L. MILLER.

STOVE.

APPLICATION FILED NOV. 12, 1907.

899,122.

Patented Sept. 22, 1908.

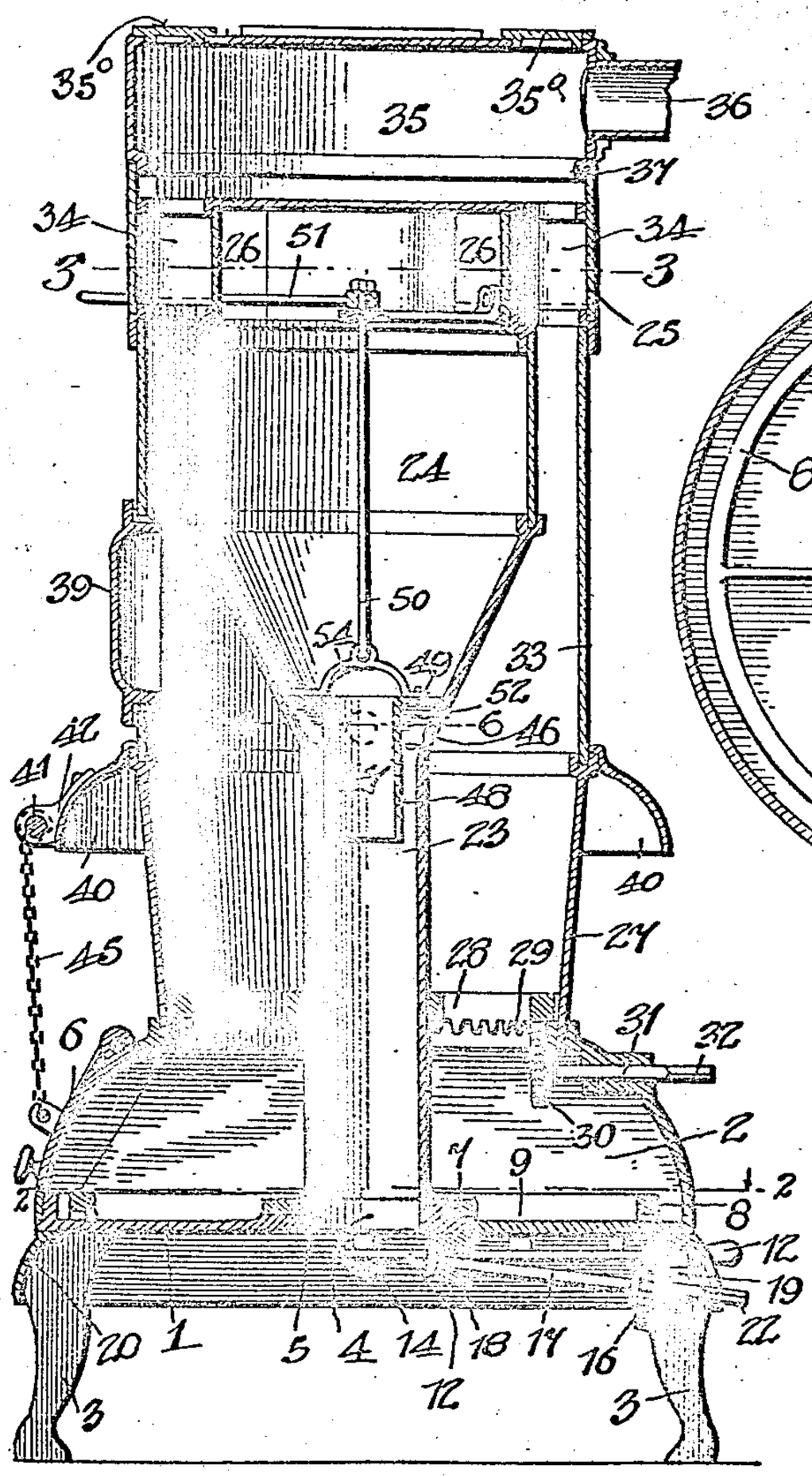


FIG. 1.

