

(No Model.)

2 Sheets—Sheet 1.

I. J. MILLER & H. A. DRAKE.  
STRAW BURNING STOVE.

No. 407,602.

Patented July 23, 1889.

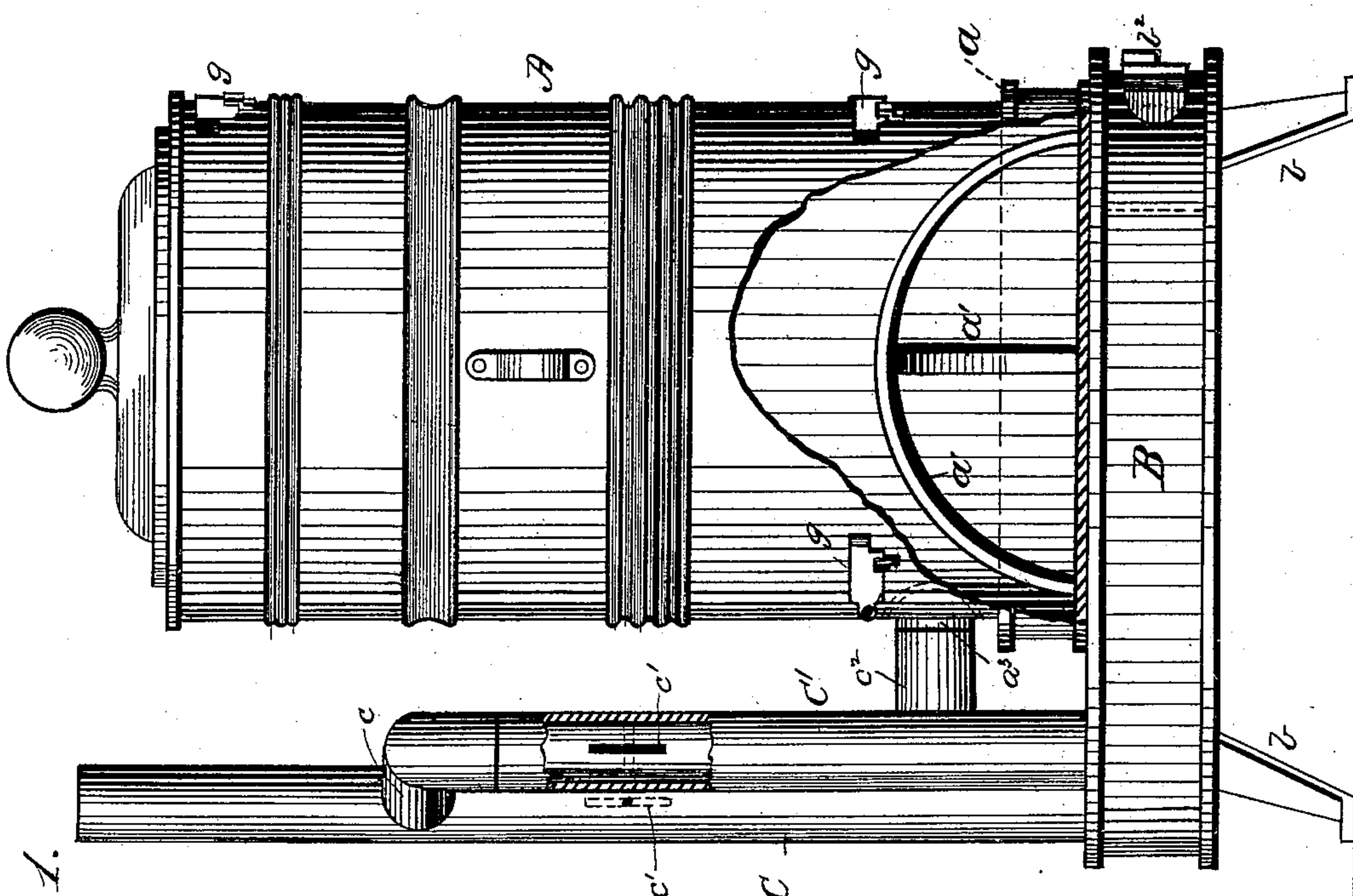


Fig. 1.

