

(No Model.)

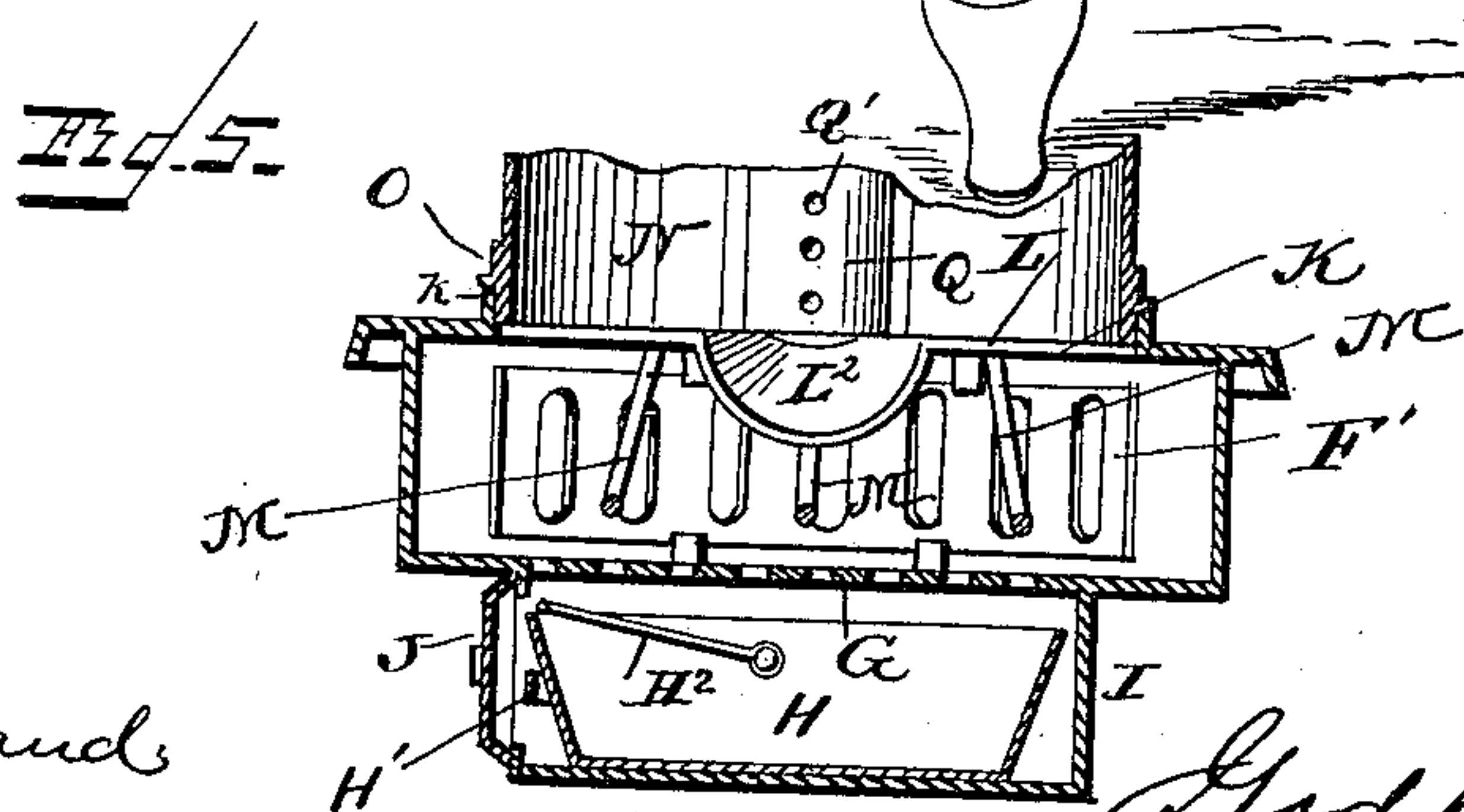
