

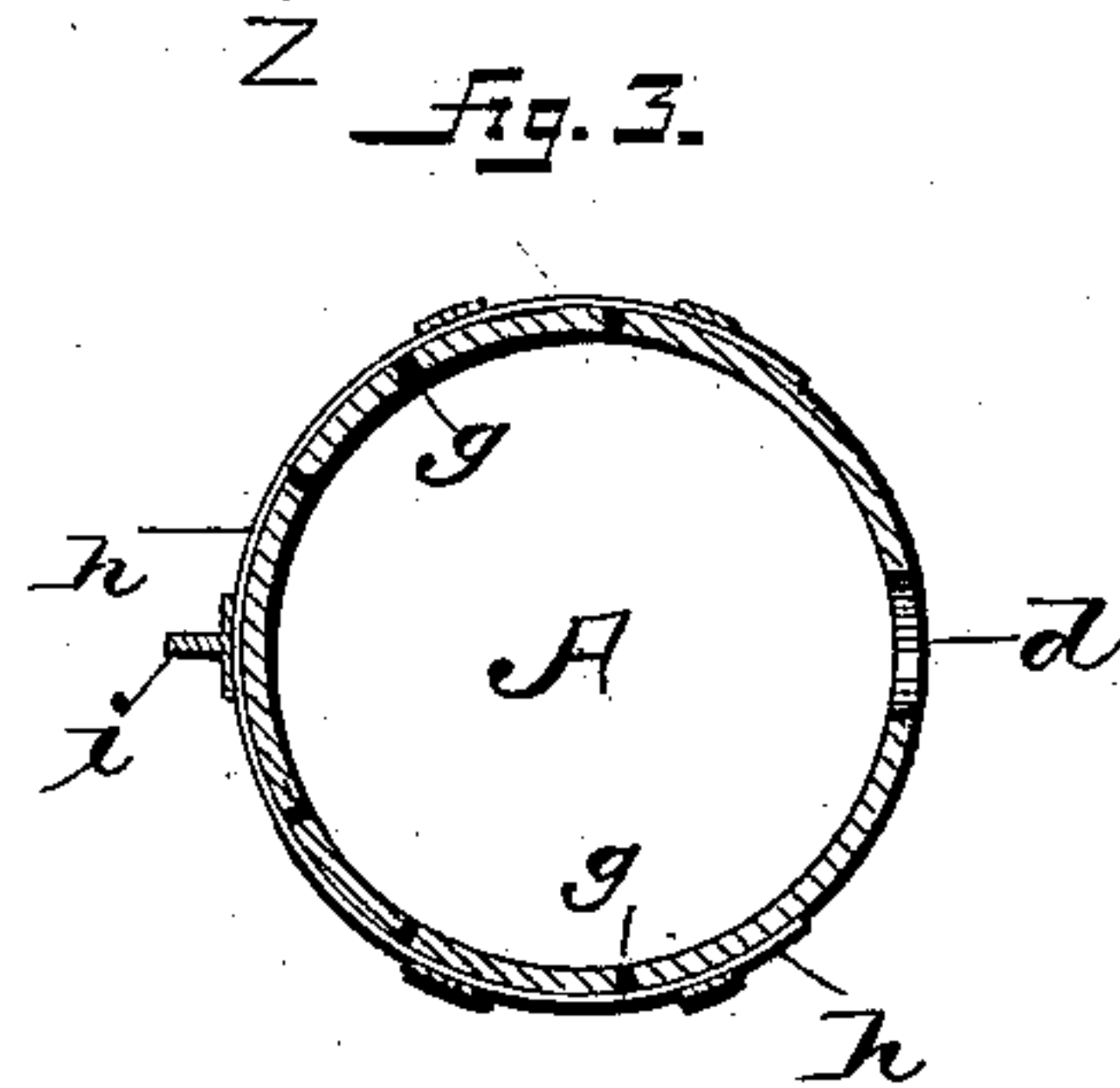
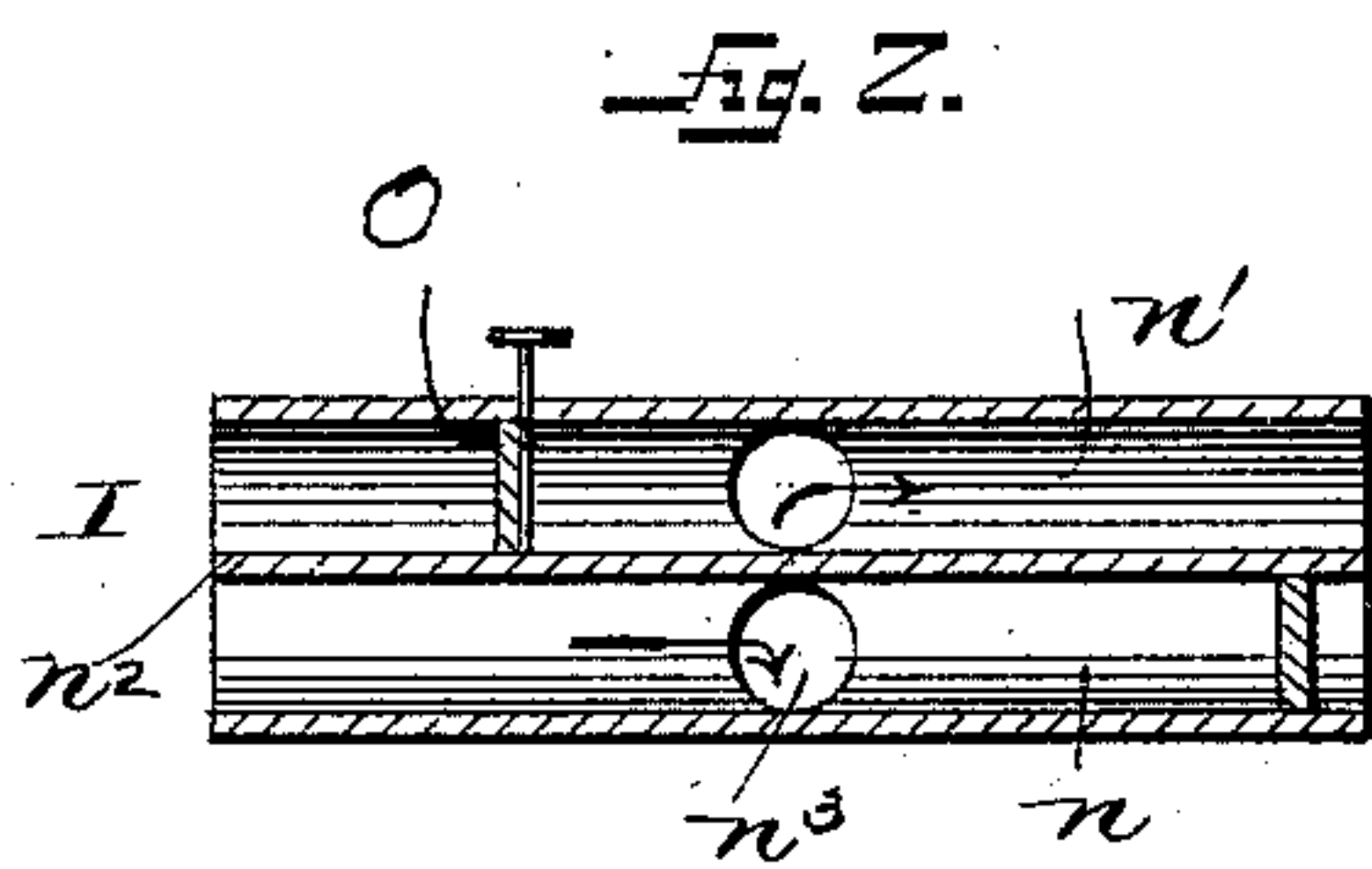
