No. 667,253. Patented Feb. 5, 1901.

J. M. RUSH & V. MRASEK.

AIR TIGHT HEATING STOVE.

(Application filed June 19, 1897.)

(No Model.)

Fig. 1.

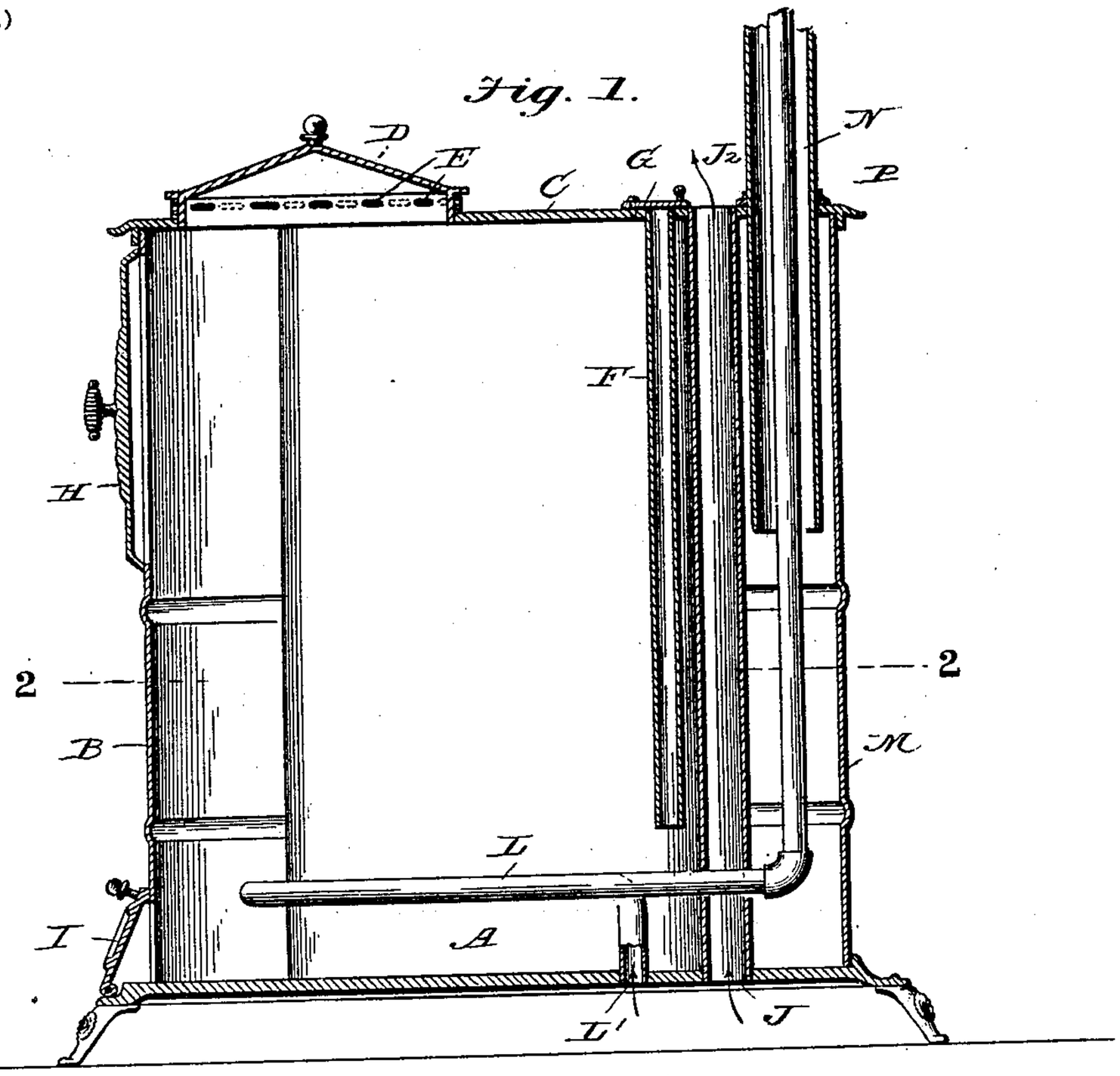


Fig. 2.

