

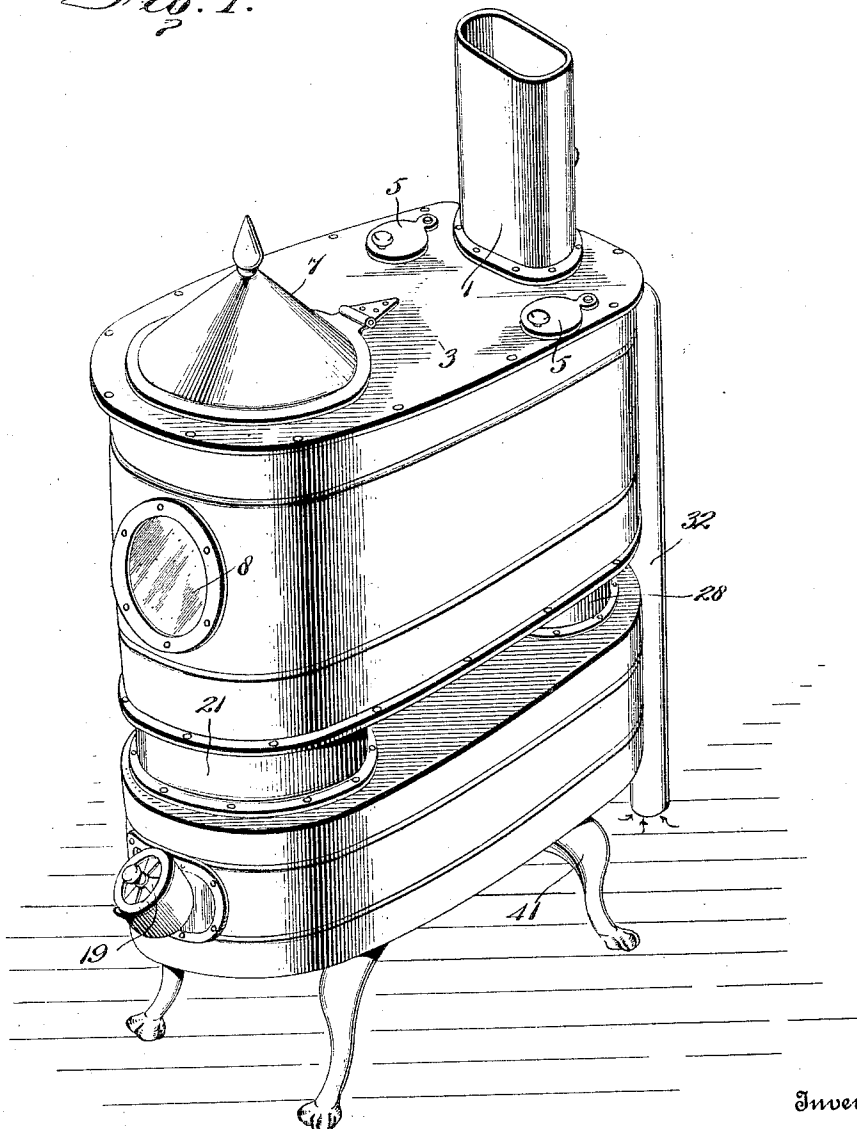
H. E. ATTEBERRY.
DOWNDRAFT STOVE.
APPLICATION FILED MAR. 18, 1912.

1,044,724.

