

W. H. JONES & D. W. SHEPHERD.
HEATING STOVE.

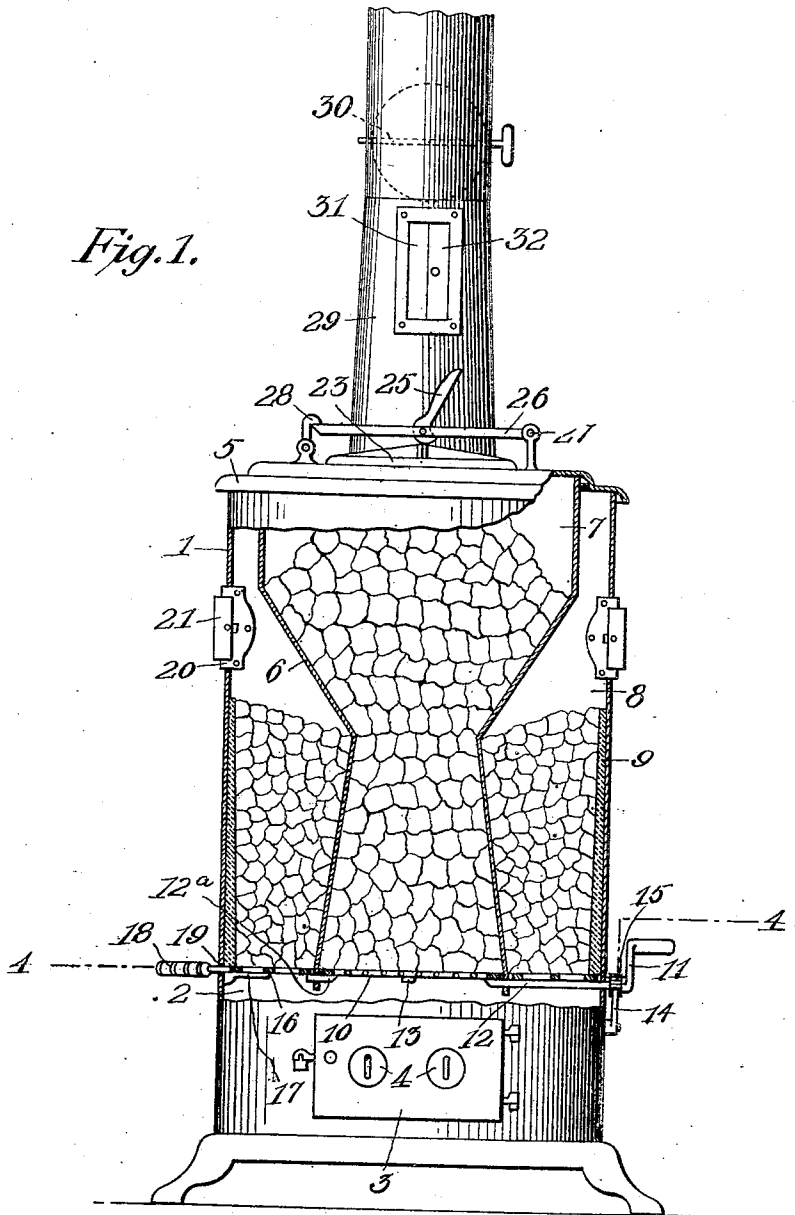
APPLICATION FILED MAR. 11, 1908.

921,612.

Patented May 11, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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M. S. Skinner.

Inventors

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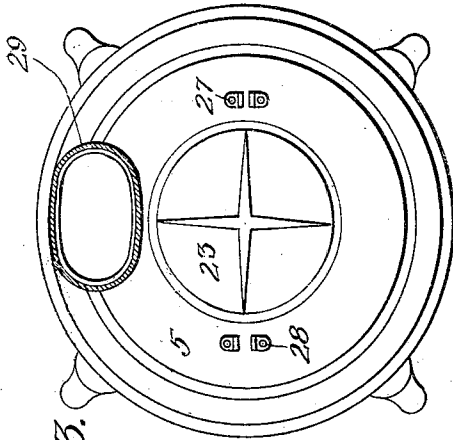


Fig. 3.

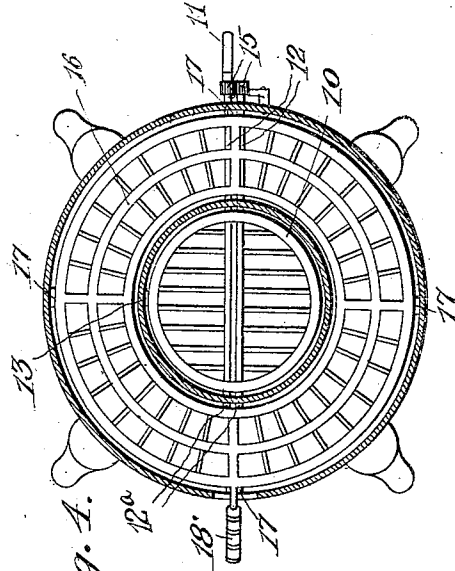


Fig. 4.