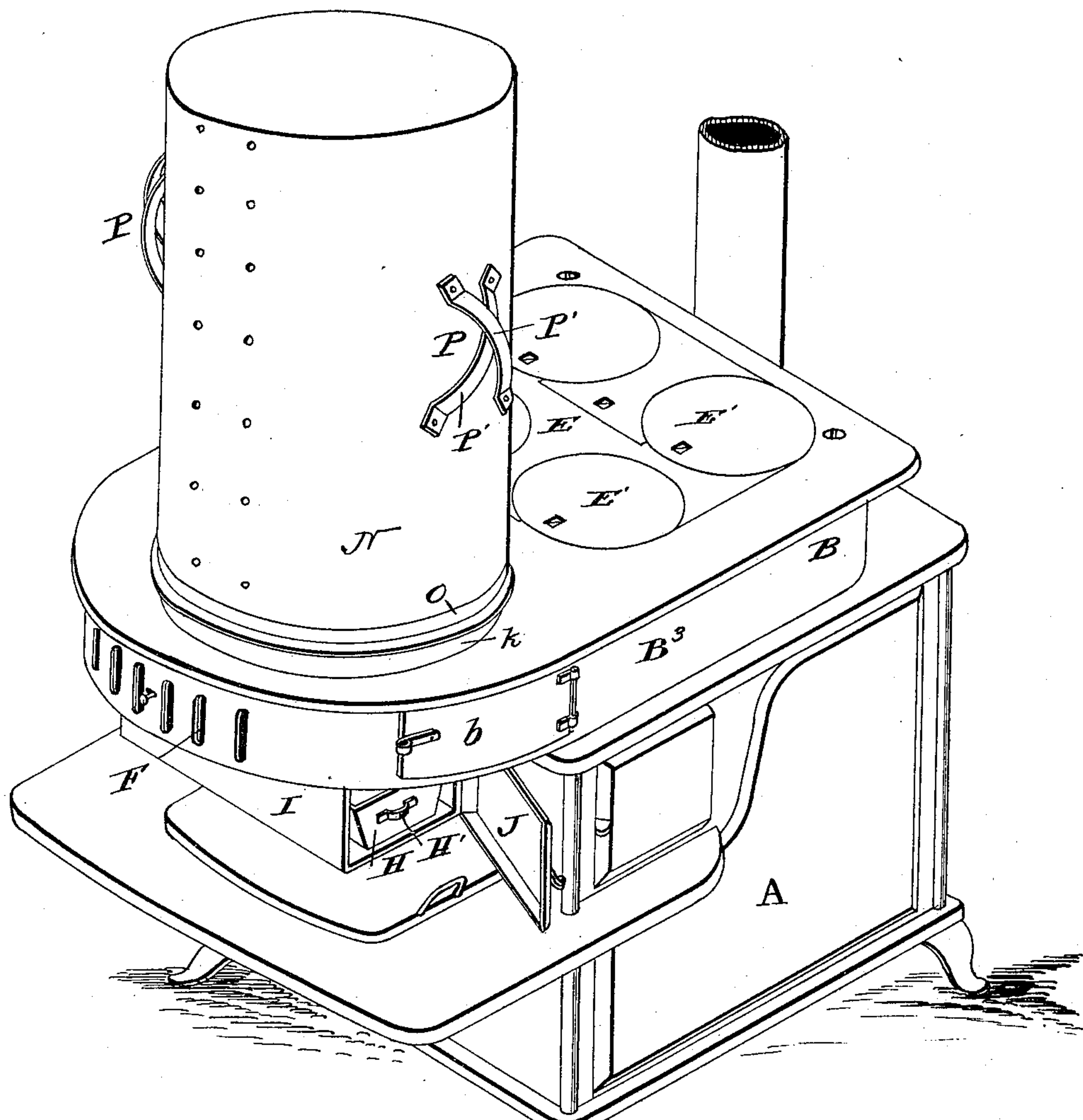
2 Sheets—Sheet 1.

