(No Model.)

B. HELLMANN, B. LUDIKAR & F. SUDA.

STOVE.

No. 564,996. Patented Aug. 4, 1896.

Fig. 1.

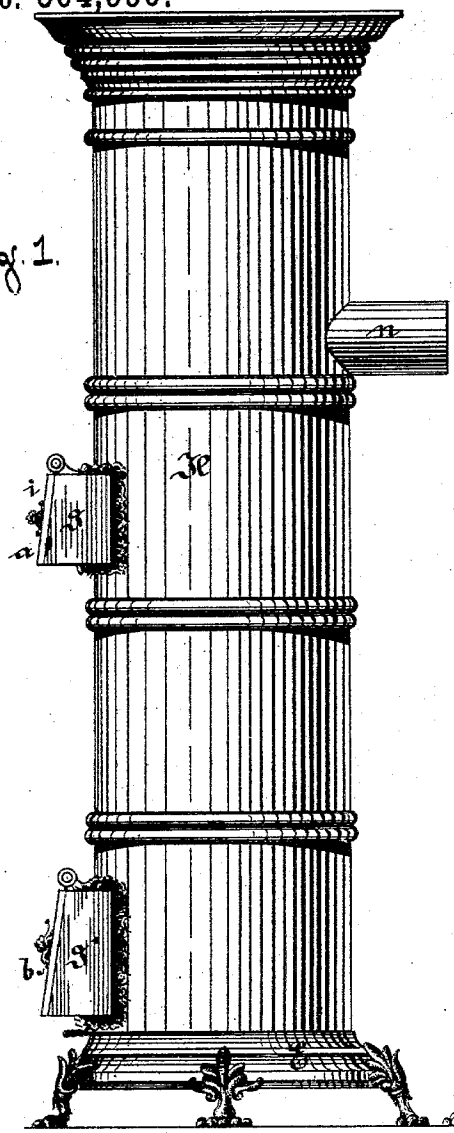

Fig. 2.

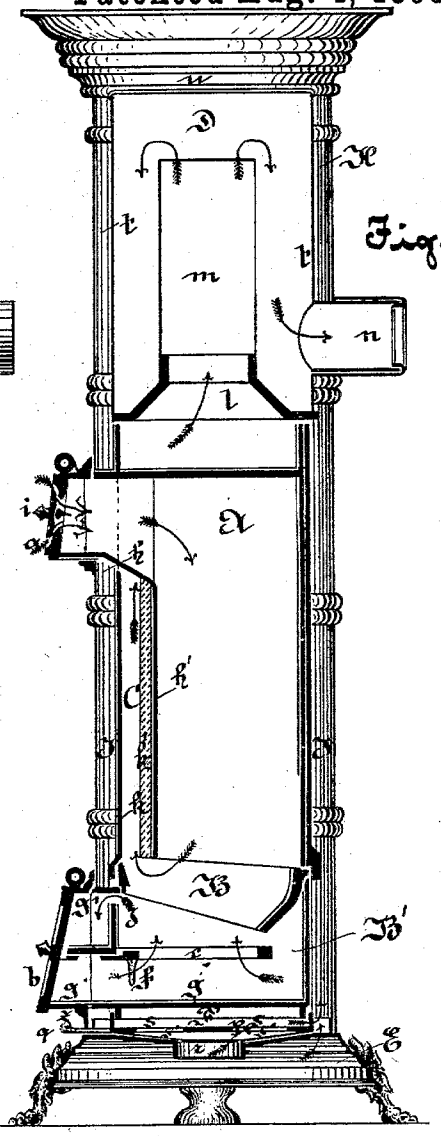

Fig. 3.

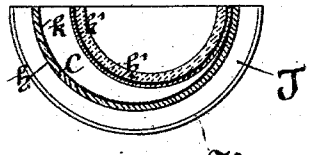

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

BERNHARD HELLMANN, BOHUMIL LUDIKAR, AND FRANZ SUDA, OF PRAGUE, AUSTRIA-HUNGARY.

STOVE.

SPECIFICATION forming part of Letters Patent No. 564,996, dated August 4, 1896.

Application filed February 17, 1893. Serial No. 462,677. (No model.)

To all whom it may concern:

Be it known that we, BERNHARD HELLMANN, BOHUMIL LUDIKAR, and FRANZ SUDA, subjects of the Emperor of Austria-Hungary, and residents of Prague, Austria-Hungary, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

This invention relates to stoves for use in heating rooms, the object being to economize fuel by utilizing to the fullest extent the heat thereof, and to preserve the purity of the atmosphere by preventing the gases generated from coming directly in contact therewith.

