

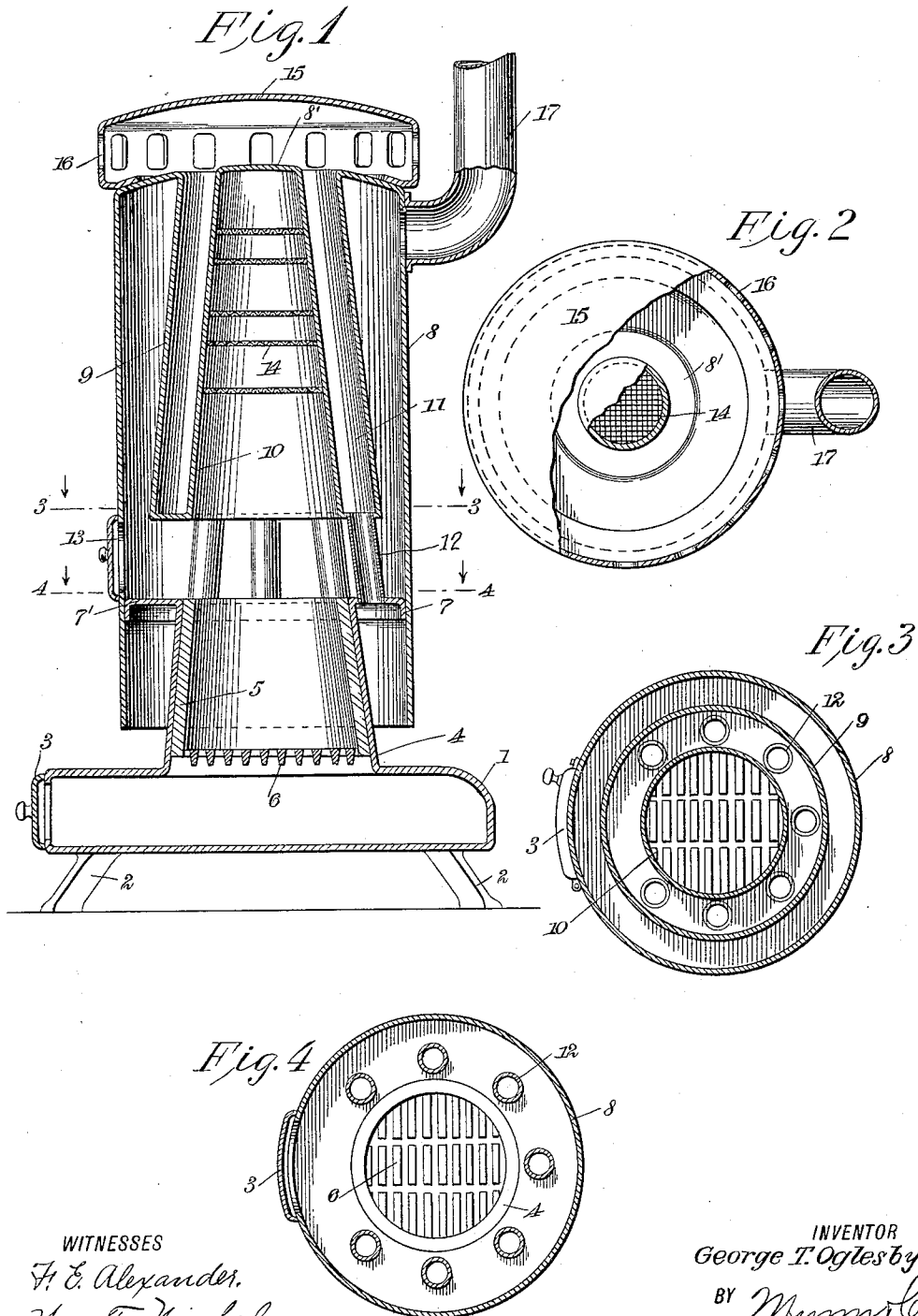
G. T. OGLESBY.

STOVE.

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1,049,904.

Patented Jan. 7, 1913.



WITNESSES

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# UNITED STATES PATENT OFFICE.

GEORGE T. OGLESBY, OF FRANKFORT, INDIANA.

## STOVE.

1,049,904.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed April 22, 1911. Serial No. 622,677.

*To all whom it may concern:*

Be it known that I, GEORGE T. OGLESBY, a citizen of the United States, and a resident of Frankfort, in the county of Clinton and State of Indiana, have invented a new and Improved Stove, of which the following is a full, clear, and exact description.

My invention is an improvement in heating stoves, and is so constructed as to provide for the continuous flow therethrough of air from the room which is to be heated.

