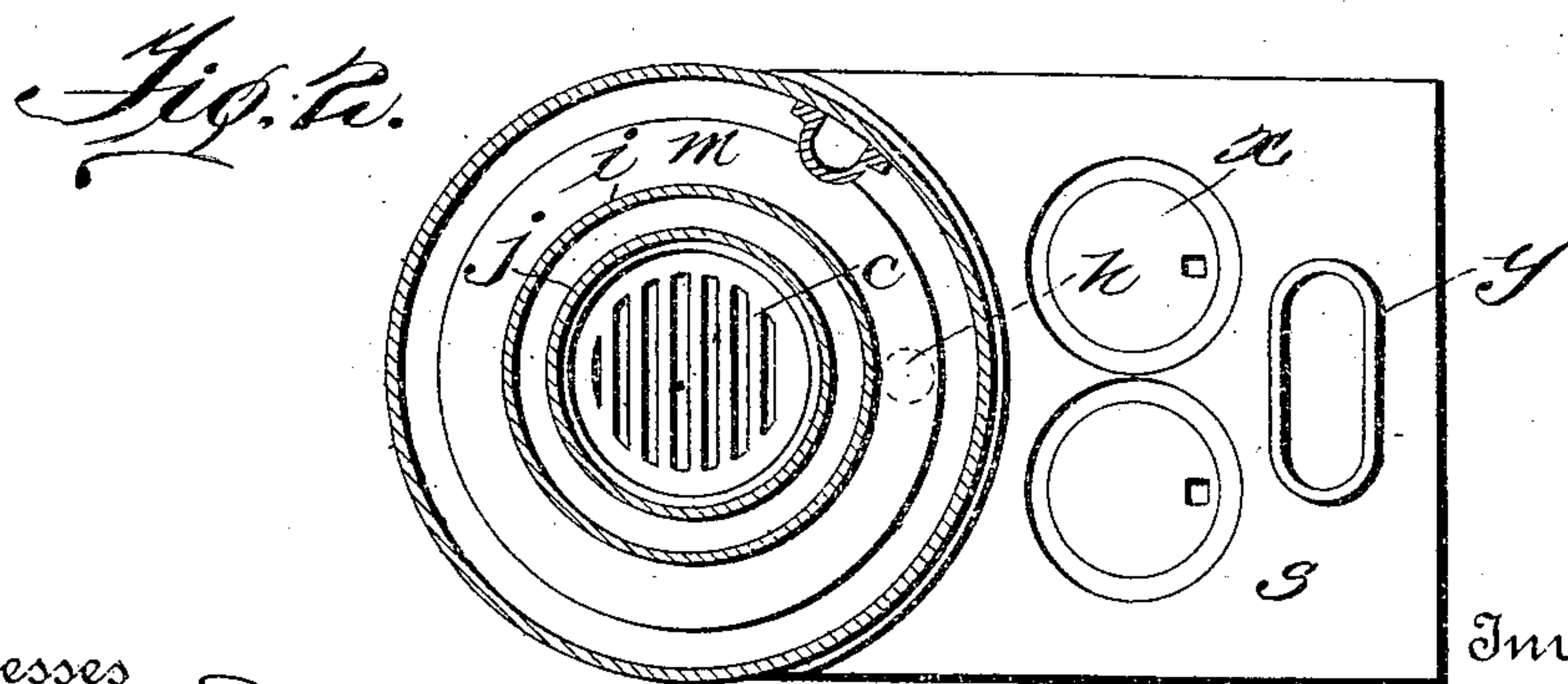