In the accompanying drawings, in which like letters of reference indicate similar parts, Figure 1 is a side elevation of a stove embodying our invention. Fig. 2 is a vertical section through the same. Fig. 3 is a cross-section of a part of the stove, showing the formation of the inner compartments; and Fig. 4 is a cross-section of a part of the ventilating-chamber F.

Our invention consists of a stove comprising the parts hereinafter shown.

The stove rests, as shown in the drawings, on legs.

E is the foot or frame, having at its top a ventilating-chamber F with ventilating-fans S.

B is the fire-box, and B′ the ash-pit, having grate-bars *c*.

The ventilating-chamber F is shut off from the ash-pit by the bottom g' and is provided with openings v, leading into the space J between the outer wall of the stove H and the cast-iron flame-cylinder h. This flame-cylinder h is provided with a lining of fire-brick k. Inside the flame-cylinder is a feed-cylinder h', also of cast-iron and surrounded by a fire-brick shell k'. The feed-cylinder h' joins the feed-chamber A and receives its contents from the door a. Immediately over the feed-chamber A is a funnel-shaped headpiece l, surrounded by an upper stove-cylinder t, forming the upper space of the stove D. On the headpiece l is placed a smoke-flue m, and on the top of the stove-cylinder t, and resting on the edge of the stove-walls H, is the lid or cover of the stove u. The pipe n branches off from the convex surface of the stove-cylinder t and leads to the chimney.

The operation of the stove is as follows: The fuel to be consumed is placed on the grate-bars *c* and ignited from the stove-door *b* and the said door tightly closed. The draft-hole i in the upper stove-door a is then screwed open wide enough to allow the air to pass in sufficient volume through the feed-chamber A to reach the flames on the bars *c*. The rate at which the fire burns can be regulated by the extent to which the draft-hole i is opened.

While the lower layer of coal is burning on the bars the upper layers are heated and calcined by the flames which are diffused by the draft coming through the feed-cylinder into the flame-space C. The gases generated by this means are likewise forced back to the fire on the bars and there burn away easily and completely, the flames finding their way into the flame-space C, thus heating the flame-cylinder h. The incombustible but heated gases escape through the funnel-shaped headpiece l into the upper stove-space D, where they afterward turn downward, passing around the smoke-flue m into the chimney-pipe n. In this way the heat of the gases is completely absorbed by the walls of the stove before they enter the pipe n, whence they are carried away in the form of cooled and useless gases. From the stove thus heated warmth is conveyed to the air of the room in which it is placed.

The air may be warmed directly by turning the handle q of the ventilating-fan S to any desired distance, whereupon air from the room enters by the conduit r, passes into the ventilating-chamber F, and thence through the openings v into the space J, being heated by contact with the inner walls and reënters the room as warm fresh air.

We do not confine ourselves to the use of any particular material in the manufacture of the stove or its parts, nor to the exact construction herein set forth, as the same may be modified in many respects.

Having thus fully described our invention, what we claim is—

1. A stove or furnace comprising a hollow cylindrical outer body having throughout its entire length a flame-cylinder which fits closely within the outer cylinder or casing,

an inner feed-cylinder extending from the door of the device to a point immediately above the grate of the stove, the said feed-cylinder being narrowed throughout its lower portion to leave a semicircular or segmental space at the front of the stove, the said cylinder however fitting closely against the rear thereof to prevent the flames from surrounding the same on all sides and thus hasten the consumption of the reserve fuel, substantially as shown and described.

2. A stove consisting of an outer cylinder having a flame-cylinder throughout its entire length, the said flame-cylinder fitting within the outer cylinder or casing in such manner as to leave an air-space throughout the entire peripheral area of the stove, and a ventilating device at the bottom connecting with the said air-space, an inner feed-cylinder extending from the upper door of the stove to a point immediately above the grate, the said feed-cylinder being narrowed at the bottom on one side only, to form a semicircular or segmental flame-space between itself and the flame-cylinder at the front thereof, but being arranged closely against the said flame-cylinder at the rear, a chimney-head separating the upper portion of the stove from the lower portion, having a flue mounted thereon to guide the flames upward nearly to the lid of the stove before escaping through the chimney, to increase the heating power of the stove, substantially as shown and described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

BERNHARD HELLMANN.
BOHUMIL LUDIKAR.
FRANZ SUDA.

Witnesses:
JH. WALDAPFEL,
ADOLF FISCHER.