

1,059,164.

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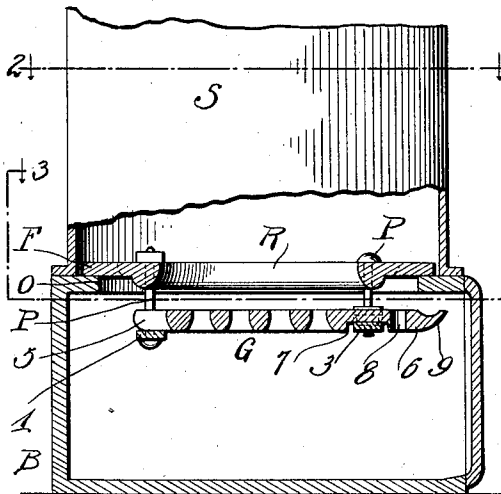


FIG 2.

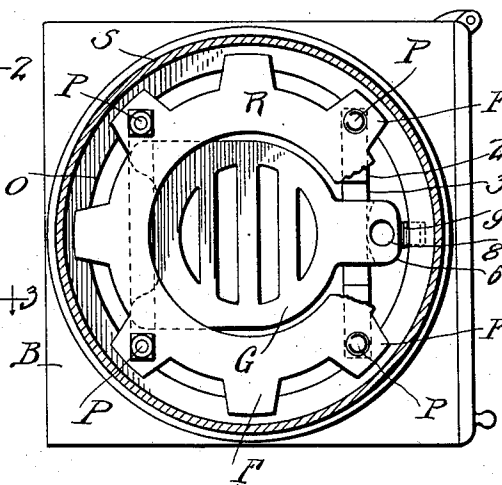


FIG. 3.

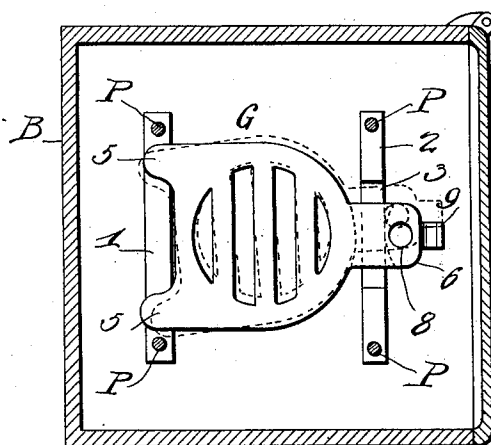
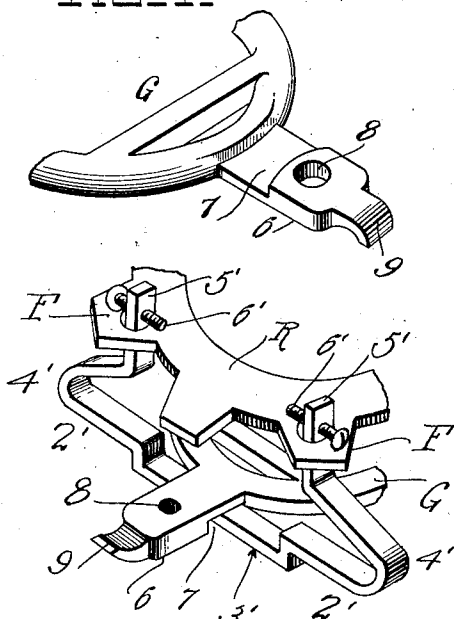


FIG 4.



HIS

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UNITED STATES PATENT OFFICE.

ZACHARIAH F. JONES, OF SCOTTSVILLE, VIRGINIA.

FIRE-BOX AND GRATE.

1,059,164.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed March 25, 1912. Serial No. 685,991.

To all whom it may concern:

Be it known that I, ZACHARIAH F. JONES, a citizen of the United States, residing at Scottsville, in the county of Albemarle and State of Virginia, have invented certain new and useful Improvements in Fire-Boxes and Grates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to grates, and more especially to those which oscillate on a vertical axis and have a removable section; and the object of the same is to effect improvements on my Patent No. 1,027,610, issued May 28, 1912, and allowed November 4, 1911. This object is carried out by constructing the grate and the adjacent parts in the manner hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a central vertical section through the fire box and the lower portion of the shell of a stove equipped with this improved grate. Figs. 2 and 3 are horizontal sections on the lines 2—2 and 3—3 of Fig. 1 respectively. Fig. 4 is a perspective detail of the front end of the grate inverted. Fig. 5 is a perspective detail showing a modified form of the front strap which avoids the necessity for the pendant bolts.

In the drawings the letter B designates the conventional form of the base of an ordinary stove, here illustrated as substantially rectangular and having a circular opening O in its top, and its front end will be closed by a door through which access may be had to the ash pit as usual.

The letter S designates the shell of the stove here shown as substantially cylindrical and as resting upon the top of the base B around the opening O therein.