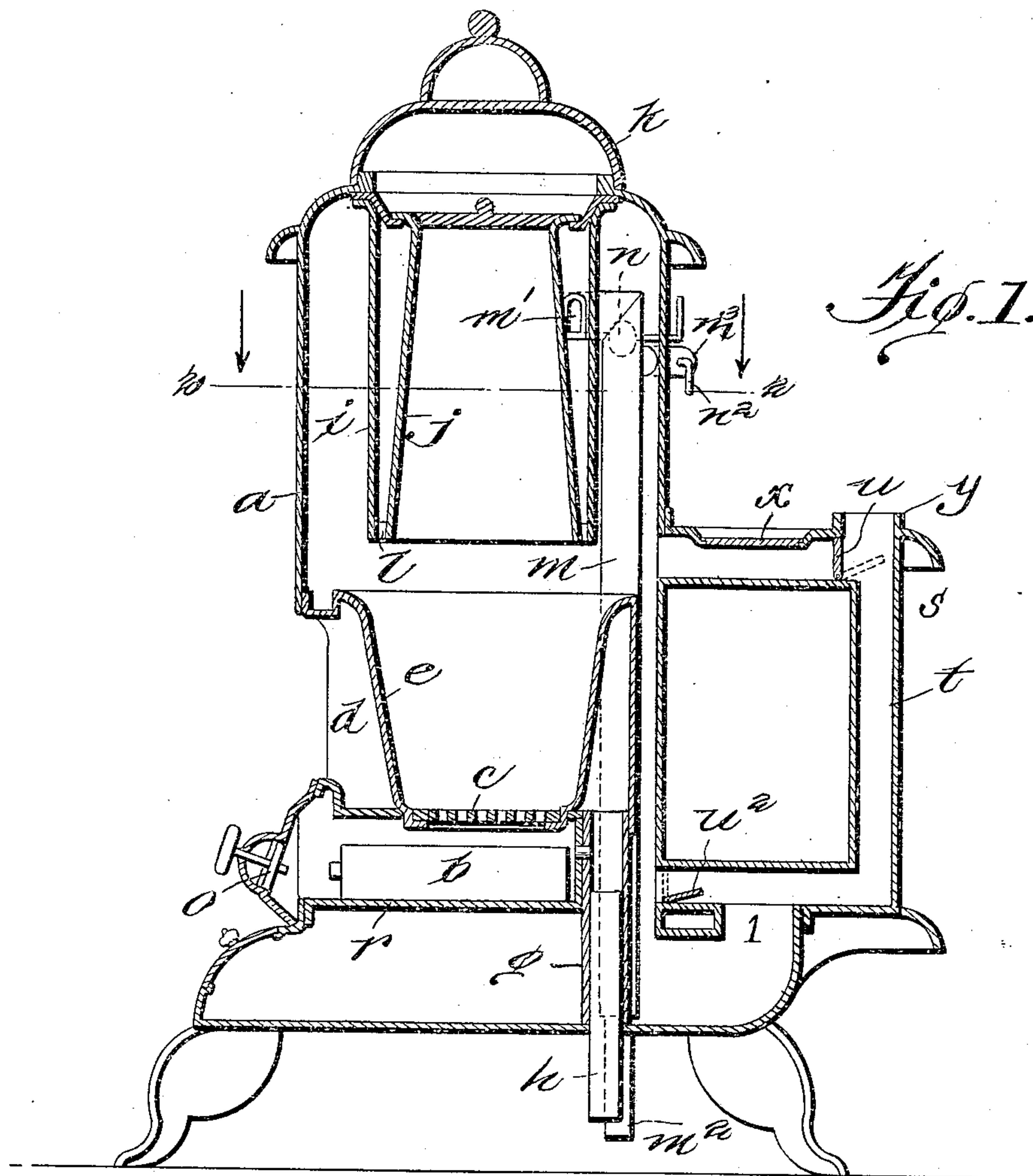