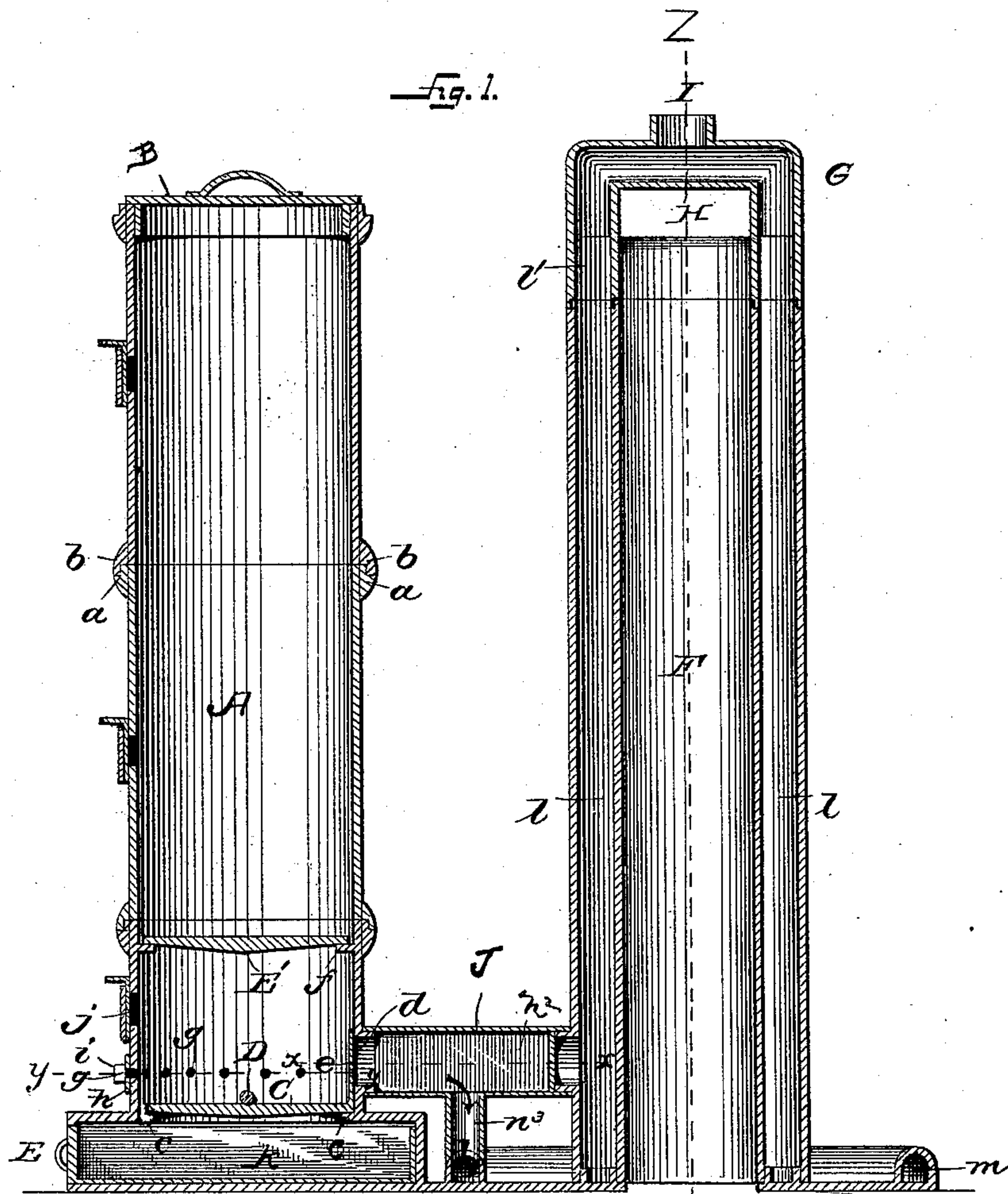
(No Model.)

