

UNITED STATES PATENT OFFICE.

WILHELM WICKE, OF CLEVELAND, OHIO, ASSIGNOR TO THE FOREST CITY
STEEL RANGE COMPANY, OF SAME PLACE.

COOKING-RANGE.

SPECIFICATION forming part of Letters Patent No. 556,451, dated March 17, 1896.

Application filed August 6, 1895. Serial No. 558,432. (No model.)

To all whom it may concern:

Be it known that I, WILHELM WICKE, a 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 Cooking-Ranges, of which the following is a specification.

This invention relates to cooking stoves or ranges; and it consists in the new constructions and combinations as hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of a range, partly in section, showing the construction and arrangement of the fire-chamber and the air-drafts. Fig. 2 is a cross-section of the fire-chamber on line 2 2 on Fig. 1. Fig. 3 is a plan view of the bottom plate below the oven and fire-chamber on line 3 3 on Fig. 1. Fig. 4 is a rear side elevation of the range.

A is a fire-box closed at the ends, supported on a frame A', providing an air-space entirely around it.

B is a revolving grate supported in hangers a a depending from frame A'.

D is also a frame supported below the fire-box A.

D' is a box comprising the grate-chamber, also providing an air-space D', entirely surrounding said grate-chamber. Through the frame D are provided holes or openings d d, communicating with the ash-chamber E.

In the usual construction of ranges the space beneath the lower oven-flue plate and the floor becomes highly heated, endangering the burning of the floor. To avoid this danger and to utilize this waste heat is the principal object of my improvement, which is accomplished by the new constructions, described as follows:

F in Figs. 1, 2, and 3 is a vertical flue in the back end of the ash-chamber and extending a short distance forward at the right-hand side of said chamber. In the side wall of the flue next to the air-space under the oven-flue and over the floor is made an opening f, making a communication from said air-space into the flue F, by means of which the hot air has ingress to said flue.

G is an opening in the side of the flue F

which leads into the ash-chamber beneath the grate.

H is a damper for shutting the opening G and causing all the hot air to pass upward through the openings d in the frame D into the air-spaces D' and A' surrounding the grate and fire-chamber.

K is a register in the front plate of the range through which air from outside is admitted, and which opens a draft for carrying the hot air into the flue F. By this means the hot air generated in said space is utilized for aiding combustion in the fire-place, and at the same time the cold air admitted at the register K decreases the heat and removes the danger of burning the floor.

L is a curved flue provided on the back plate of the range which connects the air-space D' with the air-space beneath the oven-flue.

N is a damper at the lower end, and O is a damper at the upper end, of said curved flue for shutting off said flue for purposes hereinafter shown.

M is a collar on the lower end of the flue L, designed for attaching a pipe for conveying hot air to other rooms, if desired. When not used for this purpose the opening is closed by a cover on the collar. With this flue are different courses for conveying the hot air.

By shutting damper H and opening dampers N and O the air under the oven-flue is led into the flue L at N and passes upward into the space D'. From thence it passes down through the openings d d in the plate D into the ash-chamber. Thence it passes through the grate to feed the fire.

Another course for conveying hot air to upper or other rooms is as follows: By providing a pipe on collar leading to other rooms and shutting dampers H and N, leaving damper O open, the hot air from space D' would be carried down said flue L and pass into a pipe leading therefrom to warm other rooms.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a cooking-range, the combination with the fire-box, and the ash-chamber having its bottom on a lower plane than the lower oven-flue, of a flue F in open communication with

the space between the lower oven-flue and the floor, and a register K in the front of the range opening into said space, the arrangement being such that the hot air next to the floor is
5 conducted into the flue F and delivered to enhance combustion substantially as described.

2. In a cooking-range, the combination with fire-box and ash-chamber having its bottom on a lower plane than the lower oven-flue, of

the flue F, damper H in said flue, openings 10
d, d, in the frame D, the rear flue L, and the dampers N and O, constructed and adapted to operate substantially as described.

WILHELM WICKE.

Witnesses:

GEO. W. TIBBITTS,
W. L. WEST.