

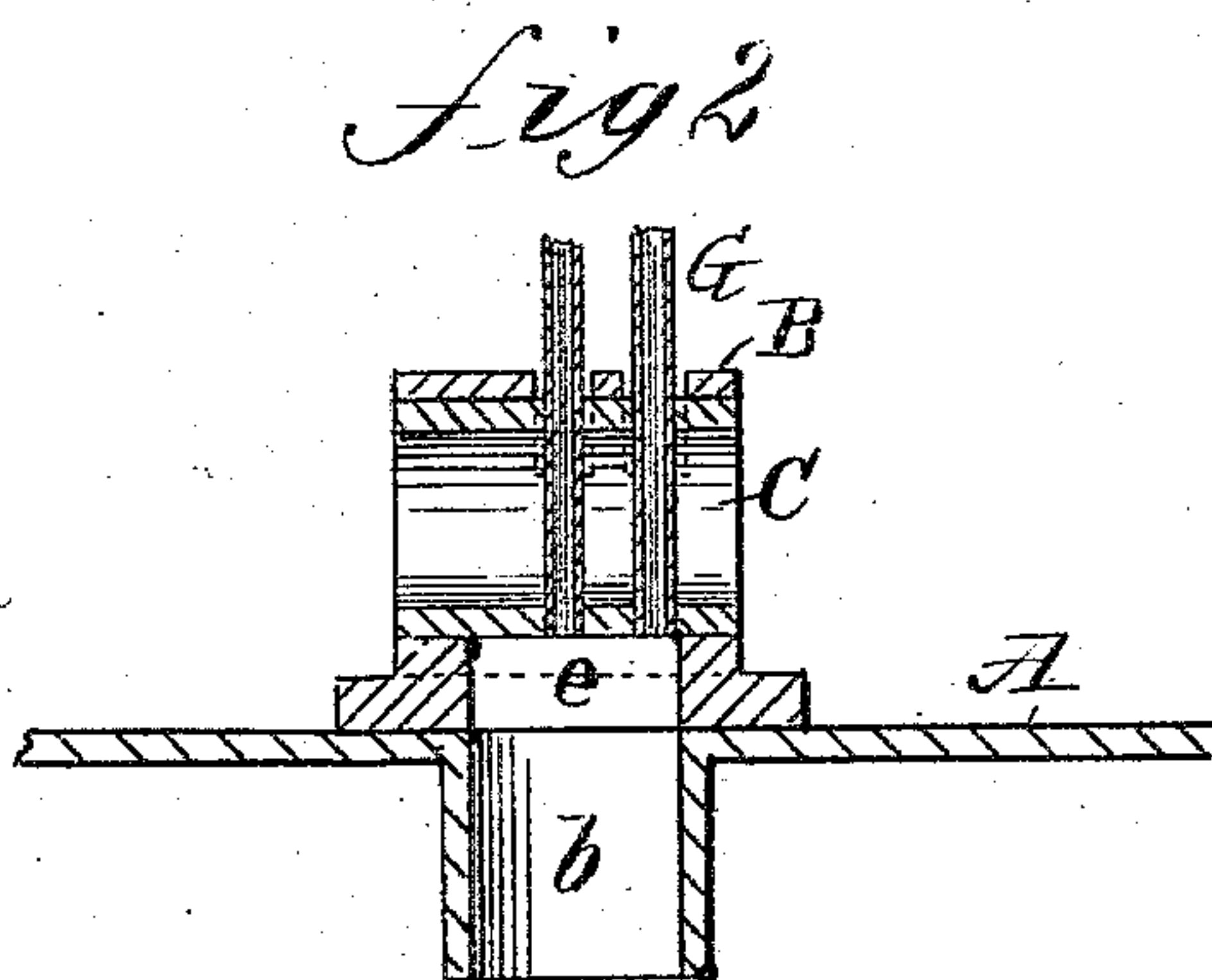
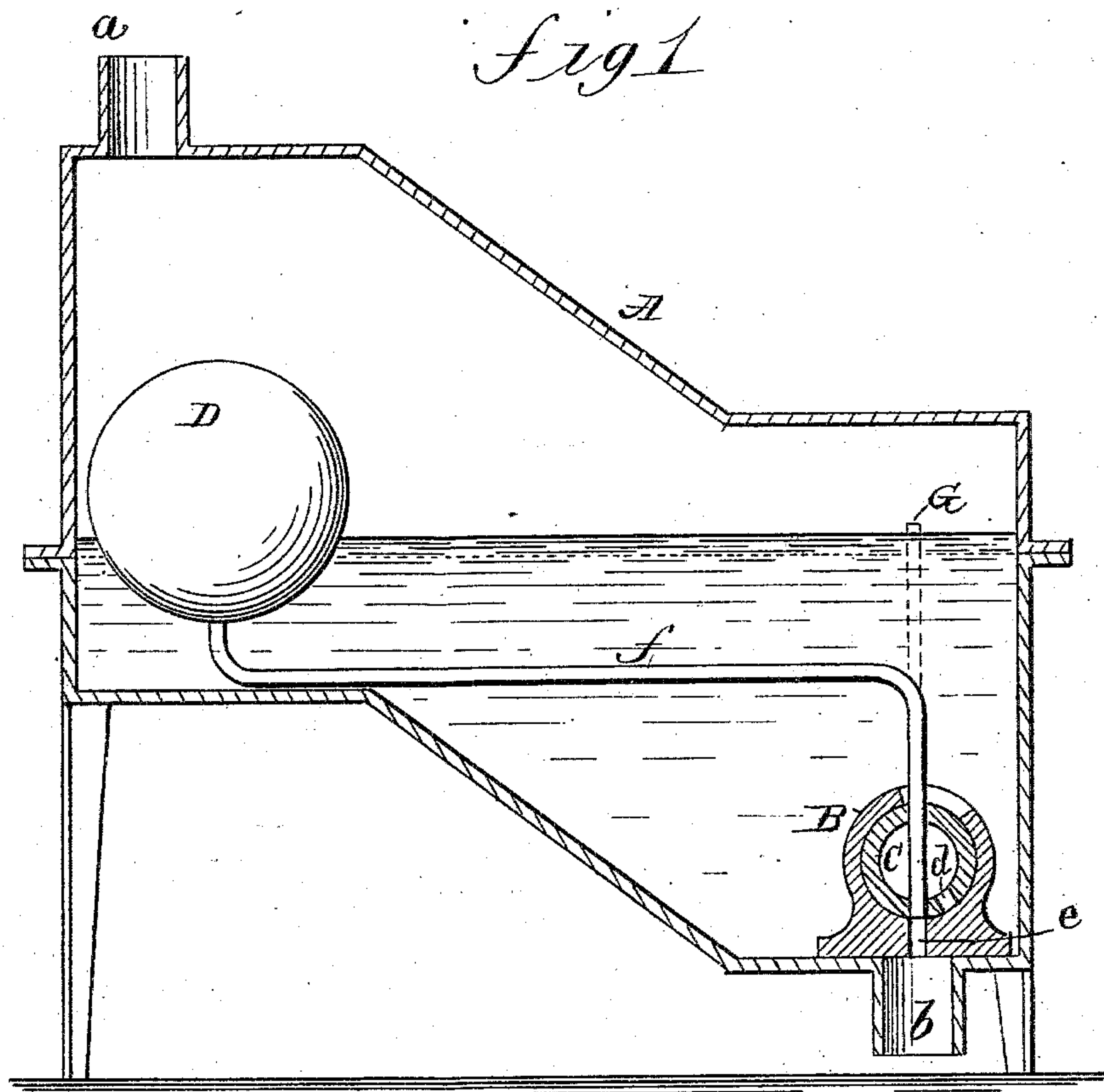
(No Model.)