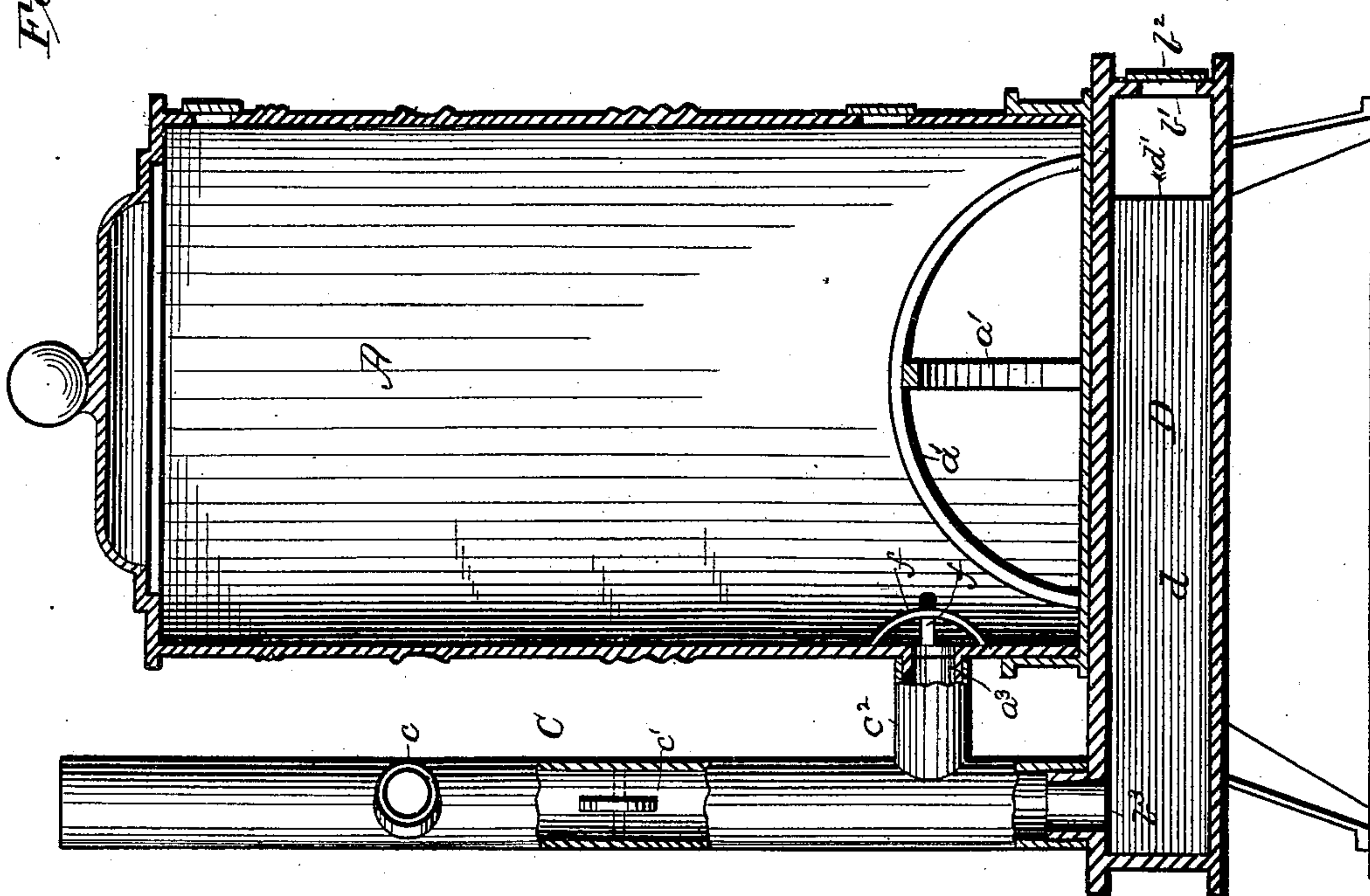


Fig. 2.

