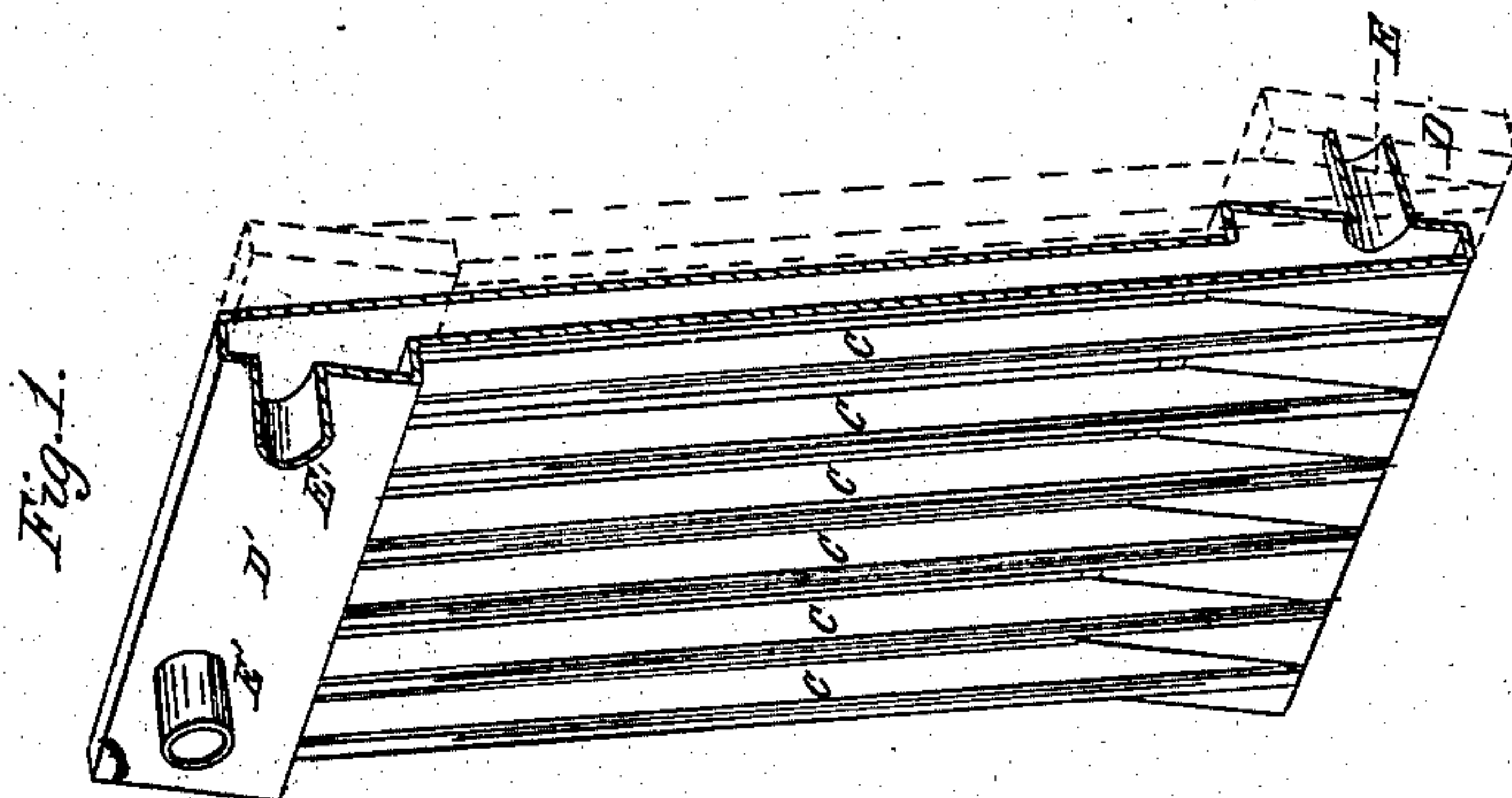
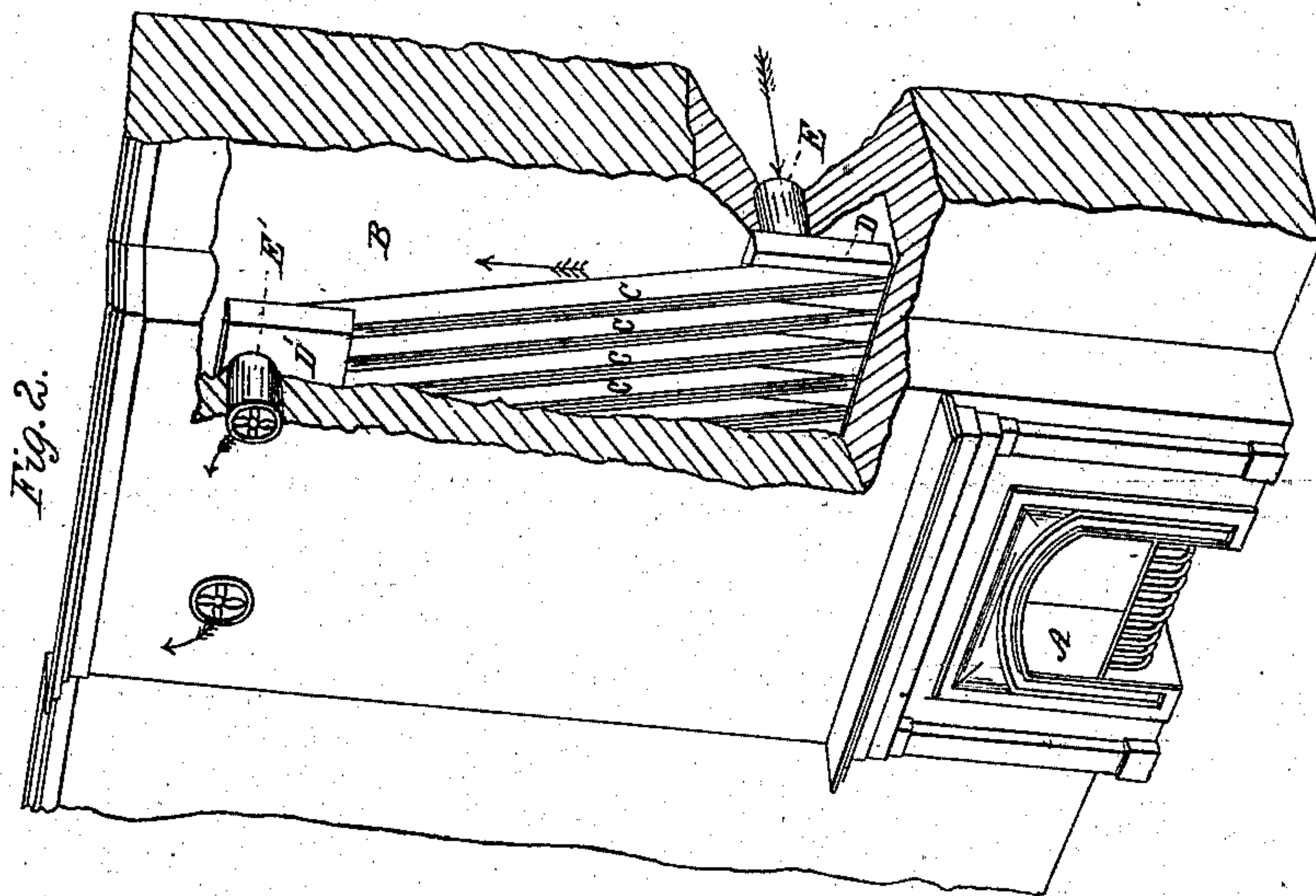


