

C. KANE.

Combined Cooking Range and Heating Apparatus.

No. 21,608.

Patented Sept. 28, 1858.

Fig. 1.

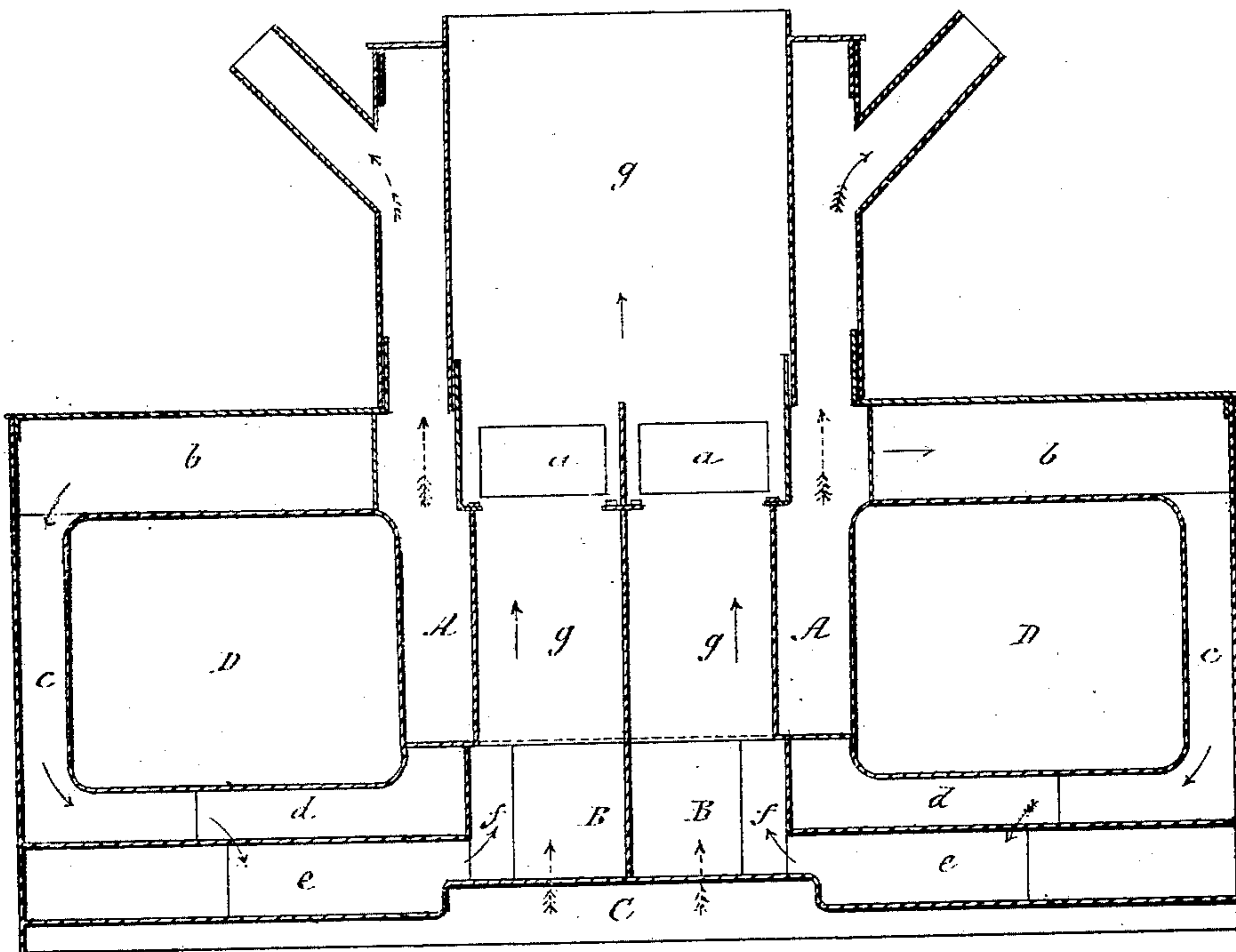
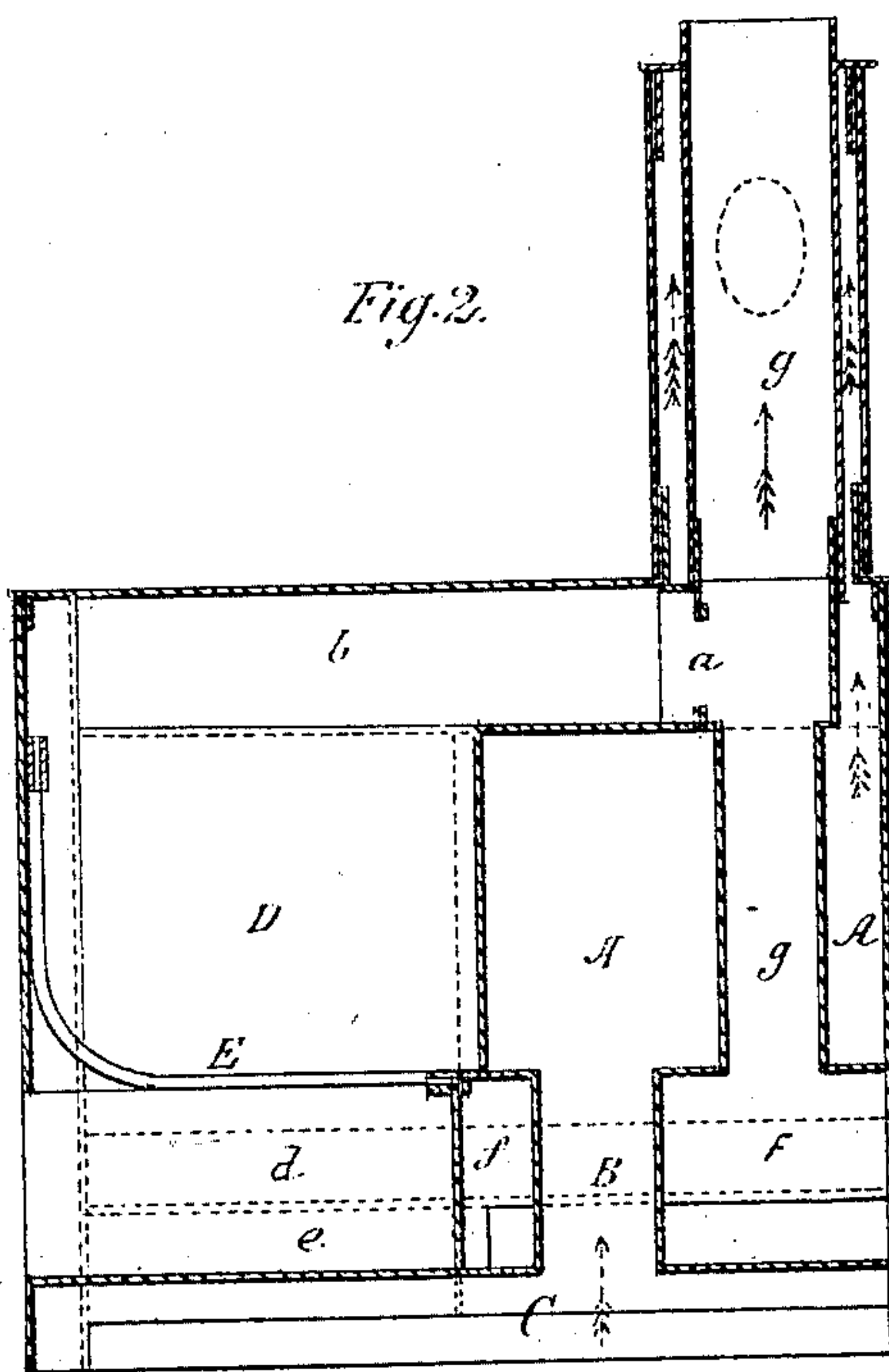


Fig. 2.



