M. H. FARNES.

STOVE.

APPLICATION FILED JULY 15, 1921.

1,397,506. Patented Nov. 22, 1921.

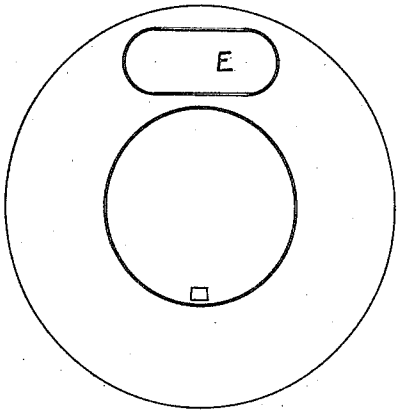


Fig 2.

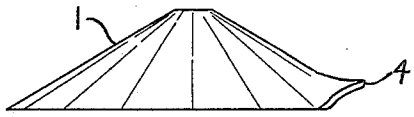


Fig. 3.

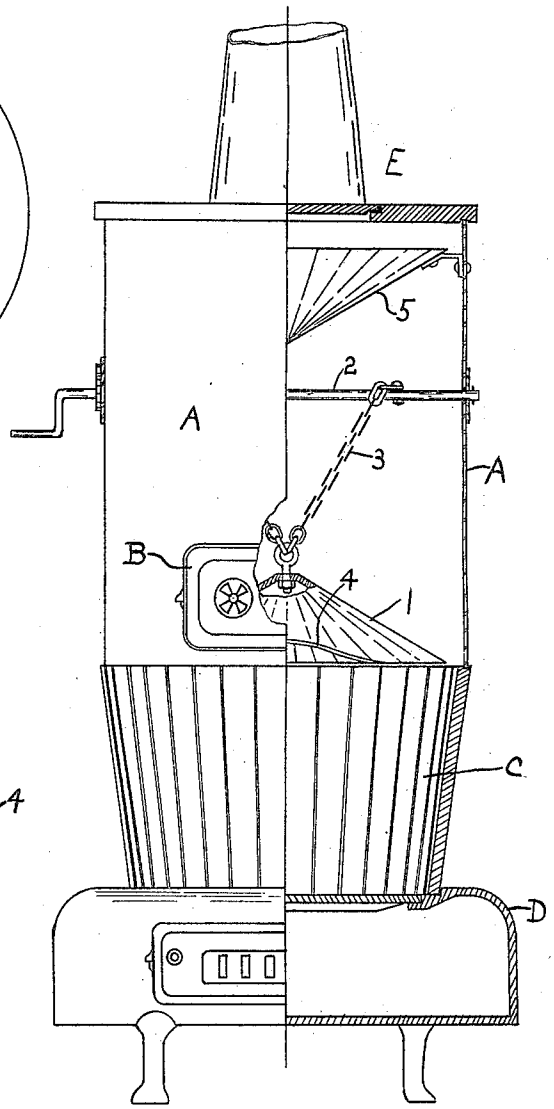


Fig 1.

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MATTHEW H. FARNES, OF LOGAN, UTAH.

STOVE.

1,397,506. Specification of Letters Patent. Patented Nov. 22, 1921.

Application filed July 15, 1921. Serial No. 484,922.

To all whom it may concern:

Be it known that I, MATTHEW H. FARNES, a citizen of the United States, residing at Logan, in the county of Cache and State of Utah, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

My invention relates to stoves, and has for its object to provide a stove wherein deflectors or baffles are secured and operated to direct the heat currents radially outward to cause a more perfect combustion, and to direct the heat currents against the sides of the stove whereby more heat is generated and radiated than has been done and thereby effect a saving of fuel.

These objects I accomplish with the stove illustrated in the accompanying drawing in which similar letters and numerals of reference indicate like parts throughout the several views, and as described in the specification forming a part of this application and pointed out in the appended claims.

In the drawing in which I have shown a substantial embodiment of my invention, Figure 1 is an elevation of a heating stove, with parts cut away to show the baffle elements. Fig. 2 is a plan view of the stove. Fig. 3 is an elevation of the lower baffle element.

I am aware that stoves have been constructed wherein deflectors have been provided to direct the heat units, but so far as known to me none have used concave baffle plates to provide a concavity above the fire within which a more perfect combustion of the fuel may be effected, and which baffle plates are so mounted that the lower one will, in addition to providing the concavity as above set out, also direct the heat units radially outward thereby effecting a better combustion, but will tend to direct said heat units against the sides of the stove, and with another baffle plate or element so positioned that the heat units will be kept in general direction against the sides of the stove, and will also provide another combustion chamber near the top of the stove within which all of the unburned carbon will be consumed and the heat currents kept against the side walls of the stove.

The present invention consists of the usual side walls A having a fuel feeding door B, a fire box C, an ash box D and a pipe for smoke egress E. A frusto-conically shaped baffle 1 is suspended from a rod 2 by the chain 3 and said rod 2 is journaled for rotation in the side walls of the stove, in order that when said rod 2 is rotated the said baffle 1 may be raised for building a fire and for supplying fresh fuel as desired, the chain 3 being wound on the rod. One end portion of said rod 2 is shaped to be engaged by a crank for rotating said rod to raise and lower the baffle element 1. The lip or edge of said baffle 1 has a portion 4 bent or rolled outwardly and upwardly to allow a portion of the heat units to escape thereunder whereby the tendency of the heat currents to flow toward the flue or pipe E is neutralized. The under side of said baffle 1 is concave or hollowed out to form a combustion chamber and said baffle may be given the form of a frustum of a cone, as shown, or if the stove is rectangular in cross section, the baffle will then be given more the shape of the frustum of a pyramid. Near the top of the stove another baffle 5 is secured with the concavity upwardly placed and the apex downward, and this baffle is to continue the directing of the heat units induced by the lower baffle 1 toward the walls of the stove.

As will be obvious my invention may be used in constructing furnaces or other stoves where the form of the baffles will be modified as desired.

In operating the stove, the baffle 1 is raised by rotating the said rod 2 and when the initial fire has been started and the required amount of fuel has been placed within the fire box C the chain 3 is unwound and the baffle is allowed to rest on the fuel, the fire box being always wider than the baffle 1 to provide a flame passage between the fire box and the baffle. The combustion chamber provided by the concavity of said baffles insures a more perfect combustion of the fuel, and the directing of the heat currents effects a great saving of fuel for the amount of heat radiated.

Having thus described my invention I desire to secure by Letters Patent and claim:—

1. In a stove the combination with the side walls thereof, of an inverted cone secured near the top of said stove; a frusto-conically shaped baffle vertically movable in said stove, and having outwardly and upwardly flared portion in the base edge thereof; and means to move said baffle vertically in said stove.

2. A stove comprising a baffle suspended

and vertically movable therein; a portion of the edge of said baffle curved upwardly and outwardly to form a flame conduit; a combustion chamber formed by the concavity under said baffle; means to raise and lower said baffle; and an inverted cone secured near the top of said stove to coact with the said baffle in keeping the heat units adjacent the walls of said stove.

3. A stove comprising a baffle suspended and vertically movable therein; a portion of the edge of said baffle curved upwardly and outwardly to form a flame conduit; a combustion chamber formed by the concavity under said baffle; a rod mounted in the wall of the stove and a chain secured to said baffle and to be wound on said rod; and an inverted cone secured near the top of said stove to coact with the said baffle in keeping the heat units adjacent the walls of said stove.

In testimony whereof I have affixed my signature.

MATTHEW H. FARNES.