

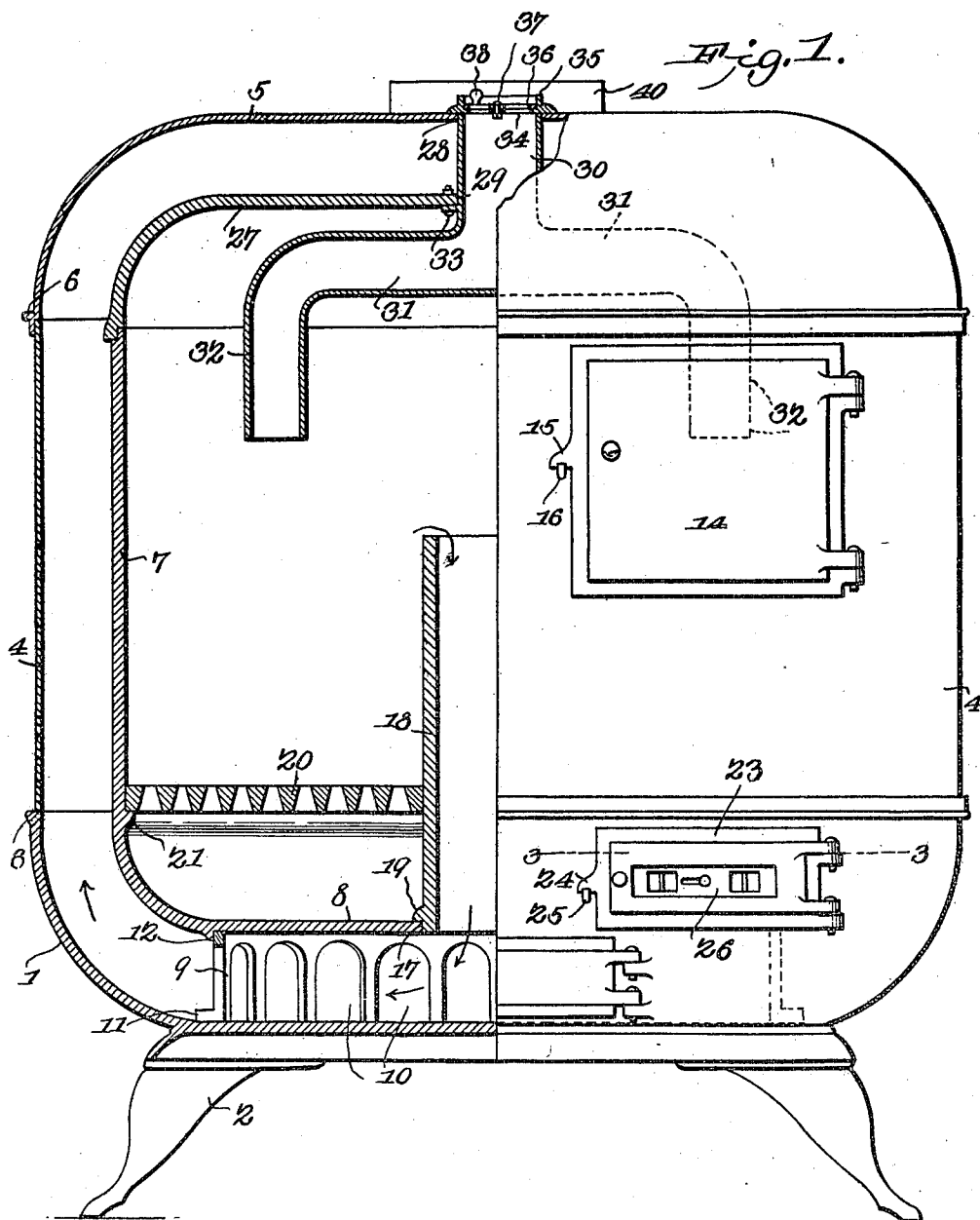
No. 837,456.

PATENTED DEC. 4, 1906.

J. M. ERICSON.
STOVE.

APPLICATION FILED MAY 16, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

E. H. Stewart
W. C. Shepard

John M. Ericson, INVENTOR.