J. S. REID.

Heater.

No. 39,750.

Patented Sept. 1, 1863.



Witnesses:
Charles L. Fisher
W. E. Tracy.

Inventor:
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Attys.

UNITED STATES PATENT OFFICE.

JOHN S. REID, OF MUNCIE, INDIANA.

IMPROVEMENT IN HEATERS.

Specification forming part of Letters Patent No. 39,750, dated September 1, 1863.

To all whom it may concern:

Be it known that I, JOHN S. REID, of Muncie, Delaware county, Indiana, have invented a new and useful Improvement in Room-Warming Apparatus; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawings, making part of this specification.

My improvement relates to devices for economising the heat of fire-places, stoves, &c., and at the same time aiding ventilation by the introduction of fresh air which has been warmed by a portion of the waste heat of the fire.

Figure 1 represents my air-heater or hollow grid detached. Fig. 2 represents my grid in position within a chimney.

A represents a common fire-place. B represents a portion of the chimney.

The attachment by means of which the heating and ventilating capacities of the fire-place are increased is constructed as follows: C D D' E E' is an iron frame or grid composed entirely of tubes—to wit, a range of tubes, C, oblong transversely, and communicating at their respective extremities with cross-pipes D and D', from which project nozzles E and E', of which the nozzles E, traversing the rear wall of the fire-place, and communicating with the external air, serve the double purpose of supporting the grid and introducing from without a current of fresh air. The nozzles E', traversing the front wall of the chimney at a somewhat higher point than the nozzles E, co-operate with the latter in the support of the grid, and serve as ventages through which the fresh and warmed air is emptied into the room. The grid thus supported extends from the rear wall a little above the fire-place obliquely upward and forward to the other side.

It will be seen that the grid C D D' E E' may be made complete as an article of manufacture, and disposed of to builders and others for application in any chimney, whether in course of construction or already erected.

I am aware that the principle of warming and ventilating buildings by passing air through pipes and chambers heated by the products of combustion rising from fire-places

is quite old, and has been practiced in various ways.

The following are among the distinguishing advantages of my invention:

First. I provide a complete article of manufacture ready for insertion in the chimney of a house in course of building or in one already built.

Second. This article thus provided for the use of the builder is, by reason of the peculiar construction and arrangement of its parts, adapted to impart heat to a large amount of air without any perceptible obstruction to the draft of the chimney.

Third. By placing the pipes obliquely across the chimney from back to front, in the manner shown, I am enabled to combine the respective advantages of vertical and horizontal air-heating pipes, and avoid the disadvantages of each. The main direction of the heating-pipes being vertical, the air in course of being heated will flow freely up them by the pressure of the external column, and as there are no descending pipes and few abrupt turns, no serious obstruction of the draft occurs. By extending the pipes from back to front of the chimney-flue, the products of combustion are thrown into more effective contact with the entire surfaces of the pipes on all sides than is possible with vertical pipes.

Fourth. The connection chambers D D' operate to take and deliver the air to and from any particular points desired, and admit of its distribution over the entire range of pipes.

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

The combination of the oblique pipes C, connecting-chambers D D', and nozzles E E', when the said parts are constructed, arranged, and connected as herein described, to constitute a new and complete article of manufacture, adapted and employed for use within and obliquely across the chimney B, as specified.

In testimony of which invention I hereunto set my hand.

J. S. REID.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.