Patented Nov. 19, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



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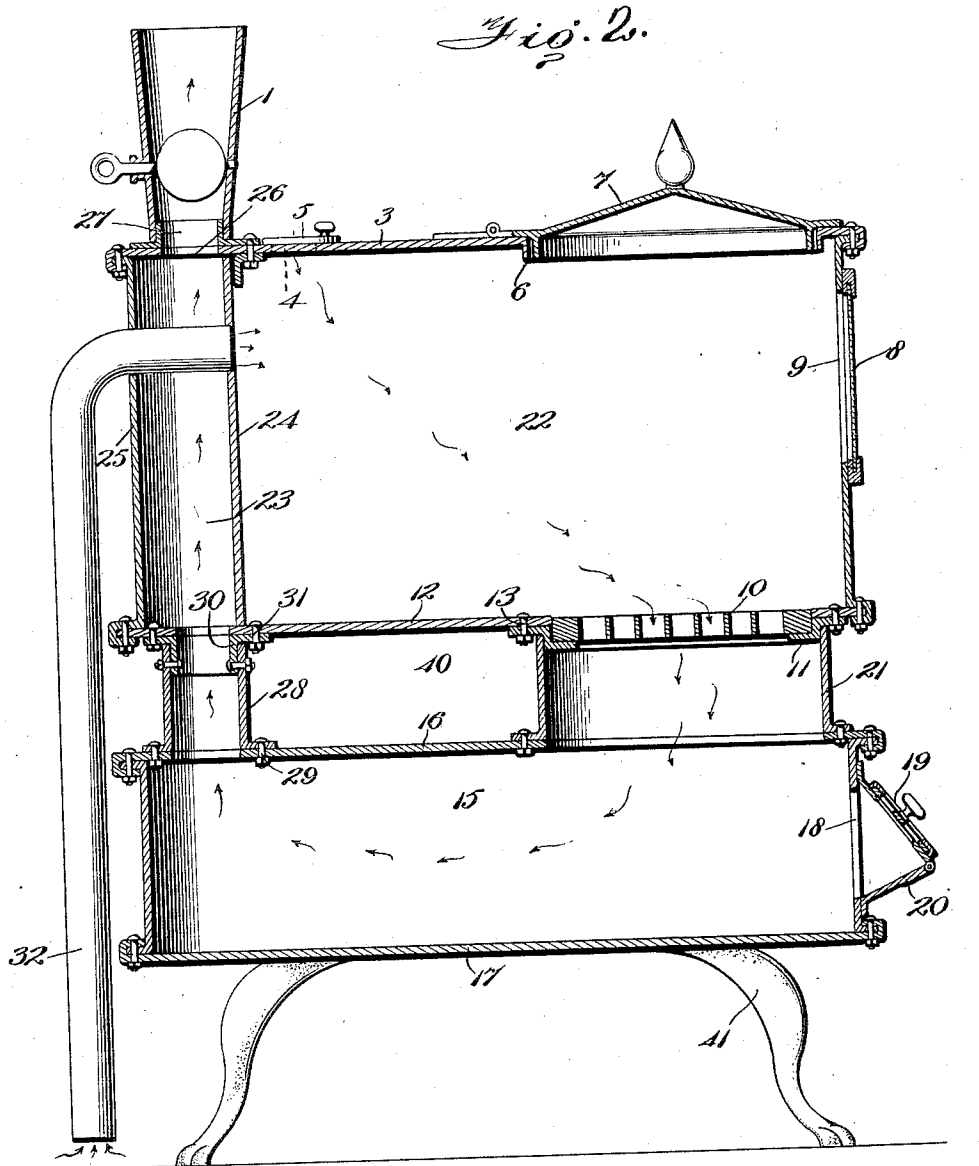
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 3.