W. & W. D. PUFFER.

STEAM TRAP.

No. 295,280.

Patented Mar. 18, 1884.



WITNESSES:

*J. D. Gifford*  
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# UNITED STATES PATENT OFFICE.

WILLIAM PUFFER AND WILLE D. PUFFER, OF JANESVILLE, WISCONSIN.

## STEAM-TRAP.

SPECIFICATION forming part of Letters Patent No. 295,280, dated March 18, 1884.

Application filed May 23, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM PUFFER and WILLE D. PUFFER, both of Janesville, in the county of Rock and State of Wisconsin, have invented a new and Improved Steam-Trap, of which the following is a full, clear, and exact description.

The object of our invention is to construct a steam-trap which will operate with either cold or hot water, and allow the cold air to pass out of the pipe, so that the water may enter the trap; and the invention consists in certain novel features of construction in trap-valves, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a vertical longitudinal section of our improved steam-trap. Fig. 2 is a longitudinal section of the valve and case.

A is the case or trap, formed in cast-iron, having an inlet-pipe, *a*, and an outlet-pipe, *b*. B is the valve-seat upon the bottom of the box or case A, over the outlet *b*, and formed with a rounded horizontal aperture that receives the hollow cylindrical valve C. The valve C is formed with a port, *d*, and the seat B with a port, *e*. *f* is a pipe carrying the float D, and passing through the valve C, so that the end of the pipe *f* terminates upon the opposite side of the valve coincident with the port *e* when the float D is in its lowest or normal position, thereby allowing the escape of the water of condensation from the interior of the

float. On account of the difference in temperature on the inside and outside of the float, water will permeate the material. It is, however, not new to furnish an outlet for it by connecting the inside of the float by a pipe with a discharge-outlet at a lower elevation. The valve C is also fitted with a pipe, G, which extends to about the normal water-line, so as to allow escape of cold air from the upper part of the trap-box to and through the port *e* and escape-pipe *b*. The upper surface of the seat B is slotted to give space for the movements of the pipes *f* G as the float rises and falls. With this construction and arrangement, when the water enters the inlet-pipe *a* the air in the trap will pass out by the pipe G, so that there is no hinderance to the free entrance of water to the trap, and, as the float rises by the rise of the water-line, the ports *d e* are brought into register, and the water, entering the ends of the hollow valve, escapes until the water-line is again lowered.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

In a steam-trap, the combination of the float D and its tubular arm *f* with the cylindrical valve C and seat B, provided with the port *e*, with which the tube *f* coincides in the normal position of the float, substantially as described.

WILLIAM PUFFER.

WILLE D. PUFFER.

Witnesses:

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