(No Model.)

M. FURLONG.

HOT WATER BOILER.

No. 532,872. Patented Jan. 22, 1895.

Fig. 1.

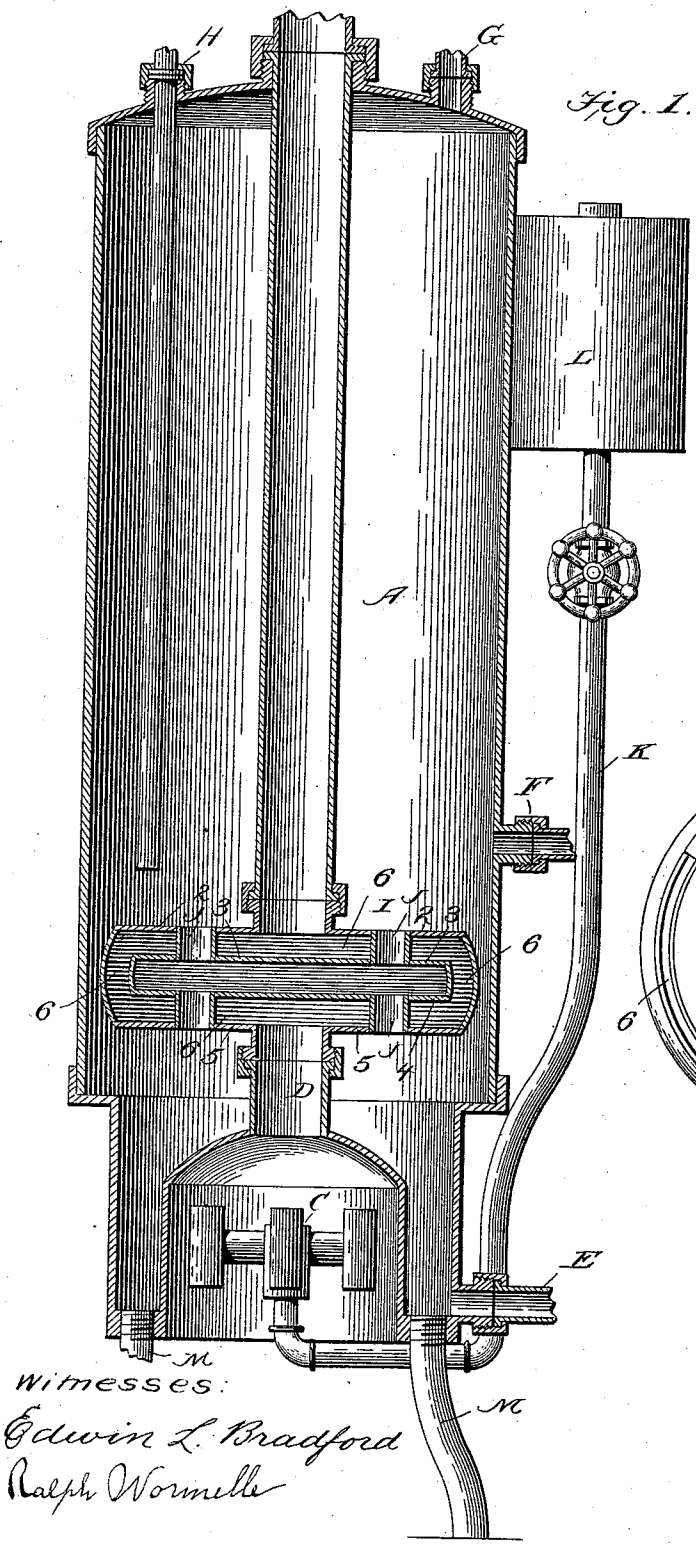
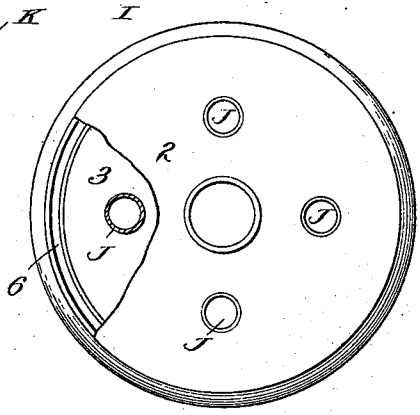


Fig. 2.