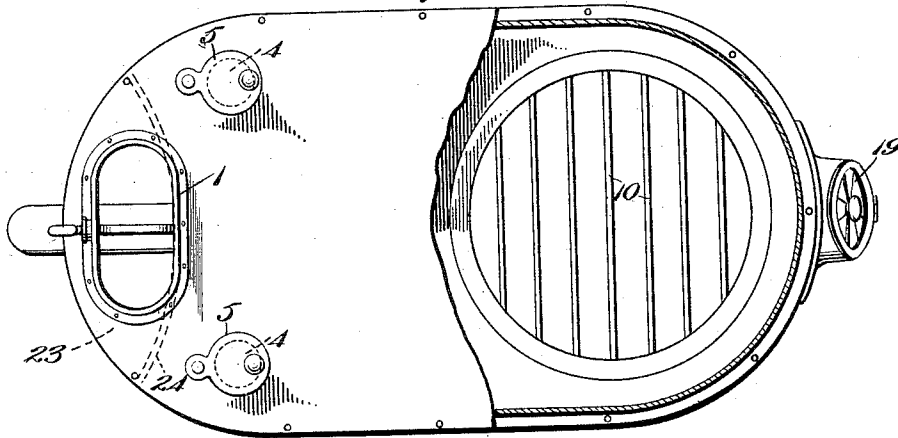
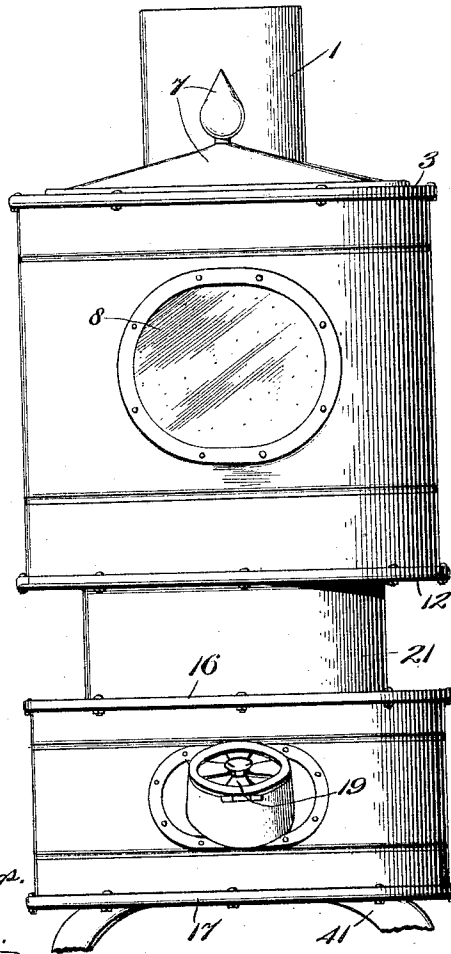


Fig. 4.



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UNITED STATES PATENT OFFICE.

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DOWNDRAFT-STOVE.

1,044,724.

Specification of Letters Patent.

Patented Nov. 19, 1912.

Application filed March 18, 1912. Serial No. 684,442.

To all whom it may concern:

Be it known that I, HENRY E. ATTEBERRY, a citizen of the United States, residing at Victoria, in the county of Victoria and State of Texas, have invented certain new and useful Improvements in Downdraft-Stoves; and I 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.

This invention relates to down-draft stoves, and has for its object to produce a stove of this nature which will be more efficient in fuel economy, simple in construction, and less expensive to manufacture than those of the same class heretofore proposed.

With these and other objects in view, the invention consists in the novel details of construction and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification, in which like numerals designate like parts in all the views:—Figure 1 is a perspective view of a stove made in accordance with my invention; Fig. 2 is a longitudinal sectional view of the parts shown in Fig. 1; Fig. 3 is a top plan view of my stove with a portion of the same broken away; and, Fig. 4 is an end elevational view of the parts shown in Fig. 1.

1 indicates any suitable flue; 3 the top proper of the stove provided with the air inlets 4 controlled by the covers 5; 6 a fuel opening provided with the cover 7; 8 a transparent closure for the end opening 9; 10 a fuel grate of any suitable construction supported by the ring-shaped bracket 11 and secured to the bottom 12 of the fuel chamber, as by the bolts 13.

The parts just disclosed are separate and distinct from the ash chamber 15, provided with a top 16, a bottom 17, and a draft opening 18 controlled by any suitable means, such as 19, preferably hinged upon the bracket 20, as shown, in order that the draft opening 18 may be opened to its fullest extent when desired. Connecting the top 16 of the ash chamber with the bottom 12 of the fuel chamber, is the cylindrical piece 21, preferably secured to the top 16, and telescopically fitting the ring-shaped bracket piece 11, as shown. Separated from the fuel chamber 22 is the draft chamber 23 bounded by the partition 24 on one side, and the back wall 25 of the fuel chamber. The draft chamber 23 joins the pipe 1 by means of the passage 26 provided with the thimble-shaped piece 27 over which said pipe 1 fits. The ash chamber 15 is further connected with the draft chamber 23 by means of the hollow cylindrical piece 28 secured to the top 16, of the ash chamber as by the bolts 29, and telescopically fitting the flanged hollow cylindrical piece 30 secured to the bottom 12 of the fuel chamber as by the bolts 31. A pipe 32 is provided at the rear of the stove which extends upwardly and through the draft chamber 23, and through the partition 24 into the fuel chamber 22, as shown.