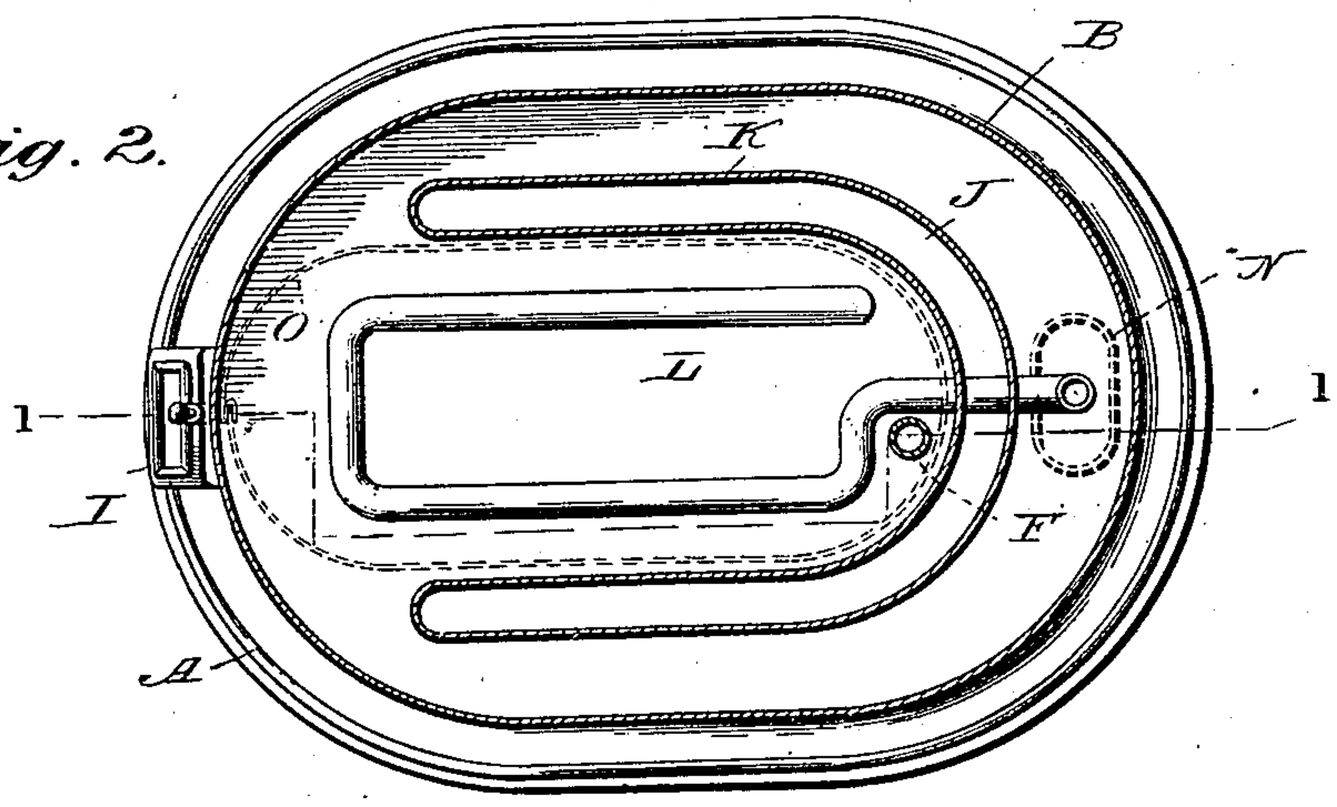
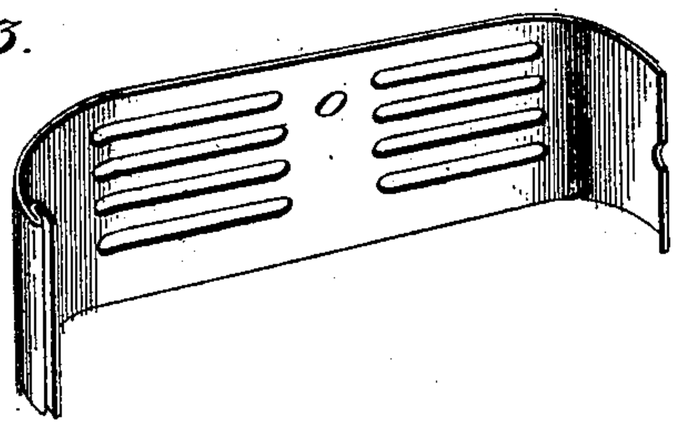


Fig. 3.



Witnesses

J. S. Cross

Chas. E. Brock

Inventors

James M. Rush,

V. Mrasek,

by Munn & Co

Attorneys.

UNITED STATES PATENT OFFICE.

JAMES M. RUSH AND VINCENT MRASEK, OF NEOSHO, MISSOURI; SAID RUSH ASSIGNOR TO SAID MRASEK.

AIR-TIGHT HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 667,253, dated February 5, 1901.

Application filed June 19, 1897. Serial No. 641,452. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. RUSH and VINCENT MRASEK, residents of Neosho, in the county of Newton and State of Missouri, have invented a new and useful Air-Tight Heating-Stove, of which the following is a specification.

