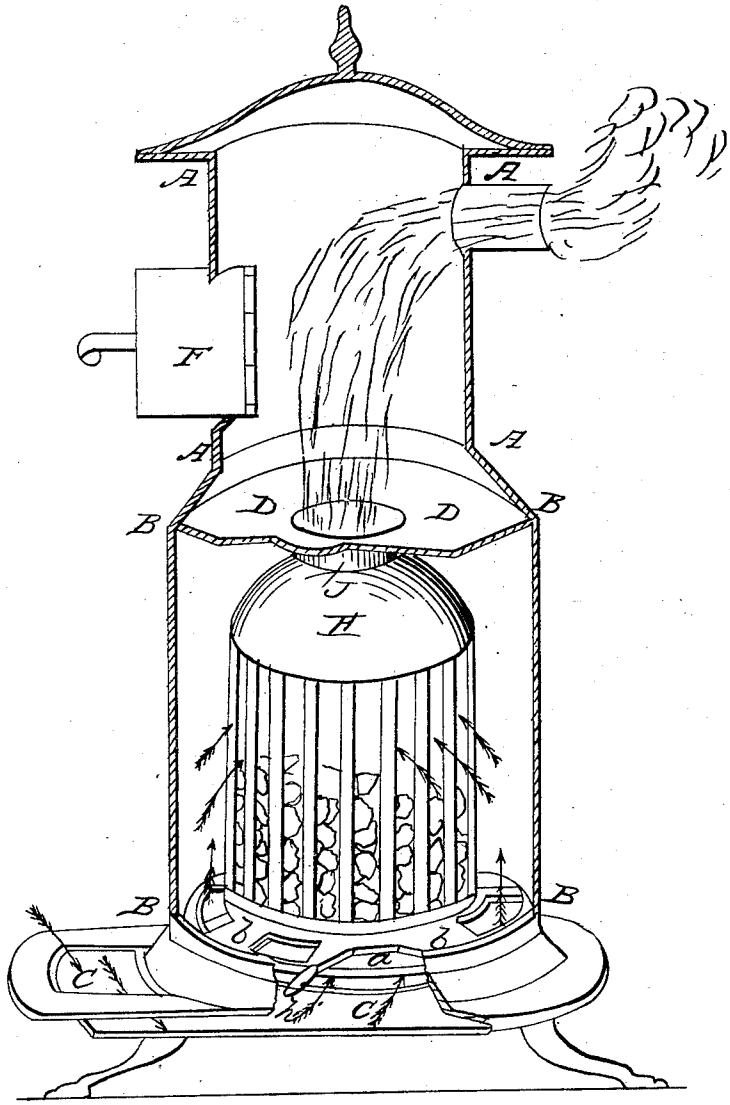
S. T. SAVAGE.

Heating Stove.

No. 21,446. Patented Sept. 7, 1858.



Witnesses:

Inventor:

S. T. Savage

UNITED STATES PATENT OFFICE.

S. T. SAVAGE, OF ALBANY, NEW YORK.

STOVE.

Specification of Letters Patent No. 21,446, dated September 7, 1858.

To all whom it may concern:

Be it known that I, SILAS T. SAVAGE, of the city of Albany, State of New York, have invented a new and Improved Method of Constructing Stoves for the Burning of Bituminous Coal; and I declare the following specification, with the drawing hereto annexed as part of the same, to be a full and perfect description of my invention.

The drawing represents a cylindrical hall or parlor stove, externally of a form much in use at the present time, the external shell or cylinder being represented as having the half next the spectator and a portion of the hearth and the side of ash pan removed in order to show the internal structure; but the grate with its dome is shown in perspective.

A A A A is the upper chamber, B B B B is the lower chamber, which is larger than the upper one, and at its top covered with a horizontal partition D. The upper chamber has in its front the door E for the supply of fuel, the two chambers being connected by the belt A B, A B, forming an intermediate chamber. Within the lower chamber is placed the open cylinder or basket grate G the bars of which are surmounted by a dome or coneshaped cover H which opens by a narrow passage J into the upper chamber. The grate stands over the ash pan C having bottom-bars (not seen in drawing) in the usual form. Betwixt the grate and the sides of the chamber near its bottom and attached to both is a ring of metal *a*, and lying loose upon it a second ring *b*, both rings being pierced with similar openings *c* so arranged that when the upper ring is turned in one position the openings will coincide, as shown in the drawing, and pass air from the ash pit, or if moved a short space the solid part of the upper will cover the openings in the lower ring, forming a register, the upper ring being movable by its handle *h* or any other convenient method.

Instead of the upper ring any convenient arrangement to open and close the openings in the lower ring may be substituted.

I have described the grate as a cylinder basket grate, but I do not confine myself to that form but mean any open basket grate, one that can be used with a chamber between it and the outer shell of the stove.

The operation of the stove is thus: The register *b* being closed the fire is made. The supply of air passing up through the bottom bars of the grate will soon ignite the fuel. As soon as the coal is well ignited and burns freely the register *b* is opened gradually when the air from the ash pit, partially heated by the radiant caloric, passes up into the chamber B B around the burning coal; and over the upper surface of the fire, (as shown by the direction of the arrows,) where it meets and is brought into contact with the flame and smoke, supplying fresh oxygen to the products of combustion, consuming nearly all the fuliginous matter passing over from the bitumen, &c., of the coal. This current of air, its quantity being regulated by the register *h*, checks the rush of air through the bottom bars, and thus controls the rate of combustion of the fuel. Further the dome being heated by the fire, warms the air which passes into the grates, above the burning fuel, making it more efficient for the consumption of the products of combustion.

I claim—

The combination of an open cylindrical or basket grate, with a dome or a cone shaped cover: placed within an outer chamber having a register for the admission and regulation of a current of air between the grate and the walls of said chamber, arranged near the bottom of the chamber, substantially as the same is described, and for the purposes set forth in the within specification.

S. T. SAVAGE.

Witnesses:

E. J. MILLER,

RICHD. VARIEK DEWITT.