Witnesses
Geo. B. Goddard.
Leonard W. Goddard.

Inventor.
Charles Kane

UNITED STATES PATENT OFFICE.

C. KANE, OF NEW YORK, N. Y.

COMBINED COOKING-RANGE AND HEATING APPARATUS.

Specification of Letters Patent No. 21,608, dated September 28, 1858.

To all whom it may concern:

Be it known that I, CHARLES KANE, of the city, county, and State of New York, have invented a new and Improved Construction of Heating Apparatus in Connection with a Cooking-Range; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and the letters of reference marked thereon.

I construct my range with a fire grate in the center of the front; E: with ovens D, D, D, on each side of it. The direct draft *a, a, a*, from the fire box or grate is so arranged that it may be closed by dampers. The direct draft being closed the heat passes over the top *b, b, b*, of the ovens in the direction of the black arrows; thence down the outside of the ovens through flues *c, c, c*, between the ovens and the end walls of the range; thence through flues or spaces *d, d, d* under the bottom of the ovens; thence down and under the ovens in flues or spaces *e, e, e*, immediately under the last named flues or spaces to the back of the range and thence into the smoke pipe or chimney *g, g, g*.

The smoke pipe or chimney is divided into two flues, in order that either one of the ovens, may be used, when desired with the whole heat passing over and around it; as above described, by shutting off the flue in the chimney, or smoke pipe, which communicates with the oven on the other side, of the range to the one in use.

In the rear of the fire box or grate, and between the ovens I construct a hot air chamber A, A, A; through this chamber the smoke flues or pipe pass. Into this hot air chamber I introduce a pipe, or pipes B, B connecting it with a chamber extending under the whole of the range; this lower chamber C, C, has for its top, the bottom plates of the lower flues described as passing under the ovens to the smoke flues; and also the plate forming the bottom of the ash pit under the fire box. Into this last mentioned chamber I introduce cold air from out of doors either by a trunk opening into the side or bottom of this chamber or in any other convenient manner. The cold air entering this chamber, when the range is in use, is partially heated by the radiation from the top of this chamber, and passes

up through the pipe or pipes, into the chamber between the ovens at the rear of the fire box; it is there heated by the radiation from the backs of the fire box, or water back, when one is used; from the sides of the ovens; and also from the smoke flues or pipe. The air thus heated I conduct to any part of the building, where it is wanted. I find a convenient way to do this is to carry up hot air flues, around and about the smoke pipe, and thence branching off wherever required. The red arrows denote the course of the heated air.

The heat from the combustion of fuel in the above described arrangement or combination is forced to travel over a large and extended surface; is all retained and used with effect and does not pass off wasted into the chimney.

The economy of providing a chamber for heating air as above described is evident, saving to the consumer much heat before wasted, and enabling him to use the same to good purpose and also to dispense with an expensive furnace, and likewise saving much fuel. By this construction, I also accomplish the useful and desirable object of introducing pure air from out of doors, to be heated, and using the same when heated, entirely free from any odors or gases generated, during the culinary operations upon the range.

The ovens, from being entirely surrounded by heated air, are more steadily and equably heated than any now in use.

I construct the top of my range flat and pierced with the usual holes for the cooking utensils.

What I claim and desire to secure by Letters Patent is,—

The arrangement of an air chamber C, under the whole range with a flue, or flues B, B, connecting it with the hot air chamber A, together with the double flues *d, d, d, d, e, e, e, e*, in double tiers between the air chamber C, and the bottom of the ovens D, D, through, and in which last mentioned flues the combustible gases, and smoke circulate before reaching the smoke flues *g, g*, the whole constructed, and operating substantially as and for the purpose above set forth.

CHARLES KANE.

Witnesses:

GEO. C. GODDARD,
LEONARD W. GODDARD.