Witnesses

H. B. Harris

T. T. Carrigo

Inventor

Ignatius J. Miller  
Hubert A. Drake  
By Fitzgerald & Co. Attorneys

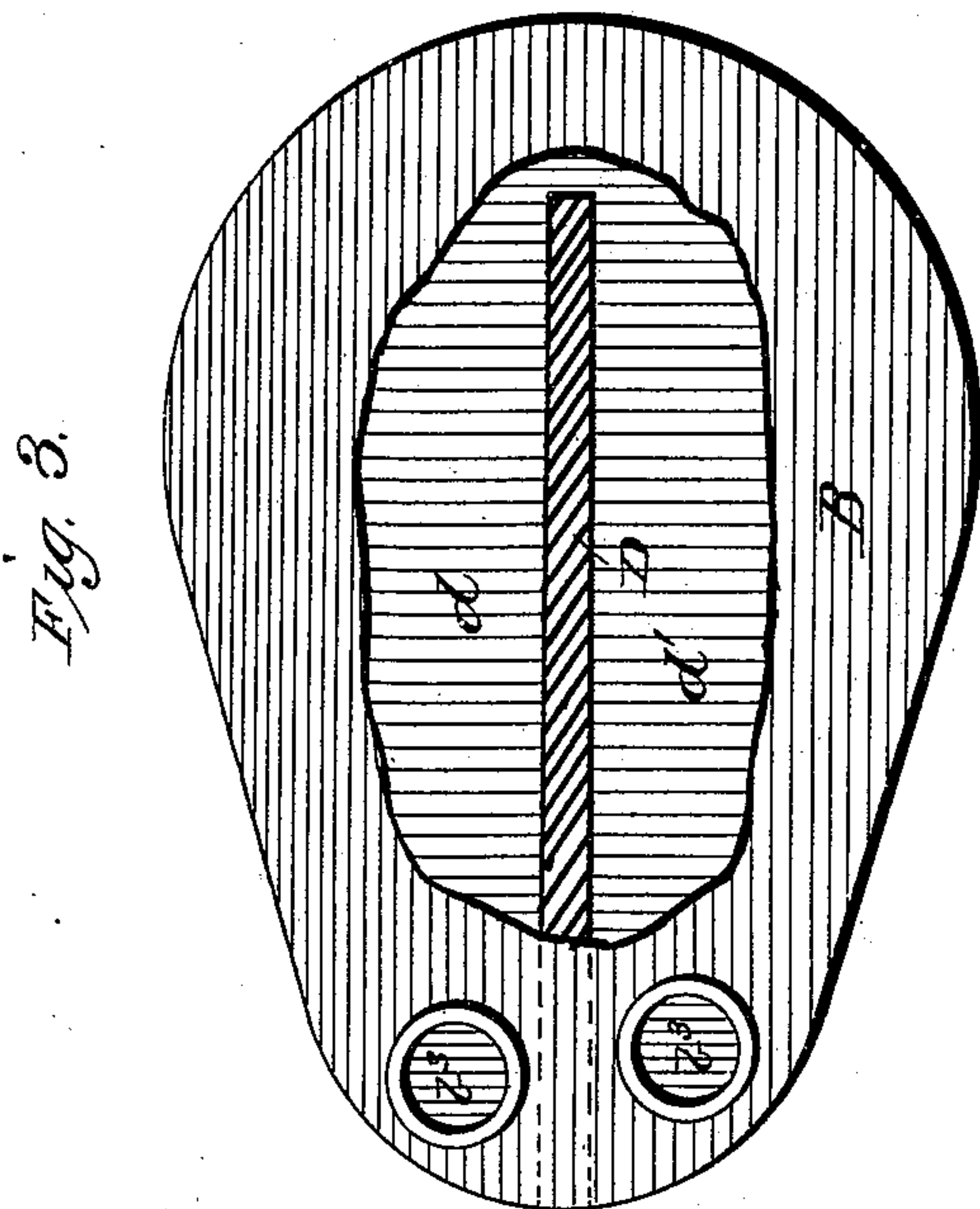
