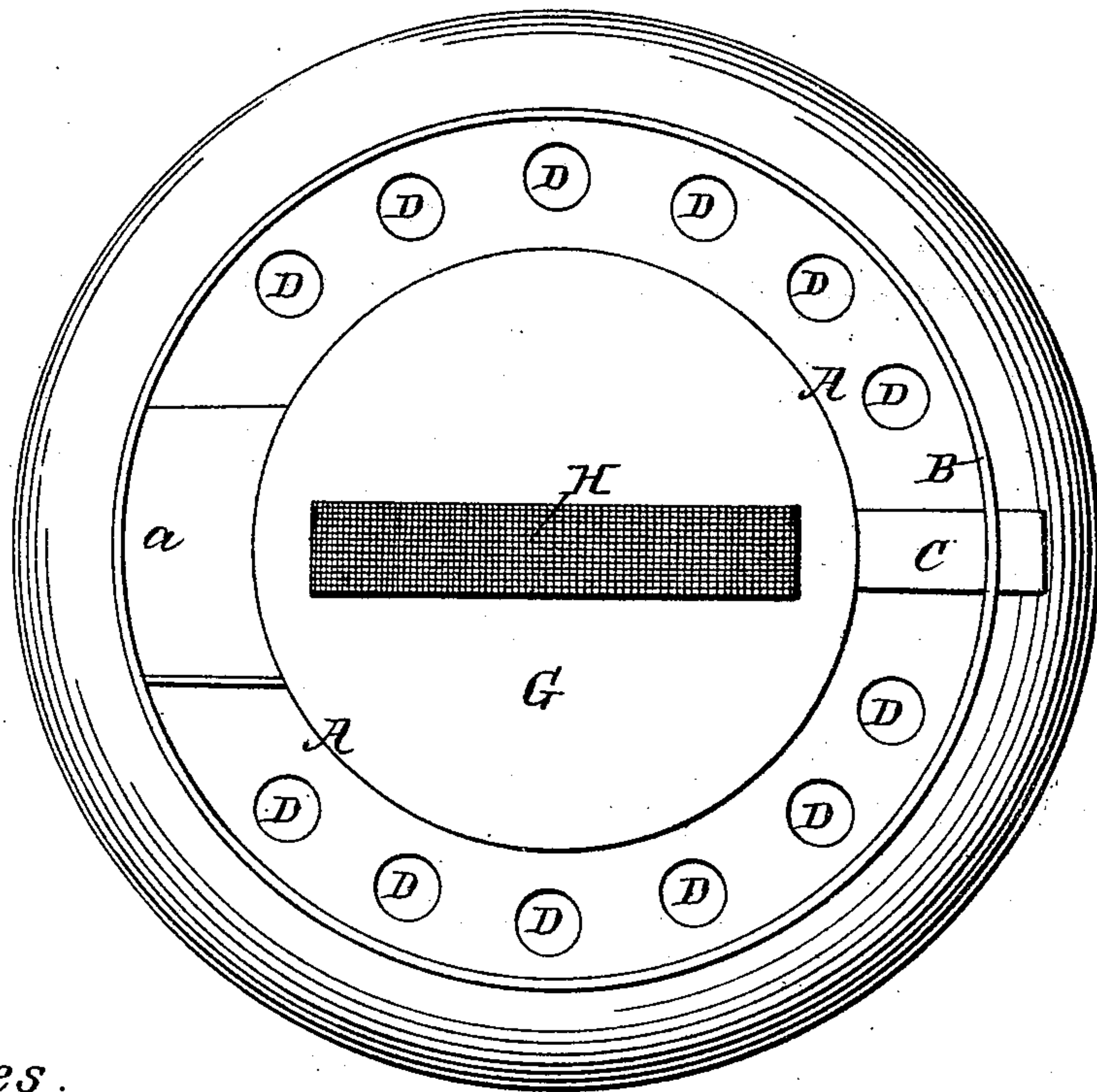
