

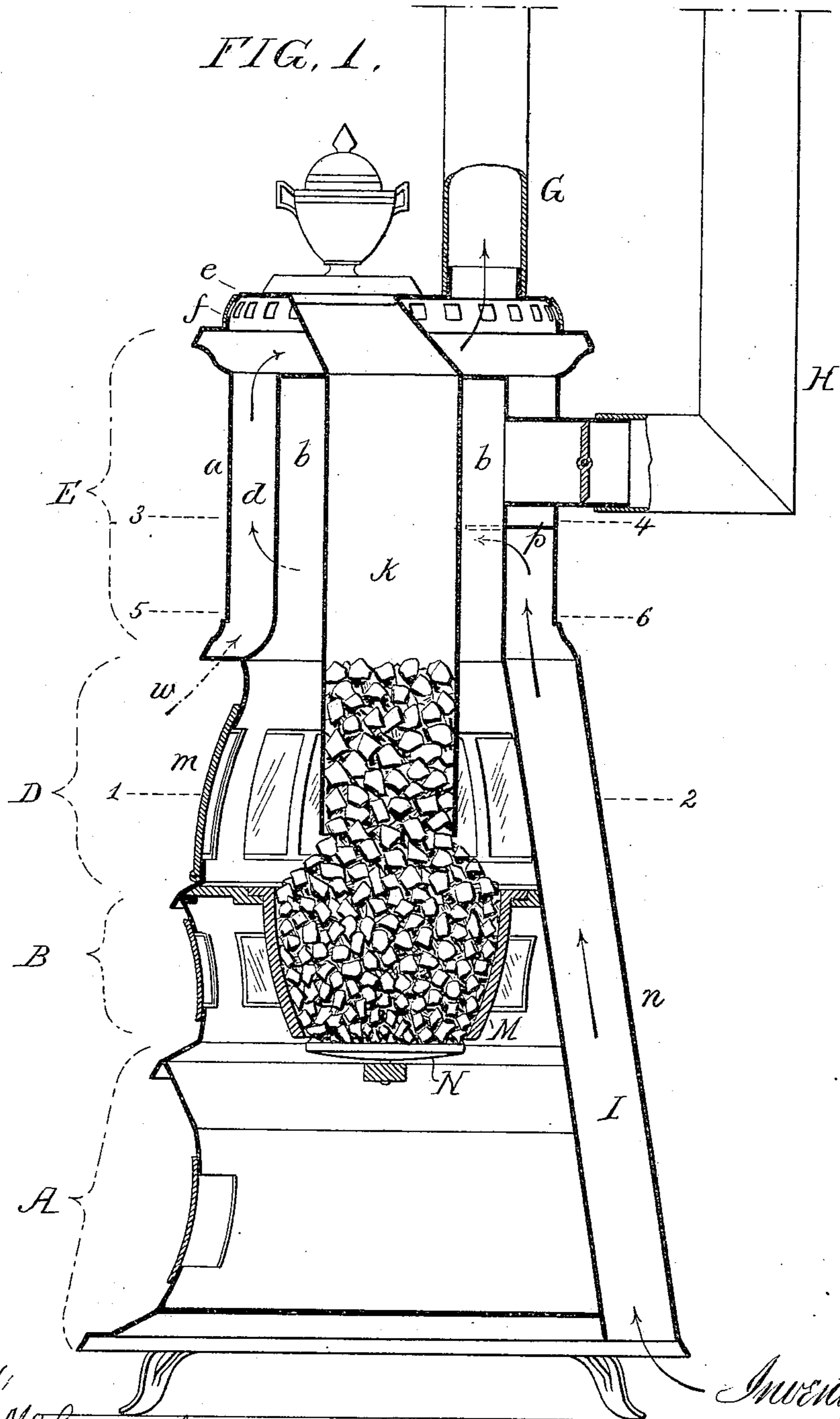
(No Model.)

