

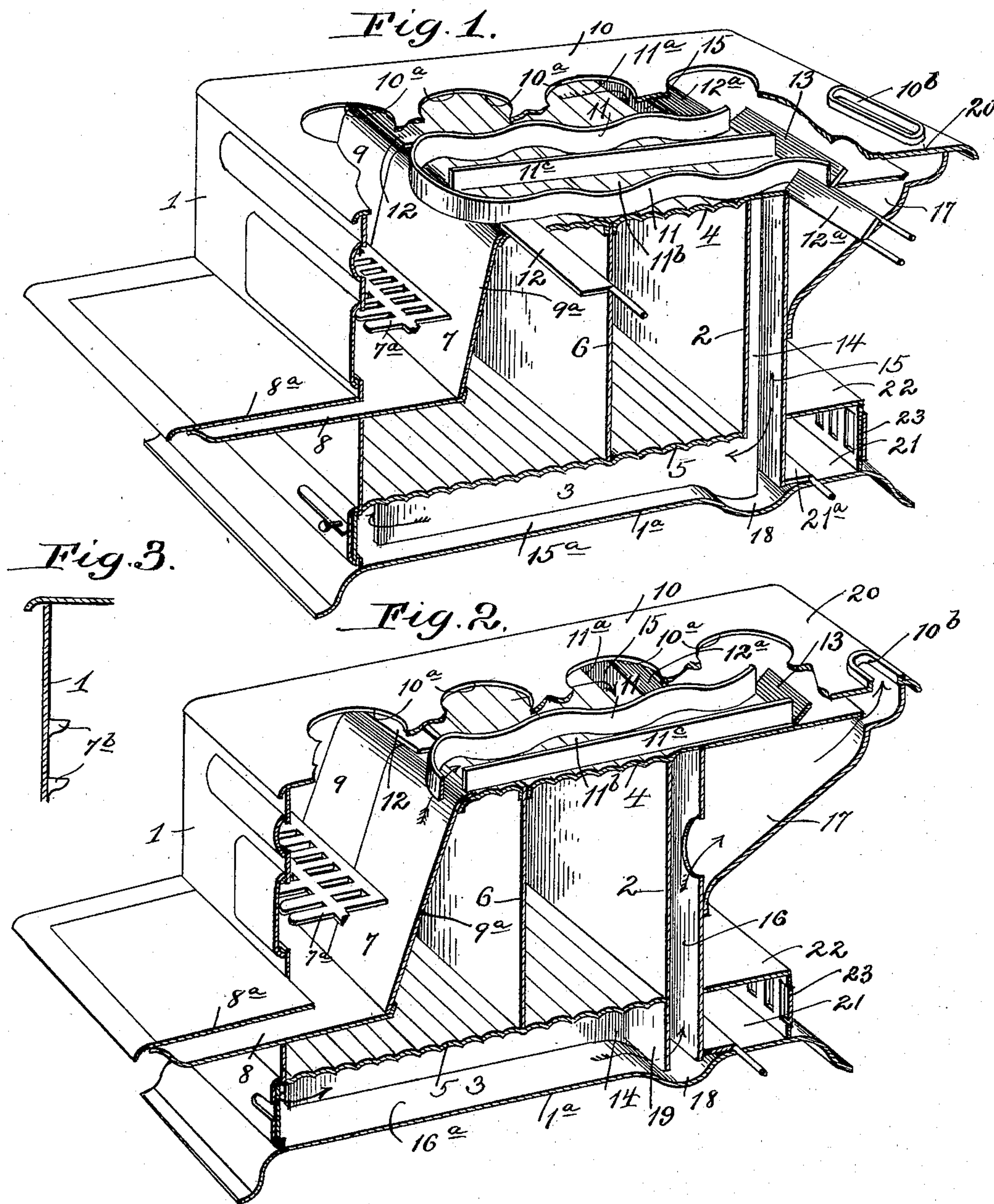
No. 609,264.

Patented Aug. 16, 1898.

J. R. BURGESS.
COOK STOVE.

(Application filed May 12, 1894.)

(No Model.)



Witnesses,

N. S. Mason
Chas. W. Parker.

Inventor,

James R. Burgess
By Thos. S. Sprague & Son
attys.

UNITED STATES PATENT OFFICE.

JAMES R. BURGESS, OF PORT HURON, MICHIGAN.

COOK-STOVE.

SPECIFICATION forming part of Letters Patent No. 609,264, dated August 16, 1898.

Application filed May 12, 1894. Serial No. 511,033. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. BURGESS, a citizen of the United States, residing at Port Huron, in the county of St. Clair and State of Michigan, have invented certain new and useful Improvements in Cook-Stoves; and I do hereby 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 cook-stoves or ranges, and has for its objects to so construct the stove that the maximum calorific effect may be had from the minimum amount of fuel consumed, to provide means whereby the heat products can be directed to a portion only or the whole of the upper or cooking surface, and to generally improve the construction of the stove and arrangement of the parts.

With such objects in view the invention consists in the construction and combination of parts and the arrangements thereof hereinafter particularly set forth and claimed.

I have shown in the accompanying drawings a practical embodiment of the invention, but do not limit myself to the precise construction therein shown, as many minor changes can be made without departing from the scope of the invention.

In the drawings, Figure 1 is a sectional perspective view of a stove embodying my improvements, taken to one side of the center thereof and showing one of the diving-flues and side flues of the lower heating-chamber. Fig. 2 is a similar view taken at the center of the stove and showing the uptake-flue and central flue of the lower heating-chamber. Fig. 3 is a detail section showing the supporting-brackets for the grate.

