

(No Model.)

2 Sheets—Sheet 1.

L. ACHOR & T. HAMILTON.  
HEATING APPARATUS.

No. 411,541.

Patented Sept. 24, 1889.

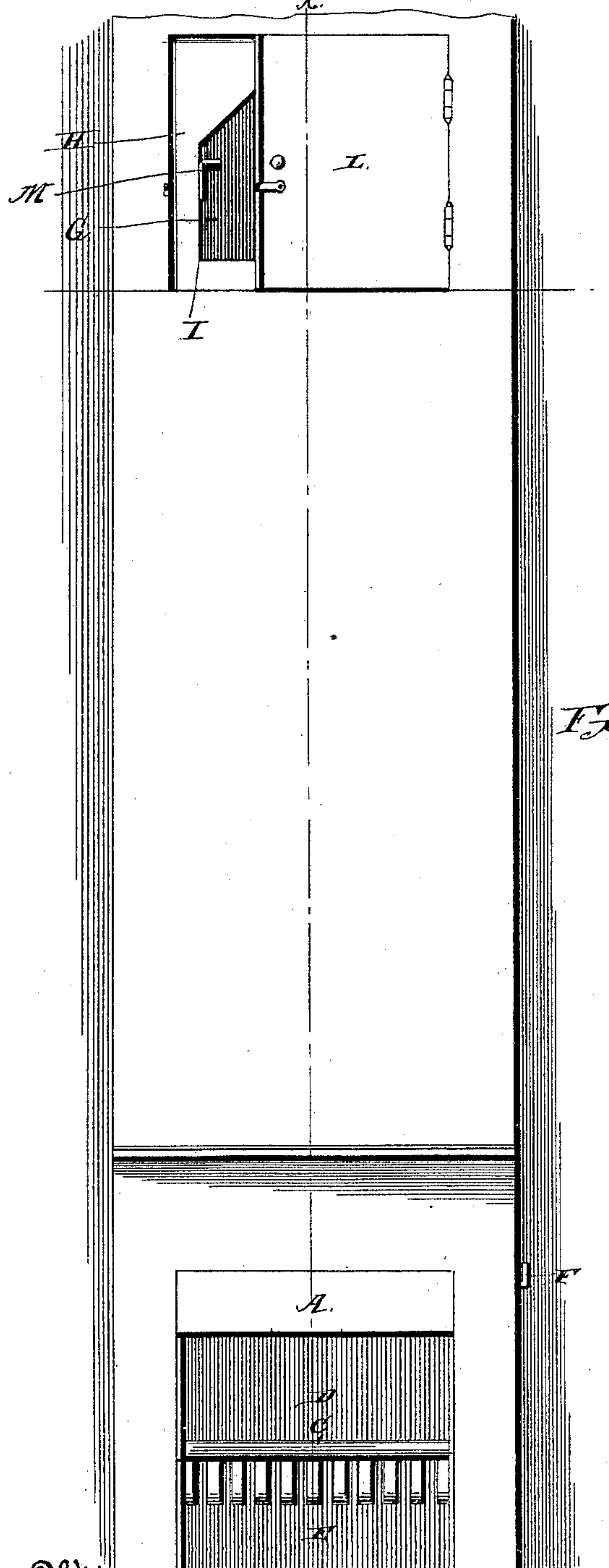


Fig. 1.