2 Sheets—Sheet 1.

I. A. SHEPPARD.
HEATING STOVE.

No. 246,227.

Patented Aug. 23, 1881.



Witnesses:
A. F. McCormick
Harry Smith

Inventor:
Isaac A. Sheppard
by his attorneys
Howe and Fry

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FIG. 2.

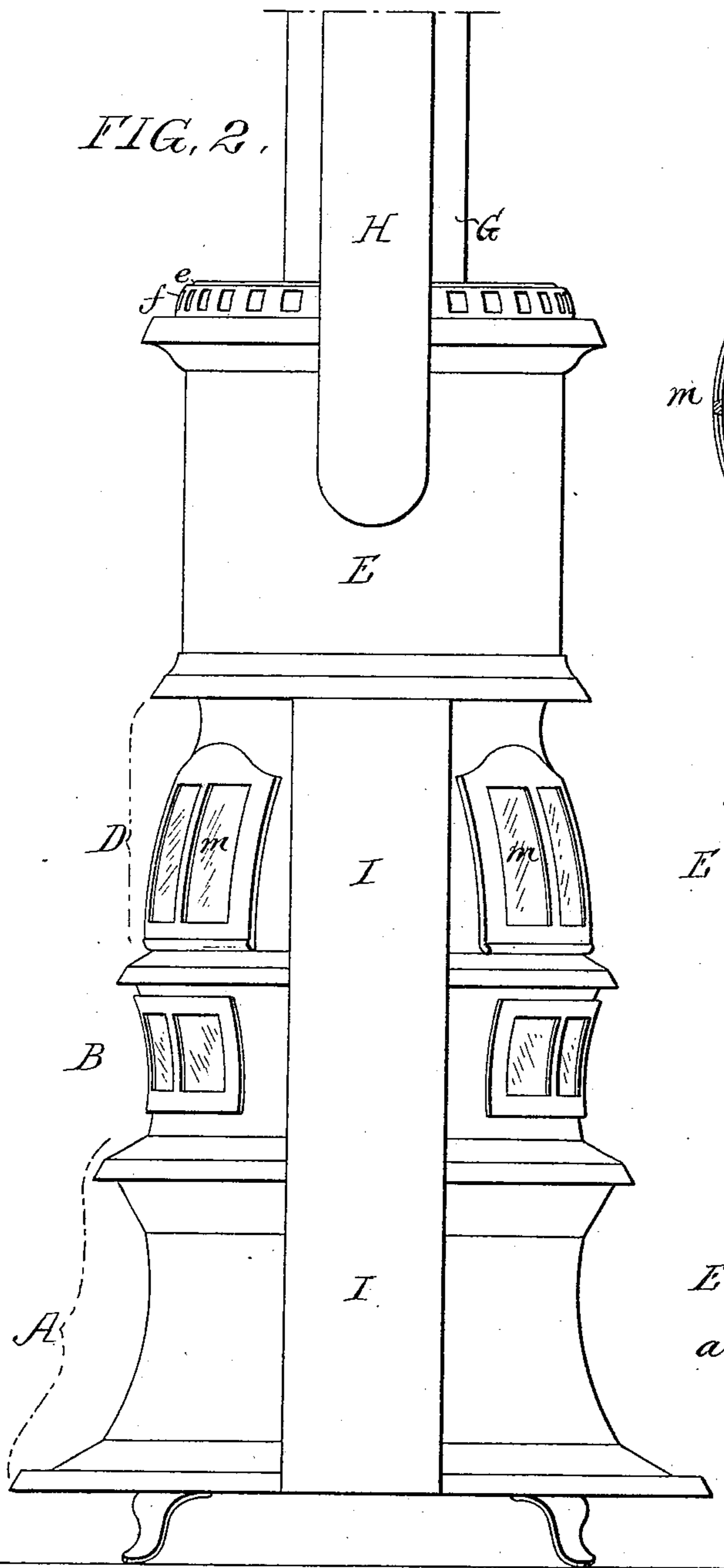


FIG. 3.

