E. M. DEEY.

Magazine Stove.

No. 111,914. Patented Feb. 21, 1871.

Fig. 1.

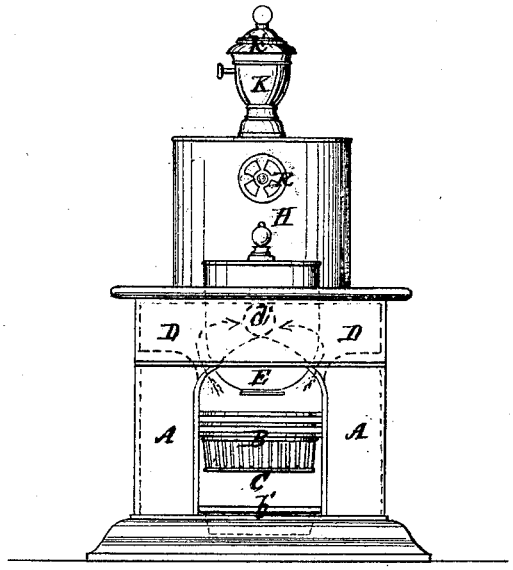


Fig. 2.

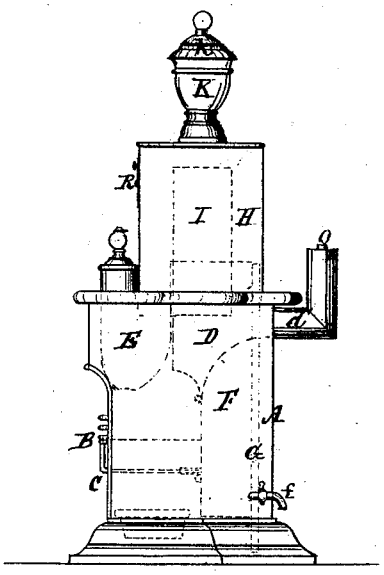


Fig. 3.

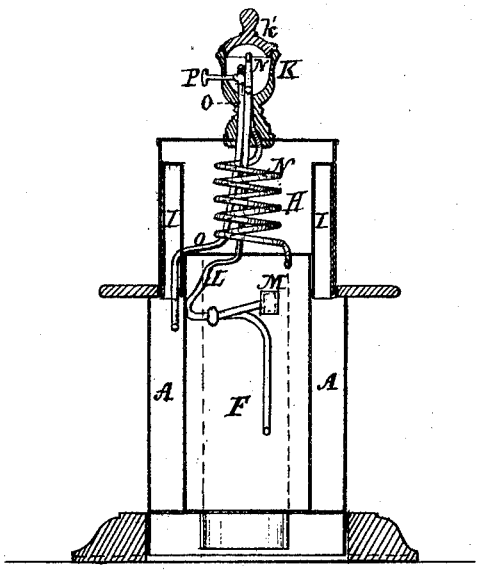
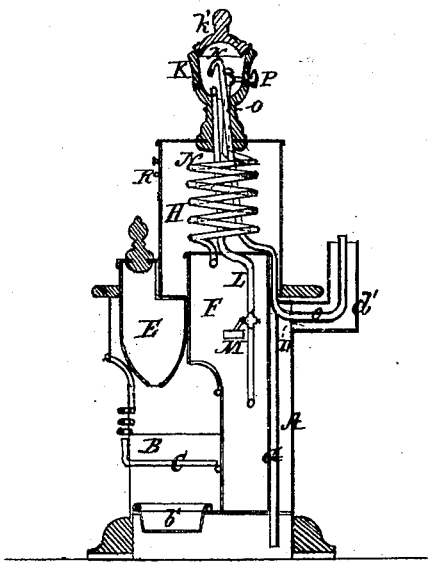


Fig. 4.



Witnesses

Arthur Weiel

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Inventor

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EDWARD MORTIMER DEEY, OF NEW YORK, N. Y.

Letters Patent No. 111,914, dated February 21, 1871.

IMPROVEMENT IN BASE-BURNING STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

I, EDWARD MORTIMER DEEY, of the city, county and State of New York, have invented certain Improvements in Stoves for Heating and Ventilating Dwellings, of which the following is a specification.