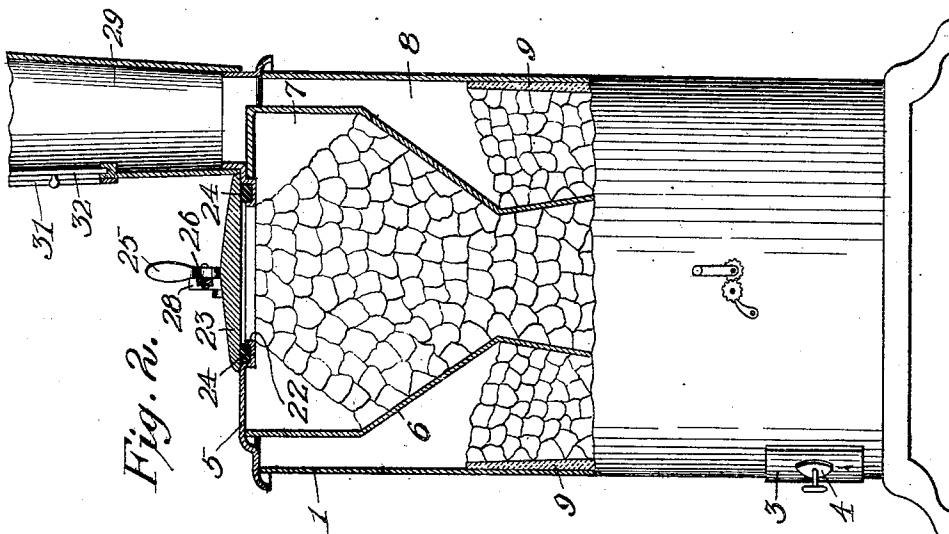


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. JONES AND DANIEL W. SHEPHERD, OF RUPERT, IDAHO, ASSIGNORS TO WILSON BOWLBY, OF RUPERT, IDAHO.

HEATING-STOVE.

No. 921,612.

Specification of Letters Patent.

Patented May 11, 1909.

Application filed March 11, 1908. Serial No. 420,480.

To all whom it may concern:

Be it known that we, WILLIAM H. JONES and DANIEL W. SHEPHERD, citizens of the United States, residing at Rupert, in the county of Lincoln and State of Idaho, have invented certain new and useful Improvements in Heating-Stoves, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to improvements in heating stoves and more particularly one in which the coal may be converted into coke before it is burned.

The object of the invention is to provide a stove of this character which will be simple and practical in construction, convenient to operate, and which will effect a great saving in fuel.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation, with parts in section, of our improved heater; Fig. 2 is a side elevation, with parts in section; Fig. 3 is a top plan view; and Fig. 4 is a horizontal section taken on the plane indicated by the line 4—4 in Fig. 1.

Our improved stove or furnace comprises an upright body 1, preferably in the form of a cylinder and having in its lower portion an ash box or chamber 2. An ash door 3 of any suitable form and construction and provided with suitable draft dampers or shutters 4, is arranged to cover an opening in the front wall of the ash box. Arranged in the upper part of the casing or body 1 and extending from the top of the ash box to the top or cover 5 of said body, is an annular partition or wall 6 which provides within it a coking chamber or oven 7, and between it and the body 1, a combustion chamber or fire box 8, the lower portion of which latter is suitably lined as shown at 9. The partition 6 is tubular and concentrically disposed in the body or casing 1 and it is preferably shaped, as clearly shown in the drawings, so that its upper portion is larger than its lower portion, and the latter is of double frusto-conical form. The bottom of the coking oven or chamber 7 is closed by a grate 10 composed of two semi-circular sections 55 pivoted to drop downwardly to allow the

coke upon it to drop into the ash box or chamber 2. These grate sections have their pivots 12, 12^a mounted in suitable bearings at the lower end of the wall or partition 6 and the pivots 12 are extended to the outside of the body of the stove and are provided with meshing gears 15, one of said pivots 12 being also provided with a crank handle 11, by means of which the grate sections may be lowered and raised. They are held in their elevated horizontal position by a pivoted dog or pawl 14 arranged on the exterior of the body or casing of the stove and adapted to engage one of the gears 15, as illustrated. The bottom of the annular fire box 8 is closed by an annular grate 16 arranged for oscillatory movement in a horizontal plane upon supporting and guide brackets 17 disposed within the casing or body 1.