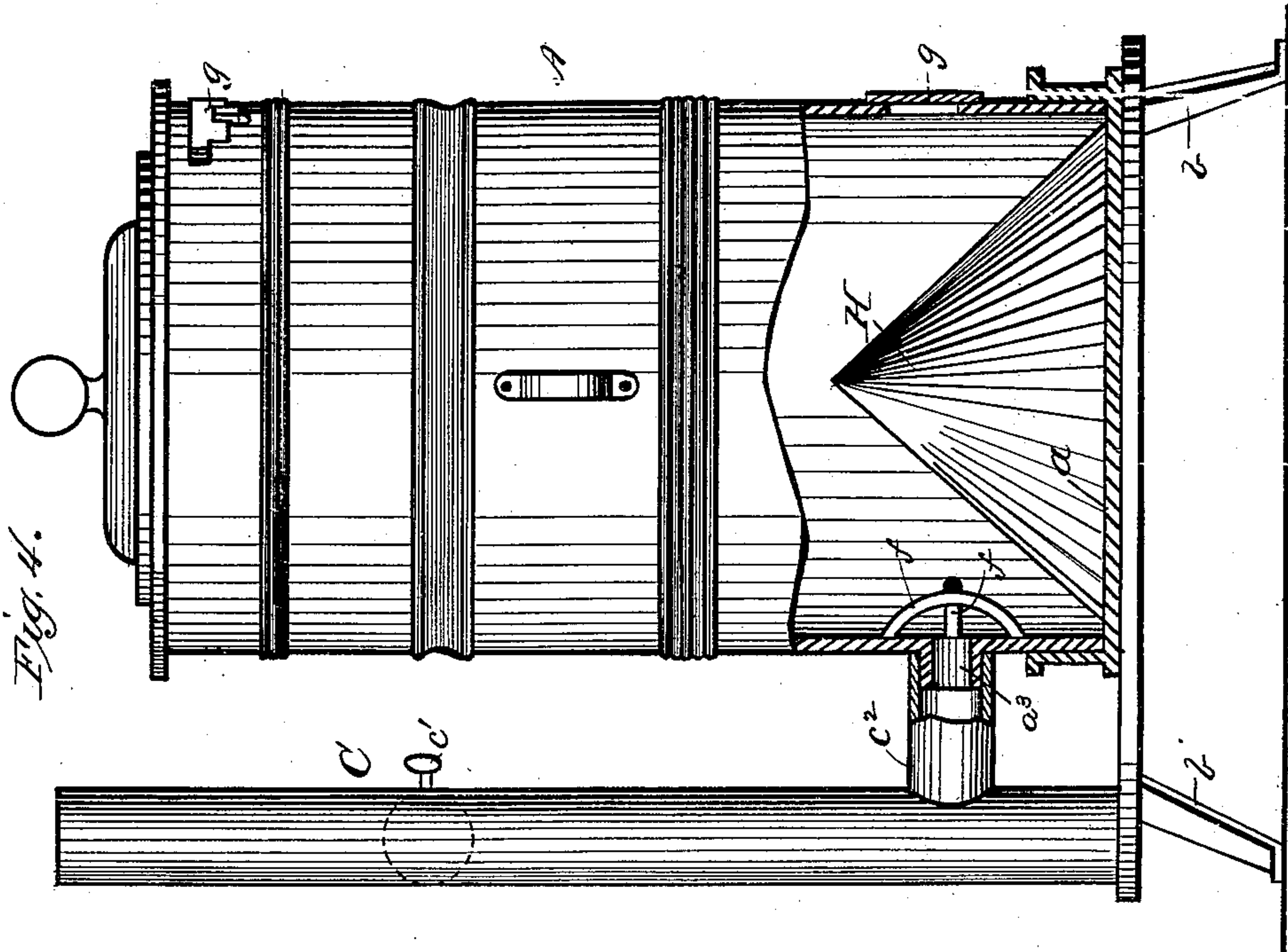
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Witnesses  
H. B. Harris  
T. J. Barriga