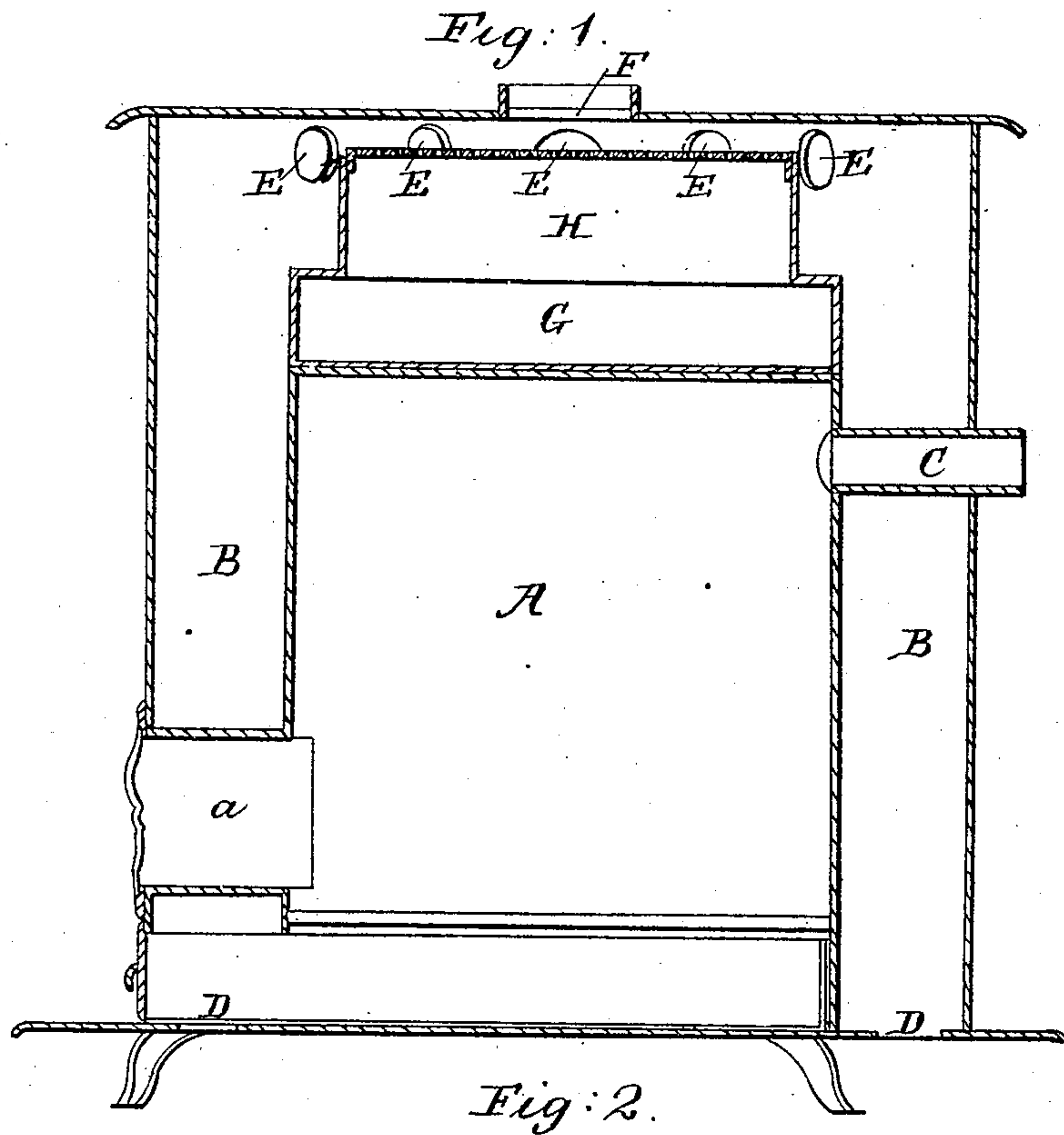