The supporting ring R of my improved device is scalloped around its edge so as to produce radial fingers F which are sufficiently long to pass over and rest upon the inner edge of the base around its opening O, whereby the ring is supported therefrom and centered therein and air may pass upward through said opening and scallops and inside the shell S. Attention is directed to the fact that the fingers simply rest upon the top of the base or whatever support is provided for them, for a purpose to appear below; and certain of them are pierced with

eyes I through which are passed pendant bolts P or the like for supporting the grate G in a manner which will now be described and which forms the gist of the present invention.

Connecting the two rearmost bolts P is a cross strap 1 which is straight and perfectly flat, and connecting the other two bolts near the front of the stove is another strap 2 which is preferably also flat but has a dropped portion 3 at its center occupying something like two-thirds or three-fifths of the length of the strap between the bolts P.

The grate G may be of any specific construction, but by preference its general contour is circular with the exception of two lips 5 projecting to the rear and standing parallel with and spaced from each other such distance that they may pass between the rearmost pair of bolts or the front pair. Also a handle or shaker arm 6 projects forwardly from the ring-shaped body of the grate G and is intended to pass over the depressed center of the front strap 2 carried by the front pair of bolts, and the under side of this arm has a cross groove 7 as seen in Fig. 4. Near the front end of said arm 6 it is pierced with an eye 8 for receiving a poker by means of which the grate may be manipulated, and the front extremity of the arm carries a tongue 9 with which the ordinary shaker may be engaged for the same purpose.

The parts are set up by inserting the ring into the stove body where it is supported by its finger F resting on the edges of the base B around the opening therein or on suitable supports within the shell S, then inserting the various bolts P through the eyes I in the four fingers which are provided with them, and suspending the cross straps on the bolts in position to support the grate. The latter is pushed finally into place until its lips 5 rest upon the rear strap between its bolts, its grated center underlies the opening in the ring so that coal and ashes may not pass too readily therethrough, and its shaker arm 6 lies upon the depressed center 3 of the front strap with its tongue 9 projecting forward. When now it is desired to shake the stove, the shaker is engaged with said tongue and reciprocated laterally as far as the length of the depression in the front strap will permit, the lips 5 at the rear end of the grate meanwhile sliding over the rear strap in a

manner which will be clear. This moves the grate with reference to the ring. If the agitation is carried to a sufficient extent, the arm 6 when it is brought up against the end
 5 of the depressed portion of the front strap will move the latter bodily, and that in turn will move the ring so that its fingers slide upon their supports and the entire ring is agitated beneath the body of coal and ashes
 10 which it supports, thereby giving a vigorous shaking to the fire.

When it is desired to dump a stove provided with this improved grate, it is only necessary to lift the front end of the arm 6
 15 until the cross groove 7 is disengaged from the depressed portion of the front strap, and draw the grate bodily forward and out of place. This will permit the bulk of the coal and ashes supported upon the combined
 20 grate and ring to fall through the central opening in the latter, and after the same has been removed from the ash pit the grate can be restored to place and a new fire built.

I do not limit myself to the exact sizes
 25 or proportions of parts; and changes therein may be made as long as the principal involved is retained. For instance, in Fig. 5 is shown how one of the straps 2' having a depressed center 3' might be extended out-
 30 ward or into bowed ends 4' and then bent upward as at 5' so as to pass through the eyes in certain of the fingers of the ring, and receive pins or bolts 6' for holding it in place therein. In this construction the up-
 35 right ends 5' serve the function of the pendant bolts P above described, and the bowed ends of the straps give sufficient space laterally for a rather wide grate to be drawn out of position.

40 What is claimed as new is:

1. The combination with a grate comprising a substantially circular body with lips

projecting to the rear therefrom and a shaker arm projecting forward from said body, and having a cross groove in its under side; of a ring-shaped supporting member, means for suspending it within a stove body, a rear cross strap, means for hanging this strap beneath said member, and a front cross strap having a depressed center, out-
 50 wardly bowed ends, and upright portions above said ends connected with said member, the depressed center engaging the cross groove in the under side of the shaker arm and being of a size to permit the oscillation
 55 of said arm and the outwardly bowed ends permitting the withdrawal of the grate bodily, for the purpose set forth.

2. The combination with a supporting member having a circular opening, a ring having scallops in its edge producing fingers projecting radially over the edge of such opening and resting on the supporting member, four of said fingers being pierced with eyes, and pendant members mounted in said
 65 eyes; of straps connecting said members in transverse pairs, and a grate comprising a substantially circular body with two lips projecting to the rear therefrom and adapted to rest movably upon the rearmost strap and a
 70 shaker arm projecting forward from the center of said body and having a cross groove in its under side adapted to rest movably upon the front strap, the grate being of a width less than the distance between the forward
 75 pendant members, for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ZACHARIAH F. JONES.

Witnesses:

D. H. LEWIS,
 R. D. JONES.