H. D. WOOD.

STOVE.

APPLICATION FILED NOV. 1, 1912.

1,135,478. Patented Apr. 13, 1915.

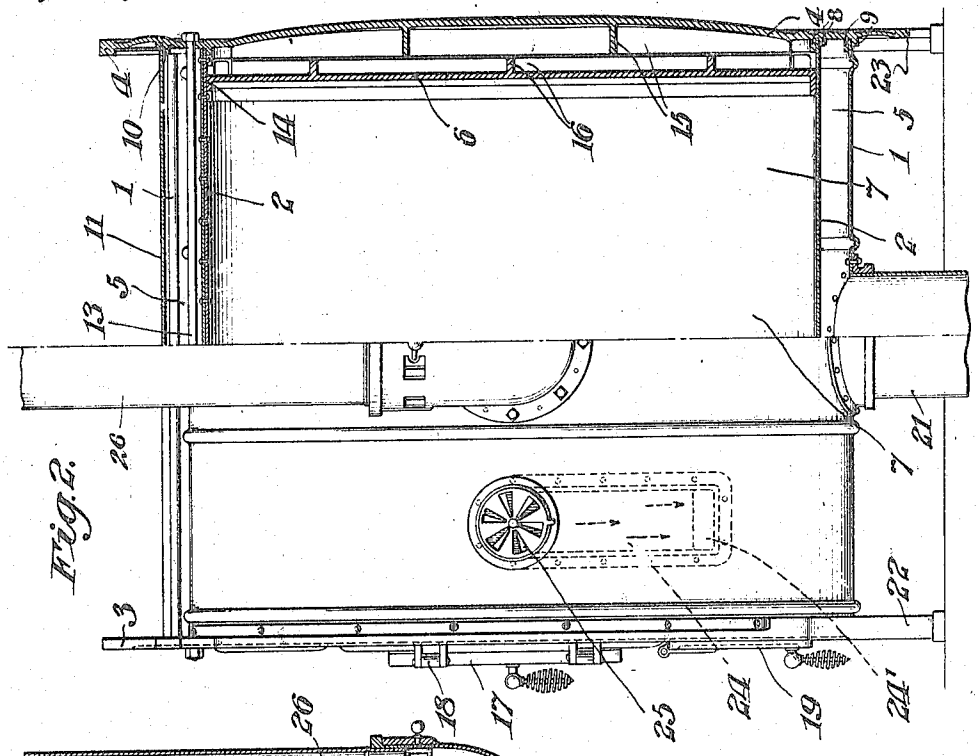


Fig. 2.

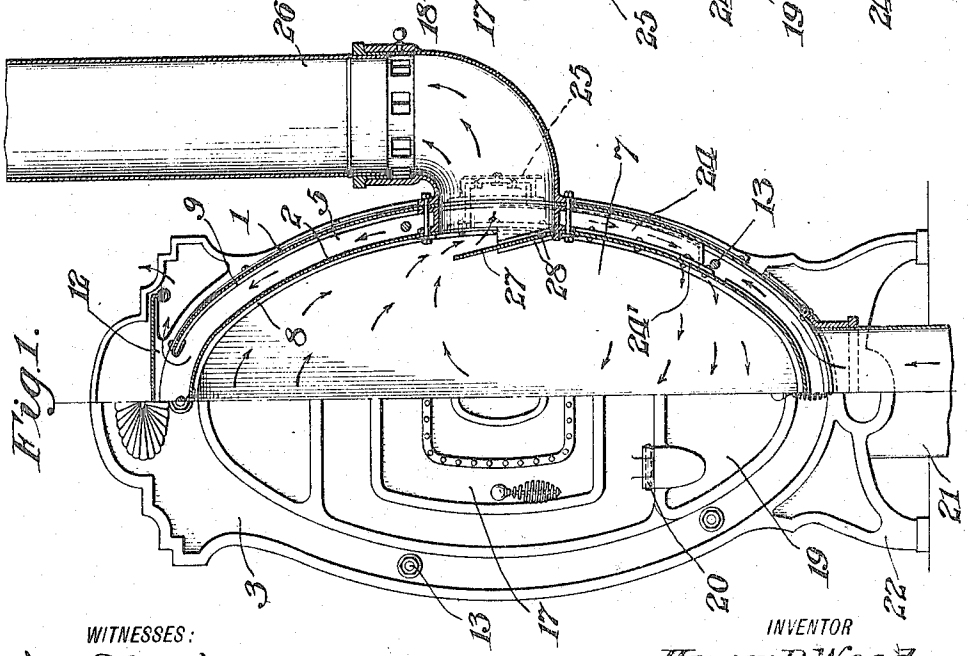


Fig. 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

HARVEY D. WOOD, OF FAYETTEVILLE, ARKANSAS.

