

(No Model.)

L. J. TRECY.
VENTILATING FURNACE.

No. 471,701.

Patented Mar. 29, 1892.

Fig. I.

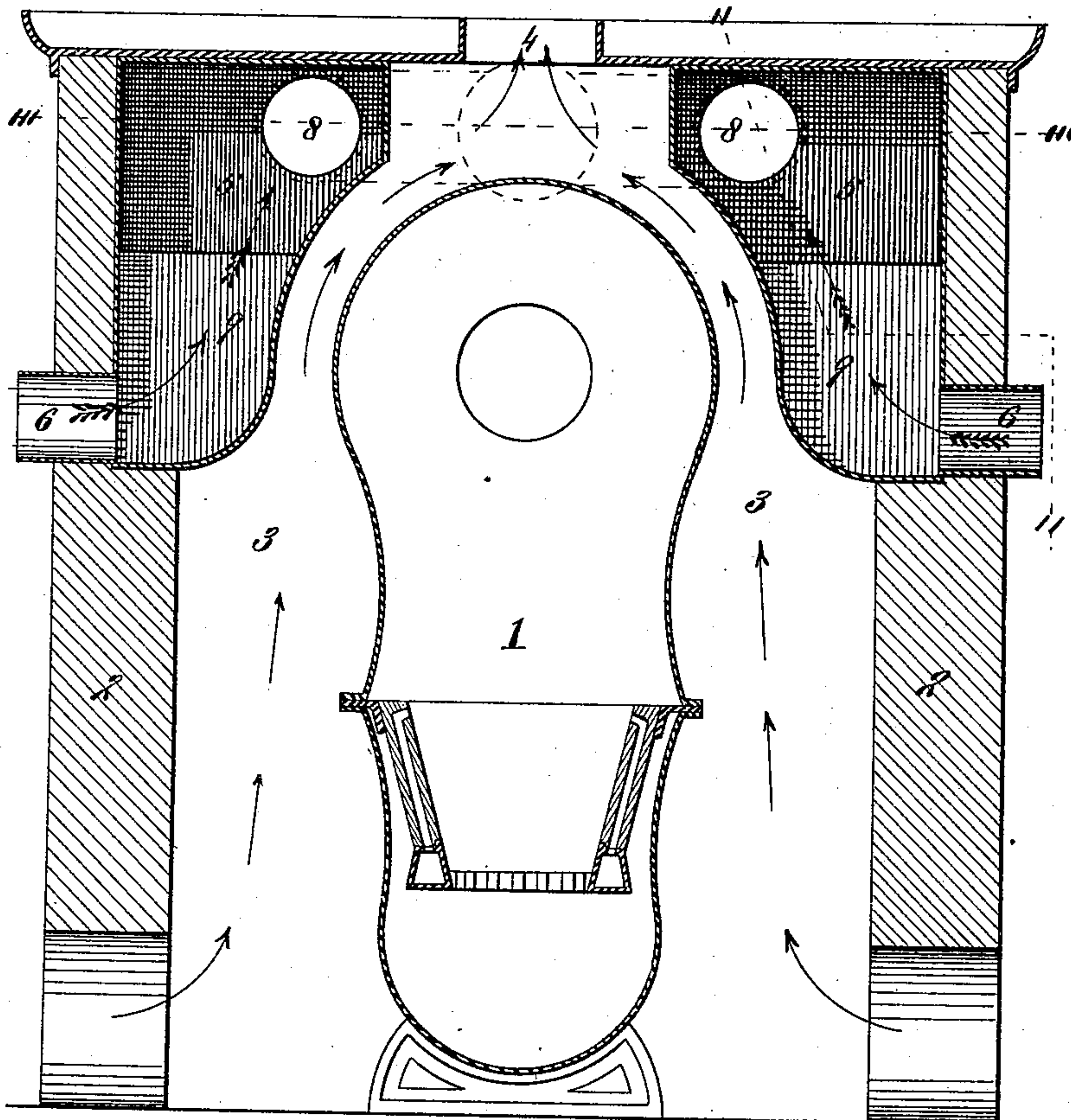


Fig. II.