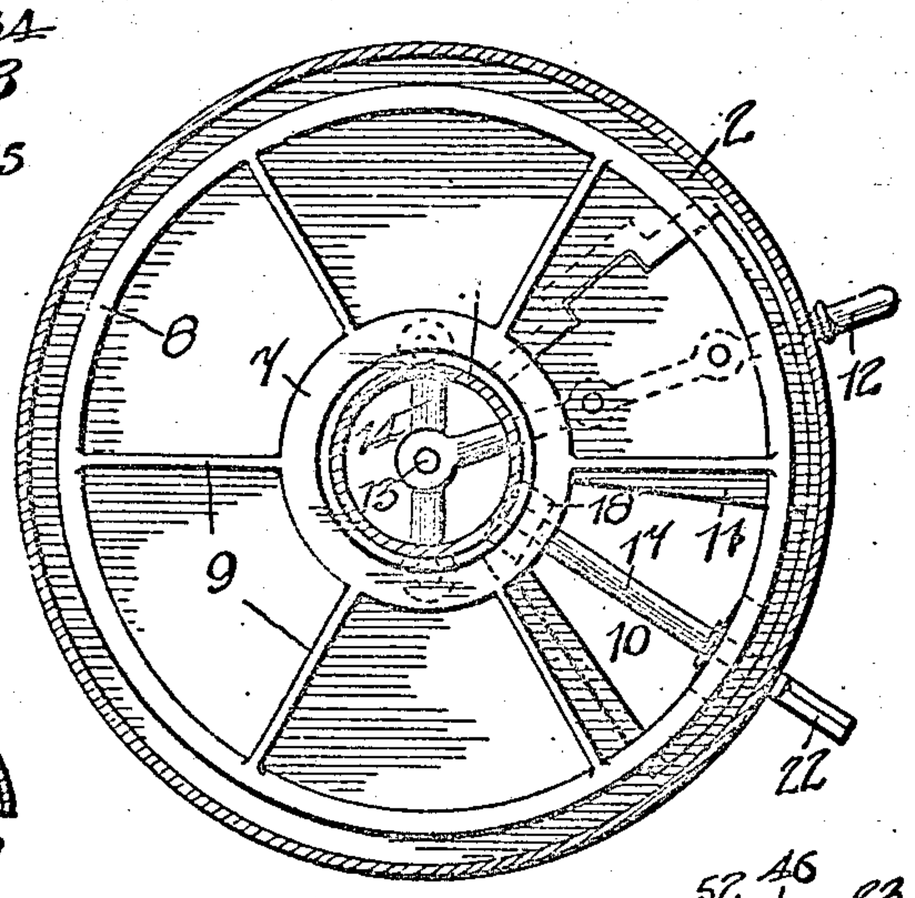
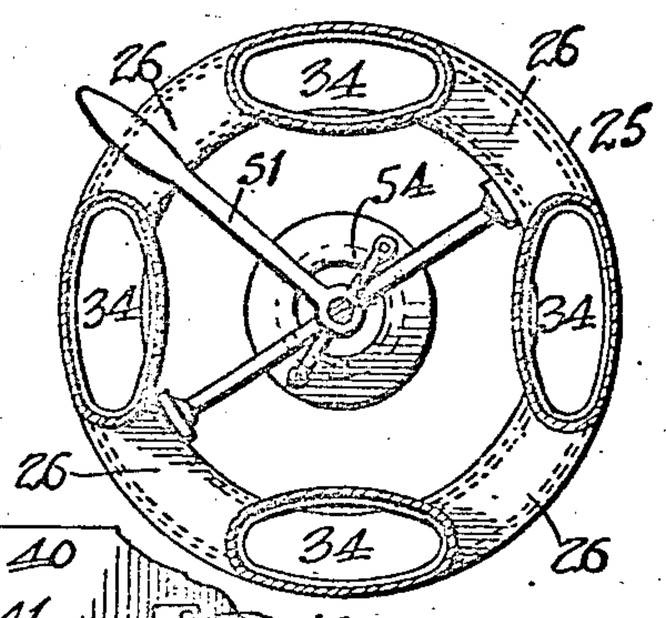


FIG. 2.

FIG. 6.

FIG. 3.



