(No Model.)

G. W. SHEALEY.

STEAM BOILER.

No. 379,336. Patented Mar. 13, 1888.

Fig. 1.

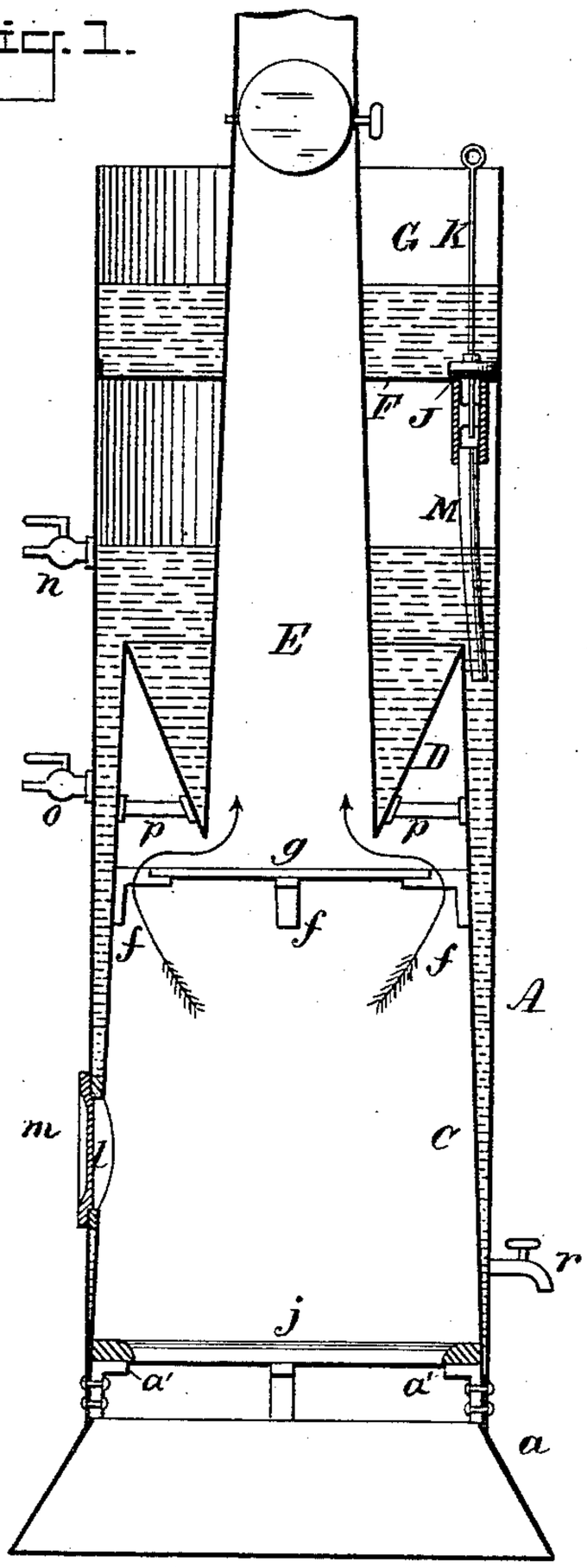


Fig. 2.

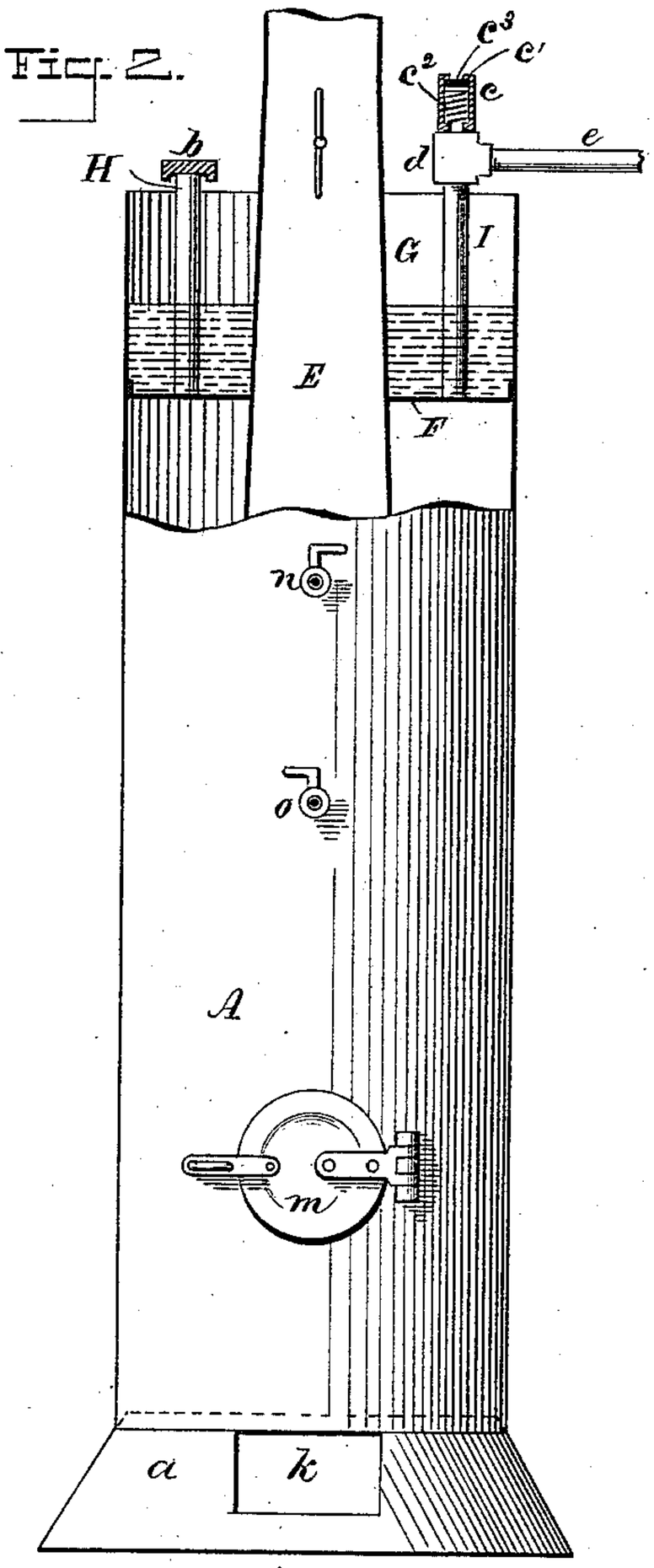
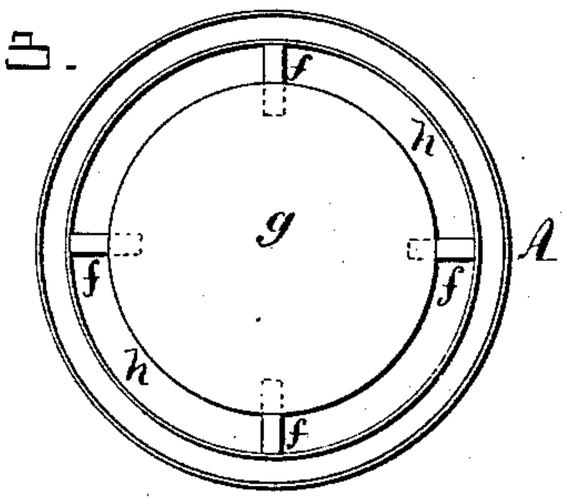