G. LAUBE.  
HAY BURNER.

No. 371,332.

Patented Oct. 11, 1887.

Fig. 2.



Witnesses  
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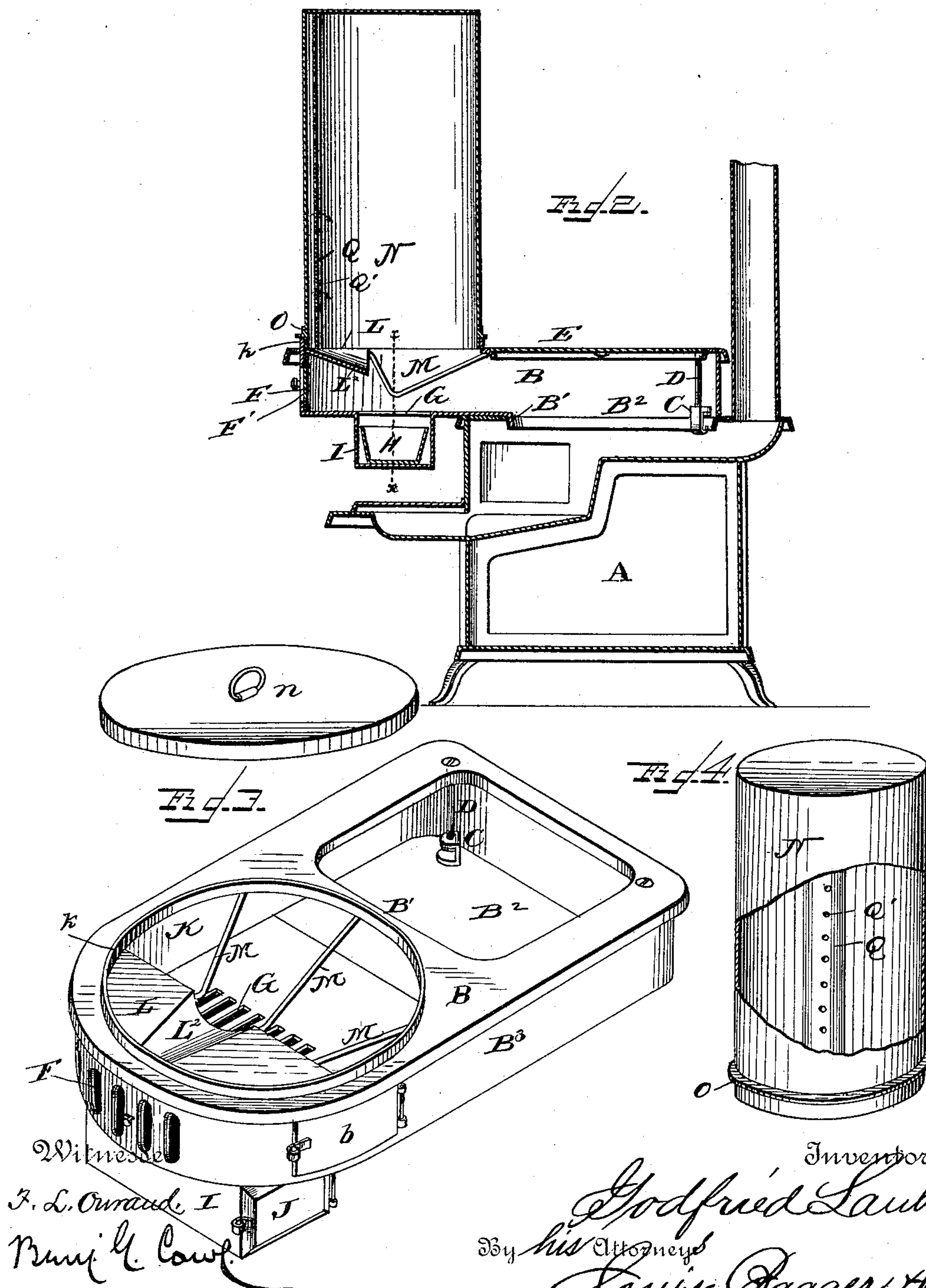
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# UNITED STATES PATENT OFFICE.

GODFRIED LAUBE, OF HURON, DAKOTA TERRITORY.

## HAY-BURNER.

SPECIFICATION forming part of Letters Patent No. 371,332, dated October 11, 1887.

Application filed March 28, 1887. Serial No. 232,721. (No model.)

*To all whom it may concern:*

Be it known that I, GODFRIED LAUBE, a citizen of the United States, and a resident of Huron, in the county of Beadle and Territory of Dakota, have invented certain new and useful Improvements in Hay-Burners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved hay-burner, showing the same secured in its operative position upon a cook-stove of ordinary construction. Fig. 2 is a central longitudinal vertical sectional view of the same. Fig. 3 is a perspective view of the attachment, with its center piece and lids and also with the magazine or cylinder removed. Fig. 4 is a perspective detail view of the magazine or cylinder partly broken away to show the construction and arrangement of the gas-tube; and Fig. 5 is a vertical transverse sectional view taken on the plane indicated by line *x x*, Fig. 2.

The same letters of reference indicate corresponding parts in all the figures.

My invention consists in an improved hay-burner, which is adapted to be attached to any ordinary cook-stove, and which will evenly consume the hay without allowing any smoke or gas to escape into the room, and which will obtain the maximum of heat from the quantity of hay consumed; and my invention will be hereinafter fully described and claimed.

Referring to the several parts by letter, A indicates a cook-stove of ordinary construction, to which my improved hay-burner is shown attached in operative position.