Inventor  
Ignatius J. Miller  
Hobart A. Drake  
By Fitzgerald & Co Attorneys



# UNITED STATES PATENT OFFICE.

IGNATIUS J. MILLER AND HOBART A. DRAKE, OF DE SMET, DAKOTA TERRITORY; SAID DRAKE ASSIGNOR TO I. L. NELSON, OF SAME PLACE.

## STRAW-BURNING STOVE.

SPECIFICATION forming part of Letters Patent No. 407,602, dated July 23, 1889.

Application filed January 24, 1889. Serial No. 297,476. (No model.)

*To all whom it may concern:*

Be it known that we, IGNATIUS J. MILLER and HOBART A. DRAKE, citizens of the United States, residing at De Smet, in the county of Kingsbury and Territory of Dakota, have invented certain new and useful Improvements in Straw-Burning Stoves; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to straw-burners; and it consists in the construction and novel arrangement of parts, as hereinafter specified, illustrated in the accompanying drawings, and pointed out in the appended claim.

The object of our invention is to provide a straw-burner of simple and cheap construction, and to provide it with a base-burner, whereby the heat may be radiated over a larger surface.

In the drawings, Figure 1 is a side elevation of our improved straw-burner, partly in section. Fig. 2 is a vertical longitudinal section. Fig. 3 is a plan view of the base-burner, partly in section. Fig. 4 is a side elevation of a modification of our improved straw-burner, partly in section.

Referring to the drawings by letter, A indicates the straw-magazine, which is preferably cylindrical, which is closed at its upper end, and is provided at its lower end with the removable bottom *a*. In order to prevent the straw from packing too closely in the bottom of the magazine, and to admit of a free circulation of air beneath the straw, we provide the bottom *a* with the semicircular strips *a'*, which may vary in number, and which may be united at their point of intersection.

B indicates a base-heating drum, which may be of any desired shape—preferably elliptical—and supported upon suitable legs *b*. Said drum is provided at its front with an opening *b'* and closed by a door *b''*, which may be opened at any time to allow of the drum being cleaned. At its rear end the drum B is provided with openings *b'''*.

C and C' indicate vertical pipes fitting over the openings *b'''*. The pipe C communicates

at its upper end with the pipe C' by means of the horizontal extension *c*.

*c' c'* are suitable dampers or cut-off valves arranged within the pipes C C' for a purpose presently explained.

The drum B is provided on its interior with a vertical partition D, which extends from the rear wall of the drum to a point near the front opening *b'*, which divides the said drum into two compartments *d* and *d'*.

The pipe C is provided near its lower end with the forwardly-projecting branch pipe C<sup>2</sup>, within which fits the short pipe *a'''* at the rear of the magazine A. Within the magazine, and over the pipe *a'''*, we provide semicircular strips *f*, which prevent the straw from clogging the mouth of the pipe *a'''*, and also to prevent any of said straw being carried through said pipe by means of the draft.

At suitable points in the magazine we provide openings *g*, through which the straw may be loosened or examined, said openings being closed by suitable doors G.

In the modification shown in Fig. 4 we dispense with the heating-drum and provide the bottom *a* with a cone-shaped projection H, in lieu of the semicircular strips heretofore described. We also dispense with the auxiliary pipe C'.

The operation of our improved burner is as follows: The magazine is filled with straw through the lower opening or bottom by removing cover *a*. The damper in the pipe C being closed, the heat and products of combustion are caused to pass down said pipe and into the compartment *d*, thence forward around the partition D and rearward up through the pipe C', the damper in said pipe being opened, and into the pipe C by means of the horizontal connection *c*. Should a direct draft be required, the damper in pipe C is closed and that in pipe C opened, the heat and products of combustion thereby passing directly into the pipe C from the magazine.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

In a straw-burner, the combination, with the magazine A, provided with the removable bot-

tom  $a$ , and the semicircular strips  $a'$ , secured to said bottom, of the drum B, supporting said magazine and provided at its rear end with openings  $b^3$ , the vertical longitudinal partition D, dividing said drum into two communicating compartments  $d$   $d'$ , the pipes C C', secured over the openings  $b^3$  and communicating with each other above the drum, the connecting-pipes  $c^2$   $a^3$  between said pipes C C', the pipe  $a^3$  having the semicircular strips  $f$  over

its mouth, and suitable dampers or valves arranged in the pipes C and C', substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

IGNATIUS J. MILLER.  
HOBART A. DRAKE.

Witnesses:

C. L. DAWLEY,  
H. W. MONTROSE.