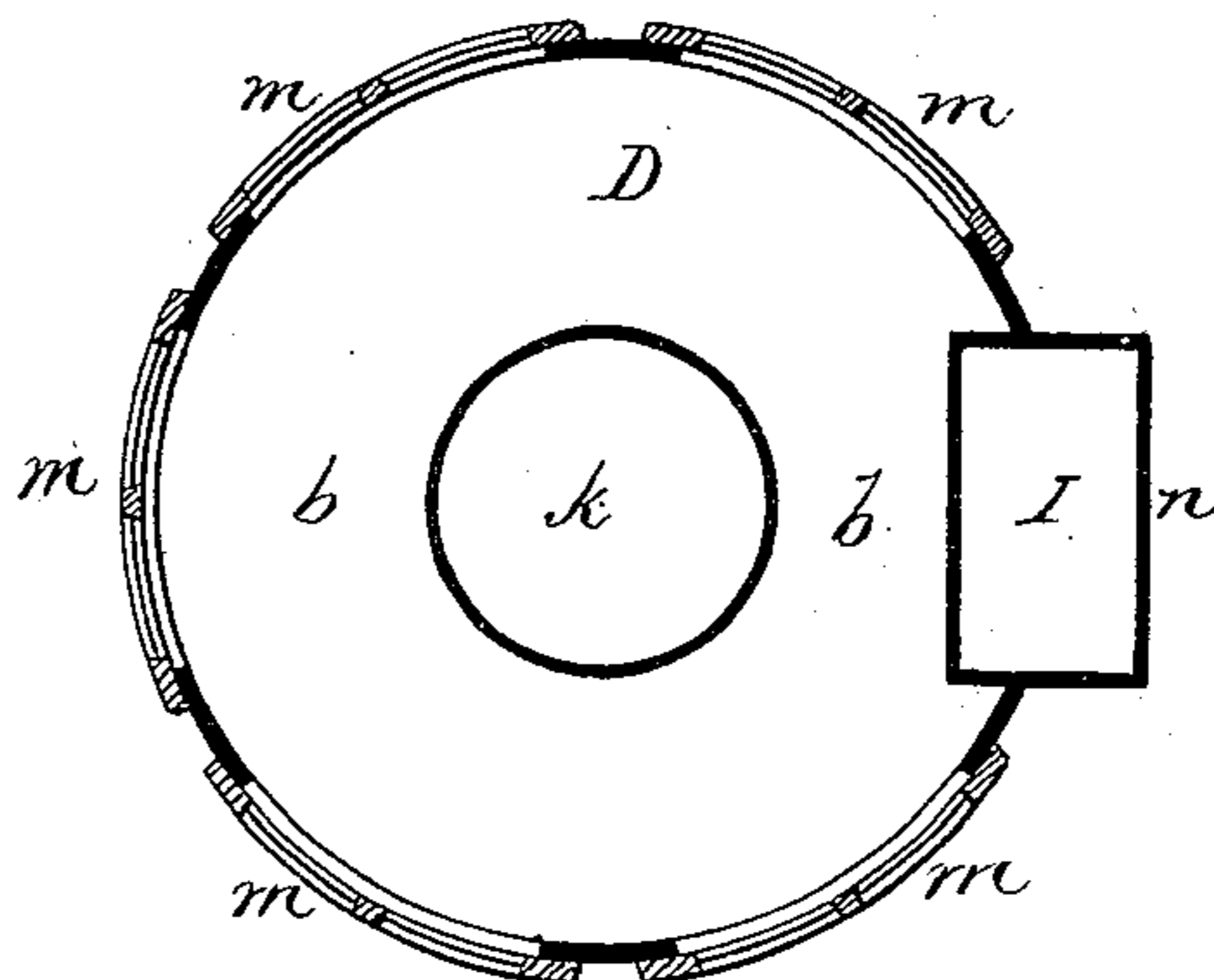


FIG. 4.

