

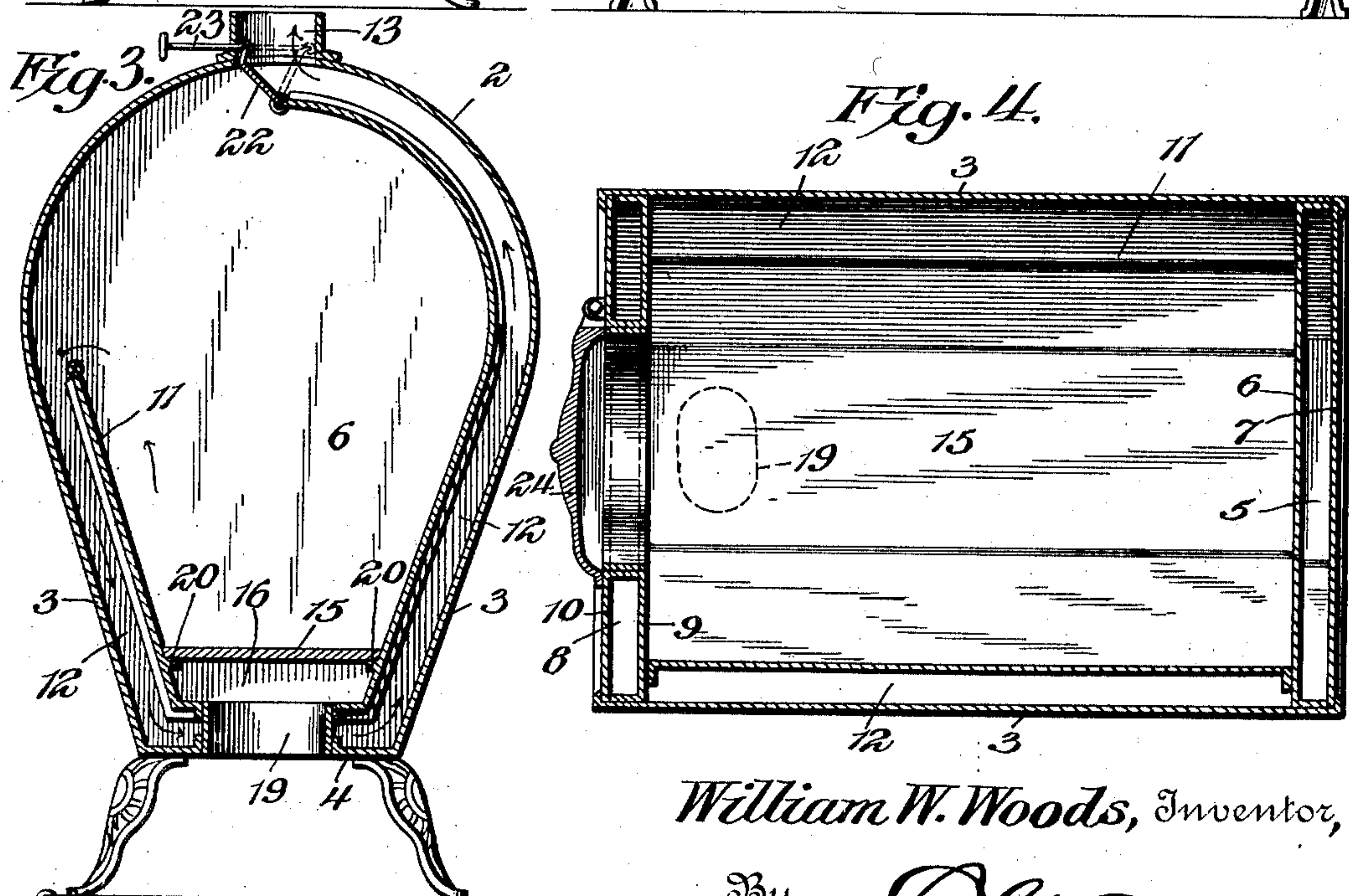