Upon one side of the grate 16 is a handle 18 which projects outwardly through, and is adapted to swing in, a slot 19 formed in the casing 1. When the handle 18 is grasped and oscillated, the grate 16 will be shaken so that the ashes from the burning wood, coal, coke, or other fuel in the fire box or pot 9 will drop into the ash box. Formed in the upper portion of the casing or body 1, preferably upon its sides, are openings 20 through which coke or other fuel may be introduced into the fire box. These openings 20 are closed by suitable doors 21. In the center of the top or cover 5 is formed an opening through which slack or lump coal may be introduced into the oven or chamber 7. This opening is closed by a removable cover plate 23 having upon its bottom a fire proof packing 24 to render it air tight. The cover or door 23 is securely fastened in its closed position by an eccentric lever or clamp 25 pivoted upon a cross bar 26 which has one of its ends hinged at 27 and its other end adapted to engage a pivoted catch or hook 28. The cover 5 closes the top portion of the combustion chamber 8 and the products of combustion in the latter pass outwardly through an opening in its rear side and into a vertical chimney or smoke pipe 29. A suitable damper 30 is provided in the pipe 29 above an air vent or opening 31 which is adapted to be controlled by a sliding door or cover 32.

The operation is as follows: The air tight cover 23 is removed and coal, either slack or lump, is introduced into the oven 7.

Said cover 23 is then replaced and securely fastened by the eccentric clamp 25, and a fire is then built in the fire box 8. The heat from this fire roasts the coal in the oven 7 and the gases thereby produced pass out of the bottom of said oven and upwardly through the fire which consumes them. After the coal in the oven has been converted into coke it may be dumped into the ash box 2 by tilting the grate 10, as above described, and it may be then removed from the ash box and introduced into the combustion chamber through the openings 20. When the fire is first started there will be smoke passing through the pipe 29 and the damper 30 therein will be kept open while the damper 32 will be kept closed, but after the gases have been burned out of the coal and the coke is burned in the combustion chamber, said damper 32 may be opened so that the heated air may pass out of the opening 31 and circulate through the room in which the stove is located. Closing the lower draft only, does not greatly affect the fire as the gas escaping from the coal in the oven 7 creates a draft of its own. We have found that the stove effects a saving in fuel of from 40 to 65% according to the quality of fuel used.

While we have shown and described in detail the preferred embodiment of our invention it will be understood that we do not wish to be limited to the precise construction set forth, and that various changes in the form, proportion, and minor details, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described our invention what we claim is:

1. A heater of the character described comprising a body having outer and inner walls forming a centrally arranged and vertically extending coking chamber and an annular combustion chamber surrounding the latter, the outer wall also forming an ash chamber beneath the coking and combustion chambers, and independent grates for said coking and combustion chambers disposed in the same horizontal plane.

2. A heater of the character described comprising a body having inner and outer walls forming a centrally arranged coking chamber, and a combustion chamber sur-

rounding the latter, and an annular grate for the combustion chamber arranged above the lower end of the coking chamber.

3. A heater of the character described comprising a body having inner and outer walls forming a centrally arranged coking chamber, a combustion chamber surrounding the latter and an ash chamber beneath the coking and combustion chambers, an air tight closure for the top of the coking chamber, the inner wall which forms the latter being imperforate, a grate in the bottom of the coking chamber and an annular grate for the combustion chamber arranged above the lower end of the coking chamber.

4. A heater of the character described comprising a body having inner and outer walls forming a centrally arranged coking chamber and a combustion chamber surrounding the latter, and an annular grate for the combustion chamber arranged above the bottom of the coking chamber and mounted for oscillatory movement.

5. A heater of the character described comprising a body having inner and outer walls forming a centrally arranged coking chamber and a combustion chamber surrounding the latter, an annular grate for the combustion chamber and a dumping grate for the coking chamber, the last mentioned grate consisting of pivotally mounted half-sections adapted to swing downwardly and inwardly.

6. A heater of the character described comprising a body having inner and outer walls forming a centrally arranged coking chamber and a combustion chamber surrounding the latter, an annular grate for the combustion chamber, a grate for the coking chamber consisting of half-sections pivotally mounted to swing downwardly and inwardly, meshing gears on the pivots of the grate sections, means for rotating one of said pivots, and means for preventing the rotation of one of said pivots.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

WILLIAM H. JONES.
DANIEL W. SHEPHERD.

Witnesses:

R. W. ADAMS,
ROBT. WEST.