By *C. A. Snow & Co.*
ATTORNEYS

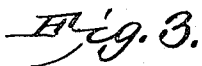
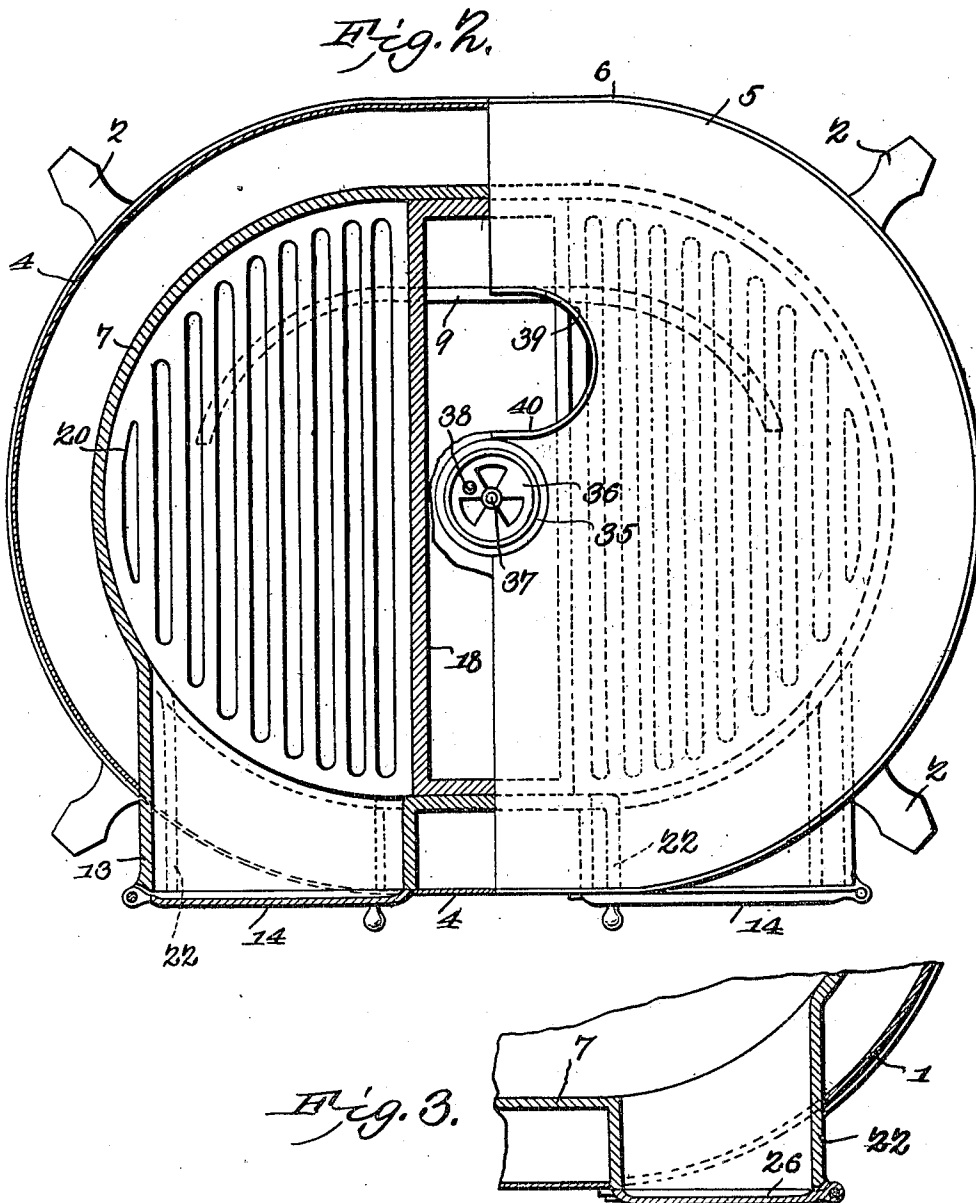
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UNITED STATES PATENT OFFICE.

JOHN MARSHALL ERICSON, OF SALT LAKE CITY, UTAH.

STOVE.

No. 837,456.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed May 16, 1906. Serial No. 317,177.

To all whom it may concern:

Be it known that I, JOHN MARSHALL ERICSON, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and useful Stove, of which the following is a specification.