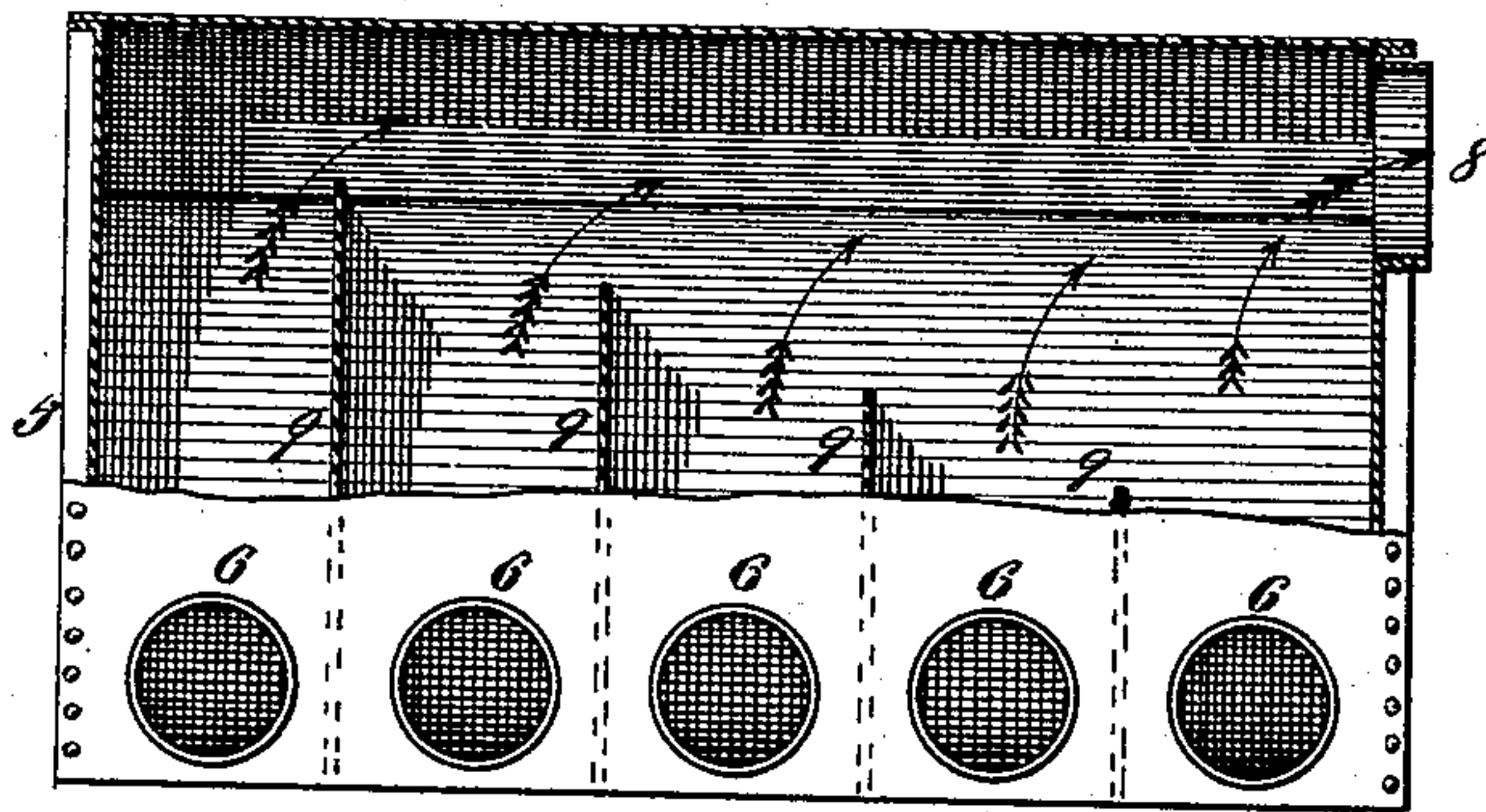