Our invention relates to stoves, and more particularly to stoves for burning wood, corncobs, and such like fuel.

The object of the invention is to produce a stove of the class known as "air-tight wood-heaters," generally made of sheet-iron, which shall be greatly improved in usefulness and simplicity and being so cheaply constructed as to much further extend its sale and use.

Our invention further consists in the improved construction, arrangement, and combinations of parts hereinafter fully described and afterward specifically pointed out in the claim.

In order to enable others skilled in the art to which our invention most nearly appertains to make and use the same, we will now proceed to describe the construction and operation thereof, having reference to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section from front to rear on the plane indicated by the broken line 1 1 of Fig. 2 through a stove constructed in accordance with our invention. Fig. 2 is a horizontal section through the same on the plane indicated by the broken line 2 2 of Fig. 1. Fig. 3 is a detail perspective view illustrating one-half of our corncob-basket.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letter, A is the bottom, and B the walls surrounding the main body of an air-tight wood-heater. The body is usually a cast plate, while the surrounding walls are generally made of sheet metal. The opening in the top C of the stove is closed by a cover D, having a perforated rim E, which perforations may be reduced in size or entirely closed by a sliding ring. The pipe F extends from the top down into the combustion-chamber, being open on both ends and provided at the top with a damper G for closing its upper end when desired.

H is a door for the introduction of fuel, and I is a door for the removal of ashes.

J is the horseshoe-shaped chamber, surrounding the combustion-chamber or fire-box, except at the front. This chamber is inclosed within the walls K and is open at the top and bottom.

L is a pipe opening through the bottom at L′, coiled around in the fire-box, carried backward through the rear portion M of the fire-box, and upward for some distance into the stovepipe N.

O is a cage or basket made in two sections, one of which is shown in Fig. 3, said basket being intended to contain corncobs or other such fuel and to be placed in the fire-box, said fuel being burned therein.

The stovepipe N is passed down into the rear portion M of the fire-box to about the middle of the height of the stove, as clearly shown in Fig. 1, being properly jointed where it enters the fire-box at P.

The pipe L where it is carried around in the combustion-chamber forms a grate, upon which the fuel is to rest while burning, and the air entering this pipe at L is thoroughly heated before it enters the stovepipe, the discharge of such air into the stovepipe serving the double purpose of increasing the draft therein and obviating the difficulty of condensation experienced in stoves of this class heretofore.

The cage or basket O may be inserted through the top of the stove or through the door H, and while the pipe L forms the bottom grate this cage will form the grated sides for the fuel-receptacle, thus greatly facilitating the combustion of the fuel and increasing the heat. During the operation of combustion the inner wall K is heated very hot, which in turn heats the air in the horseshoe-shaped chamber J, which entering said chamber at J′ at the bottom will pass out at J^2 and out the top, highly heated, thus producing a continued circulation of the atmosphere of the room.

During the process of combustion air may

be admitted to the combustion-chamber by the pipe F by opening the damper G at the top thereof, and this damper G is the only draft-opening by means of which communication is had between the outer atmosphere and the interior of the stove.

From the foregoing description the advantages of our invention will be apparent at a glance. The pipe L serves not only as a grate, but as a draft-forcer and drier for the stovepipe, and the air continually passing through it will prevent it from being burned up. The horseshoe-shaped chamber almost entirely surrounding the fire-box will furnish a large increase in the heated air of the room. The provision of the perforated rim under the cover D will prevent the gases which accumulate when the draft is suddenly closed while there is a hot fire in the stove from throwing off the lid, the perforations permitting the gases when the cover is slightly raised to escape without displacing the cover.

While we have illustrated the best means now known to us for carrying out our invention, we wish it to be known that we do not restrict ourselves to the exact details of construction shown, but hold that any such changes and variations therein as might suggest themselves to the ordinary mechanic will properly fall within the limit and scope of our invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

A heater comprising an air-tight casing, a pipe having one end opening through the bottom of the casing and formed adjacent to said end with a horizontally-disposed coil forming a grate for supporting the fuel, said pipe extending upwardly and discharging into the smoke-pipe of the heater, a horseshoe-shaped chamber positioned in the casing and having its ends extending through the upper and lower walls thereof and open, and a vertically-disposed pipe open at both ends and having its upper end secured in an opening formed in the top of the casing and damper-controlled and its lower end terminating at a point about the coil or grate, substantially as described.

JAS. M. RUSH.
VINCENT MRASEK.

Witnesses:
JOHN B. MURRAY,
JOHN C. GEYER.