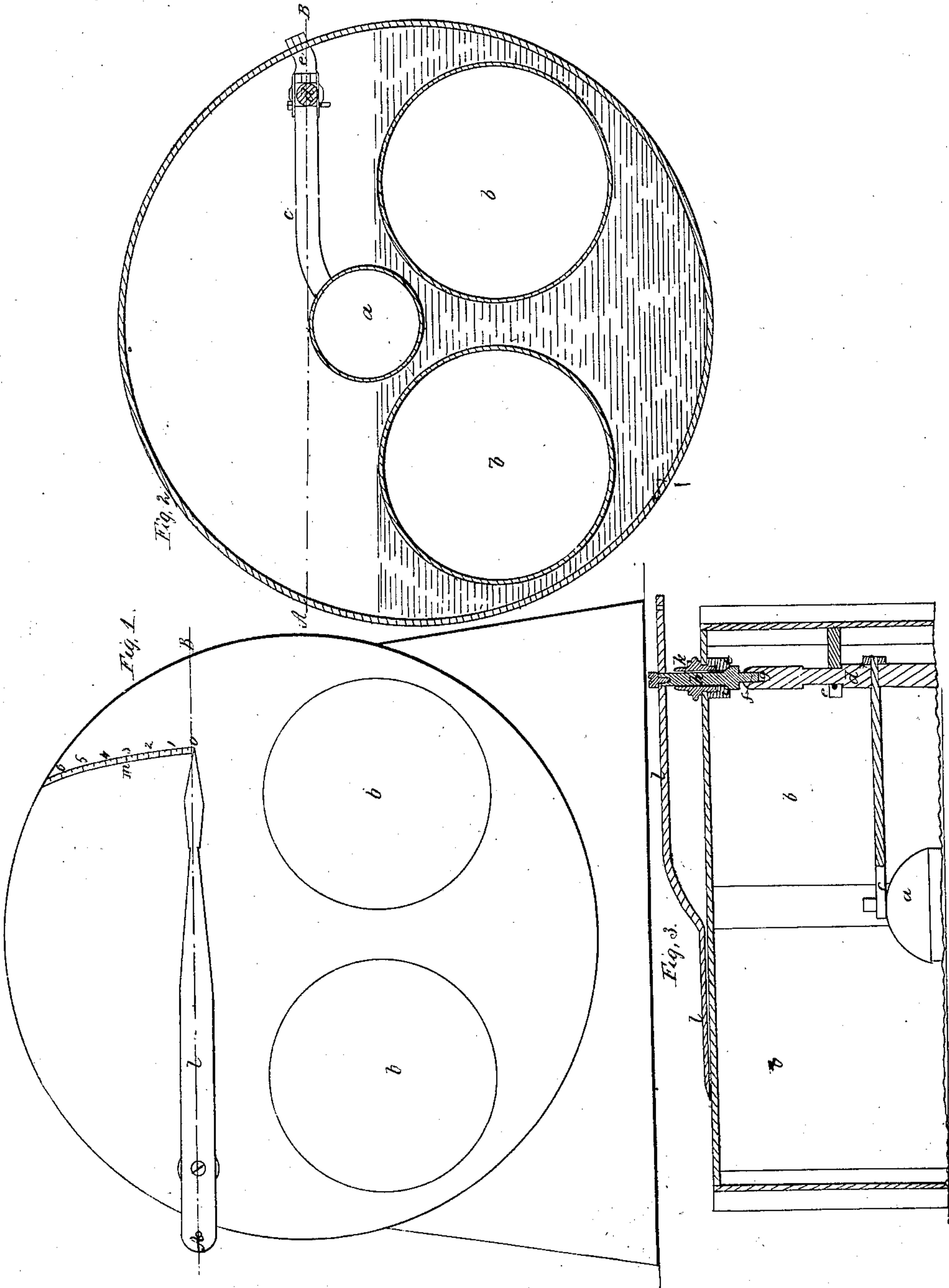


A. H. Judd.

Water Gauge.

N^o 8,273.

Patented Aug. 5, 1851.



UNITED STATES PATENT OFFICE.

ALBERT H. JUDD, OF MARINE TOWN, ILLINOIS.

WATER-LEVEL INDICATOR FOR STEAM-BOILERS.

Specification of Letters Patent No. 8,273, dated August 5, 1851.

To all whom it may concern:

Be it known that I, ALBERT H. JUDD, of Marine Town, county of Madison, and State of Illinois, have invented new and useful
5 Improvements in Float-Indicators of Steam-Boilers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings; making part of this
10 specification.

Figure 1, is an end view of a steam boiler, showing the index of my improved water gage, and graduated arc for measuring the height of the water within the boiler; Fig.
15 2, inner sectional view of a portion of the boiler, exhibiting parts of the water gage and their position when the index is at zero; Fig. 3, horizontal section of the same portion of the boiler in the line A, B, of Figs.
20 1, and 2.

Like parts in the several figures are designated by like letters.

I place a gage cock *h*, *k*, *i*, in the head of a boiler in any well known or usual manner; and to the outer end of the valve rod *h*,
25 I secure the index *l*. On the outer side of the head of the boiler, I figure (or secure thereto) a spaced and numbered arc *m*, to enable the index *l*, to point out the height
30 of water in the boiler. Within the boiler I place a shaft *d*, in the bearings *e*, which bearings are secured to the side of the boiler in such positions as to bring the said shaft
35 in a line with the axis of the valve *h*, of the aforesaid gage cock. A slit or mortise *g*, is formed in one end of the shaft *d*, into which a tenon *f*, on the inner end of the valve *h*, of the gage cock, accurately fits.
40 When the valve *h*, is forced outward firmly into its seat, the tenon on its inner end is partially drawn out of the slit or mortise in the shaft *d*, which enables the valve to be forced inward whenever it may be necessary to aid in indicating the height of water in
45 the boiler, or for preventing it from getting too firmly fixed within its seat. Arms *c*, project from the shaft *d*, to which a hollow

metallic float *a*, is secured, which is located above the space between the two flues *b*, *b*. The shaft *d*, is so arranged within its bear- 50 ings that it can turn freely therein. As the surface of the water in the boiler rises and falls the float *a*, ascends and descends with it, and consequently turns the shaft *d*, and the valve *h*, of the gage cock within their 55 bearings. Thus the float, as it rises and falls with the water in the boiler, communicates its motion to the index *l*. The arc *m*, is so graduated that the index points to zero when the surface of the water in the boiler 60 is even with the top of the flues *b*, *b*, and indicates by figures the number of inches which the water rises above the said flues. The float *a*, is placed directly over the space between the flues in order that the 65 concentrated current of steam, as it rises through the water in this space, may agitate the float and thereby communicate a trembling motion to the index.

In my improved gage, any obstruction to 70 its free action is indicated by the cessation of the trembling motion of the index, and may be immediately remedied by pushing in the valve *h*, when steam (or water) will be forced out through the aperture in *k*, and 75 remove the impurities that have accumulated about the valve.

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

The connecting the ordinary float placed 80 within a steam-boiler with an index placed on the out side of the same, through the medium of the valve of a gage-cock, by which I am enabled to remove any impurities which may at any time hinder the effective 85 action of the float substantially as herein set forth.

The above specification of my improved water gage for steam boilers signed this 21st day of May 1851.

ALBERT H. JUDD.

Witnesses:

Z. C. ROBBINS,
A. R. CORBIN.