This invention relates to stoves, and, while it is applicable to cooking-stoves, ovens, furnaces and the like, it is particularly applicable to heating-stoves; and its prime object is to obtain a more perfect combustion and a larger radiating-surface than in ordinary stoves. In this connection it is proposed to have the products of combustion pass through a relatively long passage before entering the smoke-pipe, whereby the heated products of combustion are maintained for considerable time within the stove, thereby to promote combustion and maintain the stove in a highly-heated condition. Furthermore, it is designed to have the heated products of combustion pass from the fire-pot into an annular space surrounding the fire-pot and closed through its outer side by the outer shell of the stove, whereby the sides, top, and bottom of the stove become highly heated and operate as radiating-surfaces, whereby the available radiating-surface of the stove is materially increased.

Further objects of the invention are to provide for increasing the draft of the stove by means of conveniently-located dampers, to enable the checking of the fire by the introduction of cold air into the fire-pot, to enable the convenient introduction of fuel into the fire-pot, to facilitate the removal of soot and the like, and to facilitate the assemblage and dismantling of the stove.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a front elevation of a stove embodying the features of the present invention, one-half of the stove being in section to illustrate the internal construction thereof. Fig. 2 is a top plan view of the stove, one-half thereof being in section to illus-

trate the internal arrangement. Fig. 3 is a detail sectional view on the line 3 3 of Fig. 1.

Similar numerals of reference designate corresponding parts in all of the figures of the '60 drawings.

The present stove includes a base 1, preferably cast with its bottom closed and its top open, there being suitable legs 2 for the support of the stove-bottom. By preference, the base member is of segmental shape and hollow, with its bottom flat and its side walls rounded upwardly. The upper edge of the base 1 is internally rabbeted, as at 3, so as to form an internal annular shoulder for the support of a substantially cylindrical shell or body member 4. A substantially concavo-convex top 5 rests upon the top of the body 4 and has its lower edge rabbeted, as at 6, to receive the upper edge of the body or shell, and thereby prevent sidewise displacement of the top.

If desired, the shell or body may be secured to the base and the top by means of any suitable fastenings or rivets piercing the overlapped or rabbeted portions 3 and 6 of the body and the base and the body and the top.

I propose to have the base cast so as to effectually support the other portions of the stove without danger of collapsing, while the body or shell 4 may be of sheet metal. The top 5 may be of sheet metal or cast, and when it is cast it may be given any ornamental configuration.

Centered within the body of the stove is a fire-pot 7, which has its lower portion bowl-shaped to correspond to the shape of the base of the stove, the flat bottom 8 of the fire-pot being supported upon an arch-plate 9, stood on edge upon the bottom of the base 1. This arch-plate is located adjacent the back of the stove and has its ends bowed in accordance with the general contour of the sides of the stove and terminates about midway of the front and back of the stove. Arched openings 10 are formed through the plate 9, so as to avoid obstructing the space between the base of the stove and the body of the fire-pot, and an outwardly-directed base-flange 11 is provided upon the plate to afford a stable support therefor. A flange 12 depends from the bottom of the fire-pot and snugly fits one side of the plate 9, so as to prevent sidewise displacement of the fire-pot from the plate.

Adjacent the upper open end of the fire-

pot and at each side of the middle of the front thereof said pot is provided with a transverse tubular extension 13, piercing the front of the body or shell 4 and constituting an opening for the introduction of fuel into the fire-pot. A door 14 is hinged to the front end of the fuel chute or passage 13, so as to close the same. As indicated in Fig. 2 of the drawings, it will be noted that the inner vertical wall of the passage terminates substantially flush with the front of the shell 4, so that when the door is closed a suitable latch projection 15 upon its free end engages a keeper 16, provided upon the middle portion of the front of the shell, whereby the door is maintained closed.

The fire-pot is centrally pierced by an opening 17, which extends from the front to the back thereof and accommodates the lower end of an upstanding open-ended flue 18, the latter being provided at its lower end with an external flange 19, resting upon the bottom of the fire-pot so as to support the flue in an upright position. This flue rises slightly above the horizontal center of the fire-pot and divides the latter into right and left hand compartments. In each of the compartments of the fire-pot there is a suitable grate 20, removably supported upon an internal flange 21, provided upon the fire-pot. It will here be explained that the flue 18 is fitted in place prior to the grate, and the latter fits snugly against the flue, so as to brace the latter against sidewise tilting.