2 Sheets—Sheet 1.

O. P. DALY.
HEATING STOVE.

No. 376,076.

Patented Jan. 10, 1888.



WITNESSES
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(No Model.)

2 Sheets—Sheet 2.

O. P. DALY.
HEATING STOVE.

No. 376,076.

Patented Jan. 10, 1888.

Fig. 5.

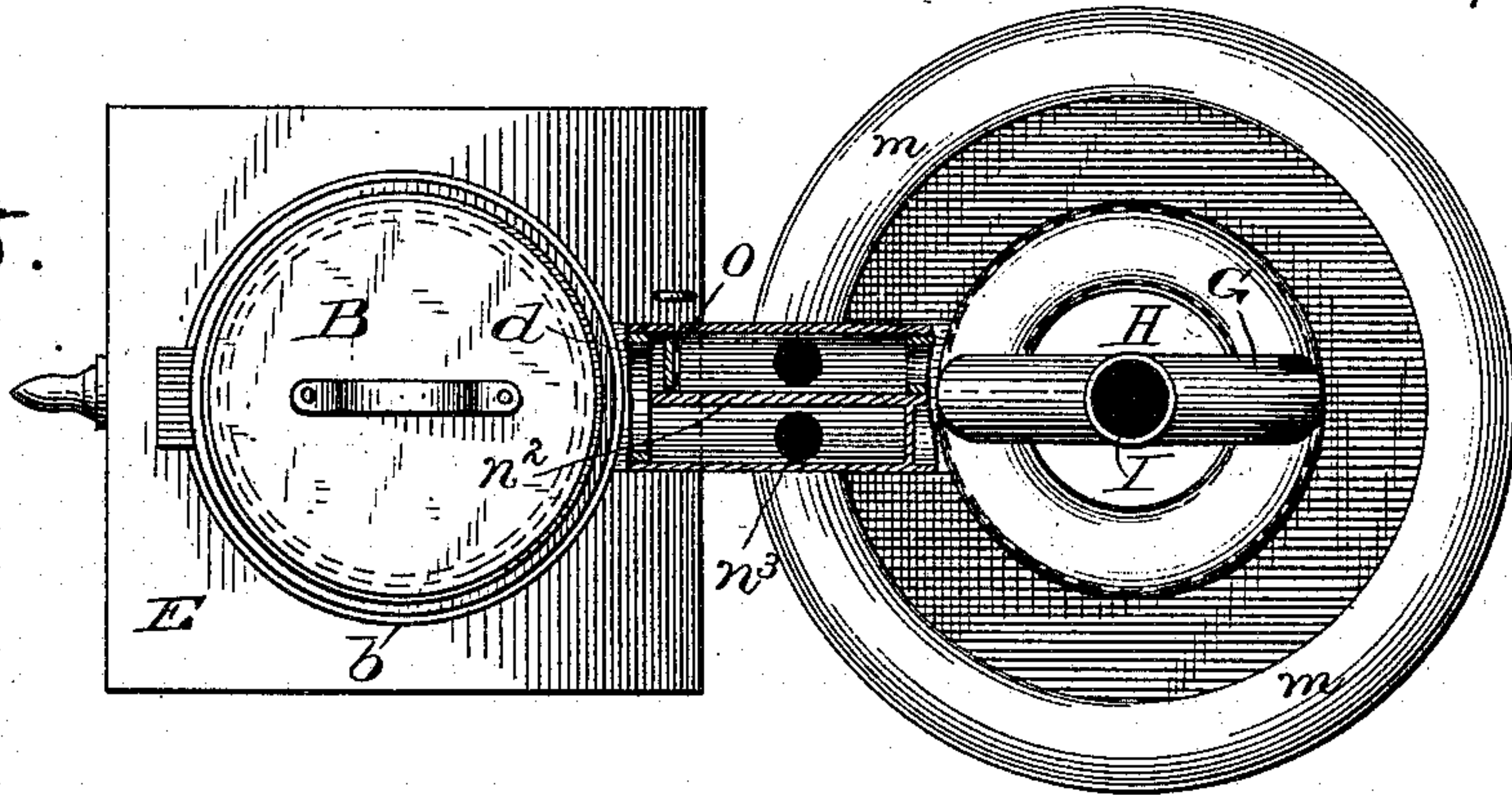
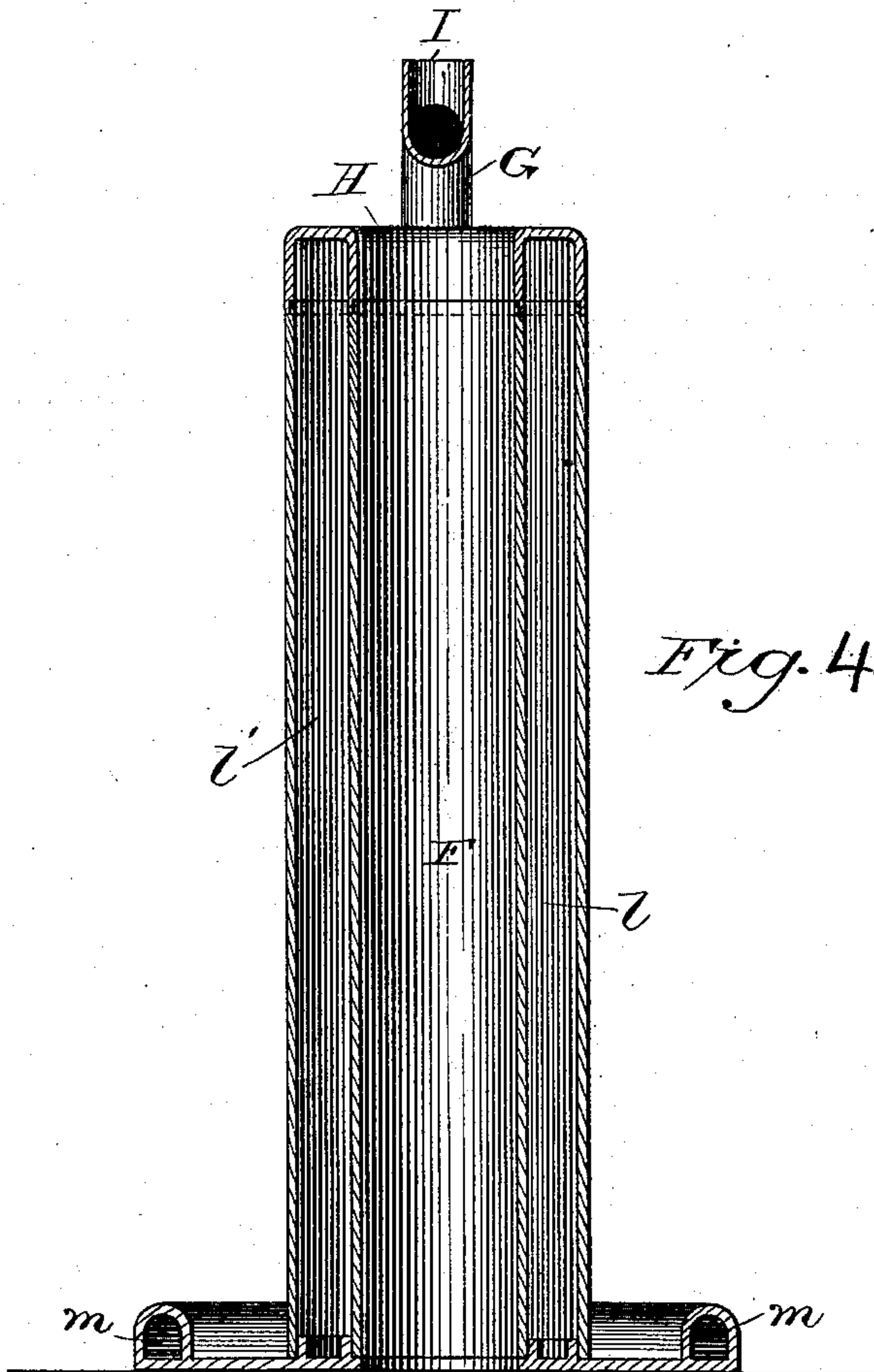