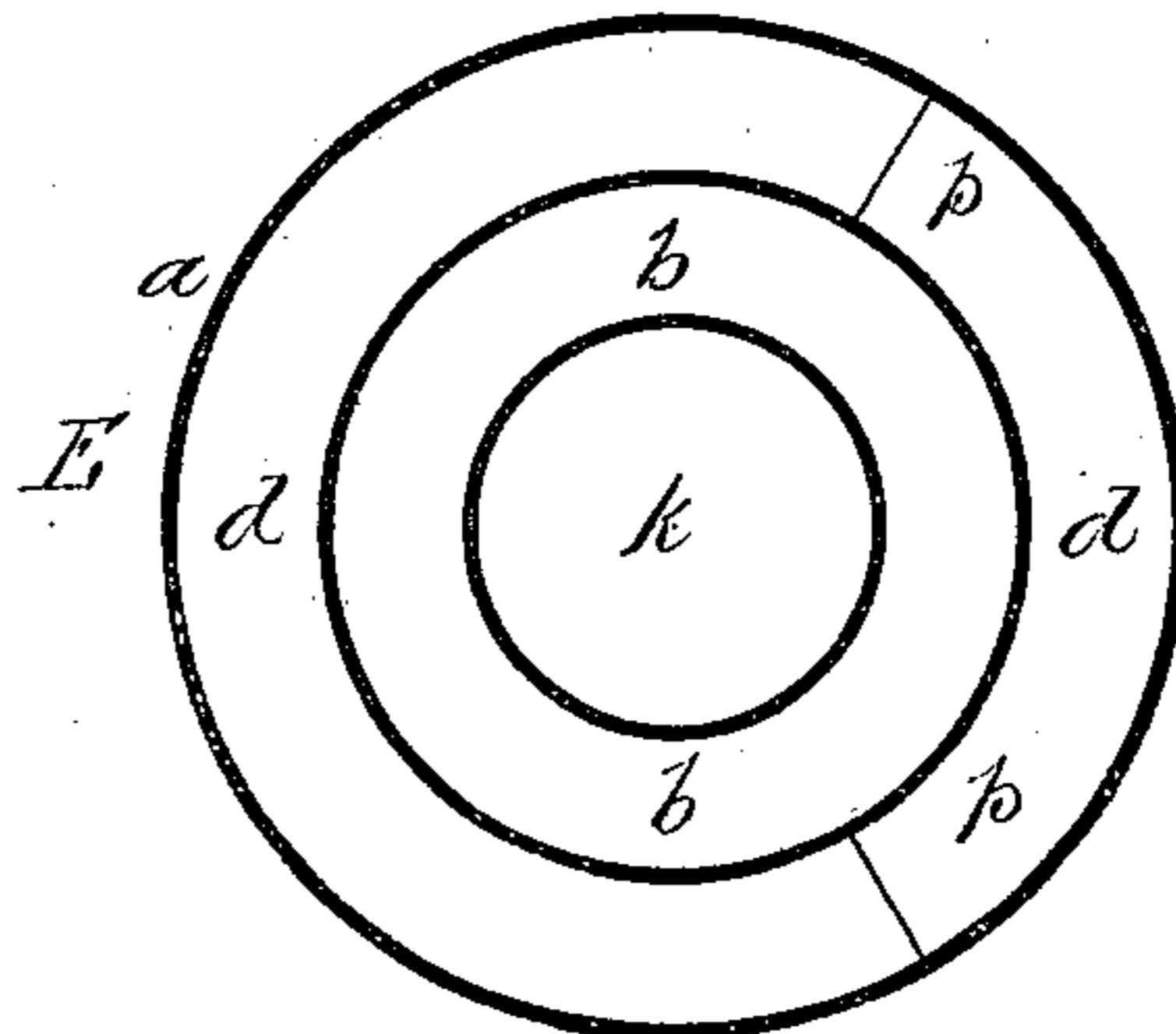