That portion of the fire-pot which lies below the grate and constitutes the ash-pit is provided at its front and at opposite sides of its middle with a tubular draw-off passage 22, (indicated by dotted lines in Fig. 2 of the drawings,) said passage piercing the front of the shell 4 and closed by a hinged door 23, having a latch 24 to engage a keeper 25, carried by the base of the stove. The door 23 is provided with a suitable damper-slide 26, so as to admit a current of air beneath the grate.

The open top of the fire-pot is closed by a top member 27, resting upon the top edge of the fire-pot, the meeting edges of the latter and the top member being rabbeted, so as to prevent sidewise displacement of the top.

The top 5 of the stove and the top 27 of the fire-pot are centrally pierced by aligned openings 28 and 29, through which pass an air-pipe 30, provided with diametrically opposite branches 31, arching across the top of the flue 18 and terminating in downturned elbows 32, leading to the tops of the respective compartments of the fire-pot. The pipe 30 is provided with an external annular flange lying against the under side of the fire-pot top member 27, to which it is secured by suitable fastenings 33. A grating 34 lies across the open top of the pipe 29 and is surrounded by an upstanding annular flange 35,

within which works a rotary damper 36, pivoted centrally, as at 37, to the grating and having a handle 38 for controlling the damper. In rear of the damper the top of the stove is pierced by a smoke-outlet opening 39, surrounded by an upstanding flange 40 for connection with a stovepipe through which the products of combustion are designed to be carried off.

In practice the fire-pot is supplied with fuel through the chutes or passages 13 and the desired draft after starting the fire is obtained by opening the damper-slide 26 of each door 23. The smoke and products of combustion rise from the fire and enter the open top of the flue 18, down through which they pass into the annular flue-space between the bottom of the fire-pot and the base of the stove, where they spread out in all directions and rise in the annular space between the shell 4 and the fire-pot 7, thence into the annular space between the top 5 of the stove and the top 27 of the fire-pot, after which they pass out through the smoke-outlet 39. By this arrangement the heated products of combustion pass through a relatively long path before escaping from the stove, whereby combustion is promoted. Moreover, the heated products of combustion are brought into contact with the external body portion of the stove throughout its entire area, whereby the entire external area of the stove is highly heated and constitutes a radiating-surface. To check the fire, the damper 36 in the top of the stove is opened, thereby to direct cold air upon the upper surface of the fire, and thereby prevent too rapid combustion thereof.

It will here be explained that the upright flue 18 divides the fire-pot into two compartments, each of which is complete in itself and may be used independently of the other. By this arrangement the fire may be confined to one compartment alone, so as to economize fuel when only a small amount of heat is required.

Having thus described the invention, what is claimed is—

1. A stove having a body, a fire-pot located within and spaced from the body to form an annular flue-space, and an upright open-ended flue within the fire-pot and extending from side to side thereof to divide the same into separate compartments, the bottom of the flue being open and in communication with the annular flue-space.

2. A stove comprising a body, a fire-pot located within and spaced from the body and forming an annular flue-space, an upright open-ended flue located within the fire-pot and extending from side to side thereof to divide the same into separate compartments, the lower end of the flue being in communication with the annular flue-space, and grates supported within the compartments of the

fire-pot and engaging the flue to brace the same.

3. A stove comprising a body, a fire-pot located within and spaced from the body to form an annular flue-space, a skeleton support rising from the bottom of the body and engaging the bottom of the fire-pot, and an open-ended flue piercing the bottom of the fire-pot and in communication with the flue-space, said flue extending across the fire-pot to divide the same into separate compartments.

4. A stove comprising a body, a fire-pot located within and spaced from the body to form an annular flue-space, fuel and ash chutes leading from the fire-pot and piercing the front of the body, doors carried by the outer ends of the chutes, a skeleton support rising from the back of the bottom of the body and supporting the fire-pot, and an open-ended flue located within the fire-pot and dividing the same into compartments,

the lower end of the flue being in communication with the flue-space between the bottoms of the fire-pot and the stove, and grates in the compartments of the fire-pot.

5. A stove comprising a body, a fire-pot located within and spaced from the body to form an annular flue-space, an open-ended flue piercing the bottom of the fire-pot and dividing the latter into compartments, the bottom of the flue being in communication with the flue-space, and a damper-controlled air-inlet pipe piercing the tops of the body and the fire-pot and having branches leading to the compartments of the fire-pot.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN MARSHALL ERICSON.

Witnesses:

JAMES B. GRAHAM,
WILLIAM BARTLING.