Fig. 4.



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UNITED STATES PATENT OFFICE.

OLIVER P. DALY, OF SMITH CENTRE, KANSAS.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 376,076, dated January 10, 1888.

Application filed March 29, 1886. Serial No. 197,051. (No model.)

To all whom it may concern:

Be it known that I, OLIVER P. DALY, a citizen of the United States, residing at Smith Centre, in the county of Smith and State of Kansas, have invented certain new and useful Improvements in Heating-Stoves; and I do hereby declare the following to be such a full, clear, and exact description of the invention, as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings.

My invention relates to stoves, and more particularly to that class used for heating purposes, the object of the invention being to provide a stove of the character mentioned in which hay, straw, cornstalks, weeds, and other light substances in the nature of grasses may be burned as fuel.

The invention consists in the improved construction and combinations of parts, hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a vertical sectional view of my improved stove. Fig. 2 is an enlarged detail horizontal sectional view of the flue connecting the base of the stove with the heating-drum, taken on the line *xx* of Fig. 1. Fig. 3 is a horizontal section of the magazine on the line *yy* of Fig. 1. Fig. 4 is a vertical section on the line *zz* of Fig. 1; and Fig. 5 is a top plan view, partly in section.

Corresponding parts in the several figures are denoted by the same letters of reference.

Referring to the drawings, A represents the magazine, which is preferably of sheet metal, and is composed of a series of sections having sleeves or collars at their meeting ends, one of the sleeves being adapted to receive the other. To hold the sections in place, one of the sleeves is provided with a right-angled or L-shaped slot, *a*, which is adapted to receive a projection, *b*, on the adjacent sleeve, said projection entering the vertical portion of the slot until it is on a line with the horizontal portion thereof, when the section having the sleeve provided with the slot is turned, thus locking the sections together. There may be as many of the sections as desired, and said sections may be of any desired or suitable length, the upper section being provided with a removable cover, B.

