P. MOQUIST.

FLUE BLOCK FOR STOVES AND THE LIKE.

APPLICATION FILED JAN. 16, 1920.

1,399,511. Patented Dec. 6, 1921.

Fig. 1

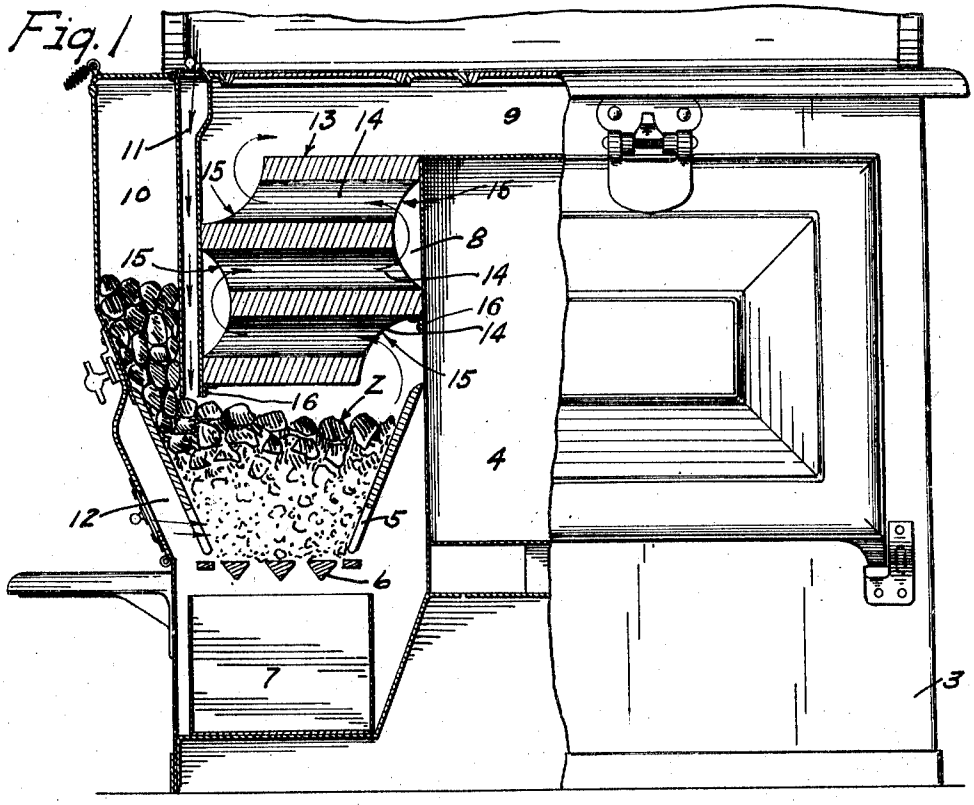
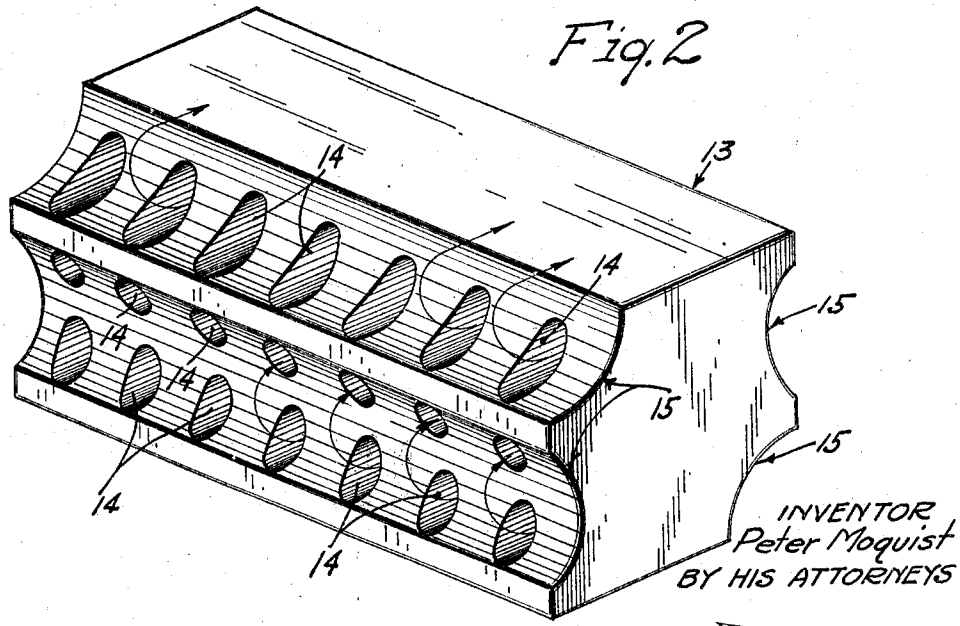


Fig. 2



INVENTOR
Peter Moquist
BY HIS ATTORNEYS

Williamson Merchant

UNITED STATES PATENT OFFICE.