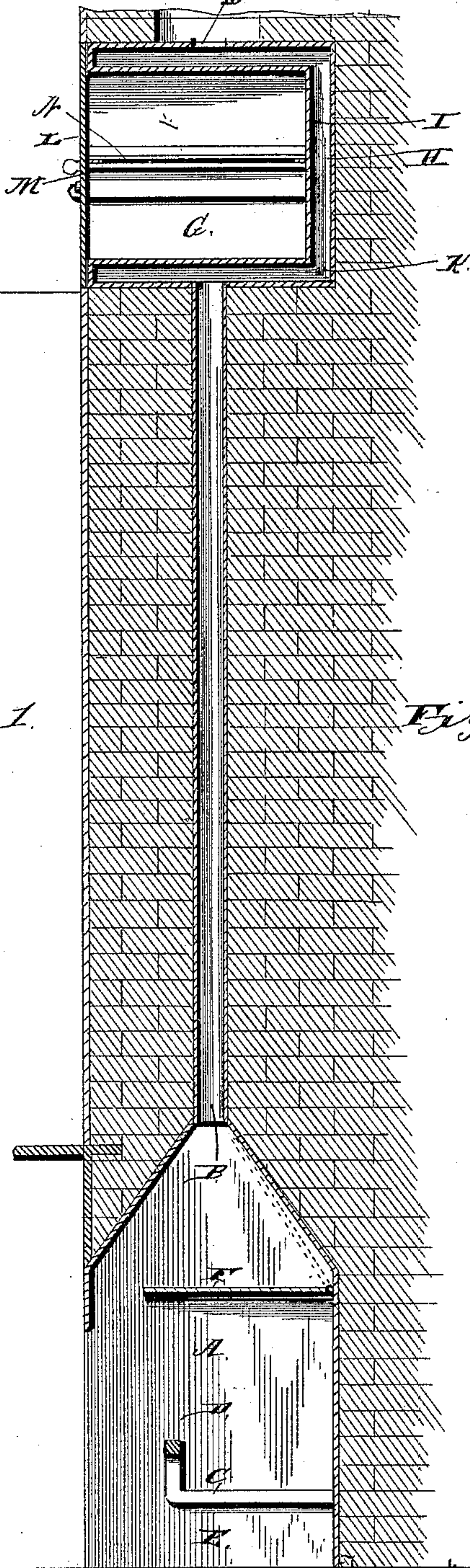


Fig. 2.