B indicates the sheet-iron body of my improved attachment, the top of which is wholly of cast-iron, and this attachment is secured upon the top of the stove A, after the center piece and lids of the stove have been removed, by means of the clamps C C and screws D D, the forward lower part of the body B being likewise formed with the downwardly-bent lip B', which assists, as clearly shown in the sectional view, Fig. 2, of the drawings, in holding the attachment firmly in position on the

stove A. This body B extends entirely over the top of the stove and extends considerably in advance of the same at its forward end, as shown, that part of the top and bottom of the attachment which extends over and coincides with the top opening of the stove proper being open, as shown, this top opening, B<sup>2</sup>, of the attachment being covered by the removable center piece, E, and the lids E' E', the large communication between the interior of the stove and the main part of the body B giving room for a full and complete combustion, and also forming a large heating-drum, as it were. The large space thus left clear on the top of the attachment gives a large clear surface for cooking, that part of the attachment being provided, as before described, with removable plates or lids E' and the removable center piece, E, similar to those of the stove proper.

The side piece, B<sup>3</sup>, of the body B is formed of a piece or strip of sheet-iron, and the front of this strip is formed with the draft-openings F and the draft-slide F', for regulating the draft through the said openings. The forward end of the body B extends, as shown, in advance of the front of the stove-top, and the bottom of this extended portion is formed with a series of slots, G, forming a grate through which the ashes of the burned hay fall into an ash-pan, H, which rests in a casing, I, immediately beneath the said slots, and which is removed by opening the hinged door J at one end of the said casing, the said ash-pan H having at one end a handle, H', and being provided with a pivoted bail, H<sup>2</sup>, by which it can be conveniently carried and which can be folded in out of the way when the pan is to be slid into the casing I.

The upper side of the forward extension of the body B above the series of slots G is formed with a circular opening, K, having preferably an upwardly-extending rim-flange, *k*, on the forward part. Nearly one-half of this opening is provided with a solid metallic bottom, L, while across the open space, between the straight rear edge of this bottom plate, L, and the rear part of this opening K, are arranged the three grate-bars M, which are bent downward, as shown, immediately above the series of slots G; but the lower portion of these grate-bars is some distance above the said slotted bottom of the body B, so as to leave an open



space between the said slotted bottom and the hay or straw supported by the grate-bars M, so as not to shut off the circulation of air, thus preventing all puffing or choking of the fire and the explosions that follow and which throw smoke all over the room.

N indicates the cylindrical magazine, which is made in the form of a cylinder with a closed top, the lower open end of the cylinder being provided with a cast-iron flanged ring, O, and the lower end of the magazine fits within the upwardly-extending rim-flange *k* of the opening K, the outwardly-extending flange of the ring O bearing upon the upper edge of the flange *k*; and it will be seen that by this arrangement the magazine can be readily rotated, for the purpose hereinafter specified, with very little friction. This cylinder is provided on opposite sides, for convenience in handling it, with the handles P, each handle being formed of two strips of metal, P' P', which are crossed at their centers at an angle in about the shape of the letter X, and have their ends riveted to the sides of the cylinder, as shown; and it will be seen that by this construction the handles are rendered exceptionally strong, resisting pressure in all directions both up and down and to either side.

Within the cylinder, to the interior side of one side thereof, is secured the longitudinal metallic strip Q, which is secured (riveted) by its edges to the inner side of the cylinder, extending from the top to the bottom of the same and swelling out toward its center, as clearly shown in the detail view, Fig. 4, so as to leave a longitudinal space between it and the side of the cylinder to which its edge-flanges are secured, and the central part of this strip or tube Q (for I shall denominate it a "tube," as, in conjunction with the side of the cylinder to which it is secured, it forms a tubular space) is formed with a series of transverse apertures, Q', leading from the inside of this tube to the interior space of the magazine, for the purpose hereinafter specified.

In operation, when the body B has been secured in operative position upon a stove A, the center piece, E, and the lids E' having been placed in position, or any one of them removed, and a utensil placed in the opening thus uncovered to heat, the hay or straw is placed in the magazine N, and the cover *n*, which is used to close the opening K when the magazine is not in position, having been removed, the magazine is placed in position on the body B with its lower end edge fitting within the flange *k* of the opening K, the lower part of the straw or hay resting upon and being supported by the solid half-bottom L and the three grate-wires M, and, the draft-slide having been opened to the desired extent, the hay is lighted through the small door *b* in the side B<sup>3</sup>.

