C. S. BELL.

HEATING AND VENTILATING STOVE.

No. 169,765. Patented Nov. 9. 1875.

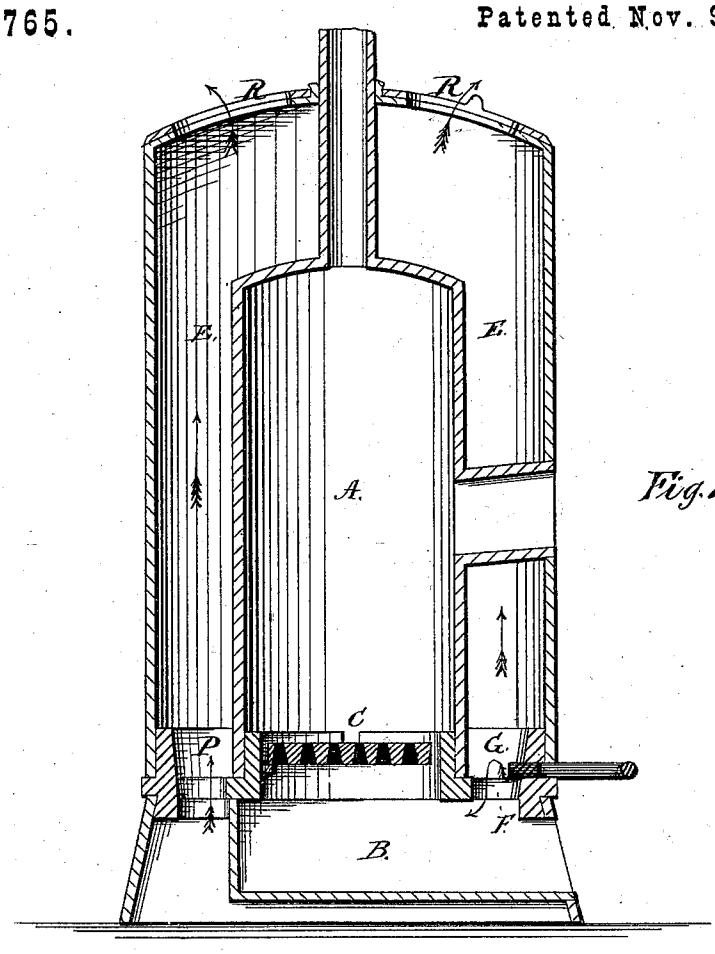

Fig. 2.

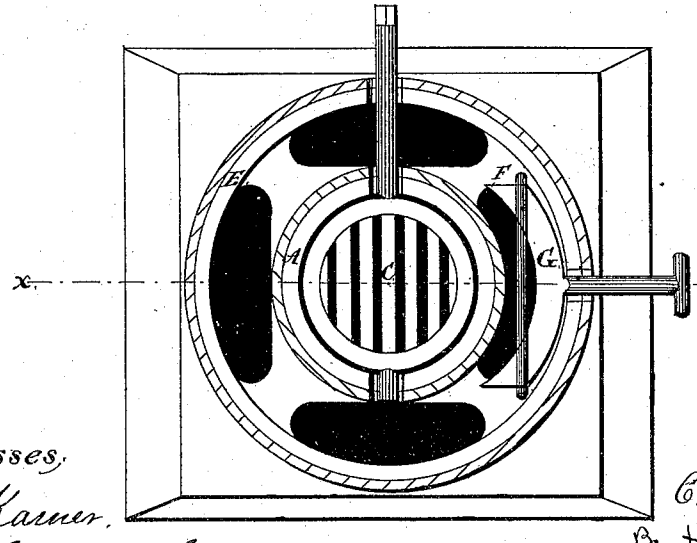

Fig. 1.

Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES S. BELL, OF HILLSBOROUGH, OHIO.

IMPROVEMENT IN HEATING AND VENTILATING STOVES.

Specification forming part of Letters Patent No. **169,765**, dated November 9, 1875; application filed November 25, 1874.

To all whom it may concern:

Be it known that I, CHARLES S. BELL, of Hillsborough, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Heating and Ventilating Stoves; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a horizontal section of a stove constructed in accordance with my invention; and Fig. 2, a vertical section taken on line *x x*, Fig. 1.

Similar letters of reference in the accompanying drawings denote the same parts.

This invention belongs to that class of heating-stoves through which external air is passed and heated before being admitted into the apartment to be warmed, thereby supplying pure heated air, instead of continually reheating the vitiated air of the apartment.

The object of my invention is to provide a stove of the above-named class, in which the fire-chamber shall be supplied, for the purpose of supporting combustion, with a portion of the external air heated thereby; and to this end it consists in the combination, in a heating-stove, of an air duct or flue surrounding the fire-chamber, and adapted to conduct external air both into and around the fire-chamber, with a damper adapted to regulate the supply of air to the fire-chamber, all of which I will now proceed to describe.

In the drawings, A represents the fire-chamber of a heating-stove, B the ash-pit beneath it, and C the grate. E is an annular flue or space surrounding the fire-chamber, said space being provided at its lower end with a suitable air pipe or conduit extending below the floor of the apartment containing the stove, and conducting external air into the space E. The ash-pit and fire-chamber are connected with the space E through an opening, F, preferably located in the upper part of the ash-pan, and provided with a slide or damper, G, by means of which its size may be graduated. The external air from below, entering the space E, passes upward around the fire-chamber, is heated thereby, and passes out through suitable openings or pipes at the top, while a portion of it passes through the opening F into the fire-chamber, as indicated by the arrows in Fig. 2. I am thus enabled to support combustion by the use of a portion of the fresh external air which is taken through the stove to be heated. The damper G is provided with a suitable rod projecting from the stove-casing, so as to be conveniently operated from without, and may be constructed in any desired form and located at any suitable point to admit the air to the fire-chamber below the grate.

I do not confine myself to the exact form and arrangement of parts which I have shown, as various modifications may be employed without departing from the spirit of my invention.

I claim as my invention—

The air-chamber E, surrounding the fire-pot A, in combination with the inlet-pipe P, register R, opening F, and damper G, all constructed, arranged, and operating substantially in the manner and for the purposes specified.

CHARLES S. BELL.

Witnesses:

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