Witnesses

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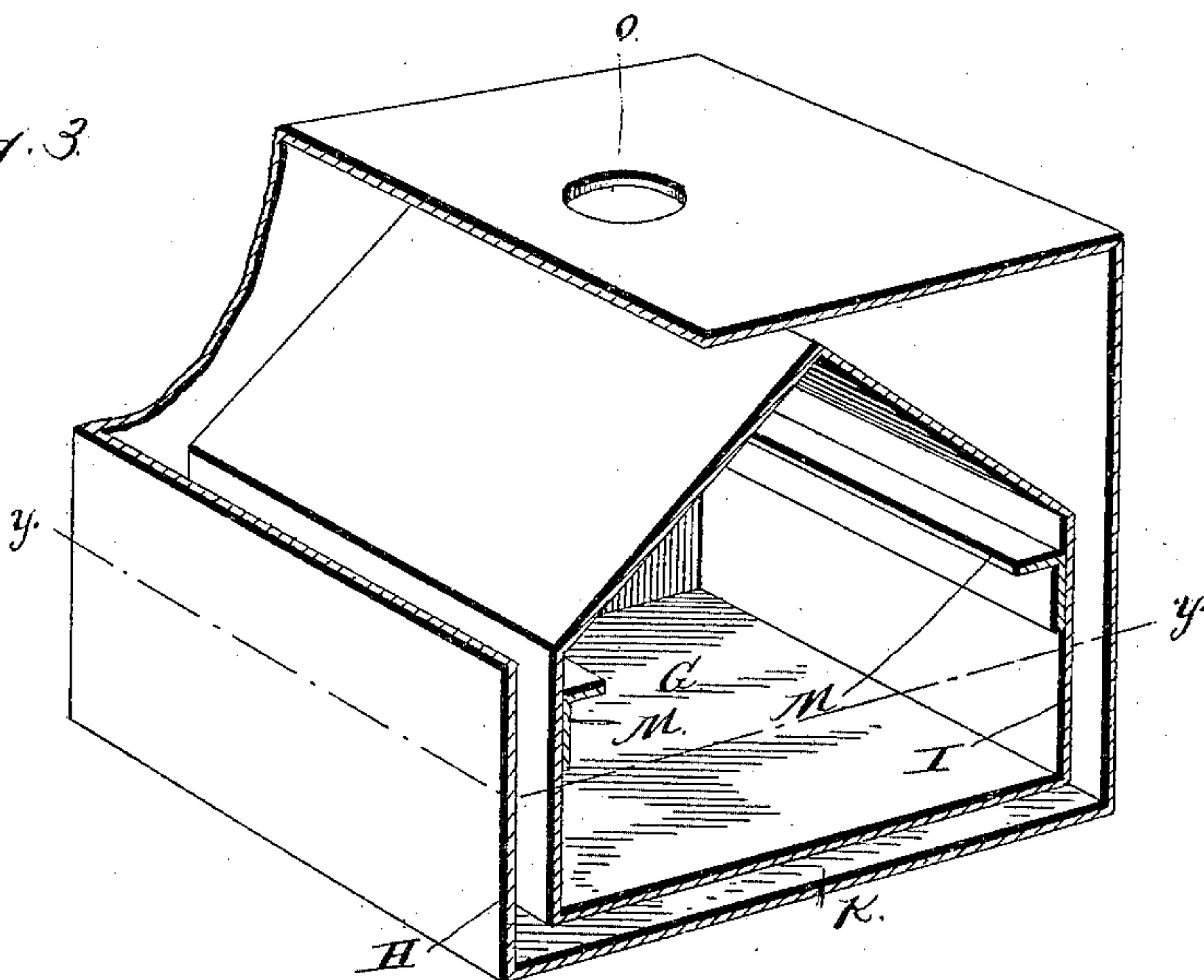
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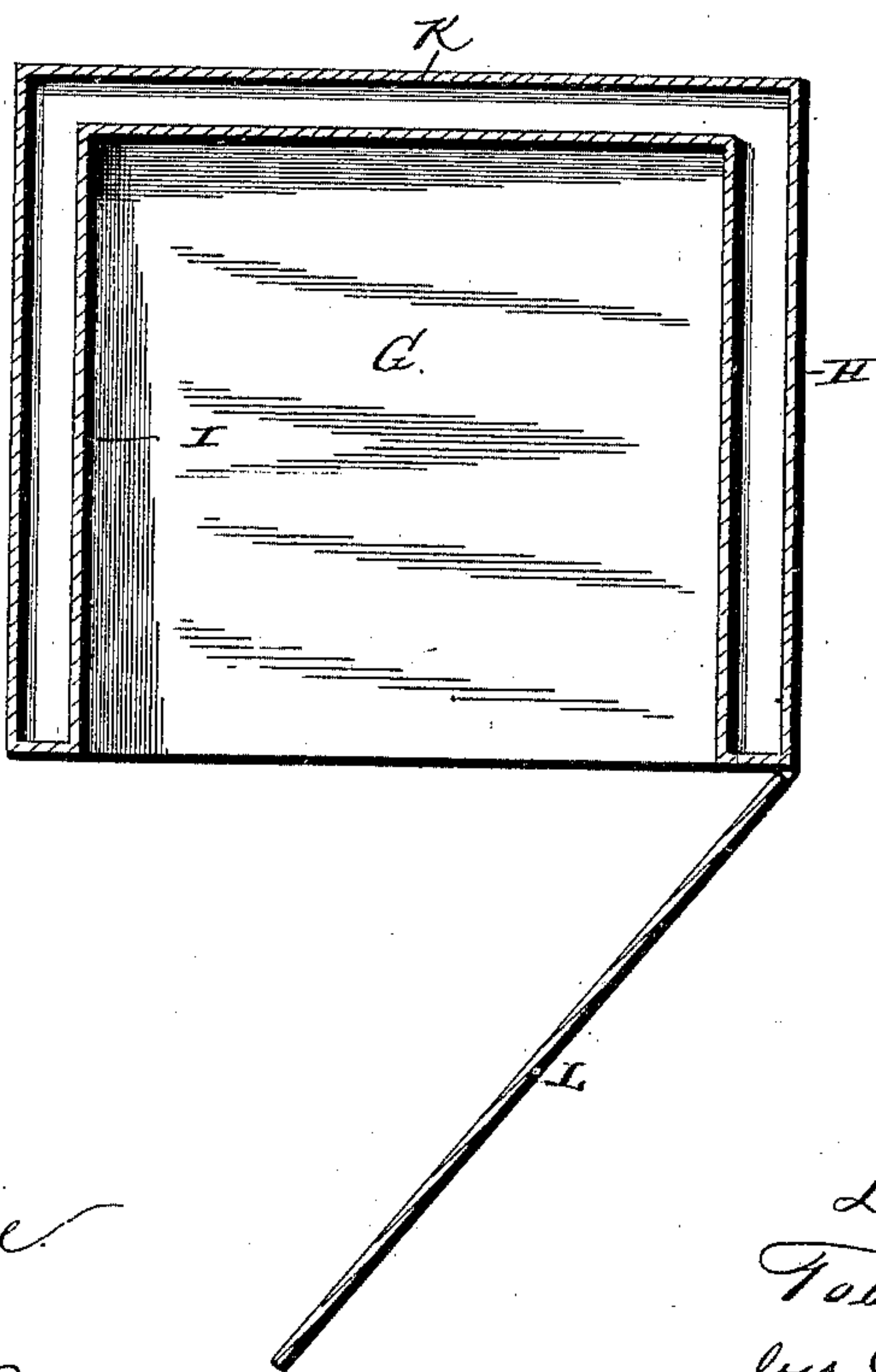
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*Fig. 3.*