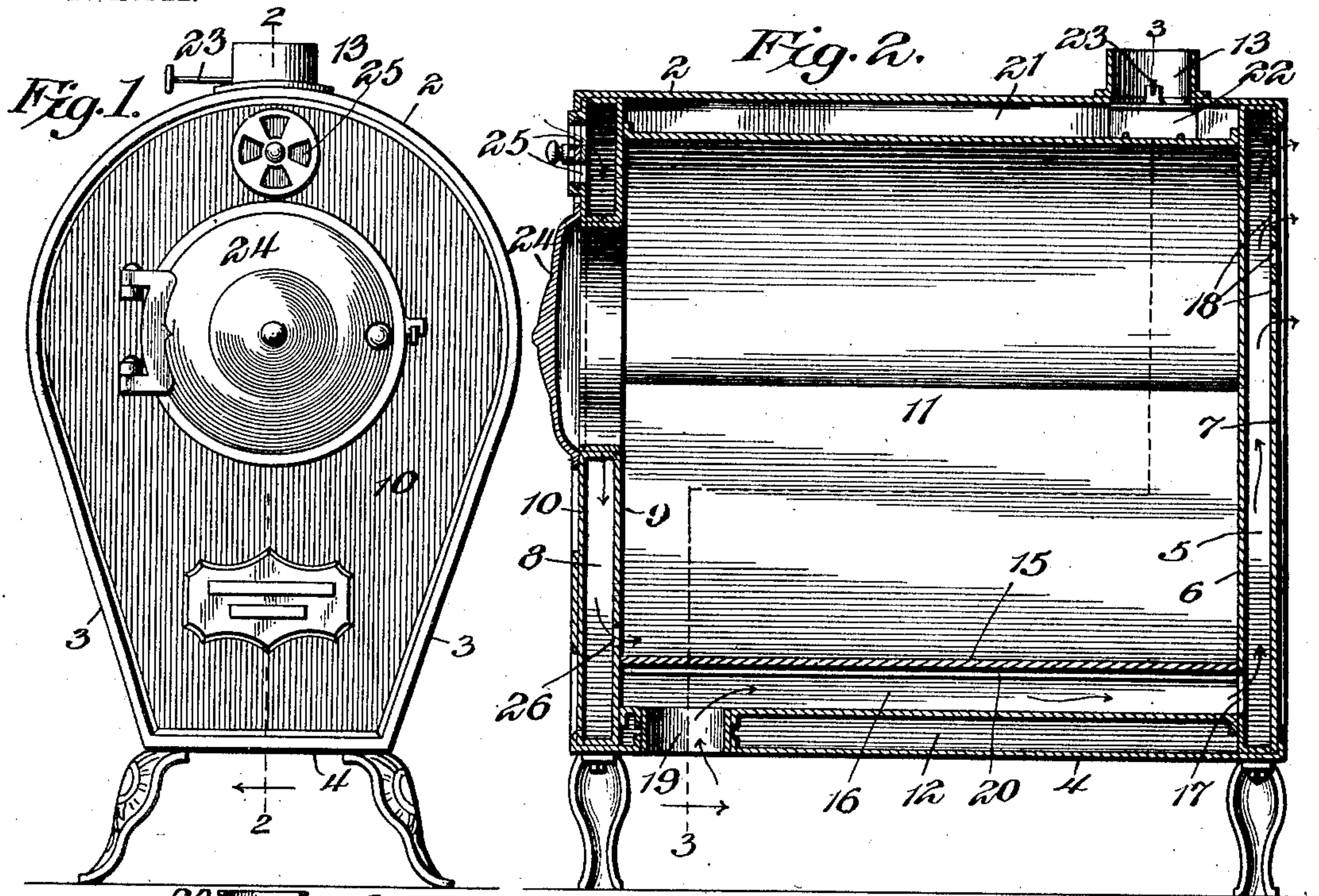
No. 756,763.