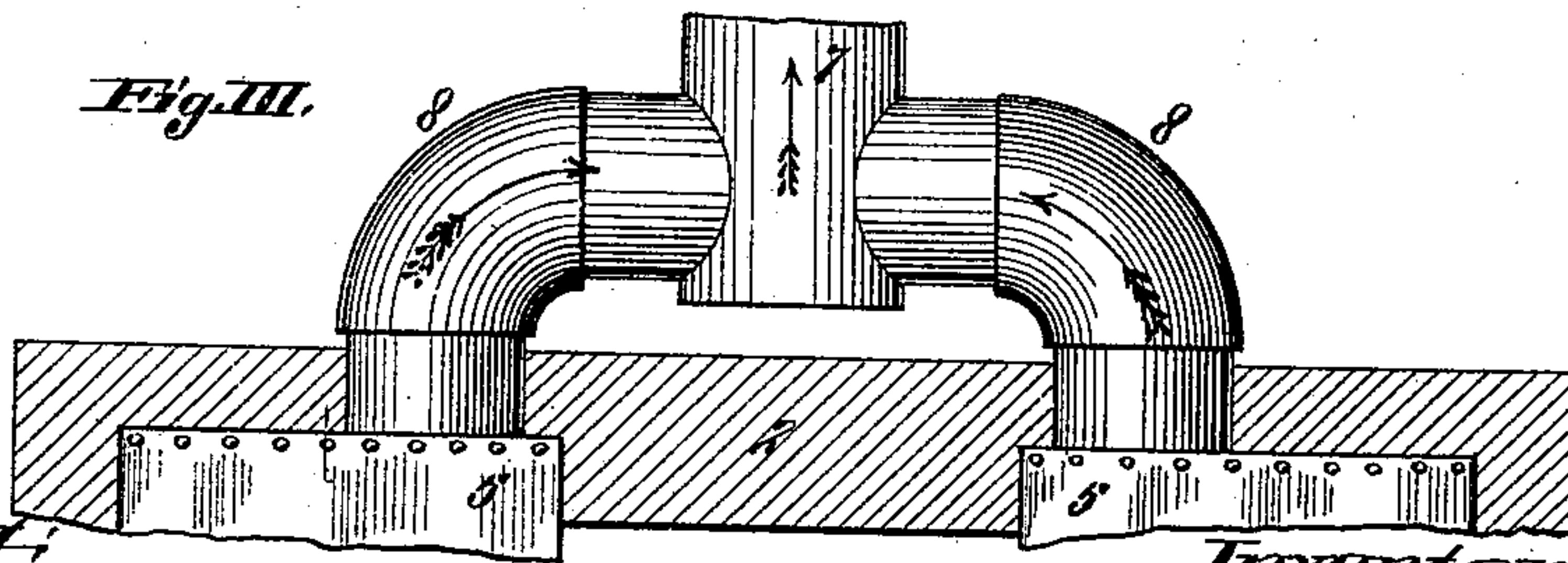


