

S. B. SPAULDING.

Sap Boiler.

No. 37,464.

Patented Jan. 20, 1863.

Fig. 1

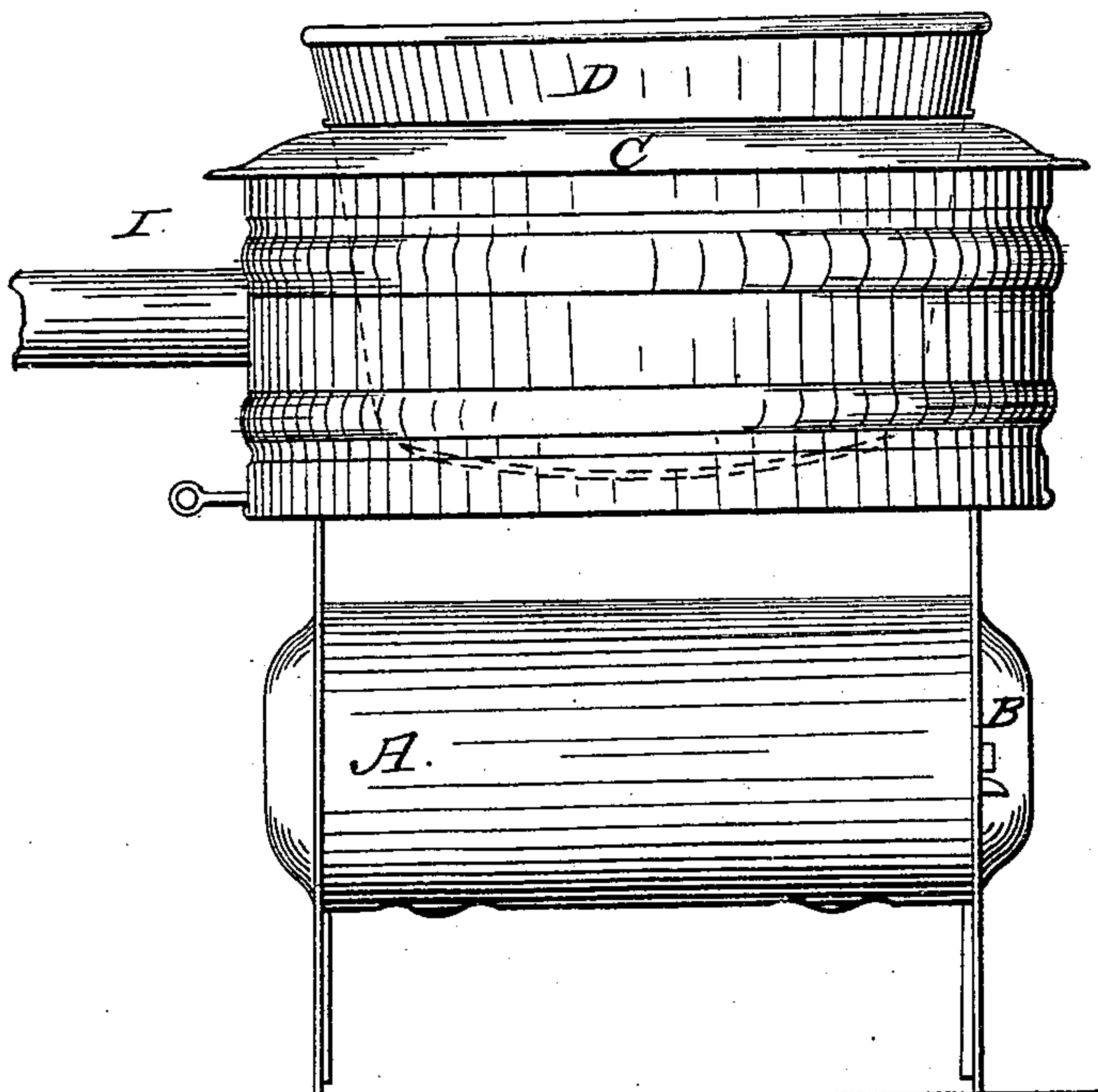
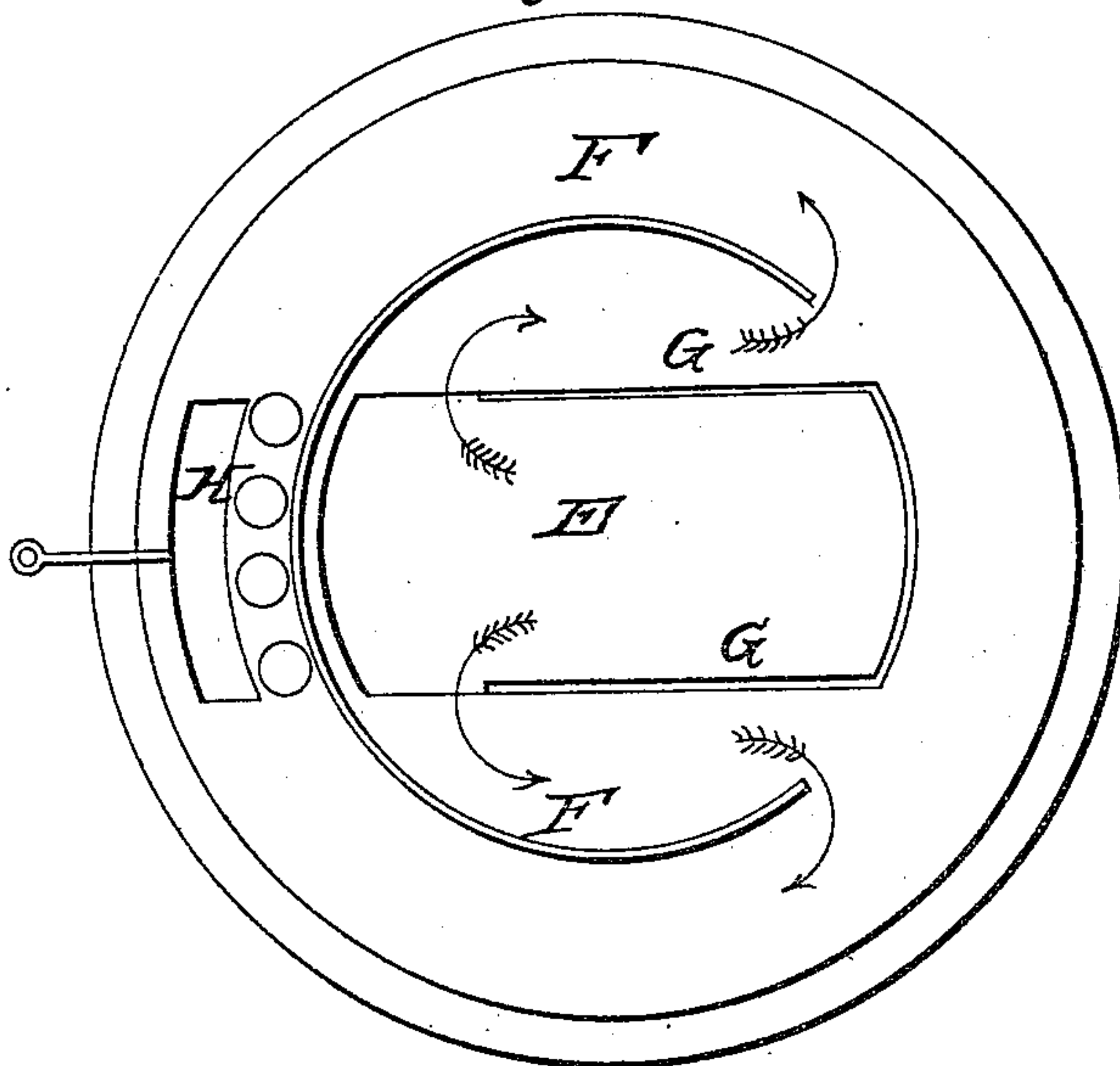


