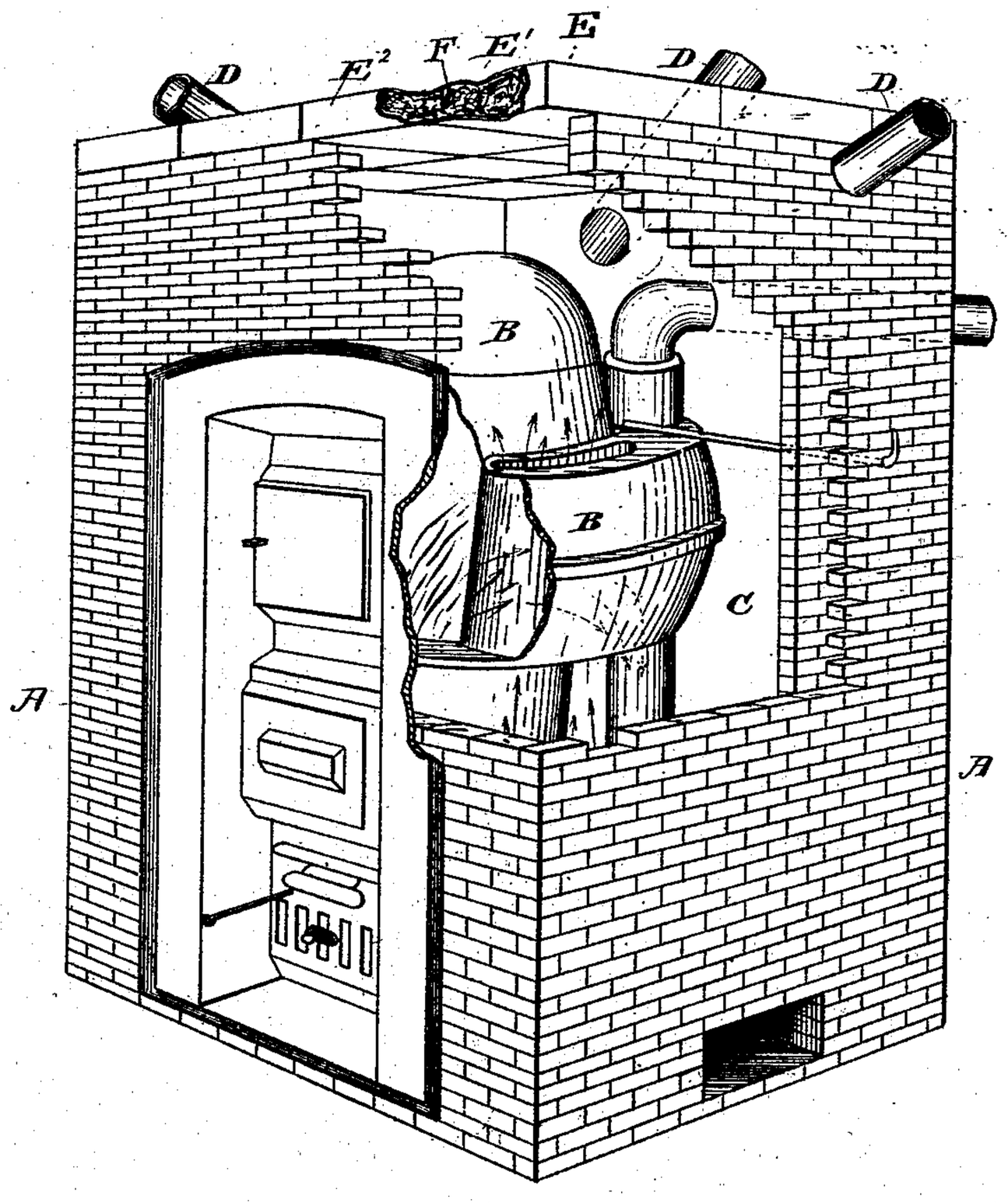
(No Model.) 2 Sheets—Sheet 1.

E. S. HUTCHINSON.

SETTING FOR HOT AIR FURNACES.

No. 273,993. Patented Mar. 13, 1883.

Fig 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig 2.