Referring to the drawings, 1 represents an outer casing. Within this casing and situated so as to leave a heating-chamber 3 below and spaces above and to the rear thereof is an oven 2. This oven is made with a metal top 4 and bottom 5, preferably corrugated or ribbed in order that relatively thin metal may be used and still sufficient rigidity secured to maintain the proper shape. One or more partitions, as 6, is or are provided to divide the oven into separate compartments

for the reception of different articles to be cooked.

At the front of the stove is a fire-pot 7, provided with a bottom or hearth 8, extending beyond the front of the casing 1 and there provided with an ash-door 8^a. The fire-pot is separated from the oven by a thin partition formed of two fixed sections 9 and a central section 9^a, removably secured, in order that it may be removed when burned out to be replaced by a new section.

In the fire-pot 7 is the grate 7^a, preferably of the form shown, having the parallel grate-bars connected at their rear ends and intermediate their ends, but disconnected at their forward ends. The grate is adapted to be supported at different heights in the fire-pot on bearing-lugs 7^b on each end wall of the fire-pot in such manner that it can be tilted forward to dump the coals.

The space above the oven 2 and between the top thereof and the top of the stove 10, which latter is provided with rows of holes 10^a, communicates at its forward end with the fire-pot and at its rear end with a smoke-hole 10^b, with which a smoke-pipe (not shown) connects.

In order that the heat products may be concentrated to a part only of the stove-top—as, for instance, to that part of the space below one row of holes 10^a—I divide said space above the oven by partitions 11 into two side flues 11^a and a central flue 11^b, each communicating at its forward end with the fire-pot. The partitions 11 are preferably tortuous, so as not to interfere with the holes, and direct the heat products to the holes or vessels therein. This form also furnishes an efficient brace or support for the stove-top. An additional central partition and support is shown at 11^c. Dampers 12 and 12^a are provided at respectively the front and rear of the side flues 11^a, and at the rear of the central flue 11^b is a damper 13.

In order to carry the heat products to the heating-chamber below the oven, the space in the rear of the oven is divided by partitions 14 into diving-flues 15, preferably one on each side, communicating with flues 11^a in front of the dampers 12^a, and an uptake-flue 16 between the same communicating

with a smoke-flue 17. Said partitions at their lower ends extend nearly to the forward end of the heating-chamber below the oven and divide the latter into flues 15^a and 16^a, communicating with each other at their forward ends and with the diving and uptake flues 15 and 16 and practically forming continuations thereof.

Where the central flue 16^a and uptake-flue 16 communicate, the bottom 1^a of the stove is provided with a depression or well 18, to near the bottom of which extends a partition 19, which cuts off communication between the flues 16 and 16^a, except in the depression or well. This construction enables the greatest possible effect of the heat products to be utilized, inasmuch as only the cooled gases at the bottom of the chamber are drawn off to the smoke-flue.

At the rear the stove is provided with an upper extension or fantail 20, communicating with the flues 11^a and 11^b and provided with vessel-holes and with a lower extension 21, forming a heating-shelf 22. This extension 21 communicates with the flues 15^a through the well 18 and is provided with a damper 21^a to cut it off therefrom.

23 is a door to permit the removal of ashes.

In operation a direct draft through the flue 11^b can be had by closing the dampers 12 and opening the damper 13, or all the heat products can be directed into one flue 11^a under one row of holes by closing the damper 13 and the damper 12 of the other flue 11^a, or the direct flue can be closed by the damper 13, and dampers 12 being open the heat products will divide and pass through the two flues 11^a. To utilize the entire heat for the oven, the direct-flue damper 13 and the dampers 12^a of the flues 11^a are closed. In this case the dampers 12 being open, the heat products pass into the flues 11^a, down the diving-flues 15 into the flues 15^a, around the forward ends of the partitions 14 into the central flue 16^a, and thence to the uptake-flue 16 to the chimney.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a cook-stove, the combination with an outer casing, a fire-pot, and an oven located in said casing so as to leave a space

between the top thereof and the top of the casing, partitions dividing said space into three separate heat-flues each communicating at one end with the fire-pot, a smoke-flue with which each heat-flue communicates at its rear, and dampers at or near the rear of each of said heat-flues.

2. In a cook-stove, the combination with an outer casing, a fire-pot, a smoke-flue, and an oven, of separate heat-flues above the oven each communicating at its front end with the fire-pot and at its rear end with the smoke-flue, a diving-flue communicating with one of said heat-flues intermediate its ends, a damper in said heat-flue in rear of said diving-flue, a damper at the front of said heat-flue, an uptake-flue communicating with said diving-flue, and a damper in said other heat-flue in front of said uptake-flue, and a smoke-flue communicating with said uptake-flue.

3. In a cook-stove, the combination with an outer casing, a fire-pot, and an oven located in said casing so as to leave a space above, below and to the rear of said oven, partitions dividing each of said spaces into three separate flues, all of the flues above the oven communicating with the smoke-flue and the outside flues above the oven communicating with the outside flues in rear of the oven, dampers in said outside upper flues in front of and in rear of said rear flues, a damper in said upper central flue in front of said central rear flue, flues below the oven communicating with each other and with the rear flues, and a smoke-flue communicating with the central rear flue, substantially as described.

4. In a stove, the combination with a fire-pot, and oven, of a heat-chamber below the oven provided with a depression or well, a flue from the fire-pot communicating with said heat-chamber, and an uptake-flue for the heat products from said chamber communicating with the latter through said well or depression.

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

JAMES R. BURGESS.

Witnesses:

EDW. KESSEL,
JNO. M. GLEASON.