H. THOMPSON.

DOMESTIC BOILER.

No. 186,067. Patented Jan. 9, 1877.

Fig. 1.

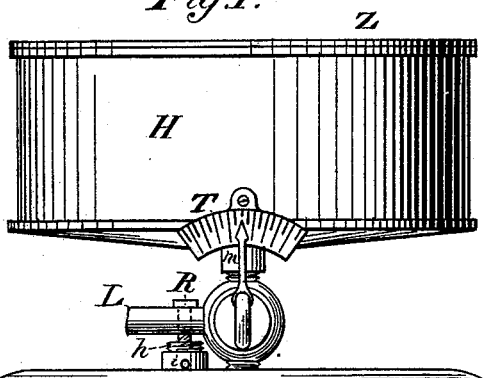
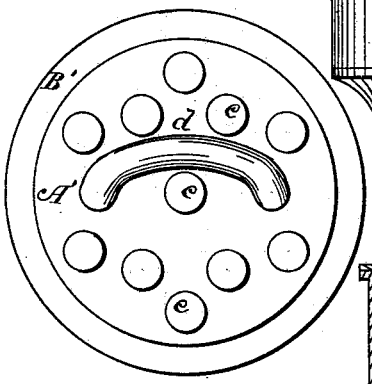


Fig. 4.

Fig. 3.



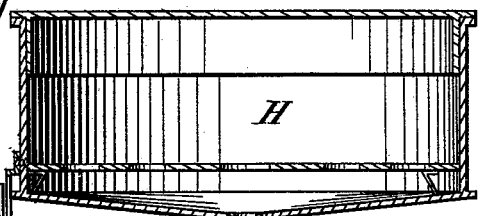
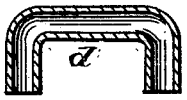
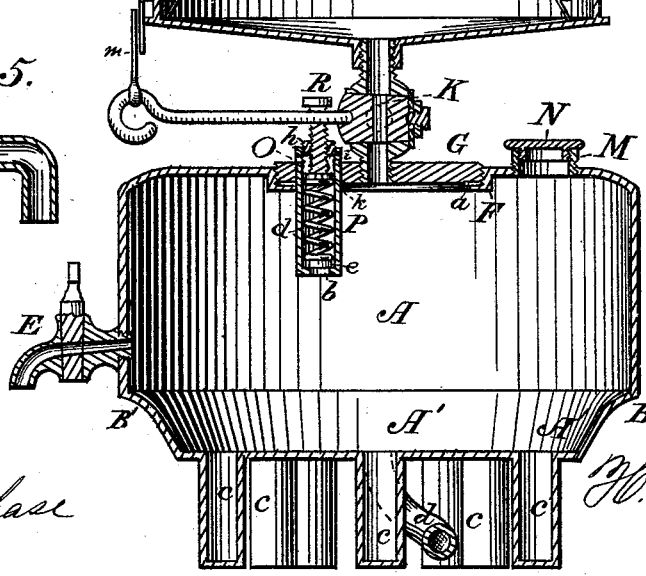


Fig. 2.

Fig. 5.





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UNITED STATES PATENT OFFICE.

HORACE THOMPSON, OF CONCORD, NEW HAMPSHIRE.

IMPROVEMENT IN DOMESTIC BOILERS.

Specification forming part of Letters Patent No. **186,067**, dated January 9, 1877; application filed October 20, 1876.

To all whom it may concern:

Be it known that I, HORACE THOMPSON, of Concord, in the county of Merrimack and State of New Hampshire, have invented certain new and useful Improvements in Steam-Boilers, of which the following is such a clear and exact description as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of the boiler complete. Fig. 2 presents a vertical section through both the boiler and water-tank above it. Fig. 3 is a plan of the bottom of the boiler; Figs. 4 and 5, views in detail of the tubes inserted into the same.

Similar letters of reference in the different figures indicate corresponding parts of the device.