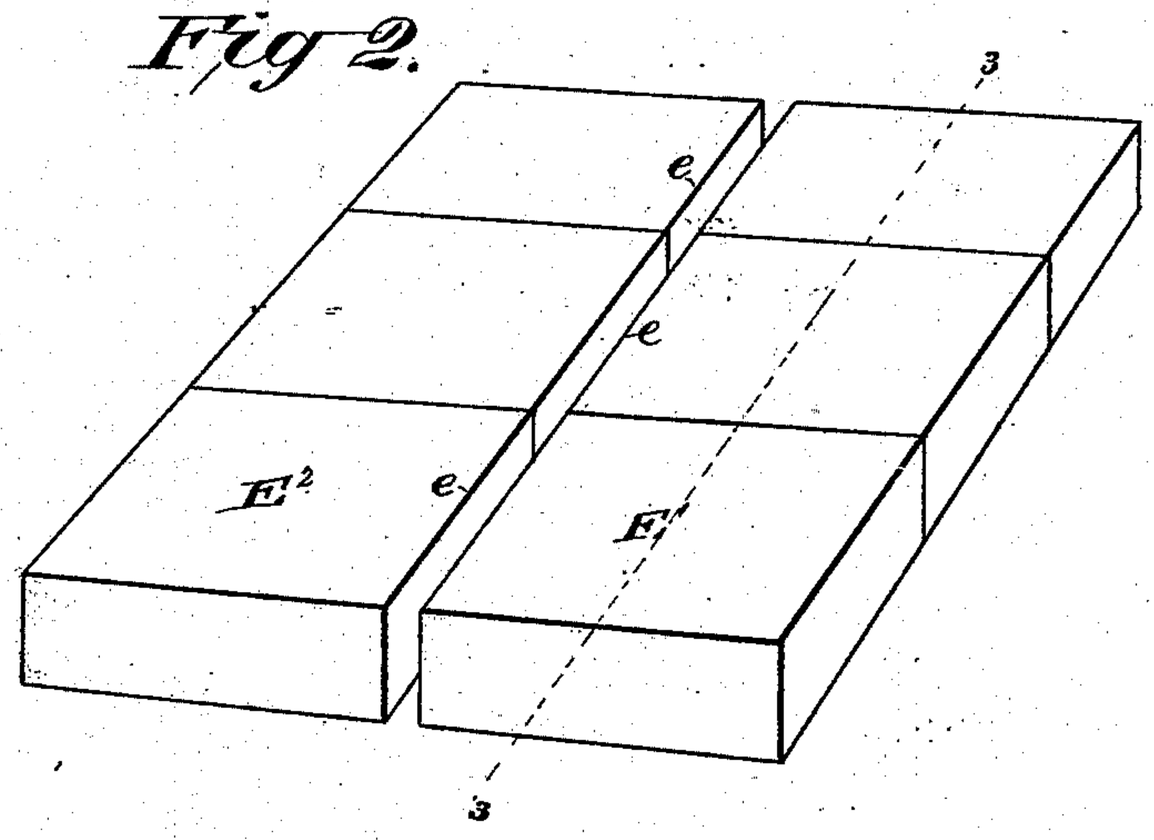
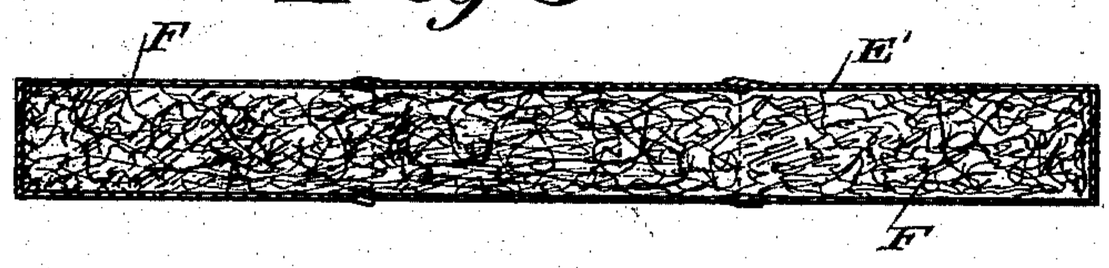


Fig 3



Attest

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Inventor:

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UNITED STATES PATENT OFFICE.

ELIAS S. HUTCHINSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

SETTING FOR HOT-AIR FURNACES.

SPECIFICATION forming part of Letters Patent No. 273,993, dated March 13, 1883.

Application filed April 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, ELIAS S. HUTCHINSON, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Improvement in Settings for Hot-Air Furnaces, of which the following is a specification.

My invention relates to brick-set hot-air furnaces; and it consists in combining with the customary brick walls of furnace-settings a crown or top composed of a metallic casing formed of hollow sections or boxes filled with mineral wool or other non-conducting material.

In carrying out my invention I build up the side and back walls of the furnace-setting of masonry or brick-work in the usual manner, and form the front in any of the customary modes which may be adapted for the particular furnace in use; but instead of the ordinary arch or crown of masonry, formed of brick or like material laid upon supporting iron girders, I employ a connected series of hollow metallic boxes or pipes firmly attached at the joints by solder or other suitable means and filled with mineral wool, asbestus, or any suitable non-conducting material or compound possessing the necessary qualities of lightness and incombustibility.

In the accompanying drawings, Figure 1 is a perspective view of a furnace-setting illustrating my invention, with the brick-work partially broken away and the crown or top shown partly in section. Fig. 2 is a perspective view of a connected series of hollow boxes adapted to span the space between the furnace-walls. Fig. 3 is a longitudinal section taken through the line 3 3 of Fig. 2.

A A represent the walls of the ordinary furnace-setting; B, a furnace, which may be of any of the known forms; C, the air-chamber surrounding the furnace and inclosed by the walls A, and D D the customary hot-air flues.

The improved crown or top of the setting is shown at E in Fig. 1, and a portion of its component parts is illustrated in detail in Figs. 2 and 3. It is composed of a number of metallic pipes or boxes of rectangular section, which I prefer to make of tin or sheet-iron. These boxes may be three inches deep by ten inches wide and long, and any desired number of these boxes are connected together by slip-joints, as is shown in Fig. 3, so as to produce a structure of the proper length to extend across between the side walls, A A, of the furnace-setting and to rest securely on said walls.

The boxes are filled with mineral wool or other suitable non-conducting material F, and laid together in parallel rows $E' E^2$, as illustrated in Figs. 1 and 2, when they are securely soldered or cemented together at the joints *e* between the adjoining faces of the rows of connected series of boxes. A continuous and durable air-tight crown or top is thus formed for the furnace-setting, which is entirely free from the liability to crack and open at the joints. This is a serious disadvantage and difficulty with brick settings as now made, and causes much loss of heat by the leakage of hot-air.

I am aware of the existence of a casing for furnaces composed of two concentric shells of sheet metal cemented together by a non-conducting cement and formed into sections which are united by lap or slip joints. I disclaim the construction specified, and make no broad claim to a metallic non-conducting surface of any other construction than that hereinbefore described.

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

In a brick-set hot-air furnace, the crown or top E, composed of a series of connected boxes filled with a non-conducting material and laid in parallel rows having their adjoining faces secured in an air-tight manner, as and for the purpose set forth.

ELIAS S. HUTCHINSON.

Witnesses:
OCTAVIUS KNIGHT,
J. F. MANNING.