The nature of my invention consists in partially inclosing the fire-grate in a hollow casing, and placing immediately back of the grate, and partly over it, a boiler for generating steam for heating the air contained in an air-chamber placed over the boiler. Said air-chamber, being supplied with cold air through an air-passage extending from near the floor of the room, or from outside the building up into the air-chamber, and being heated therein, escapes through a register or apertures near its upper surface into the room.

It also consists in placing, over the hot-air chamber an urn or reservoir for supplying water to the boiler, and for condensing the steam discharged through the coil of pipe from the boiler, and permitting the evaporated water to escape into the room when desired, while the surplus steam and vapor is discharged from the urn, through the stove smoke-pipe into the chimney of the room, by means of an exhaust steam-pipe; and

It consists in placing above the fire-grate, in front of the boiler and air-chamber, a magazine to contain coal for supplying the fire on the self-feeding plan, by means of which arrangement I produce not only a healthy circulation of the atmosphere in the room, but render the condition of the atmosphere normal, healthful, and agreeable, by a proper circulation and temperature of the air and evaporation of the condensed steam and water, while a great amount of pleasant heat is thrown off from the stove into the room by a proportionately small amount of fuel, as I will further explain by reference to the drawing, in which—

Figure 1 is a front elevation of my invention, showing the coal-magazine and smoke-passages in dotted lines;

Figure 2, a side elevation, showing coal-magazine, boiler, and radiators in dotted lines;

Figure 3, a vertical section parallel to the front of the stove, showing water-supply pipe, air cock, coiled steam-pipe, and exhaust steam and vapor-pipe; and

Figure 4, a section at right angles to fig. 3, showing coal-magazine, boiler, hot-air chamber, cold-air passage, &c.

In the said drawing—

A indicates the hollow casing or stove-body, which receives a portion of the products of combustion from the fire in the grate;

B, the fire-grate, with removable bottom C; and

b', the ash-pit.

This grate may have doors with mica lights, if preferred.

D D are the smoke-passages leading from the grate on each side through the stove-body to the smoke-discharge pipe *d'*.

E is the coal-magazine placed directly over the stove. This magazine may have a small slide at its point of discharge, to prevent coal dropping when the grate is removed.

F is the boiler in rear of the grate, for generating steam.

It extends part way up into the air-chamber, and aids in heating the cold air, and is provided with a drain-cock, *f*.

G is the cold-air passage in rear of the boiler, into which the cold air is drawn from the floor, and partially heated in its ascent to the hot-air chamber H placed immediately over the boiler.

This air-chamber is provided with a register, R, and may have numerous vents through which the hot air therein can escape into the room.

I I are radiators, into which the heat from the fire ascends, aiding to heat the fresh air in the chamber H.

K is a reservoir placed immediately over and on the hot-air chamber, through which water is supplied to the boiler by means of the pipe L, said pipe being provided with a ball or air-cock, M, for regulating the required amount of water in the boiler.

N is a coil of steam-pipe for taking up steam from the boiler for heating the air in the air-chamber H, and afterward discharging the steam on the surface of the water in the reservoir K, for the purpose of condensing the steam and evaporating the water, which evaporation is permitted to escape into the room, between the mouth of the reservoir and its cap *k'*, by partially unscrewing the said cap.

O is the steam and vapor-exhaust pipe, provided with a cock, P, for conducting off surplus steam and vapor through the flue.

This exhaust-pipe passes down from the reservoir into and through the smoke-discharge pipe *d'*, thereby securing by its jets of exhaust steam and vapor a good draught for the stove and chimney of the room.

What I claim is—

1. The hot-air chamber H, provided with its boiler E, radiators I I, steam-pipe coil N, cold-air passage G, and register R, substantially as and for the purposes set forth.

2. The reservoir K, provided with water-supply pipe L, steam-pipe N, and steam-exhaust pipe O, for the purposes substantially as described.

3. The boiler F, provided with water-supply pipe L, having an air-cock, M, steam-pipe, N, and drain-cock, *f*, in combination with the hot-air chamber H and reservoir K, substantially as and for the purposes specified.

4. The coal-magazine E, in combination with the grate B C, hot-air chamber H, and reservoir K, substantially as and for the purpose described.

In testimony whereof I have hereunto set my signature this 9th day of January, 1871.

EDWARD MORTIMER DEEY.

Witnesses:

ARTHUR NEILL,

THOMAS MALONEY.