W. W. HOFFMAN.  
 BASE BURNING STOVE.  
 APPLICATION FILED FEB. 6, 1906.

960,175.

Patented May 31, 1910.

2 SHEETS—SHEET 1.



Witnesses  
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 W. W. Hoffman,  
 By Wilkinson & Fisher  
 Attorneys

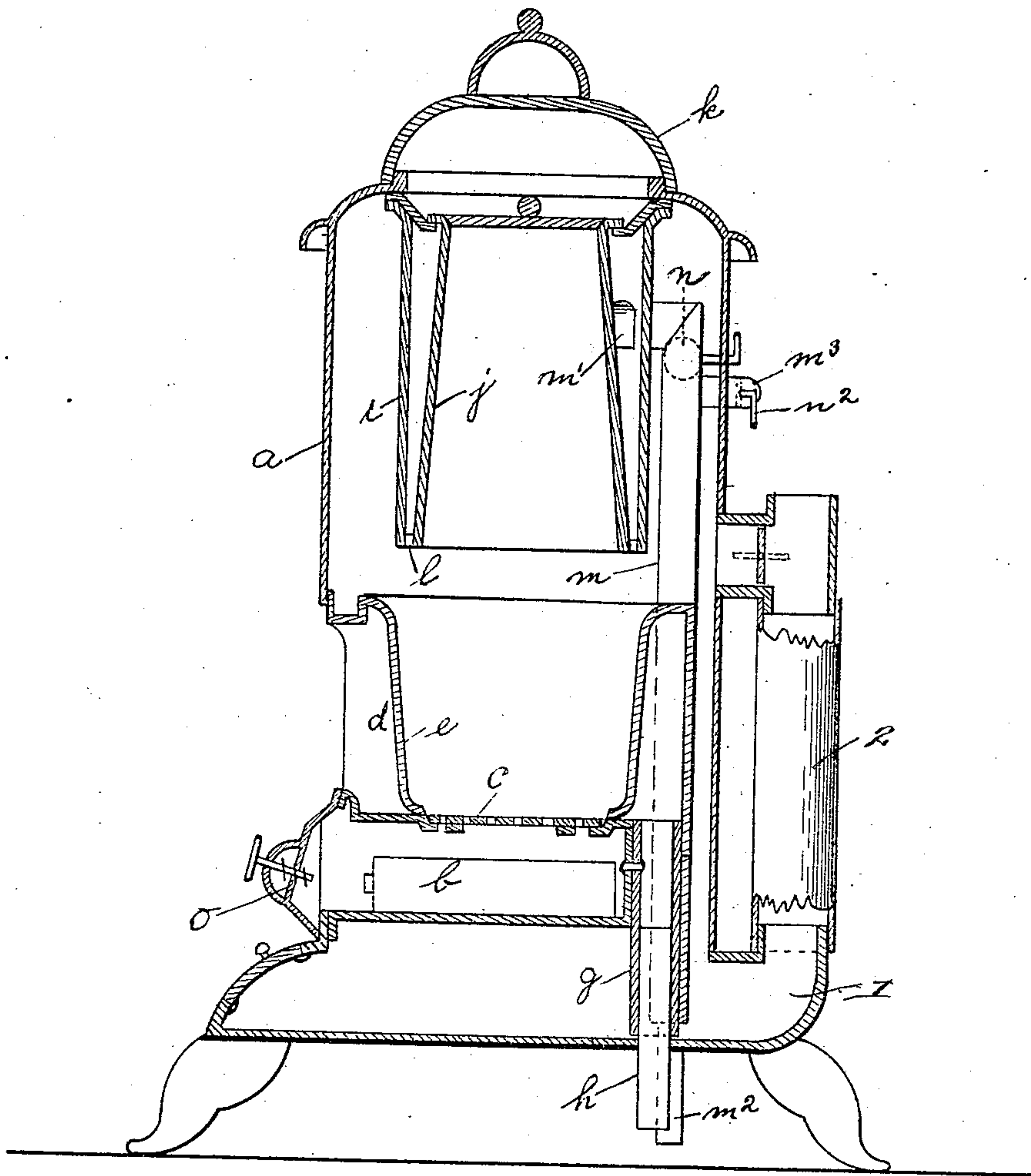
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2 SHEETS—SHEET 2.

Fig. 3.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM W. HOFFMAN, OF LA FAYETTE, INDIANA.

BASE-BURNING STOVE.

960,175.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed February 6, 1906. Serial No. 299,750.

To all whom it may concern:

Be it known that I, WILLIAM W. HOFFMAN, a citizen of the United States, residing at La Fayette, in the county of Tippecanoe and State of Indiana, have invented a new and useful Improvement in Base-Burning Stoves, of which the following is a specification.

My invention relates to improvements in base burning stoves and the object of my invention is to provide a stove in which either hard or soft coal may be burned, and which will utilize for heating purposes a larger proportion than usual of the heat produced by combustion, the percentage of heat escaping through the chimney being smaller than in ordinary stoves.

A further object of my invention is to cause a thorough circulation of the air in the room by drawing in the cold air from a point very near the floor, passing it around the fire-pot, where it is heated, and sending it out into the room at a comparatively low point, it being well known that in cold weather the air on the floor of a room is usually much colder than that near the ceiling.

With these objects in view, my invention consists in the construction and combinations of parts as hereinafter described and claimed.

In the accompanying drawings—Figure 1 is a vertical section of a stove embodying my invention, and Fig. 2 is a cross section thereof on the line 2—2 of Fig. 1. Fig. 3 is a vertical section of a stove without the oven attachment.

$a$  represents the shell of a stove of the ordinary upright type, which may be of any desired shape. Near the bottom of this shell is located an ash chamber, provided with an ash receptacle  $b$ , which chamber opens at the front of the stove and is supported at the rear by being attached to the air pipe  $g$ , which is secured in any suitable manner to the shell. This ash chamber has an opening in its top, over which is fitted a grate  $c$ . The front opening of the ash chamber is closed by a door having a damper  $o$ , by which the draft through the grate is regulated. Above the ash chamber is another chamber  $d$ , open at the front and top, the walls of the chamber  $d$  being fitted to the top of the ash chamber. In the chamber  $d$  is supported the fire-pot  $e$ , made flaring at the top, as shown, so as to fit over and

completely close the top of the chamber  $d$ . The fire-pot  $e$  rests down upon the top of the ash chamber, whereby an open space is formed around the fire-pot, which is entirely open at the front part of the stove.

$g$  is a pipe leading from the bottom of the stove into the chamber  $d$ , admitting air from beneath the stove to said chamber, where it is heated and thrown out, through the opening in front, into the room, at a comparatively low point.