It will be seen that as the lower portions of the downwardly-bent grate-bars M do not extend down to the slots G the draft will not

be interfered with, a clear space being thus provided for the circulation of the air, as will be readily seen. The solid front bottom, L, will protect the forward lower part of the hay or straw from burning, while the rear lower part thereof, which rests in the downwardly-bent grate-bars M, will burn steadily, and when this back part of the contents of the magazine has been burned out to a certain height the cylinder is turned for a half-circle, which can be readily and conveniently done by taking hold of the handles P until the unburned lower part of the hay or straw comes over the grate-bars, when the contents of the magazine will again settle down in the grate-bars as it is gradually burned, until the former burned-out portion, or rather the bottom of what was the rear burned-out portion, strikes the bottom plate, L, and whenever the rear part of the cylinder contents is burned out to a certain height the magazine is given a half-turn to bring the unburned lower part of the hay or straw over the grate-bars.

It will be seen that the central part of the solid half-bottom L is dished or grooved out to form a recess, L<sup>2</sup>, extending from its outer to its inner edge, inclining down toward its inner edge, and the lower open end of the perforated gas-tube Q communicates with this recess when the cylinder is turned so that this tube comes to the front; or when the cylinder is given a half-turn again the lower end of the tube is over the grate-bars M, and the effect of this construction and arrangement is that all gas that will accumulate in the cylinder or magazine will pass through the perforations Q' into the tube Q, and then down to the fire, so as to be consumed by the same, passing directly through the spaces between the grate-bars M when the tube is at the back and through the recess L<sup>2</sup> of the bottom L when the tube is turned with the cylinder to the forward side.

The ashes of the burned hay or straw fall through between the grate-bars M and through the slots G down into the ash-pan H, and this pan may be readily removed, as described, and emptied. The lower edges of the body B fit closely and tightly upon the stove-top, as shown.

When the cylindrical magazine is not in use, the opening K may be closed by the cover *n*, and fire can then be built in the stove in the usual manner.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood.

It will be seen that my improved burner for hay or straw is simple and strong in construction, and can be attached in a few moments to any ordinary cook-stove, and that it is exceedingly efficient in its operation. The hay or straw is evenly and steadily burned, and no smoke or gas is permitted to escape into the room, while the maximum of heat is obtained from the quantity of fuel consumed.



The stove can be used for cooking purposes while the body B is attached upon it, either while the hay or straw is being burned or after the magazine-cylinder has been removed and an ordinary fire has been kindled in the stove-grate proper.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a hay-burner for stoves, the combination of a body the rear portion of which is adapted to be secured upon the top of a stove and the forward portion is provided with a circular opening, a solid metallic semicircular bottom, and a grate below said opening, and a cylindrical rotatable magazine above said opening, substantially as set forth.

2. In a hay-burner for stoves, the combination of a body the rear portion of which is adapted to be secured upon the top of a stove, a slotted bottom upon the forward portion of the body, a magazine upon the forward portion of said body, and a grate between the bottom of said magazine and said slotted bottom, said grate being at a slight distance above said slotted bottom, substantially as set forth.

3. In a hay-burner for stoves, the combination of a body the rear portion of which is adapted to be secured upon a stove and the forward portion is provided with a circular opening, a solid semicircular metallic bottom below said opening, downwardly-bent grate-bars secured to said bottom at their forward ends and to the body at their rear ends, a magazine above said opening, and a slotted bottom below said grate-bars, substantially as set forth.

4. The combination, with the magazine of a hay-burner for stoves, of a perforated tube secured within said magazine, whereby the accumulated gas in said magazine is discharged at its lower end, substantially as set forth.

5. In a hay-burner for stoves, the combination of a body the rear portion of which is adapted to be secured upon a stove and the

forward portion is provided with a circular opening, a solid semicircular bottom below said opening having its central portion dished or grooved, a magazine above said opening, and a perforated tube within said magazine, the lower end of which communicates with the grooved portion of said bottom, substantially as set forth.

6. The combination of the body adapted to be secured upon an ordinary cook-stove and formed with the large bottom and top openings and having the center piece and the set of lids, and having also the extended forward end formed with the bottom slots, the side door, the draft-openings, and the circular top opening, the removable ash-pan arranged, as described, beneath the said slots, the solid half-bottom and the curved grate-bars arranged across the said circular opening, as described, and the removable and rotatable magazine, all substantially as and for the purpose set forth.

7. The combination of the body adapted to be secured upon an ordinary cook-stove and formed with the large bottom and top openings and having the center piece and the lids, and having also the extended forward end formed with the bottom slots, the draft-openings, and the circular top opening, the removable ash-pan arranged, as described, beneath the said slots, the solid half-bottom having the dished or grooved center and the curved grate-bars arranged across the said circular opening, as described, and the removable and rotatable cylindrical magazine having the interior perforated tube, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

GODFRIED LAUBE.

Witnesses:

H. M. JONES,  
ALFRED STEEN.