It also includes means for causing the soot to be deposited in the top of the stove instead of being carried into the pipe, and in such a way that the soot so deposited will be burnt up and destroyed when the stove is in use.

Reference is to be had to the accompanying drawings forming a part of this specification, in which the same characters of reference indicate the same parts in all the views.

Figure 1 is a vertical longitudinal sectional view of my improved heating stove; Fig. 2 is a top view thereof, the cover being broken away to show the interior; Fig. 3 is a transverse horizontal sectional view on the line 3—3 of Fig. 1; and Fig. 4 is a transverse horizontal sectional view on the line 4—4 of Fig. 1.

My improved stove comprises an ash chamber 1, resting upon legs 2, and having a door 3 in the front, through which the ashes can be removed. From the top of the ash chamber rise the walls of the firepit 4. This firepit is lined around the sides with firebrick or other refractory material, shown at 5, and has a grate 6 at the bottom, separating it from the ash chamber 1. At the top, the walls of the firepit are bent outward and then downward, forming the flange 7, which is riveted, or secured in any other suitable manner, to the sides of the body of the stove shown at 8.

Inside the body 8 of the stove is a bell-shaped member 8', which depends from the top of the stove, and has its open bottom spaced a suitable distance above the top of the firepit 4. This bell-shaped member 8' has inner and outer annular walls 9 and 10, forming an inclosed annular space 11, which is shut in at the bottom, but which is open at the top. The closed bottom of the space between the walls of this bell-shaped member 8' communicates through a series of short

tubes 12, with the atmosphere, these tubes passing through the outwardly-bent horizontal portion 7' of the walls of the ashpit 4. These outwardly-bent portions 7' form the floor of the heating chamber of my improved stove. The sides of the body of the stove 8 extend downward past the flange 7, but are spaced from the outside of the firepit 4, and terminate above the ashpit 1.

13 is a door located between the top of the firepit and the bottom of the member 8', through which fuel can be shoveled when the fire is burning. This door may be made higher if desired, and the front of the bell-shaped member 8' can be cut away adjacent the door 13 accordingly. The top of the stove 15 is a hollow box-like cover having an inwardly-extending flange 15' on its lower end, which is open, this flange fitting around the top of the body 8, and the open bottom of this cover permitting free communication between the interior of the cover 15 and the annular space 11.

16 are perforations around the sides of the cover to permit the heated air to pass into the room. Inside of the bell-shaped member 8' are a number of screens 14, supported around their edges by the inner annular wall 10.

17 is a flue communicating with the upper part of the space between the body 8 and the outer wall 9 of the member 8'.

In operation, when the fire is burning, the smoke and soot will pass upward into the interior of the bell-shaped member 8' and be retained by the screens. The ascending gases will curl around the bottom of the bell-shaped member 8' and pass up between the side of the body 8 and the outside of the wall 9 and out through the flue. The pipes 12 and the walls 9 and 11 will be thoroughly heated by hot gases of combustion, and the air from the room will pass upward through the pipes 12, the annular chamber 11 and out through the openings 16, becoming thoroughly heated in its progress. Thus, cold air will be taken from the lower part of the room and heated, and allowed to pass out through the upper part of the stove toward the top of the room, providing for an efficient and continuous circulation, which will raise the apartment to a uniform temperature throughout.

I have found this stove a very practical construction for the burning of soft or bitu-

minous coal. The soot and smoke which are given off by soft coal are mostly deposited on the screens 14, and the lower part of the walls of the bell-shaped member 8'. This is because the open lower end of the bell-shaped member 8' is directly above the firepit 4, and the gases of combustion tend to pass straight up into the interior of the bell-shaped member 8'. On account of this bell-shaped member 8' being closed at its upper end, these gases curl back on themselves and pass around the lower edges of the bell-shaped member, and then upward and out through the flue 17. While the gases follow this circuitous course, the soot they carry is sifted out by means of the screens 14, and is also deposited to some extent on the inside and bottom of the bell-shaped member 8'. The hot gases of combustion rising from the firepit 4 tend to burn away the soot and smoke, and thus make the stove automatically clean itself. Hence, the flue 17 does not readily become choked up with dirt, and it is possible to use my stove a long time without the same requiring to be cleaned and overhauled.

It will be seen that the bell-shaped member 8' flares downward, making the space between this bell-shaped member and the body 8 widest at the upper end of the stove. This minimizes the danger of soot and smoke clogging the upper part of the body 8, and preventing the products of combustion from passing out through the flue 17.