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL B. SPAULDING, OF BRANDON, VERMONT.

IMPROVEMENT IN STOVES FOR BOILING SAP.

Specification forming part of Letters Patent No. 37,464, dated January 20, 1863.

To all whom it may concern:

Be it known that I, SAMUEL B. SPAULDING, of Brandon, in the county of Rutland and State of Vermont, have invented a new and useful improvement in stoves for boiling sap, cooking food for animals, washing, ironing, and other purposes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of a peculiar arrangement of hot-air chambers and flues, in combination with a boiler and stove.

In the accompanying drawings, Figure 1 is a side view of my stove, air-chamber, and boiler, arranged in working position. Fig. 2 is a bird's-eye view of the bottom of the air-chamber, the boiler being removed to show the arrangement of the flues and the ring for supporting the bottom of the boiler.

The stove is intended for burning wood, which is put into the cylinder A through the door B. Above this fire-cylinder is a cylindrical chamber, C, the upper part of which embraces the upper part of the boiler D, the boiler itself extending near the bottom of the chamber C, as shown in dotted lines, Fig. 1. The bottom of the boiler comes near down upon the long open space E in close contact with the fire, the outer portion of the boiler resting upon the ring F, which rises above the bottom plate of the chamber, and thus forms the sides of the flue extending from the stove to the air-chamber. The opposite sides of the flues are formed by two plates, G, which rise to meet the bottom of the boiler, as seen in the double dotted lines in Fig. 1. The boiler itself forms the top of these flues, the smoke taking the direction of the arrows, Fig. 2. In kindling the fire, or when the heat is too great, the damper H may be opened so that the heat will pass directly to the pipe I. By this arrangement the boiler is exposed to

the full effect of the direct action of the fire. Then the flues embracing the bottom of the boiler concentrate and detain the escaping heat in the best manner for heating the boiler, while the chamber C retains a large volume of air around the main body of the boiler. The smoke-pipe I is placed some distance below the top of chamber C, so that the hotter air and smoke is always retained in the top of chamber C, while the cooler passes off.

The construction of my stove is very simple, the air-chamber being a cast-iron plate at bottom, and the top also being of cast-iron, while the body of the chamber is made of sheet-iron.

When it is desired to heat irons for ironing, a sheet-iron pan may be put in place of the boiler. The form of the lower part, A, of the stove may be varied to use coal if desired, or other changes may be made, so long as the hot-air chambers and flues are substantially the same.

I do not broadly claim flues and air chambers or passages for retaining the heat in contact with the boiler, but confine myself to the peculiar construction above described, the fire-space E and flues being in close contact with the bottom of the boiler, while the sides and top of the latter are surrounded and embraced by the spacious air-chamber C.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The peculiar air-chamber C, in combination with the stove A and boiler D, the bottom of the latter being embraced by the fire-space E and flues, while the upper part is embraced by the top of the hot-air chamber, substantially in the manner and for the purposes set forth.

SAMUEL B. SPAULDING.

Witnesses:

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