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G. R. MOON.

STOVE.

APPLICATION FILED SEPT. 30, 1907.

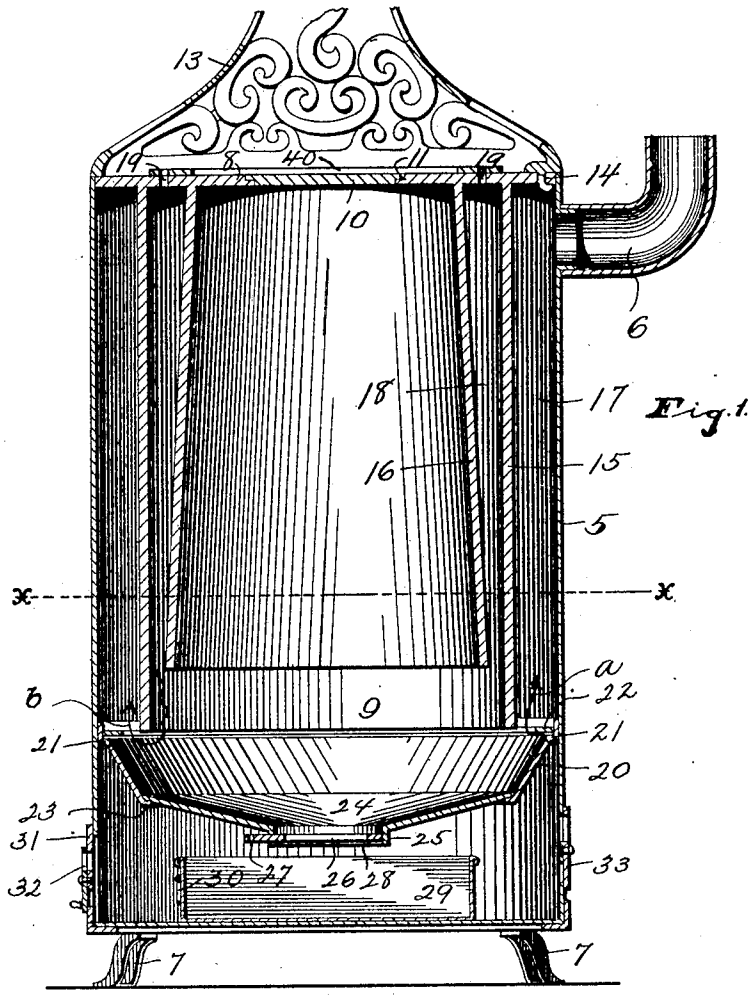


Fig. 1.

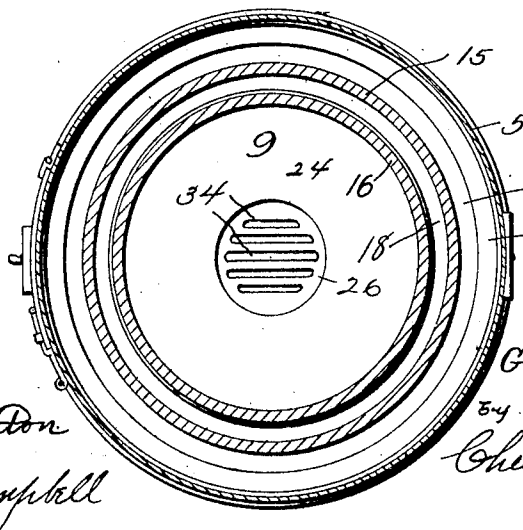


Fig. 2.

Witnesses

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STOVE.

No. 888,109. Specification of Letters Patent. Patented May 19, 1908.

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To all whom it may concern:

Be it known that I, GEORGE R. MOON, citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, 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 the provision of a device of this character constructed in such manner as to provide a more perfect combustion than has heretofore been the case.

It is a well known fact that much of the gas released from the coal ignited in stoves of the usual construction, escapes through the chimney without being properly ignited and burned.

It is the object of this invention to prevent this by establishing a primary ignition at the central portion of the fuel to be burned and at the lower portion of a closed magazine, the gas released being then conducted around the lower edge of said magazine and a supplemental ignition being maintained at that point by the introduction of air from the exterior of the drum, by virtue of which the gas after its release from the coal during the primary ignition of said coal, is conducted through a second zone of ignition close to the outer shell of the stove. This results in all of the gases being thoroughly consumed before passing to the chimney.

Further objects and advantages of the invention will be set forth in the detailed description which now follows.

In the accompanying drawing, Figure 1 is a vertical section of a stove constructed in accordance with the invention and Fig. 2 is a horizontal section upon line *x*—*x* of Fig. 1.

Like numerals designate corresponding parts in both of the figures of the drawing.

Referring to the drawing, the numeral 5 designates the outer shell of the stove. A flue 6 leads from this shell to the chimney, not shown. The shell 5 is preferably mounted upon legs 7, though this is not essential. The upper portion of the shell is closed by a plate 8 and coal may be dumped into the combustion chamber 9 when a lid 10 which closes an opening 11 formed through the plate 8, is removed, the usual ornamental open-work top 13 being pivoted for swinging movement as at 14 to the top plate 8, to permit this top to be swung around from over the lid 10 in the usual and well known manner.