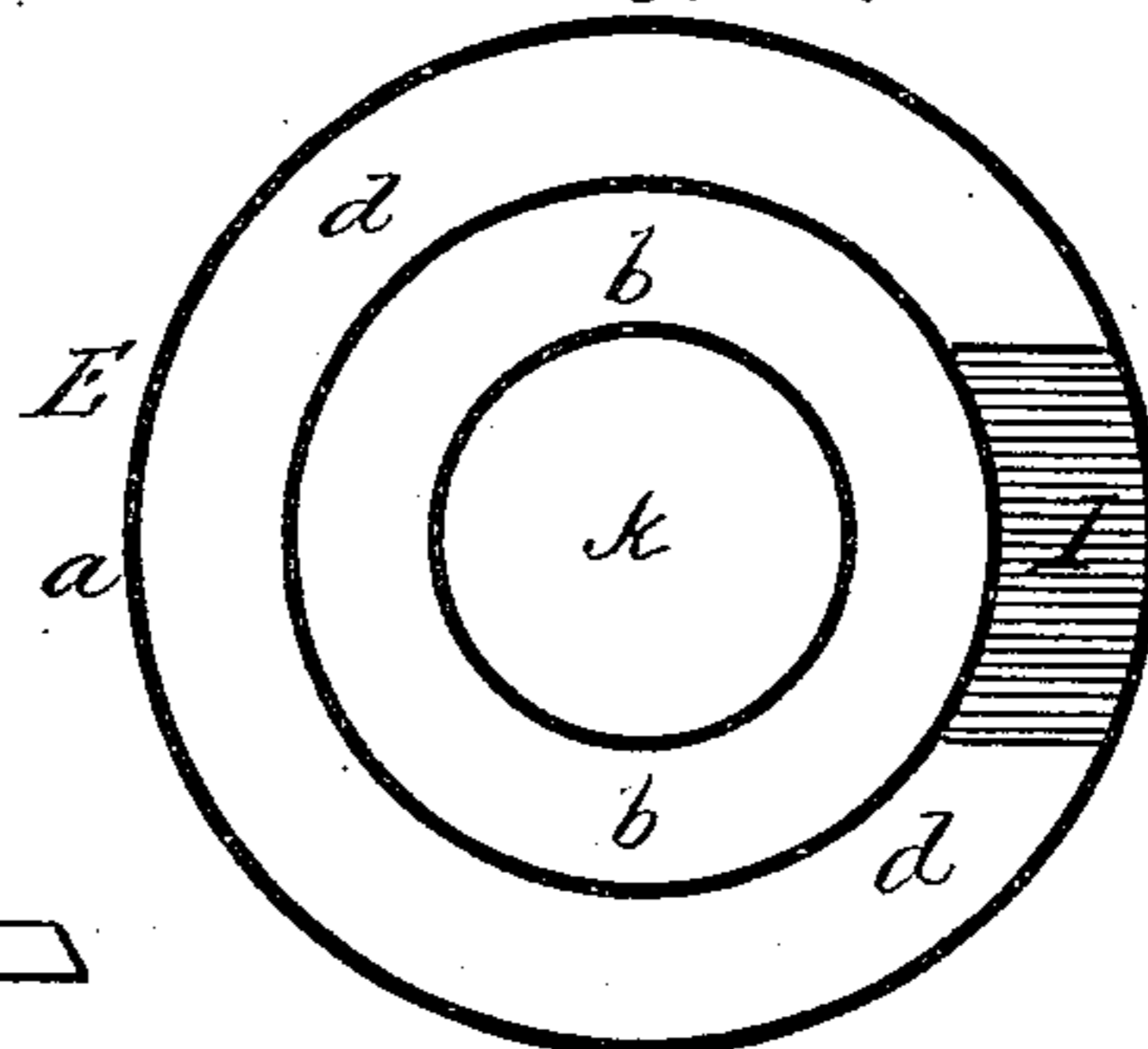