The operation of my improved down-draft stove is as follows:—Fuel is admitted by raising the cover 7 and introducing the fuel into the chamber 22 through the opening 6, whereupon it rests upon the grate 7. The covers 5 are suitably regulated in order to admit air through the openings 4, whereupon, when the said fuel is ignited, air will flow through said openings 4 down through the grate 10, through the hollow tubular member 21 into the ash chamber 15, up through the tubular member 28, the flue chamber 23, the passage 26, and up through the pipe 1. The amount of draft may be regulated by the controlling means 19 of the ash chamber. That is to say, if the means 19 are opened wide, the draft is not up through the grate, but direct through the ash chamber 15, and out through the flue, the combustion being thereupon checked. But, when the controlling means 19 are closed, and the controllers 5 are open a maximum quantity of air will pass downwardly through the grate 10 and up through the pipe 1, as indicated by the arrows, and the maximum combustion will be attained. Furthermore, any unconsumed fuel falling through the grate, being still subjected to the draft, is finally consumed and causes an additional radiation from the ash chamber 15. The pipe 32 serves at all times to convey foul air from the room through the fuel chamber, and out of the pipe 1, as will be clear from the drawings, and thereby it serves also to feed the combustion. A suitable damper, not shown, may be provided for said pipe, if desired.

An important feature of my invention is

constituted by the wide unobstructed space 40 between the bottom 12 of the fuel chamber and the top 16 of the ash chamber, whereby practically the entire body portion 5 of the fuel chamber is enabled to freely radiate heat, and whereby the top 16 as well as the bottom 17 of the ash chamber is likewise enabled to freely radiate heat. In order to facilitate this result, I provide the 10 legs 41 which are sufficiently long to elevate the bottom 17 well off of the floor, so that a free radiation of heat from said bottom may be attained. Of course, the tubular members 21 and 28 are also so exposed that they 15 freely radiate heat.

It is obvious that those skilled in the art may vary the details of construction, as well as the arrangements of parts without departing from the spirit of my invention, 20 and therefore I do not wish to be limited to the exact details of construction except as may be required by the claims.

What I claim is:—

1. In a down-draft stove, the combination 25 of a fuel chamber; down-draft openings in the top of said chamber; means to regulate the flow of air through said openings; a fuel grate in the bottom of said chamber; an ash chamber having an opening in its 30 top communicating with said grate; a hollow tubular member registering with said grate opening and opening in said ash chamber, and separating the bottom of said fuel chamber from the top of said ash chamber to provide a free space permitting a free 35 radiation of heat from said bottom and top, and also providing a down-draft passage from said grate into said ash chamber; a

partition extending from the top to the bottom of said fuel chamber to provide a flue 40 chamber; a connection between said flue chamber and said ash chamber; and a pipe having a damper connecting with said flue chamber, substantially as described.

2. In a down-draft stove, the combination 45 of a fuel chamber; down-draft openings in the top of said chamber; means to regulate the flow of air through said openings; a fuel grate in the bottom of said chamber; an ash chamber having an opening in its top 50 communicating with said grate; a hollow tubular member registering with said grate opening and opening in said ash chamber, and separating the bottom of said fuel chamber from the top of said ash chamber to 55 provide a free space permitting a free radiation of heat from said bottom and top, and also providing a down-draft passage from said grate into said ash chamber; 60 means to control the direct admission of air into said ash chamber; a partition extending from the top to the bottom of said fuel chamber to provide a flue chamber; a connection between said flue chamber and said 65 ash chamber; a pipe having a damper connecting with said flue chamber; and a pipe extending from near the floor through said flue chamber and partition, and adapted to convey air out of the room into said fuel chamber, substantially as described. 70

In testimony whereof, I affix my signature, in presence of two witnesses.

HENRY E. ATTEBERRY.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."