L. T. HOUGHTON.

Smoke-Flue and Heating Drum.

No. 166,461. Patented Aug. 10, 1875.

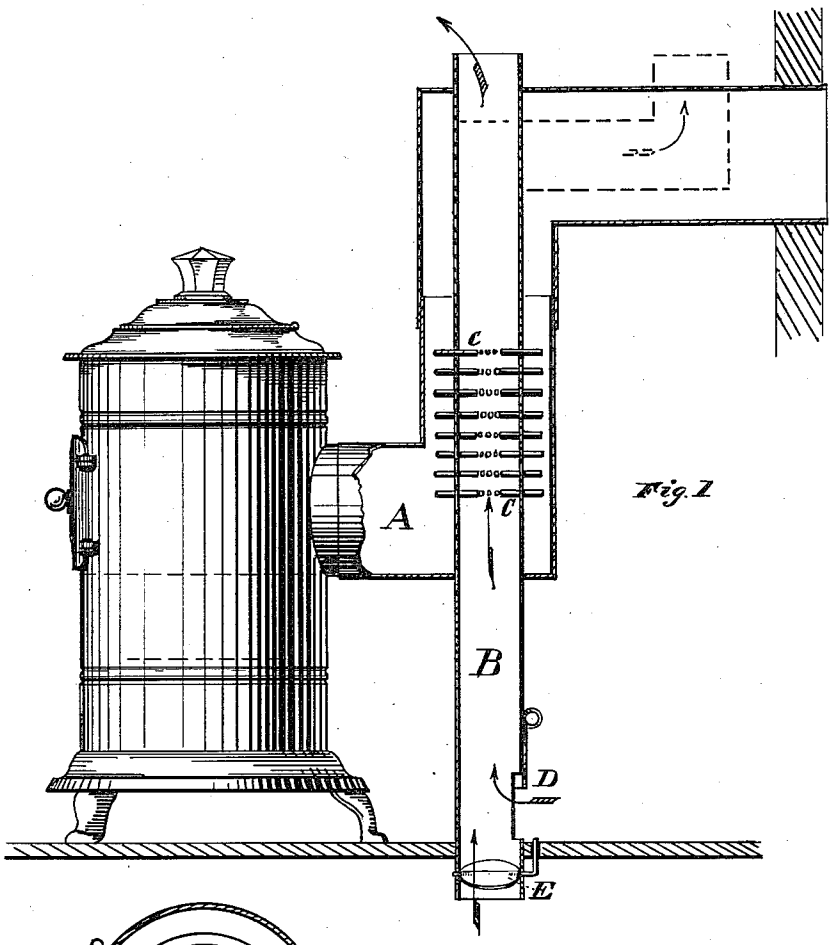

Fig. 1

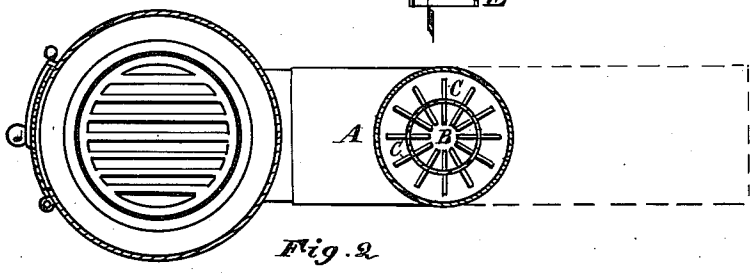

Fig. 2

Witnesses

Geo. M. Woodward

Joseph Chard

Inventor

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UNITED STATES PATENT OFFICE.

LEWIS T. HOUGHTON, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN SMOKE-FLUES AND HEATING-DRUMS.

Specification forming part of Letters Patent No. **166,461**, dated August 10, 1875; application filed April 5, 1875.

To all whom it may concern:

Be it known that I, LEWIS T. HOUGHTON, of Worcester, county of Worcester, State of Massachusetts, have invented a Smoke-Flue for Saving Heat, of which the following is a specification:

The object of my invention is to save heat, cause better ventilation, and a uniform temperature.

Figure 1 represents an ordinary stove, with vertical section of smoke-flue A attached to said stove, with an inside hot-air pipe, B, connected with the outer and interior air, the dampers D and E regulating the same, as desired. C, Figs. 1 and 2, show projections of metal on the pipe B on the inner and outer sides of the said pipe B, to break up the currents of air and to collect and discharge the heat that is escaping with the smoke and gas. By opening the dampers E the air is admitted from outdoors to the pipe B, and through B into the room, or wherever it is desirable to discharge the same. The deflectors or projections C C, Figs. 1 and 2, extending into the smoke-flue A, causes the heat from the products of combustion to be thrown against the sides of pipe B, said heat being taken up by the ascending current of air in pipe B. When the damper E is closed and the damper D is opened, the cold air at the bottom of the room is conveyed through the pipe B in like manner as when air is introduced from outside, thereby saving heat and causing a perfect ventilation with warm, fresh air, and a more uniform temperature.

I therefore claim as my invention—

The combination of the smoke-flue A with the air-heating pipe B, the external air-inlet E, the interior air-inlet D, and the radiators C, substantially as described.

LEWIS T. HOUGHTON.

Witnesses:

C. F. MANN,

B. W. POTTER.