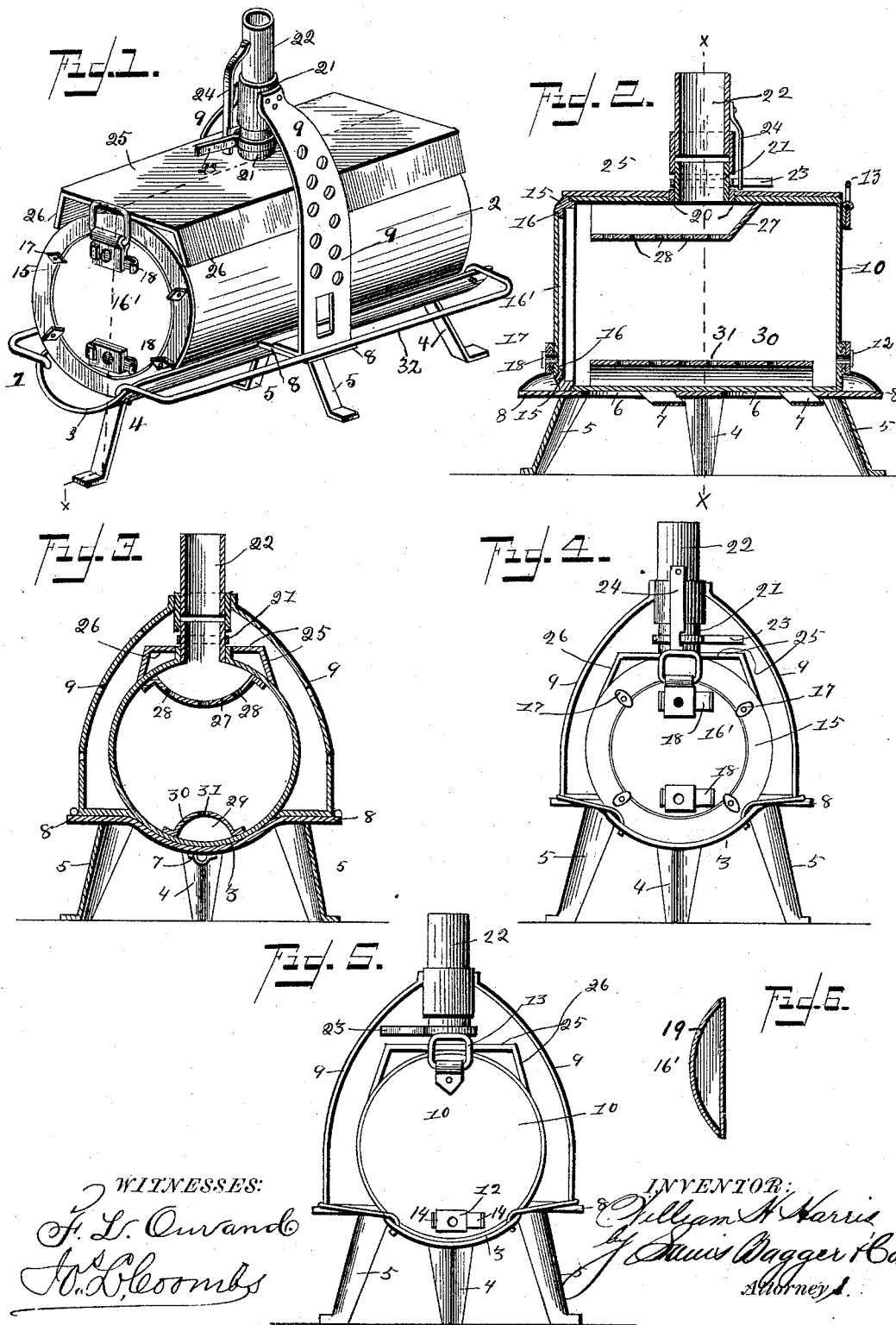


(No Model.)

W. H. HARRIS.
STRAW-BURNER.

No. 462,945.

Patented Nov. 10, 1891.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM HENRY HARRIS, OF STEELE CITY, NEBRASKA.

STRAW-BURNER.

SPECIFICATION forming part of Letters Patent No. 462,945, dated November 10, 1891.

Application filed January 27, 1891. Serial No. 379,274. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY HARRIS, a citizen of the United States, and a resident of Steele City, in the county of Jefferson and State of Nebraska, have invented certain new and useful Improvements in Straw-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.

My invention relates to stoves for burning hay, straw, wood, cornstalks, or trash of any kind, and is designed as an improvement upon the invention patented to W. H. Harris and George W. Harris, July 16, 1889, No. 407,203.

The invention consists in the novel construction and combination of parts, hereinafter fully described, and definitely pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a hay or straw burner constructed in accordance with my invention. Fig. 2 is a central longitudinal section of the same. Fig. 3 is a cross-section in the line x x , Fig. 2. Fig. 4 is a front view, and Fig. 5 is a rear view. Fig. 6 is a sectional view of the cover.