*Fig. 4.*



Witnesses

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# UNITED STATES PATENT OFFICE.

LEWIS ACHOR AND TOBIAS HAMILTON, OF MARTINSVILLE, OHIO; SAID HAMILTON ASSIGNOR TO CHARLES H. IRWIN, OF WILMINGTON, OHIO.

## HEATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 411,541, dated September 24, 1889.

Application filed March 8, 1888. Serial No. 266,499. (No model.)

*To all whom it may concern:*

Be it known that we, LEWIS ACHOR and TOBIAS HAMILTON, citizens of the United States, residing at Martinsville, in the county of Clinton and State of Ohio, have invented a new and useful Improvement in Heating Apparatus, of which the following is a specification.

Our invention relates to an improvement in heating apparatus; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is an elevation of a heating apparatus embodying our improvements. Fig. 2 is a vertical sectional view of the same, taken on the line *xx* of Fig. 1. Fig. 3 is a detail perspective view of the heating-drum and oven, with parts broken away to disclose the interior construction of the same. Fig. 4 is a horizontal sectional view of the same, taken on the line *yy* of Fig. 3.

A represents a heater, which is arranged in the form of a rectangular box, is made, preferably, of cast metal, and is adapted to fit snugly in a fire-place. The front side of the said heater is open, and the upper side of the heater is shaped like an inverted funnel, and is provided with a pipe B, which extends up the chimney. In the heater is arranged a grate C, thereby forming a fire-box D above the grate, and an ash-pit E below the same.

F represents a damper, which is arranged in the heater at a suitable distance above the grate.

G represents a drum, which is rectangular in shape and is located in the chimney in an upper apartment. The said drum comprises an outer case or shell H and an inner case or shell I, which latter shell is located within the outer shell and at a distance from the sides thereof, thereby forming a flue or space K, which entirely surrounds the inner shell. The upper side of the inner shell is inclined in opposite directions, to prevent soot from accumulating thereon. The front side of the drum is open, and communicates with the apartment with which it is located, and is provided with a removable or hinged door L. On the vertical side walls of the inner shell are secured cleats M, which are adapted to

support grates N, thereby adapting the drum to be used as an oven for heating or cooking food. The upper end of the pipe B communicates with the lower side of the drum, and the upper side of the said drum communicates with the chimney or flue, being provided with an opening O for this purpose.

The operation of our invention is as follows: The heat and products of combustion from the fire pass upward through the pipe B into the flue or space K of the drum, circulate around the inner shell or face thereof and heat the same, and then escape through the opening O up the chimney or flue to the outer air. The air within the inner case or shell is heated by radiation, and when the door L is opened escapes into the room in which the drum is located. The said door may, if preferred, be made in the form of a register. When the door is closed and the grates are then placed in the inner shell of the drum, the same is adapted to be used as an oven for heating or cooking food.

By means of our invention, hereinbefore described, we are enabled to utilize the heat which is ordinarily wasted and escapes up the chimney to heat an upper apartment and to heat or cook food.

Having thus described our invention, we claim—

A domestic heating apparatus or oven comprising a rectangular drum or casing embedded in a chimney in an upper apartment of a building or dwelling-house, an oven inclosed by the said drum, except at the front, where it is provided with a door, said oven having slanting upper sides that meet so as to form a longitudinal ridge at the top thereof, a flue connecting an opening in the lower side of the drum or casing with a fire-place in a lower apartment of the building, and an exit-opening in the upper side of the drum or casing communicating with the upper chimney-flue, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

LEWIS ACHOR.  
TOBIAS HAMILTON.

Witnesses:

JOHN T. CRAWFORD,  
J. E. GREENE.