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE W. SHEALEY, OF HIAWATHA, KANSAS.

STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 379,336, dated March 13, 1888.

Application filed June 28, 1887. Serial No. 242,779. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SHEALEY, of Hiawatha, in the county of Brown and State of Kansas, have invented a new and Improved Steam-Boiler, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a vertical transverse section of my improved steam-boiler. Fig. 2 is a front elevation, partly in section; and Fig. 3 is a plan view of the deflecting-plate.

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

The object of my invention is to provide an inexpensive and efficient boiler for steaming and cooking feed, and for other purposes requiring steam at low pressure.

The invention consists in the construction and combination of the fire-box, crown-sheet, and fire-flue which is connected with the latter, as herein described and claimed.

The body A of the boiler is made of a cylindrical form and is fitted to a flaring base, *a*. To the lower part of the body A is fitted the fire-box C, which is of the form of a frustum of a hollow cone, the base of the conical fire-box being attached to the bottom of the body A. The lower part of the fire-box is provided with brackets *a'*, on which rests the grate *j*. The top of the conical fire-box is provided with a funnel-shaped crown-sheet, D, which projects downward into the fire-box, and is connected with a tapering flue, E, which passes upward through the center of the body of the boiler. In the head F are inserted pipes H I, the pipe H being provided with a weighted cap, *b*, forming a safety-valve.

The pipe I is provided with a vacuum-valve, *c*, consisting of a three-capped tube, *d'*, provided with a valve-seat, *c'*, and containing a spiral spring, c^2, arranged to press the valve c^3 to its seat, the said tube being inserted in a T, *d*, with which is connected the pipe *e*, by which the steam is taken from the boiler for use. I do not, however, claim this valve in this application.

In the bottom of the reservoir G is inserted a valve, J, having a valve-rod, K, which extends above the top of the reservoir and is provided with a handle, L. A pipe, M, communicates with the opening of the valve J and extends downward within the boiler and below the water-line.

To the sides of the fire-box C are attached brackets *f*, which support the deflecting-plate *g*, leaving an annular space, *h*, between the plate and the wall of the fire-box.

In the lower part of the boiler is placed the grate *j*, which is supported upon brackets B, attached to the sides of the boiler. The space *i* below the grate is provided with a draft-opening, *k*, which is of sufficient size to permit of removing the ashes. In the side of the fire-box is formed an opening, *l*, closed by a fire-door, *m*. In the side of the boiler are inserted try-cocks *n o* for ascertaining the level of the water in the boiler.

At the lowest point in the funnel-shaped crown-sheet D are inserted pipes *p* for removing the sediment from the V-shaped space around the flue E. A valve, *r*, is provided at the lower part of the boiler for removing the sediment or the entire body of water, as may be required. The flue E is provided with a suitable damper for controlling the fire.

Fire built in the fire-box C acts upon the thin body of water surrounding the said fire-box, and the flame and heat of the fire are thrown laterally against the walls of the fire-box by the deflecting-plate *g*, so that upon its return toward the center of the fire-box it strikes the V-shaped portion of the crown-sheet D and acts upon the thin body of water contained therein.

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

A steam-boiler formed of the cylindrical body A, the conical fire-box C, having the funnel-shaped crown-sheet D, and the tapering flue E, extending from the center thereof, substantially as described.

GEO. W. SHEALEY.

Witnesses:
SAMPLE F. NEWLON,
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