PATENTED APR. 5, 1904.

W. W. WOODS.
HEATER.

APPLICATION FILED JAN. 29, 1903.

NO. MODEL.



Witnesses

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WILLIAM WESLEY WOODS, OF SPRINGFIELD, MISSOURI.

HEATER.

SPECIFICATION forming part of Letters Patent No. 756,763, dated April 5, 1904.

Application filed January 29, 1903. Serial No. 141,049. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WESLEY WOODS, a citizen of the United States, residing at Springfield, in the county of Greene and State of Missouri, have invented a new and useful Heater, of which the following is a specification.

The invention relates to improvements in stoves.

The object of the present invention is to improve the construction of stoves and to provide a simple inexpensive sheet-metal heater having an increased radiating-surface and adapted to provide a straight draft to the chimney when starting a fire and capable after a fire has been started of causing the products of combustion to pursue a circuitous course through the heater to increase the heating effect thereof and to obtain a maximum heating effect from a given quantity of fuel.

Another object of the invention is to extend the air-flue beneath the fire-pot or combustion-chamber throughout the entire length of the same to protect the fire-pot or combustion-chamber and to enable the same to heat the cold air as it enters the stove and to prevent the base of the stove from becoming excessively heated, so that there will be no liability of scorching or otherwise injuring a carpet or other floor-covering.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that changes in the form, proportion, and minor details of construction within the scope of the claims may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is an elevation of a heater constructed in accordance with this invention. Fig. 2 is a vertical sectional view on the line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of Fig. 2. Fig. 4 is a horizontal sectional view.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a heater constructed of sheet metal or other suitable material and designed particularly for such fuel as wood and the like and having an upper rounded or approximately semicylindrical portion and a lower tapered portion. The upper rounded portion forms the top of the stove or heater, and the lower portion has straight converging sides, as clearly shown in Fig. 1 of the drawings.

The body of the stove consists of an outer shell having a rounded or semicylindrical top portion 2, which merges into and is formed integral with downwardly-converging sides 3, and the latter are connected by the bottom 4, which is straight and which extends horizontally from one side of the stove to the other, as clearly shown in Fig. 3. The rear wall or back of the stove is provided with a vertical flue 5 and is composed of inner and outer walls or plates 6 and 7, of sheet metal or other suitable material, conforming to the configuration of the sides, top, and bottom of the stove and suitably secured to the same. The front of the stove is also provided with a flue 8 and is composed of inner and outer plates or walls 9 and 10, of sheet metal or other suitable material, and is suitably secured to the top, sides, and bottom of the body. Within the body is an inner shell 11, forming a transverse flue and extending from the center of one side of the body downward to the bottom and across the same and upward at the other side of the body to the center of the top or at a point approximately at the center, as clearly shown in Fig. 3 of the drawings. The inner shell is spaced from the sides, top, and bottom of the body of the stove to provide the said transverse flue 12 for the products of combustion to cause the same to pass downward at one side of the stove, across the bottom, and upward at the opposite side of the stove to a stovepipe-opening 13, located at the top of the heater near the back thereof and provided with a suitable upwardly-extending flange to enable a stovepipe to be applied to the heater in the ordinary manner. The inner shell extends the entire length of the stove from front to rear, and its lower portion forms the fire-pot or combustion-chamber. A horizontal partition 15 is mounted within the inner shell near the bot-

tom thereof and is spaced from the same to provide a horizontal air-flue 16, which extends the entire length of the combustion-chamber or fire-pot and which communicates at its rear end with the rear upright flue 5 of the back of the heater, the inner wall 6 being provided at the said flue 16 with a slot or opening 17. The outer wall or plate of the back of the stove is provided at the upper portion with perforations 18 for the escape of heated air, and as the cold air is taken from the floor of the room at the base of the stove and is heated in this manner the heater is adapted to maintain the air within an apartment at a uniform temperature. The longitudinal flue or passage formed by the bottom flue 16 and the upright rear flue 5 is entirely independent of the transverse flue, and the air passing through the horizontal flue 16 is heated above and below, as the bottom flue is interposed between the fire-pot or combustion-chamber and the bottom portion of the transverse flue. The inner shell and the bottom of the heater are provided with registering openings for the reception of a thimble or sleeve 19, forming an inlet-opening and extending through the bottom of the stove to the horizontal flue or passage 16, as clearly shown in Figs. 2 and 3 of the drawings. The horizontal partition 15 is supported upon suitable ribs or flanges 20, extending from the inner shell at opposite sides of the lower portion thereof.

