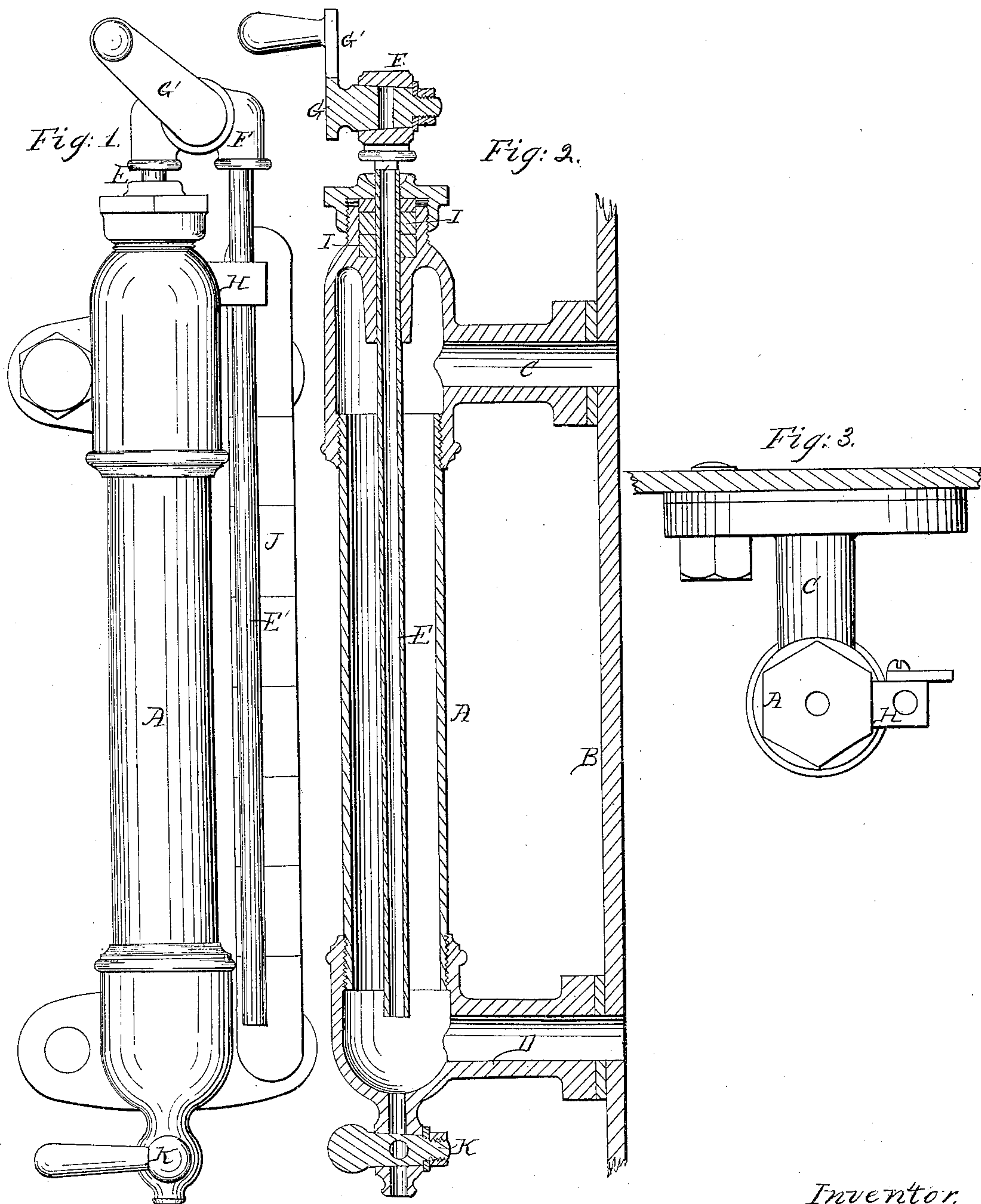


W. T. Howard,

Steam Gage Cock,

N^o 58,546,

Patented Oct. 2, 1866.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM T. HOWARD, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF
AND ISAAC McKIM CHASE.

IMPROVEMENT IN BOILER GAGE-COCKS.

Specification forming part of Letters Patent No. 58,546, dated October 2, 1866.

To all whom it may concern:

Be it known that I, WILLIAM T. HOWARD, of the city and county of Baltimore, in the State of Maryland, have invented a new and useful Adjustable Gage-Cock; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which are made a part of this specification, and in which—

Figure 1 is a side elevation of my improved gage-cock. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a plan of the same with the adjustable indicator removed.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to the devices which are applied to steam-boilers in order to ascertain the height of water from time to time and enable the proper supply to be constantly maintained. This object is generally accomplished by providing the boiler with a series of cocks located at different heights, and these cocks have to be tried successively to ascertain the water-level.

My improvement consists in an adjustable indicator, consisting of two hollow tubes or legs, one of which extends into a chamber in constant communication with the interior of the boiler, while the other extends downward at the outside of said chamber, forms a blow-off pipe when in communication with the first tube, and also indicates the height of the water upon an external graduated face or plate, as will be presently explained.

The following detail description will enable others skilled in the art to which my invention appertains to fully understand and use the same.

In the accompanying drawings, A represents a chamber, made in convenient sections and of any suitable form, and applied to the boiler B by screws, bolts, or otherwise. The interior of this chamber A communicates at top and bottom with the interior of the boiler B through the short pipes C D, and the water-level in the chamber A corresponds always with that in the boiler B.

E E' represent two tubes or hollow legs, which are connected together at top by the tubular coupling F, provided with a try-cock, G, having a bent handle, G', or a thumb-piece, to enable it to be turned by the hand.

The tube E is fitted to slide within the cap

of the chamber A, and extends down into the latter, as shown in Fig. 2. The tube E' is fitted to slide within a lug, H, on the outside of chamber A; and when the two tubes, together with the hollow coupling F, are raised or lowered, they will be retained in any position by the elastic collars I I, which are set inside of the cap of chamber A.

The tube E' is arranged in front of a graduated surface or plate, J, and as its lower end is always coincident with that of the inner tube, E, it will indicate on the graduated surface the amount of water within the boiler when the device is properly manipulated to attain this object.

The operation is as follows: If the water in the chamber A and boiler B has fallen below the lower extremity of the tube E, the opening of the try-cock G will permit steam to pass up through the tube E and issue at the lower end of the tube E'. Then, by gradually depressing the tubes E E' and coupling F till the steam ceases to issue, the lower end of the tube E' will indicate on the graduated surface J the exact height of water in the chamber A and boiler B, for as soon as the steam ceases to issue from tube E' the lower end of tube E will be slightly submerged in the water, and the tube E' will occupy a corresponding position.

The cock K in the lower end of the chamber A may serve as a try-cock, to ascertain the original supply before steam is up.

By means of my invention the single try-cock G is made to constitute a more accurate gage than a plurality of stationary cocks.

A valve of any suitable construction may be substituted for the cock G without changing the principle of my invention.

Having thus described my invention, the following is what I claim as new herein and desire to secure by Letters Patent:

1. The adjustable siphon or tubes E E', employed in combination with the chamber A and try cock or valve G, to indicate the water-level in the boiler, substantially in the manner specified.

2. The combination of the scale J with the adjustable gage-tubes, substantially as set forth.

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Witnesses:

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