By locating the bell-shaped member 8' having the annular air heating chamber formed by its walls, with its interior directly above the firepit and in line with the hot gases that are formed during the process of combustion, this annular member is heated both inside and out by the gases which pass up into the same and are then forced to curl back on themselves before passing around the lower edge of the bell-shaped member. This results in a great deal more heat being imparted to the air passing into the annular air chamber 11, and at the same time gives a more perfect combustion of the fuel. This is because much of the soot which would pass out through the chimney 17, if the gases took a straight direct course through the stove, is deposited on the screens and the sides of the bell-shaped member by the gases in their circuitous course through the stove and out; and much of this soot is subsequently burnt up by the action of the gases which rise from the fire as the process of combustion continues.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a heating stove, the combination of

a body having a firepit adjacent the bottom thereof, a bell-shaped member on the inside of the body spaced from the walls thereof and having an open lower end spaced above the top of the firepit, said bell-shaped member comprising concentric inner and outer walls inclosing an annular space between them, air flues communicating with said annular space through the bottom of the stove body, said annular space being open at the top to permit a free flow of air through the same, and a cover having an open bottom and perforated sides, on the top of said stove, through which the air passes to the room after being heated in the annular space inclosed by the bell-shaped member.

2. An improved heating stove comprising an ash chamber and a firepit above the same, the walls of said firepit being bent outward and downward at the top thereof, a stove body supported by the outwardly-bent walls of said firepit, said outwardly-bent walls forming the bottom of a heating chamber inclosed by said stove body, a bell-shaped member carried inside of said body, said member comprising concentric walls inclosing an annular space between them, said walls terminating above the mouth of said firepit, a plurality of air flues communicating with the bottom of said annular space and passing through said outwardly-bent walls at the top of the firepit to give entrance to air from the lower part of the room to said annular inclosed space, a cover for the top of said stove having an open bottom, the top of said annular space inclosed by the bell-shaped member communicating with said cover, said cover also having a series of holes in its sides to permit a free passage of air through the stove, a smoke flue communicating with the body of the stove near the top, and a plurality of screens carried by the inside of said bell-shaped member, whereby the gases of combustion will pass upward inside of the bell-shaped member, and then curl back over the lower edges thereof before passing up through the body of the stove to the discharge flue.

3. In a heating stove, the combination of a body having means for supporting fuel near the bottom thereof, and an outlet near its top, a bell-shaped member inside the body having its open lower end supported adjacent the bottom of the stove but spaced from the same, and a plurality of screens inside said bell-shaped member to arrest the smoke and soot formed during the process of combustion, whereby the hot gases of combustion pass into the bell-shaped member and then turn back upon themselves before passing across the lower edge of the bell-shaped member, and then upward through the outlet near the top of the stove,

said gases serving to burn up and remove smoke and soot which is deposited on the screens and the bell-shaped member.

4. In a heating stove, the combination of  
5 a body having means for receiving fuel adjacent the bottom thereof, a bell-shaped member inside said body spaced from the walls thereof and bottom and having its open lower end adjacent the fuel-receiving  
10 means, said bell-shaped member having inner and outer walls inclosing an annular space received between them, air flues communicating with said annular space and passing through the walls of said stove adjacent the lower part thereof, said annular  
15 space being open at its top to permit the flow of air through the same, and a plurality of screens supported inside said bell-shaped member to arrest the smoke and soot  
20 and retain the same in the path of the hot gases generated during the process of combustion, to be burnt.

5. In a heating stove, the combination of  
25 a hollow body, a plurality of air passages delivering into said body, said body having an open top, and a cover for the top of said body, said cover having an open bottom surrounded by an internal flange and a number of perforations in its sides through  
30 which the air delivered by said air passages in the body of the stove passes outward into the apartment to be heated.

6. In a device of the kind described, a hollow body having a closed end and hav-

ing an opening, said body having hollow 35 walls, means for supplying air to said walls to be heated, a plurality of screens mounted in said body between said closed end and said opening, and means for mounting said body in the path of gases of combustion, 40 said gases passing into said body and through said screens to heat the air in the walls of the body and deposit the soot carried by said gases upon said screens, said gases then returning through said screens to 45 consume said soot.

7. In a device of the kind described, the combination of a hollow body, said body having an opening therein, a plurality of screens mounted inside of said body, and 50 means for mounting said body in the path of gases of combustion, with the opening therein in position to cause said gases to enter said body through said opening, said body having means for causing said gases 55 to make their exit from said body by the said opening, whereby the gases will pass through the screens in one direction to deposit soot thereon and consume said soot on returning through said screens when about 60 to leave said body.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE T. OGLESBY.

Witnesses:

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WALTER GHERE.