$h$  represents a pipe telescoping within the pipe  $g$ , in which it may be moved up or down easily. By sliding the pipe  $h$  down sufficiently, all the air supplied to the chamber  $d$  will be drawn from a point immediately above the floor.

Above the fire-pot, and suspended from the top of the stove, is a double walled magazine, having two walls  $i$  and  $j$ , the outer wall being cylindrical and the inner one flaring downward, leaving an opening between the lower ends of the wall.

$k$  represents a movable cover, through which the magazine may be filled, and  $l$  spacing lugs to keep the lower ends of the walls  $i$  and  $j$  at the proper distance from each other.

$m$  represents a pipe running from beneath the bottom of the stove up through the body thereof, and into and through the wall  $i$ , discharging air through the opening  $m'$  into the space between the walls  $i$  and  $j$ . This pipe draws in cold air from beneath the stove, and as the air moves along it is heated and finally discharged downwardly above the fuel in the fire-pot. The amount of air supplied through the pipe  $m$  is regulated by a damper  $n$ , shown in dotted lines in Fig. 1. The pipe  $m$  is also provided with a branch  $m^3$ , running through the shell  $a$  and provided with a valve  $n^2$ . When the valve  $n$  is closed and the valve  $n^2$  opened, air, which rises through the pipe  $m$  and which also becomes heated in its upward movement, will be delivered into the room.

$m^2$  represents a pipe adapted to telescope and slide freely within the lower part of the pipe  $m$ .

To the back of the stove an oven  $s$  is attached, which oven is surrounded on three sides by walls  $t$ , forming an air space therearound, a door, not shown, being provided at each end of the oven. The air spaces above and below the oven are connected with the open space immediately within the shell, and



dampers  $u$  and  $u^2$  are provided to regulate the flow of the heated air and the products of combustion, so that they may be caused to flow either above the oven or below the oven, or on three sides thereof. The top of the oven is provided with lids  $x$  and an extension  $y$  to which the exit pipe is secured, which connects with the chimney.

It should be noted, as shown in the drawing, that there is a clear space between the shell of the stove extending down below the bottom of the ash chamber  $r$ , except as interrupted by the pipes  $g$  and  $m$ . A passage 1 extends from the space beneath the ash-pit to the flue located immediately under the oven, and its function is to deliver the products of combustion directly upon the bottom of the oven.

In Fig. 3 is shown a stove embodying the same principles as shown in Figs. 1 and 2, but without the oven attachment. The passage 1 is, in this case, directly connecting with the flue pipe 2, the construction in every other respect being substantially unchanged.

I claim:—

1. The combination of a shell and a hollow base, said shell formed with an opening in one of its sides, air heating and ash chambers situated within the lower portion of the shell and spaced from the sides thereof, forming communications between the upper portion of the shell and the base, said air heating chamber being in communication with said opening, a fire-pot situated within said air heating chamber and forming a closure for the upper end thereof, exit flues for the products of combustion communicating with the upper portion of the shell and with the base, and means for supplying air to said heating chamber, substantially as described.

2. The combination of a shell and a hollow base, said shell being formed with an opening in one of its sides, air heating and ash chambers situated within the lower portion of the shell and spaced from the sides thereof, forming communications between the upper portion of the shell and the base, said air heating chamber being in communi-

cation with said opening, a fire-pot situated within said air heating chamber and forming a closure for the upper end thereof, exit flues for the products of combustion, communicating with the upper portion of the shell and with the base, and a telescopic pipe for delivering air to said air heating chamber through the base, substantially as described.

3. The combination of a shell and a hollow base, said shell being formed with an opening in one of its sides, air heating and ash chambers situated within the lower portion of the shell and spaced from the sides thereof, forming communications between the upper portion of the shell and the base, said air heating chamber being in communication with said opening, a fire-pot situated within said air heating chamber and forming a closure for the upper end thereof, exit flues for the products of combustion, communicating with the upper portion of the shell and with the base, a magazine, and pipes for delivering air to the air heating chamber and to the magazine or room through the base, substantially as described.

4. The combination of a shell and a hollow base, said shell formed with an opening in one of its sides, air heating and ash chambers situated within the lower portion of the shell and spaced from the sides thereof, forming communications between the upper portion of the shell and the base, said air heating chamber being in communication with said opening, a fire-pot situated within said air heating chamber and forming a closure for the upper end thereof, a magazine, pipes for delivering air to the air heating chamber and to the magazine or room, and an oven attached to the back of said stove and having flues above and below said oven, provided with valves therein, said flues communicating with the upper portion of the shell and with the base, respectively, substantially as described.

WILLIAM W. HOFFMAN.

Witnesses:

HIRAM BURCH,  
FRANK BORSCH.