The lower section of the magazine is provided near its lower end with a pivoted grate, C, which is supported on a ledge, *c*, and which is operated by a rod, D, extending through the side of the stove.

An opening, *d*, is made in the side of the magazine, and three or more of the grate-bars *e* are bent upwardly at right angles to prevent the fuel from escaping through said opening, the object of which will be further explained.

At a suitable distance above the pivoted grate is located a grate, E', which is supported by a ledge, *f*. The bars of this grate are considerably farther apart than those of the grate below, and the object of said grate is to prevent the fuel in the magazine from falling in large quantities upon the pivoted grate and smothering the fire.

In the lower section of the magazine, just above the pivoted grate, are provided a circular series of openings, *g*, which are adapted to be closed by a sliding strip, *h*, having a finger-piece, *i*, whereby it may be operated. An opening, *j*, is also provided above the openings *h*, said opening being adapted to be closed by a vertically or horizontally sliding door. The openings *g* are for the purpose of regulating the draft, while the opening *j* is for the purpose of allowing the lower part of the fuel to be stirred with a poker, and may also be utilized to aid or regulate combustion.

Each section of the magazine is provided with one or more openings, J, which are closed by sliding doors, as shown, said openings serving to regulate combustion as the material is burned.

E represents a cast-iron base, in which, below the grate C, is provided a removable ash-pan, *k*.

F represents the heating-drum, which is preferably composed of two sheet-metal pipes, one arranged within the other, so as to leave a space, *l*, through which the smoke and products of combustion pass.

G represents a cap or cover for the heating-drum F. This cap or cover is preferably cast, and has a circumferential space, *l'*, closed at its upper end and adapted to fit over the upper ends of the pipes forming the heating-drum, thus closing the space between said pipes.

Communicating with the space in the cap or

cover is a pipe, H, which is curved, as shown, and which extends from opposite sides of the cap or cover. Communicating with and extending from the pipe H is a stove-pipe, I, by means of which the products of combustion are allowed to escape. It will be seen that the heat radiated into the interior pipe will escape through the upper end of the same into the room which it is desired to heat.

Surrounding the lower end of the drum or heater, and preferably formed integral with the cast base, is a passage, *m*.

J represents a pipe extending from the opening *d* in the magazine to the space *l* in the drum or heater. This pipe is divided into two compartments, *n* and *n'*, by a partition, *n*², and the compartment *n* is closed at its inner end.

Extending from the passage *m* is a pipe, *n*³, which communicates with the compartment *n*. The compartment *n'* is open at its inner end, and at a point between the passage *m* and the magazine is arranged within said compartment a damper, O, said compartment *n'* also having communication with the passage *m*. It will thus be seen that the smoke and hot air will, when the damper is closed, pass through compartment *n*, down through the pipe *n*³, around passage *m*, and up into compartment *n'*, and from there into the space *l* of the heating-drum. When the damper is open, the products of combustion will pass directly into the space of the heater, but when closed will, as before described, pass around the space *m*, thus forming a base-heater.

In use the material to be burned—*i. e.*, corn stalks, weeds, hay, straw, or grasses—is preferably compressed into bundles of the diameter of the magazine and the magazine filled with the latter.

The magazine may be replenished, when desired, by removing the cover of the upper section, or by removing the upper section itself.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a magazine having an opening, of a heating drum arranged independently of said magazine, a flue connecting the drum and magazine, and a grate in the latter, said grate having two or more of its bars turned upwardly to close the opening *d*, as set forth.

2. The combination, with a magazine and a heating-drum, of a flue connecting them and a passage surrounding the base of the drum, the said flue being divided into two compartments, one of which is closed at its inner end and the other open, a damper in the open-ended compartment, and pipes connecting the compartments with the passage-way around the base of the drum, substantially as set forth.

3. The combination, with a base formed with a circular passage, of a magazine supported on the base, a drum supported on the base within the circular passage, a flue connecting the magazine and drum and divided into two compartments, pipes extending from said compartments to the circular passage, one of said compartments being closed at its inner end, and a damper for the other compartment, substantially as set forth.

4. In combination, a magazine and an annular heating-drum located on essentially the same base and separated from each other by a connecting-flue, the interior space surrounded by the annular drum being open at the top and bottom to the free access of air, and an annular cap to the top of the drum, having exit-pipes connected therewith, substantially as set forth.

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

OLIVER P. DALY.

Witnesses:

L. C. UHL,
S. P. AYER.