Fig. III.



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VENTILATING-FURNACE.

SPECIFICATION forming part of Letters Patent No. 471,701, dated March 29, 1892.

Application filed March 9, 1891. Serial No. 384,314. (No model.)

To all whom it may concern:

Be it known that I, LAURENCE J. TRECY, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Ventilating-Furnaces, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of furnaces wherein the heat of the furnace is utilized to ventilate the rooms of a building by causing a circulation of air from the rooms through the furnace and to the chimney or flue or other uptake of the building. A furnace of this general class is shown and described in the patent issued to William R. Macdonald August 6, 1878, No. 206,739, and the patent issued to the Smoke Consuming Furnace Company November 25, 1890, No. 441,605.

My present invention consists in certain features, which are hereinafter fully described, and pointed out in the claims.

Figure I is a vertical transverse section through the furnace and its setting and through the air-chambers to which my invention relates. Fig. II is a section taken on line II II, Fig. I. Fig. III is a detail section of the setting, taken on line III III, Fig. I, and showing part of the air-chambers and conducting-pipes in top view.

Referring to the drawings, 1 represents a furnace, which may be of any desired shape, form, or construction, and which is inclosed by a setting 2, forming air-chambers 3 between the furnace and the setting.

4 represents the pipe-opening or one of the pipe-openings through which the heat is conveyed to the different rooms of the building.

5 represents air-chambers located, preferably, in the upper part of the chamber 3, as shown in Fig. I, and which are heated by the furnace and by the hot air circulating through and from the chamber 3. These chambers 5 are preferably constructed with their inner sides or walls conforming to the shape of the furnace.

6 represents pipes which lead from the different rooms of the building to the bottoms of

the chambers 5, only short portions of these pipes being shown.

7 represents a pipe communicating with the upper rear ends of the chambers 5 through means of branches 8, (see Fig. III,) and which leads to the outside of the building or to the flue or chimney of the furnace 1, preferably the latter. As the air in the boxes 5 is heated and passes out through the pipes 7 and branches 8 it is replaced by air circulating through the pipes 6, and thus each room of the building is kept thoroughly and perfectly ventilated, as the foul air which passes through the pipes 6 is necessarily replaced by pure outer air entering the rooms through the open joints of the windows or other passages.

In order to get a substantially uniform ventilation of all of the rooms, and as some of the pipes 6 will be longer than others, as well as some of them being placed farther than others from the outlet branches 8 of the air-boxes, I place partitions 9 in the boxes, as shown in Figs. I and II. These partitions vary in height, thus regulating the freedom with which the air passes through the pipe 6, and by means of these partitions I am enabled to get a substantially uniform circulation of air through all of the pipes 6 and a substantially uniform ventilation of all of the rooms.

I claim as my invention—

1. In combination with a furnace and its inclosure forming a chamber 3 around the furnace, the boxes 5, located in said chamber and conforming at their inner faces to the shape of the furnace, the pipes 6, communicating between the different rooms of the building and the bottoms of said boxes, outlet-pipes communicating with the upper rear ends of said boxes, and a pipe 4, communicating between the chamber 3 and the different rooms of the building, substantially as set forth.

2. In combination with a furnace and its inclosure forming a chamber 3 around the furnace, a box located in the upper part of said chamber and conforming at its inner face to the shape of the furnace, pipes communicating between the different rooms of the building and the bottom of said box, an outlet-pipe communicating with the top of said box and leading to the furnace-flue or outside air, a

pipe communicating between the chamber 3 and the different rooms, and an inlet for pure air, substantially as set forth.

3. In combination with a furnace and its in-
5 closure forming a chamber 3, boxes 5, located in the upper part of said chamber and having partitions 9 of varying heights, pipes 6, forming a communication between the rooms of a building and the boxes 5, and an outlet-pipe
10 7, having branches 8, substantially as and for the purpose set forth.

4. In combination with a furnace and its in-
closure forming a chamber 3 around the fur-
nace, the boxes 5, located in the upper part of
15 said chamber and having their inner faces

conforming to the shape of the furnace, the pipes 6, communicating between the different rooms of the building and the bottoms of the boxes 5, the outlet-pipe 7, communicating with the furnace-flue or outer air and having 20 branches 8 communicating with the rear upper ends of the boxes 5, and the pipe 4, communicating between the chamber 3 and the different rooms of the building, substantially as set forth.

LAURENCE J. TRECY.

In presence of—

A. M. EBERSOLE,
BENJN. A. KNIGHT.