The upper edge of the inner shell is connected to the top of the stove and is provided thereat with an upwardly-extending flange or portion 21, forming the upper end wall of the flue, and this end wall is cut away at the stove-pipe hole or opening for the reception of a pivoted or hinged damper 22, adapted to be swung to the position illustrated in dotted lines in Fig. 3 of the drawings to provide a direct draft to the chimney when starting a fire. After a fire has been started the damper is swung to the position illustrated in full lines in Fig. 3 to cause the products of combustion to pass around the stove through the transverse flue, whereby a maximum heating effect will be obtained from a given quantity of fuel. The damper is connected with an operating-rod 23, passing through a perforation of one side of the flange at the stove-pipe-opening and provided with an exterior head or grip.

The front of the stove is provided with a door 24, communicating with the interior of the stove to permit fuel to be supplied to the fire-pot or combustion-chamber. In order to enable the air for supporting combustion to be heated before being introduced into the fire-pot or combustion-chamber, the outer plate or wall 10 of the front of the stove is provided at the upper portion of the stove with a series of apertures 25 for the admission of air, and the latter passes downward through the flue and enters the combustion-chamber at the lower portion thereof through an aperture 26.

A pivoted damper or cut-off is arranged to cover and uncover the openings 25 for controlling the draft of the stove.

It will be seen that the heater, which is exceedingly simple and inexpensive in construction, possesses a large amount of radiating-surface and that the heating effect of the stove is greatly increased by the passage of the products of combustions around the stove from the center of one side across the bottom to the top of the other side and that air is taken from the floor and is heated by passing it beneath the fire-pot or combustion-chamber and causing it to ascend and escape at one end of the stove. Also it will be clear that the air for supporting combustion is heated prior to being introduced into the fire-pot or combustion-chamber, so that the combustion will not be chilled or affected by cold air.

What I claim is—

1. A heater provided at its front with an upright flue extending from the top to the bottom of the heater and communicating at its upper portion with the exterior of the heater and at its lower portion with the interior of the fire-pot or combustion-chamber at the bottom thereof, a transverse flue extending from one side of the heater at a point between the top and bottom of the same across the bottom of the heater and upward at the opposite side of the same to the top thereof for causing the products of combustion to pass beneath the fire-pot or combustion-chamber, and an independent longitudinal flue extending along the bottom of the heater to the back thereof and having an upright portion thereat communicating with the exterior of the heater at the top thereof, substantially as described.

2. A heater provided at its front with an upright flue having an inlet-opening at the top and communicating at the bottom with the fire-pot or combustion-chamber for supplying heated air to support combustion, a longitudinal flue having an inlet at the bottom and extending beneath the fire-pot or combustion-chamber to the back of the heater and upward thereat and having an outlet at the top for the escape of hot air, and a flue arranged at right angles to the longitudinal flue and extending beneath the fire-pot or combustion-chamber from a point between the top and bottom of the heater at one side to the top of the opposite side, substantially as described.

3. A heater comprising an outer shell, an inner shell spaced from the outer shell to form a transverse flue and to provide front and rear upright flues, the front flue having an inlet at the top provided with an outlet at the bottom communicating with the interior of the heater and the rear flue being provided with an outlet at the top, and a partition arranged within the inner shell and forming a flue communicating at one end with the exterior of the heater and at the other end with the rear flue, substantially as described.

4. A heater comprising an outer shell provided at the ends with upright flues, one of the upright flues having an inlet at the top and communicating at the bottom with the
5 interior of the heater and the other being provided at the top with an outlet, an inner shell forming a transverse flue, and a partition arranged within the inner shell and forming a
10 bottom flue arranged between the combustion-chamber and the lower portion of the transverse flue, and having an inlet at one end and

communicating at the other end with the upright flue having the outlet at the top, substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses. 15

WILLIAM WESLEY WOODS.

Witnesses:

H. B. McDANIEL,
N. M. LEONARD.