STOVE.

1,135,478. Specification of Letters Patent. Patented Apr. 13, 1915.

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To all whom it may concern:

Be it known that I, HARVEY D. WOOD, a citizen of the United States, residing at Fayetteville, in the county of Washington and State of Arkansas, have invented certain Improvements in Stoves, of which the following is a specification.

My invention is a hygienic stove providing improved means for effecting combustion, with air drawn from the room containing the stove, and for heating fresh air, drawn from an outside source, before delivering it to the room to replace the air withdrawn.

The characteristic construction and functions of my invention will more fully appear by reference to the following description and the accompanying drawings in illustration thereof.

In the drawings, Figure 1 is a partly sectional front elevation of a stove embodying my improvements, and Fig. 2 is a partly sectional side elevation of the same.

My improvements, in the form shown in the drawings, are embodied in a wood stove having the concentric, oval exterior and interior shells 1 and 2 combined with the front and back plates 3 and 4, forming the oval heating chamber 5, the shell 2 containing the inner back plate 6, combining therewith and with the plate 3 to form the oval combustion chamber 7 within the heating chamber.

The shells 1 and 2 are preferably sheet metal, and the plates 3 and 4 castings, provided with flanges 8 and 9 for engaging the ends of the respective shells and the flanges 10 for supporting a baffle plate 11 above the chamber 5 which has lateral outlets 12 beneath the baffle, the parts being connected by the tie rods 13. The back plate 6 is provided with the oval flange 14 by which it is secured within the shell 2, adjacent to the plate 4, and these plates are strengthened by their respective transversely extending ribs 15 and 16. The casting 3, forming the front of the stove, is provided with the centrally placed fuel charging door 17 adapted to swing on the hinges 18, and with the ash door 19 adapted to swing on the hinges 20 beneath the door 17. A pipe 21, fixed to the shell 1 midway between the feet 22 and 23 on the ends 3 and 4, provides a fresh air duct communicating with the bottom of the chamber 5. Ducts 24, controlled by registers 25, carry air from the room containing the stove and discharge the same through the openings 24′ at the stove's ends into the lower part of the combustion chamber 7 so that such air is distributed therein. A pipe 26, having a baffle 27 at its inlet, discharges the smoke from the side of the combustion chamber. The baffle 27 is a plate held in the ways 28 in which it slides and from which it can be removed.

In the operation of the stove, the air, which is delivered by the ducts 24 and discharged through the openings 24′ to the combustion chamber 7, flows through the fuel in the lower part of such chamber, thence upwardly toward the top of the chamber and thence downwardly to the discharge pipe 26, being swirled by the oval wall 2 and efficiently distributed so as to effect improved combustion. The air discharged through the duct 21 into the bottom of the chamber 5 is heated as it rises therethrough, whence fresh heated air is discharged to the room through the ports 12 at the top of the stove.

The characteristic construction, comprising the two shells of oval cross sections having their major axes vertical, in combination with the castings or plates for closing their ends and the ducts for handling the air, is simple, inexpensive, accessible, readily repaired, efficient and hygienic.

Having described my invention, I claim:

1. A stove comprising an oval shell forming a combustion chamber, a concentric oval shell forming a heating chamber around said combustion chamber, a discharge pipe with which said combustion chamber communicates through a curved side thereof, twyers on opposite sides of said discharge pipe and delivering air to said combustion chamber through said curved side and below the inlet to said discharge pipe, a baffle controlling said inlet to said discharge pipe so as to prevent the admission of air at the bottom thereof, whereby air admitted to said combustion chamber is swirled before being discharged through said discharge pipe, and means for passing air between said shells.

2. A stove of the character described, comprising spaced inner and outer shells curved in vertical cross-section, providing therebetween an air heating chamber having a lower air inlet and an upper air outlet, the inner shell forming a combustion chamber; an outlet conduit for products of combus-

tion passing through the corresponding curved side walls of the shells at a point spaced substantial distances from the top and bottom thereof and leading from the combustion chamber without communicating with the air heating chamber; downwardly discharging air supply ducts arranged between the inner and outer shells and communicating with the lower portion of the combustion chamber upon the same side thereof with the outlet conduit; and an inclined deflector closing the lower end of the outlet conduit and spaced from the upper end thereof.

In witness whereof, I have hereunto set my hand this 21st day of October, 1912, in the presence of the subscribing witnesses.

HARVEY D. WOOD.

Witnesses:
J. F. Goss,
M. R. Turner.