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UNITED STATES PATENT OFFICE.

MATTHEW FURLONG, OF NILES, OHIO.

HOT-WATER BOILER.

SPECIFICATION forming part of Letters Patent No. 532,872, dated January 22, 1895.

Application filed July 20, 1894. Serial No. 518,108. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW FURLONG, a citizen of the United States of America, residing at Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Hot-Water Boilers, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of the present invention, is to combine with the ordinary domestic hot water boiler an auxiliary heating attachment to be used independently of the range or in connection therewith, when required to heat the water. When a quantity of hot water is desired for laundry or other purposes the auxiliary heater is utilized. In warm weather when it is not desirable to run the kitchen range, the water in the boiler can be heated by the supplemental attachment.

The boiler specially designed to be used in connection with the auxiliary heater has a chamber in its bottom to receive the burner and concentrate the heat and a flue communicating with this chamber passes through the boiler to the chamber or other convenient point of discharge to convey away the fumes and other noxious odors from the burner. A heating drum is located near the bottom of the boiler and the heated gases circulate through the same prior to escaping thereby utilizing the heat to the best possible advantage.

The improvement will be more fully described hereinafter and claimed and is shown in the accompanying drawings, in which—

Figure 1 is a vertical central sectional view of a boiler embodying the invention. Fig. 2 is a top plan view of the heating drum, parts being broken away.

The boiler A, is of usual appearance, being constructed of galvanized iron or other suitable metal in a cylindrical form and headed in the usual manner. A chamber is formed in the bottom to receive a burner C. In the preferable construction, the chamber is formed in a hollow casing depending from the bottom. The top of the chamber is arch shaped and a pipe D leads from the crest thereof and passes through the boiler and one through the roof and connects with a chimney. E represents the connection to which the cold water pipe from the range is attached. F is a similar connection for the hot water pipes from the range. The hot water service pipe is coupled at G, and H, is the cold water supply pipe.

The couplings E and F will be of suitable construction to facilitate the connecting and the disconnecting of the boiler, as required, and prevent any looseness of joint under the changes due to contraction and expansion and will be packed in the usual manner with asbestos or other material to obtain and preserve a steam and water tight joint.

The heating drum I is composed of four plates 2, 3, 4 and 5 which are arranged in parallel relation, and spaced apart. The inner plates 3 and 4 are smaller than plates 2 and 5 and are connected at their edges, and the plates 2 and 5 are also connected at their edges. The space 6 comprised between the plates 2 and 3 4 and 5, and the edge connections, form a chamber for the passage of the heated gases. The space between the plates 3 and 4 is a water chamber through which the water circulates by means of a series of short tubes J, supported in the plates 2, 3, 4 and 5, and extending across the hot air space 6 only. There may be as many of these heating drums as desired. Usually one will be found sufficient and is located close to the bottom of the boiler.

The burner C may be a gas or a hydrocarbon burner and will be connected by pipe K, with the source of supply. When gas is not used a tank L, is provided to contain the hydrocarbon to supply the burner.

The feet M, close openings in the bottom of the boiler and when removed admit of the boiler being cleaned of sediment.

I claim—

1. The combination with a domestic boiler having a hot air pipe extending therethrough, of a heating drum located in the boiler comprising an outer shell disposed in the length of the hot air pipe, an inner shell inclosing a water space and forming with the outer shell a hot air space, and a series of short tubes extending across the hot air space and affording communication between the water space and the interior of the boiler, substantially as described.

2. A heating drum for domestic boilers

comprising a series of four plates spaced apart and disposed in parallel relation, the inner and the outer plates having their respective edges connected together to provide shells, the inner shell being of less diameter than the outer or inclosing shell and constituting a water space, and short tubes extending across the space provided between the inner and the outer plates, substantially as and for the purpose specified.

3. The herein described domestic boiler having a hollow base to provide a dome shaped chamber, a burner located in the said chamber, a drum located in the boiler, and comprising inner and outer shells constituting, respectively, a water and a hot air space, short tubes extending across the hot air space and connecting the water space with the interior of the boiler, a pipe connecting the dome of the said chamber with the lower wall of the drum, and a second pipe leading from the top wall of the drum through the boiler, substantially as described and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

MATTHEW FURLONG.

Witnesses:
C. H. STROCK,
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