivoted on the end of a lever 10, inside a perforated casing 11, secured to the frame 1, surrounding said valve-seat, as clearly seen in the drawings, said casing 11 being slotted at opposite sides to permit the lever 10 to play through it, as will be readily understood, and said lever 10 is fulcrumed at 12 on frame 1, and provided at its forward end and adjacent to the valve 9 with a counterbalance or weight 13 and at its opposite end with a float 14, which may be conveniently constructed of a block of wood or like buoyant material 15, covered over with a sheathing of copper 16, as seen in the drawings, the extremity of that end of said lever 10 being guided in a slot 17 formed vertically in the upturned end 18 of the frame 1.

The device constructed as above described, when placed in position, as shown in Fig. 2, to indicate the fall of the water-level below the normal in the boiler, will act on such fall of the water-level to raise the valve 9 off its seat 8 and permit the water or steam, as the case may be, to flow through the bore of the tubular part 3 of the frame to the pipe 6^a, a portion thereof escaping at the vent-hole 7 in such a manner as to give warning to the attendant of the fact that the water in the boiler is too low.

When the water-level rises, the float 14 will also rise and overcome the counterbalance 13, so as to lower the valve 9 on its seat 8, and so close off the outflow of steam or water through the bore 3 of the frame, as will be readily understood.

When the device is to be employed to indi-

cate the rise of the water above the normal water-level in the boiler, so that priming and consequent waste of fuel and damage to the engines may be prevented, the device is simply arranged in the boiler in an inverted position, as seen in Fig. 3, so that when the water-level in the boiler rises the buoyancy of the float 14 will cause the same to rise and overcome the counterbalance 13, so as to move the valve 9 from its seat and permit the water or steam to pass from the boiler, so as to warn the attendant in the manner above described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination with a boiler, of a frame extended horizontally therein and having a guide-slot at the inner end, a tubular portion of said frame having its end reduced and threaded, the said reduced, threaded end being engaged through a tapped hole in the boiler-shell, a coupling provided with a small vent screwing onto the outer end of said tubular portion, a pipe extended from said coupling to carry away the greater portion of the discharge from the boiler, the lesser portion of said discharge being through the vent, to cause an alarm, a lever fulcrumed to the frame within the boiler and having one end passing through the guide-slot at the end of the frame, a valve on said lever for controlling an opening leading into the tubular portion of the frame, a float on said lever, and a counterbalance on said lever, substantially as specified.

JOHN PARKER.

Witnesses:
JOHN GILL,
JOSEPH KIRBY.