An annular drum 15 depends from the plate 8 and a second annular drum 16 which is slightly larger at the bottom than at the top, also depends from this plate and lies within the drum 15. It will therefore be seen that a chamber 17 is formed between the drum 15 and the shell 5 and a second chamber 18 is formed between the drums 15 and 16. Openings 19 are formed through the plate 8 at the top of the chamber 18. A fire pot which consists of a tapering ring 20 is secured to the shell 5 and this fire pot has openings 21 formed therethrough to permit air from the lower portion of the shell 5 to pass upwardly through these openings. After it passes through these openings, it strikes against an inwardly extending baffle plate 22 and takes the direction of the arrow *a*. At its lower edge, the tapering ring 20 is provided with an inturned flange 23 which supports a solid dish-like member 24 which takes the place of the usual grate and is imperforate. This member is adapted to turn upon the flanges 23 for a purpose which will be hereinafter described.

The dish-like member 24 has a central down-turned portion 25 and this central down-turned portion carries a slide 26 which is adapted to be drawn outwardly when a poker or like tool is inserted in the opening 27 thereof, said slide being supported upon flanges 28 of the down-turned portion 25 of the member 24. An ash pan 29 is located below the slide 26 and is provided with a handle 30 by which it may be withdrawn through a door 31. This door 31 carries an air damper 32 of the usual and well known construction. A second air damper 33 is mounted in the rear wall of the shell 5 and these two dampers control the passage of air to that portion of the shell 5 which lies below the ring 20 and consequently control the flow of air through the openings 21.

The operation of the device is as follows: The draft from the chimney draws air downwardly through the openings 19 and the chamber 18. This air follows the direction of the arrow *b* flowing around the lower edge of the drum 15 and combining with the air that enters through the openings 21 at the point where said air enters the chamber 17. This is of course around the edge of the fire pot and around the outer edge of the fire. This air combines with the gases released from the coal and becomes ignited and produces such combustion of the gases released

as to secure a very high efficiency in a stove of this character.

There are some openings 34 formed in the slide 26 and a limited quantity of air enters through this slide to maintain the combustion at the center of the fire. A register 40 controls the passage of air through the openings 19.

When the plate-like member 24 is rocked back and forth upon the flanges 23, the ashes are caused to move down toward the center of said plate by reason of its inclined surface and when the slide 26 is drawn outwardly, these ashes fall in the ash pan 29 as will be readily understood.

From the foregoing description, it will be seen that simple and efficient means are herein provided for accomplishing the objects of the invention, but while the elements shown and described are well adapted to serve the purposes for which they are intended, it is to be understood that the invention is not limited to the precise construction set forth, but includes within its purview such changes as may be made within the scope of the appended claims.

What I claim, is:

1. In a device of the character described, the combination with an outer inclosing shell, of an annular drum which lies within said shell, there being a chamber formed between said shell and said drum, a flue leading from the upper portion of said chamber, a second drum lying within the first named drum, there being a chamber formed between said drums, a cap plate which closes the upper portion of both of said chambers, there being openings formed in said cap plate to admit air to the last named chamber, a fire pot located beneath said drum, said fire pot comprising a supporting ring and a solid dish-like member mounted to turn in said supporting ring, there being an opening formed in said dish-like member, and a perforated slide which closes said opening, an annular inwardly directed baffle plate located upon said supporting ring and spaced therefrom, there being openings through said supporting ring, said openings lying beneath said baffle plate.

2. In a device of the character described, the combination with an outer inclosing shell, of an annular drum which lies within said shell, there being a chamber formed between said shell and said drum, a flue leading from the upper portion of said chamber, a second drum lying within the first named drum, there being a chamber formed between said drums, a cap plate which closes the upper portion of both of said chambers, there being openings formed in said cap plate to admit air to the last named chamber, a fire pot located beneath said drums, said fire pot comprising a supporting ring and a solid dish-like member mounted to turn in said supporting ring, there being an opening formed in said dish-like member, a perforated slide which closes said opening, an annular inwardly directed baffle plate located upon said supporting ring and spaced therefrom, there being openings through said supporting ring, said openings lying beneath said baffle plate, and a removable cover carried by the cap plate above the interior of the last named drum.

3. In a device of the character described, the combination with an outer inclosing shell, of an annular drum which lies within said shell, there being a chamber formed between said shell and said drum, a flue leading from the upper portion of said chamber, a second drum lying within the first named drum, there being a chamber formed between said drums, a cap plate which closes the upper portion of both of said chambers, there being openings formed in said cap plate to admit air to the last named chamber, a fire pot located beneath said drums, said fire pot comprising a supporting ring and a solid dish-like member mounted to turn in said supporting ring, there being a central opening in said member, a slide which is adapted to close said opening, an annular inwardly directed baffle plate located upon said supporting ring and spaced therefrom, there being openings through said supporting ring beneath said baffle plate, the lower edge of the first named drum lying in approximately the same horizontal plane as the baffle plate.

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

GEORGE R. MOON.

Witnesses:
FRANK G. CAMPBELL,
L. CARL STOUGHTON