S. SMITH.  
Heating Stove.

No. 54,031.

Patented April 17, 1866.



Witnesses.

Inventor.  
S. Smith  
By his atty  
R. D. Smith

# UNITED STATES PATENT OFFICE.

SIDNEY SMITH, OF GREENFIELD, MASSACHUSETTS.

## IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 54,031, dated April 17, 1866.

*To all whom it may concern:*

Be it known that I, SIDNEY SMITH, of the town of Greenfield, in the county of Franklin and State of Massachusetts, have invented a new and useful Improvement in Heating-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section through my stove, and Fig. 2 is a plan view, the top or cover being removed.

The object of my invention is to construct a stove for heating purposes so that the atmospheric air shall pass more rapidly over the heated surfaces of the stove, and therefore by more rapid admixture with the surrounding atmosphere the general temperature will be increased without any of the air having been overheated or burned. It is also intended to use my stove either for heating the apartment in which it stands or another room, to which the heated air may be conveyed by pipes. It is also intended to prevent excessive dryness of the air by supplying the vapor of water to the heated air before it passes from the stove.

That others may understand the construction and operation of my invention, I will more particularly describe it.

A is the stove proper or fire-chamber. It is surrounded at a distance of a few inches by a jacket, B, thus forming an annular space, in which the air is heated before passing away from the stove. The fire-chamber A is provided with the projecting doorway *a*, which extends outward through the jacket B, and also with the smoke-pipe C, which likewise extends through the jacket B and projects far enough to receive the pipe provided to convey the smoke to the chimney. An ash-drawer may also be inserted in the proper place and in the same manner.

The holes D D at the bottom of the space between the fire-chamber and jacket serve to admit fresh air from the apartment, and the holes E E, which are covered by dampers, may be open or closed at pleasure, according as it is desired to admit the heated air into the apartment or transmit it to other rooms. On the top of the stove is an opening, F, provided with a collar, upon which to place an air-pipe to convey the heated air to other rooms,

and also a valve or damper, by means of which said air-pipe may be rendered operative or not, as desired.

Seated upon the top of the fire-chamber is a water-vessel, G, and rising from the top of the same is a steam-chamber, H, provided at its upper part with small perforations, through which the steam may issue to mix with the air heated while passing between the fire-chamber A and jacket B. The object of the steam-chamber H is simply to convey the steam to a point as near the top or cover of the stove as possible before being allowed to mix with the heated air. In this way a high degree of heat will be imparted, and the steam become dry.

The operation of my invention is so obvious that a few words only need be said concerning it.

By opening the holes E E when fire is made in the stove a rapid current of hot air flows from them into the surrounding atmosphere; and as it is well known that currents of air having different temperatures flow much more freely when direction is given them, so it is in this case. Cold air will enter at the openings D D, ascend through the annular space, and flow out at the openings E E much more rapidly than the surrounding atmosphere would flow along the heated sides of the stove A if the jacket B was absent. The more rapid motion of the air will also prevent any of those unpleasant and deleterious effects due to overheating or burning, and the more rapid flow will insure a more rapid admixture of the warm and cold air in the apartment, and therefore the effects of the fire will be sooner felt.

If it be desired to warm another room at the same time, or if but a limited amount of heat only is desired in the apartment where this stove is situated, an air-pipe is attached to the collar F, and by it the heated air may be conducted to the other room or rooms to be heated. The valve in the collar F serves to regulate the quantity of the flow into the air-pipe so that only a small portion or nearly the whole of the air heated by the stove may be conveyed by the pipe.

The steam-generator G, by being placed within the stove, effects the important purpose of moistening the heated air before it passes from the stove, and therefore the impregna-



tion must be more perfect and condensation less rapid than when the steam is generated in an open vessel and exposed to the currents of the surrounding air.

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

1. The combination or arrangement of the stove A and the jacket B, provided with the

valved opening E and the valved opening F, substantially as and for the purpose set forth.

2. The steam-generator G, placed within the jacket B, as and for the purpose set forth.

SIDNEY SMITH.

Witnesses:

DAVID W. NELSON,  
ISAAC N. ROSS.