This invention relates to that class of small boilers intended for household uses, the object being to produce a boiler which may be placed upon a cooking or other stove provided with the openings commonly used for inserting kettles and other culinary devices, and, owing to the large amount of heating-surface presented by the peculiar arrangement of tubes shown, shall generate sufficient steam to drive an engine or other motor for light work, such as running sewing-machines, pumping water, or similar purposes. It may also be used in connection with a radiator for heating rooms, experience having proved that the steam produced by one of these boilers will comfortably warm one or more rooms in the severest winter weather, and, further, it always affords a ready supply of hot water as well as steam for culinary purposes; and the invention consists in the construction and arrangement of the different parts, as will be hereinafter fully set forth, and then specifically pointed out in the claims.

In the drawings, A represents the boiler, formed of any suitable material, and either round, as shown, or elongated, so as to occupy the space taken up by two of the openings in the top of a stove, as is done by the ordinary wash-boiler. It may be provided with handles, as shown at B, for its easy removal from and replacement upon the stove. The bottom A′ of the boiler is constructed of sheet metal; or, if desired, it may be cast in one piece with the tubes, and has a shoulder, B′, which rests upon the top of the stove. Cast with or inserted in its bottom is a series of tubes, *c*, their lower ends closed and the upper opening freely into the boiler. Another tube, *d*, open at both ends and bent into a U shape, is placed in such a position as to occupy the space between the tubes *c*. One or more of these may be used, if desired, their purpose being to utilize space and to keep up a circulation in the water of the boiler, as well as to increase the heating-surface. A cock, E, is inserted near the bottom, and furnishes a means of drawing hot water from the boiler whenever desired. In the top of the boiler is formed or secured the packing-ring F, having a screw-thread cut upon its inner surface, into which screws the flange or cover G, a steam-tight joint being formed by inserting between them the rubber gasket *a*. Forming a part of or secured to the cover G is the three-way cock K, opening at its lower end into the boiler, and at the top into the tank H, which is secured to its upper end. It also forms a means of communication between the boiler and the pipe L, which is used for the purpose of conveying the steam generated by the boiler to any point where its services may be required. The tank H serves as a heater to contain water for feeding the boiler, and may also be utilized as a steamer for cooking purposes. In supplying the boiler with water the steam is allowed to escape until, upon forming a communication with the tank by means of the cock K, the pressure of the water therein will be sufficient to cause it to flow into and fill the boiler to the desired height. An additional opening into the boiler is formed by the short tube M, provided with the screw-plug N, by which the boiler may be supplied when the tank H is in use for cooking or other purposes. A safety-valve, O, is provided, composed of the tube P, passing into the boiler through the cover G, and provided with a small orifice, *b*, for the escape of steam. Covering this orifice, within the tube, is a valve, *e*, held in place by the spiral spring *d*, the pressure of which upon the valve is regulated by the screw R, passing through the cap *h* in the upper end of the tube P, the lower end of

the screw being provided with a washer, *k*, resting upon the spring. It will be apparent that, by turning the screw R, the pressure of the spring upon the valve may be increased or diminished at pleasure. The escape-steam, after entering the tube P, makes its exit through the series of holes *i*, pierced through the upper part of the tube.

An index or pointer, *m*, may be attached to the handle of the plug of the cock K, and a quadrant, T, attached to the tank, having marked upon it the points at which the plug should be placed to give the various openings to the tank or service-pipe that may be necessary.

I am aware that boilers for generating steam have been constructed which could be placed upon an ordinary stove, and that tanks or receivers for holding food while being cooked have been placed above such boilers and connected with them by suitable pipes or apertures. I do not, therefore, broadly claim such construction; but,

Having thus described my invention, I claim as new, and desire to secure by Letters Patent of the United States, the following:

1. The boiler-body A, constructed as shown and described, in combination with the bottom A′, provided with the pendent heating-tubes *c* and curved circulating-tubes *d*, substantially as and for the purpose specified.

2. The boiler A, constructed as described, in combination with the three-way cock K and tank H, as set forth.

3. The three-way cock connected with the flange or cover G, in combination with the safety-valve O, constructed as described, and the boiler A, as and for the purpose set forth.

In testimony whereof I have hereunto affixed my signature in presence of two witnesses.

HORACE THOMPSON.

Witnesses:
R. E. WALKER,
WM. M. CHASE.