PETER MOQUIST, OF MINNEAPOLIS, MINNESOTA.

FLUE-BLOCK FOR STOVES AND THE LIKE.

1,399,511. Specification of Letters Patent. Patented Dec. 6, 1921.

Application filed January 16, 1920. Serial No. 351,911.

To all whom it may concern:

Be it known that I, PETER MOQUIST, citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Flue-Blocks for Stoves and the like; 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.

My invention has for its object to provide an extremely simple and highly efficient device to render more complete the combustion of smoke and gases in stoves, ranges, heaters and the like.

To the above end, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts through the several views.

Referring to the drawings:

Figure 1 is a view partly in front elevation and partly in vertical section of a range having the invention incorporated therein; and

Fig. 2 is a perspective view of the flue block removed from the range.

Of the parts of the cooking range illustrated, the numeral 3 indicates the shell, 4 the oven, 5 the fire-box, 6 the grate, 7 the ash pan, 8 the combustion chamber having an extension which extends over the oven 4, as indicated at 9. The fire-box 5 is located at one side of the oven 4 and the combustion chamber 8 is located directly thereabove. At the opposite side of the combustion chamber 8 from the oven 4, is a fuel magazine 10, which leads to the fire-box 5. Located between the combustion chamber 8 and fuel magazine 10, is a damper-equipped auxiliary air intake draft passageway 11, which opens into the fire-box 5 just above the normal level of the fuel bed Z. In one side of the range, just above the grate 6, is a damper-controlled primary air intake draft passageway 12.

Referring now in detail to the invention, the flue block is indicated as an entirety by the numeral 13 and is preferably molded from baked fire clay, but, of course, can be made from any other suitable material. Formed in the flue block 13 is a plurality of horizontal rows of vertically spaced flues 14. The ends of the several rows of flues 14 are connected by horizontal header channels 15 formed in the sides of the flue block 13. The flue block 13 is of such size as to snugly fit within the combustion chamber 10 and extends to the four walls thereof.

Secured to the side walls of the combustion chamber 8 are two horizontal angle bars or rails 16, on which the flue block 13 is removably supported with its bottom above the fire bed Z. The top of the flue block 13 is flush with the top of the oven 4 and forms an extension thereof.

The products of combustion from the fuel bed Z first travel under the flue block 13 toward the oven 4 and are deflected thereby into the lowermost row of flues 14. In passing from this lower row of flues 14, the products of combustion rise in the respective header channel 15 and are deflected by the adjacent wall of the combustion chamber 8 into the next higher rows of flues 14 and travel therethrough toward the oven 4 and into the respective channel 15. The products of combustion are again deflected by the oven 4 into the uppermost row of flues 14 and, in passing therethrough, again enter the combustion chamber 8 and travel over the top of the flue block 13 and oven 4 through the extension 9 of the combustion chamber.

Obviously, the products of combustion, in passing through the flues 14 and header channels 15, travel a zigzag course, which greatly retards the movement thereof, so that the flue block 13 becomes red hot, thereby greatly assisting in rendering more complete the combustion of the smoke and gases. By directing the products of combustion against the oven 4, during their travel through the combustion chamber, said oven is more quickly heated and kept at an even temperature by the hot flue block.

What I claim is:

1. A flue block adapted for use in a combustion chamber of a cooking range comprising a generally rectangular block having a plurality of channels in each longitudinal side thereof, the longitudinal edges of the lower channel on one side of the block being in vertical alinement and the longitudinal edges of the upper channel in the opposite sides being in vertical alinement, the upper edge of the upper channel in the first mentioned side being disposed inwardly

of the edges of the lower channel and the lower edge of the lower channel in the second mentioned side being disposed inwardly of the edges of the upper channel on that side, said block having a plurality of transverse flues extending therethrough and connecting the channels at each side of the block.

2. A flue block formed as a substantially rectangular block having its opposite longitudinal edges cut away to form longitudinally extending channels shaped substantially as a quadrant of a circle in cross section, and having a channel formed in each of two opposite faces between said channel and the adjacent longitudinal edge, said latter channels being shaped substantially as a segment of a circle in cross section, and having a plurality of openings extending transversely therethrough, substantially parallel to its two unchanneled surfaces, certain of which openings connect the quadrant shaped channels with the segmental shaped channels on the opposite side of the block and certain others of which openings connect the segment shaped channels.

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

PETER MOQUIST.

Witnesses:
WINIFRED I. WARD,
HARRY D. KILGORE.