FIG. 5.



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UNITED STATES PATENT OFFICE.

ISAAC A. SHEPPARD, OF PHILADELPHIA, PENNSYLVANIA.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 246,227, dated August 23, 1881.

Application filed April 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, ISAAC A. SHEPPARD, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented an Improvement in Heating-Stoves, of which the following is a specification.

My invention relates to an improvement in that class of base-burning illuminating-stoves which are constructed for heating both lower and upper apartments of a dwelling; and the main object of my invention is to prevent the admission of noxious gases to the air-heating chamber of a stove of this class when the door of the said stove is open.

In the accompanying drawings, Figure 1, Sheet 1, is a vertical section of a base-burning illuminating-stove, showing my improvement; Fig. 2, Sheet 2, a rear view; Fig. 3, a section on the line 1 2; Fig. 4, a section on the line 3 4, and Fig. 5 a section on the line 5 6.

With the exception of the feature explained and claimed hereinafter, the stove is essentially similar to modern base-burning stoves which are constructed for heating both upper and lower apartments.

The stove is composed of the base-section, A, the fire-pot section B, illuminated section D, and air-heating section E.

In stoves of this class it has been usual to surround the casing *b*, which forms the upper portion of the combustion-chamber, with a jacket, *a*, so as to form an annular chamber, *d*, for heating air, which may either be discharged into the room containing the stove through openings *e* at the top of the upper section, or may be directed through a pipe, G, to an upper apartment, a ring, *f*, being used for exposing or closing the openings *e*, and the pipe G being furnished with a suitable valve or damper. The common plan, however, of introducing air into the air-heating chamber *d* has been to leave the said chamber open below, so that the air could pass into the said chamber in the direction pointed out by the arrow *w*, Fig. 1. A serious objection to this plan is the discharge of deleterious and offensive gases into the upper apartments, for it is the practice to open the door or doors *m* of the stove at night and to close, or partly close, the damper in the chimney-pipe H; hence the gases escape from the combustion-chamber through the doorways of the same and pass with the air into the air-heating chamber *d*, and thence through the pipe G to the apartment above. In order

to obviate this evil I close the air-heating chamber *d* at the bottom, so that no gases can gain access to it, and admit air to the said chamber through a passage, I, which terminates at the bottom plate of the stove, where the air is in a pure condition. This passage is formed by a casing, *n*, built mainly on and projecting from the exterior of the stove, so that it will not materially restrict the capacity of the combustion-chamber. At the same time the casing, being narrow, occupies but little space in the circumference of the stove, and, being situated at the back of the same, does not interfere with the mica doors or windows or lessen the attractive brilliancy of the illuminating-section.

The air-heating capacity of the stove is increased by this improvement, for the air, before it reaches the chamber *d*, must necessarily receive a high degree of heat from that portion of the combustion-chamber within the limits of which the casing is arranged. A deflector, *p*, is arranged within the chamber *d* at the rear of the same in such a position that the air, on entering the said chamber, must be disseminated throughout the same and envelop the upper portion of the combustion-chamber, from which it receives additional heat before it escapes through the pipe G.

The stove is provided with the usual magazine, K, fire-pot M, and grate N.

I am aware that air has been conveyed from a point near the floor or from the outside of a building to a space between the drum of a stove and a casing surrounding the drum through a pipe separate from the stove and having no connection with the combustion-chamber. This, therefore, I do not claim; but

I claim as my invention—

The combination, in a base-burning stove, of the air-heating chamber *d*, surrounding the upper portion of the combustion-chamber, and closed at the bottom, with the air-heating passage formed by a casing projecting from the rear of the stove, partly exposed to the fire-chamber and combustion-chamber, and extending to the lower portion of the same, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses: ISAAC A. SHEPPARD.
ARMER F. MCCORMICK,
HARRY SMITH.