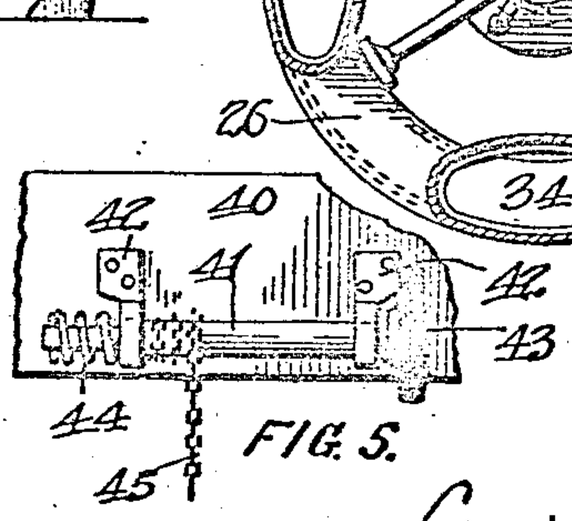


FIG. 5.

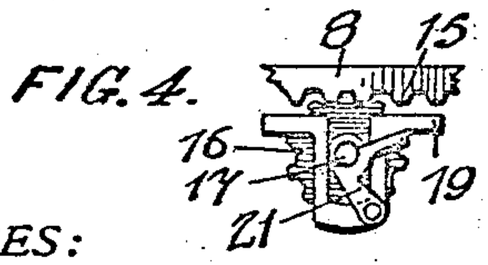


FIG. 4.

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LEWIS MILLER, OF ELWOOD, INDIANA.

STOVE.

No. 899,122. Specification of Letters Patent. Patented Sept. 22, 1908.

Application filed November 12, 1907. Serial No. 401,845.

To all whom it may concern:

Be it known that I, LEWIS MILLER, a citizen of the United States, residing at Elwood, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

My invention relates to heating stoves or furnaces and particularly contemplates the provision of certain novel mechanisms operating the grate, ash-pit and drafts to be used in combination with such a stove as described and claimed in my application filed April 2, 1906, and serially numbered 309,536.

My invention further and specifically resides in the following features of construction, arrangement and operation as will be hereinafter described with reference to the accompanying drawings, in which like numerals are used to designate like parts throughout the several figures, and in which—

Figure 1 is a vertical sectional view of my improved stove, Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1, Fig. 3 is a similar view on the line 3—3 of Fig. 1, Fig. 4 is a fragmentary detail view of parts to be hereinafter specifically described. Fig. 5 is an elevation of the ash-pit door operating device, and Fig. 6 is a detail sectional view on the line 6—6 of Fig. 1.

In the practical embodiment of my invention I provide a stove comprising a base plate 1 forming the bottom of the ash-pit 2 mounted on suitable legs 3 and provided with a central opening 4 and an annular upstanding flange 5 encircling the same. The ash-pit 2 is provided with a door 6 hinged with the front thereof to swing in a vertical plane, and has arranged therein a circular scraper comprising a hub 7 encircling the flange 5 and a circumferential rib 8 connected to said hub by webs 9. The scraper is arranged upon the base plate 1 within the ash-pit, said base plate being provided with an opening 10 therethrough provided with a swinging door 11 operated by a handle 12 pivotally mounted at 13 in a bracket 14 extending below the opening 4 to move away from said opening 10 to provide for the dumping of ashes therethrough by the scraper. The circumferential ring 8 of the scraper is provided with a lower rack face 15, adapted to be engaged by a pinion 16 mounted on a rotatable shaft 17. The shaft 17 is rotatively mounted in a bearing 18 below the opening 10 to swing in a vertical plane through said opening to engage its pinion 16 with the rack 15 as described, the forward end of said shaft being arranged through a frame 19 formed in a circular depending flange 20 of the base plate 1. The frame 19 has a pivot member 21 secured thereto having a recess therein arranged to engage beneath the forward portion of shaft 17 when the same is swung upwardly to hold the same in position while said shaft is being rotated by a suitable handle upon its squared end 22, to rotate the scraper and clean the base plate by means of the webs 9 and the opening 10, it being understood that the door 11 has been previously moved to the position shown in Fig. 2 by the handle 12.