In the accompanying drawings, the reference-numeral 1 designates the supporting-frame for the drum 2. This frame comprises a concave bottom 3, preferably composed of cast-iron, supported by end legs 4 and side legs 5. This frame is provided with a series of longitudinal slots 6, with which engage inclined lugs 7 on the lower side of the drum, whereby the drum is guided in placing it upon the frame and is securely held in position thereon. At or near the center of the frame 1 and at a point in line with the side legs are projections 8, with which are connected the upwardly-extending curved arms 9, which support the collar 21^a of the smoke-flue of the drum. The drum is composed of a cylinder of sheet metal closed at its rear end, having a draft-opening 12 at its lower portion and a hand-hold 13 at the upper portion. The draft-opening is closed by means of a sliding damper 14. The front of the

drum is provided with a cast-iron rim 15, having an annular groove 16 around its inner edge, within which fits the annular cover 16', which is held in place by means of the turn-button 17. The cover or door 16' is provided with upper and lower draft-openings closed by means of sliding dampers 18. This cover, as well as the rear end 10, consists of a plain annular inner disk with a conical outer disk 19, secured together at the peripheries, so as to leave an air space between to prevent warping. In the upper side of the drum, at or near the center thereof, is an opening 20 to receive the lower end of a supplemental smoke flue or pipe 21, upon which fits a collar 21^a, supported by the arms 9, within which collar is located the vertically-movable main smoke-flue 22. This flue 21 is provided with a handle 23, by which it may be elevated and lowered, and the pipe 22 has a depending notched arm 24, by which the handle may be locked or secured.

The numeral 25 designates a support for articles or objects to be warmed or heated, and consists of a rectangular plate having an opening at or near its center, which corresponds and registers with the smoke-flue. The sides of this plate are bent downwardly at an angle, forming wings 26, which rest upon the drum and hold the support in a horizontal position. In the interior of the drum, at a point immediately below the smoke-opening, is a curved plate 27, provided with a number of perforations 28. This plate forms a flue which is closed at its rear end and extends forwardly to near the front of drum, where its end is open and in line with the upper draft-opening. By the use of this plate hay or straw is prevented from escaping through the smoke-opening in filling the drum, and it also prevents choking of the same and insures a proper draft at all times. In the lower portion of the drum is a longitudinal flue 29, formed by a curved plate 30, provided with a series of perforations 31, with its sides secured to the drums. This flue is open at its front end, and at its rear communicates with the lower draft-opening in the rear cover, thus insuring proper draft through said draft-opening and preventing choking of the same by ashes or other substances.

The skeleton frame 1 is provided with spring-rods 32, which engage with apertures in the ends of the frame. These rods or rails may be dispensed with, if desired.

- 5 It will be noticed that portion of the plate 27 immediately underneath the smoke-opening is imperforate, so that the products of combustion escape through the perforations in the front part thereof. By elevating or
10 lowering the movable smoke-flue so as to have it farther or nearer to the smoke-opening in the drum the draft can be regulated.

The operation is as follows: The drum is filled with hay, straw, or other refuse, and
15 the front cover placed in position and secured by means of the turn-buttons. It is then placed on the frame 1, being guided by means of the slots and lugs, which also hold it securely, and the supplemental smoke-flue is
20 lowered so as to engage with the smoke-opening. The fire is then started at the top draft-opening in the front cover, and the material in the drum, being loose or less compacted than at the rear end, soon burns down to the
25 bottom draft-opening. The damper of the rear end is then opened, which draws the fire along the bottom of the drum to the rear thereof. The fire can now be perfectly controlled by means of the dampers.

- 30 There may be two or more of the drums employed in connection with the frame, so that while one is in use the other can be filled.

Having thus described my invention, what I claim is—

- 35 1. The combination, with the frame having a concave bottom with a series of horizontal slots therein, of the drum having a series of downwardly-projecting inclined lugs adapted

to engage with said slots and guide and hold the drum in place, substantially as described. 40

2. The combination, with the frame having a concave bottom and end and side legs, of the drum having a smoke-opening located at or near the center thereof, a supplemental flue located in said opening, a collar encircling
45 said flue supported by arms connected with the frame in line with the side legs, and a movable flue in said collar, substantially as described.

3. The combination, with the frame having 50 a concave bottom, of the drum having a rear end provided with a draft-opening, a front cover having top and bottom draft-openings, a horizontal perforated flue in the bottom of the drum, communicating with the rear draft-
55 opening and open at its front end, a perforated flue in the upper part of the drum, closed at its rear end and extending forwardly to near the front of the drum, a central smoke-opening in the drum, a collar supported by arms
60 connected with the frame, and a supplemental flue, substantially as described.

4. The combination of the drum closed at its rear end and having a grooved rim at its front end, and the cover fitting in said grooved
65 rim, said cover being composed of a plain inner disk and a conical outer disk, united at their peripheries, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature 70 in presence of two witnesses.

WILLIAM HENRY HARRIS.

Witnesses:

JAMES WHITNEY,
CHAS. B. RICE.