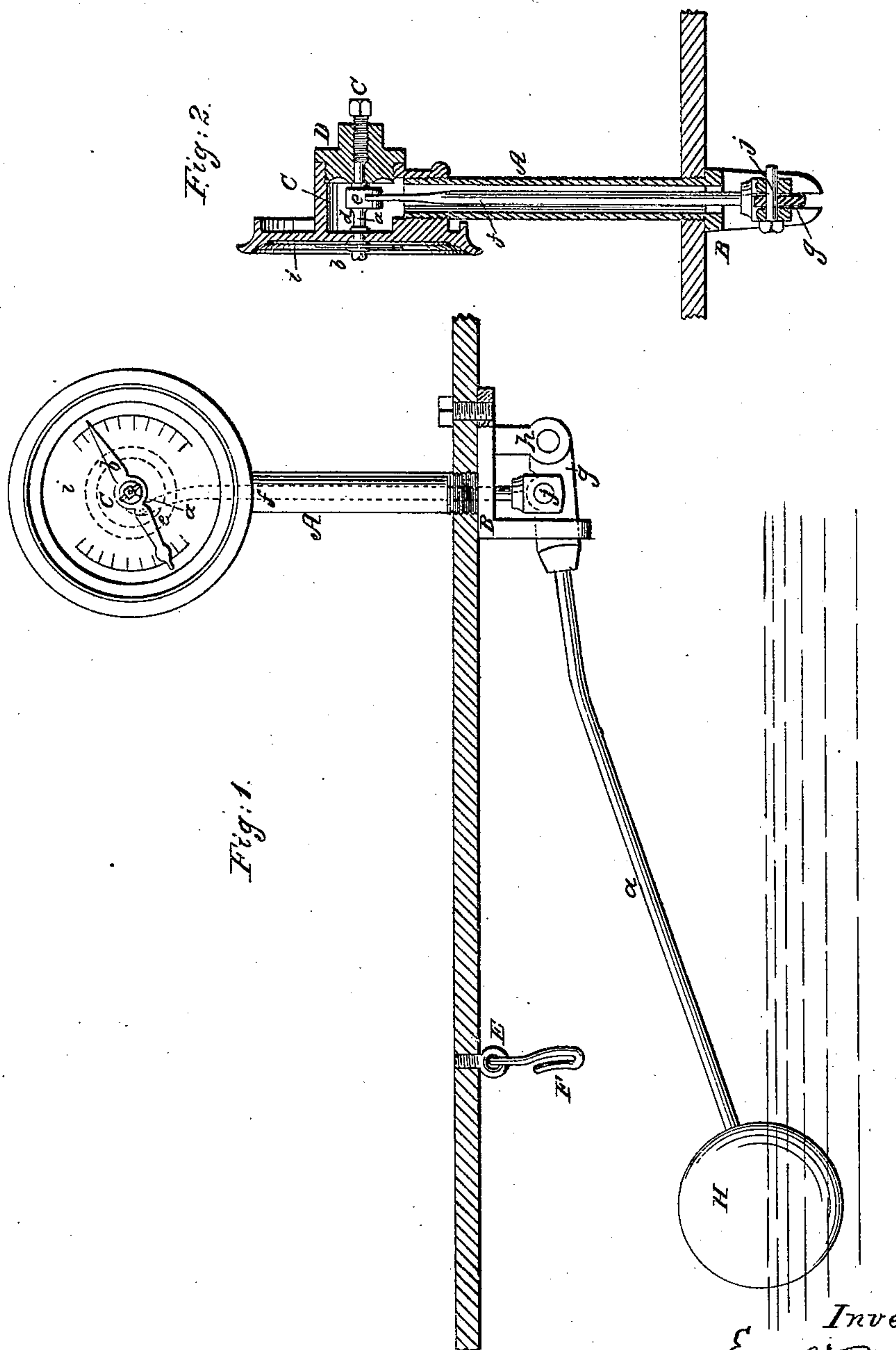


E. W. VANDUZEN.  
Water Gage for Steam Boilers.

No. 37,534.

Patented Jan. 27, 1863



Witnesses:  
J. W. Coombs.

Inventor:  
E. W. Vanduzen  
per Munroe & Co.  
attorneys.

# UNITED STATES PATENT OFFICE.

E. W. VANDUZEN, OF HAMILTON TOWNSHIP, OHIO.

## IMPROVEMENT IN WATER-GAGES FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. 37,534, dated January 27, 1863.

*To all whom it may concern:*

Be it known that I, E. W. VANDUZEN, of Hamilton township, in the county of Warren and State of Ohio, have invented certain new and useful Improvements in Water-Gages for Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of a gage constructed according to my invention. Fig. 2 is a central section of the same at right angles to Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

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

A is a tube, of cast-iron or other metal, made in the same piece with or otherwise secured to an angle-plate, B. This tube is inserted through a hole in the top of the boiler from an opening in the interior thereof, and the plate is bolted to the boiler. To the upper end of the said tube is screwed the steam-chamber C, the front of which is made of a form and size to make its outer face, *i*, serve as the dial, and the back of which is closed by the screw-cap D screwing into it.

*a* is the spindle of the index *b*, passing through the front of the chamber C and through the face of the dial, and entering a bearing in the screw-cap D, which is tapped outside of the said bearing for the reception of a screw, *c*, which bears against the rear end of the spindle. The said spindle has formed upon and around it a collar, *d*, which constitutes a valve and fits up to a seat in the back of the dial, and it is also furnished with

a crank or arm, *e*, for the attachment of the rod *f*, which passes down through the tube A and connects at *j* with the arm *g* of the float H. One end of this arm is attached to the float and the said arm works in a guide-slot formed in the vertical portion of the plate B. The tube A is large enough to permit the rod *f* to work through it without touching at any point.

E is an eyebolt secured inside the boiler to the top thereof, at a suitable distance from the plate B, and F the hook attached to the said eyebolt for the purpose of suspending the float-arm *g* near the float H, and holding up the latter close to the top of the boiler during the operation of cleaning out or repairing it.

When the boiler is in operation the tube A and chamber C are filled with steam, but the escape of the latter through the dial is prevented by the valve *d*, which obviates the necessity for stuffing-box and packing. When the steam goes down, there can be no lodgment of any water of condensation or dirt in the gage, as any water that might condense in the chamber C will run down through the tube A to the boiler. The float H, as it rises and falls with the level of the water in the boiler, acts through the arm *g*, rod *f*, and arm or crank *e* to turn the spindle and index, and make the latter always indicate the level on the dial *i*.

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

The combination of the valve *d* and cap D, with the dial-index spindle *a*, screw *c*, and rod *f*, all in the manner and for the purpose herein shown and described.

E. W. VANDUZEN.

Witnesses:

SAMUEL MURPHY,  
B. F. WILSON.