Arranged vertically above the central opening 4 is an air pipe 23 leading within an enlarged air shell 24 having a ring 25 arranged at its upper end and provided with openings 26 therethrough, through which the air after its passage upwardly through the stove is discharged into the room. Extending from the upper edge of the ash-pit 2 is an outwardly flaring fire-pot 27 within which is arranged a circular grate 28 having a rack 29 upon its lower face arranged to be rotated or engaged by the pinion 30 mounted on a shaft 31 extending through the wall of the ash-pit 2 and provided with an outer squared portion 32 for the reception of a handle or shaker. The upper edge of the fire-pot is grooved for the reception of an annular shell 33 forming a casing for the products of combustion to circulate about the air shell 24 and pipe 23, and connected at its upper end to the ring 25 provided with closed pipes 34 for conducting said products of combustion upwardly through said ring to the top 35 of the stove and through chimney flue 36. The top 35 is provided with an annular offset rib 37 seated within the ring 25, and is further provided with openings therethrough directly above the pipes 34 of the ring 25, and provided with removable cover plates 35°. The openings in the top 35 thus allow of the same being cleaned and also provide a flat hot surface convenient for the reception of cooking vessels.

A door 39 formed through the shell 33 provides means for supplying fuel to the fire-pot 27, said shell 33 being further provided with an outstanding heat deflecting ring 40 at its connection with the fire-pot 27. The deflecting ring 40 is provided with a short shaft 41 journaled in brackets 42

formed thereon and provided with an operating screw 43 by which said shaft may be rotated, a spring 44 being arranged between the end of the shaft outside one of the brackets 42 to bear thereagainst and prevent accidental rotation. The shaft 41 is provided with a chain 45 wound about the same and the handle of the ash-pit door 6, forming thereby means for opening the door and maintaining the same in an open position to allow the entrance of air within the ash-pit 2.

The pipe 23 is provided with a series of slotted openings 46 ending therearound, and with a rotating valve 47 associated therein comprising a depending tubular portion 48 having a circular outstanding flange 49 at its upper end and a plurality of blocks 52 carried by said valve and spaced apart to be moved opposite openings 46 to close the same or to be moved to the position shown in Fig. 6 to open the same. The tubular portion 48 is preferably of a substantially smaller diameter than the pipe 23 in order to allow air to pass between the same and said pipe and into the fire-pot 27 through the openings 46 to mix with the smoke and gases and materially aid in the combustion thereof. The valve 47 may be rotated by a vertical stem 50 extending centrally upwardly through the air shell 24 and provided with an operating arm 51, extending from its upper end through one of the openings 26 of the ring 25. The stem 50 may thus be rotated by the oscillatory movement of said arm 51 and is rigidly connected to the valve 47 by a U-shaped frame 54.

While I have herein shown and described my improvements in connection and working with a stove, it will be understood that they are just as readily applicable to a furnace and its component parts, with only nominal changes falling within the terms of the following claims.

Having thus fully described my invention, I claim:

1. The combination in a stove of the character described, of the ash-pit provided with an opening therethrough, a sliding door normally closing said opening, an annuiar scraper arranged within said ash-pit provided with a lower rack face, and a rotatable vertically movable shaft mounted below said opening and carrying a pinion adapted for engagement with said rack when said door is opened to rotate said scraper, substantially as described.

2. The combination in a stove of the character described, of the ash-pit with an opening through the base thereof, a rotary scraper arranged within said ash-pit and provided with a circular rack, a sliding door normally closing said opening a vertically movable rotatable shaft mounted below said opening and provided with a pinion adapted for engagement with said rack to rotate the same when said door has been opened, and means for holding said pinion in engagement with said rack, substantially as described.

3. In a stove of the character described, the combination of an outer shell forming a combustion chamber, an inner air chamber mounted within said combustion chamber having communication through said outer shell to the atmosphere adjacent its upper end, an air supply pipe communicating with said air chamber from below said combustion chamber, said air pipe having openings formed therethrough and communicating with said combustion chamber, and a valve comprising a tubular portion of reduced diameter within said pipe, having a circular flange closing said pipe above said openings therein, and provided with spaced blocks corresponding to said openings, and means for rotating said valve to register said blocks and the spaces between the same with said openings, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS MILLER.

Witnesses:
Z. D. HUFFMAN,
J. H. FENDER.