

B. SHEPARD.

Cook Stove.

No. 3,242.

Patented Sept. 1, 1843.

Fig: 1.

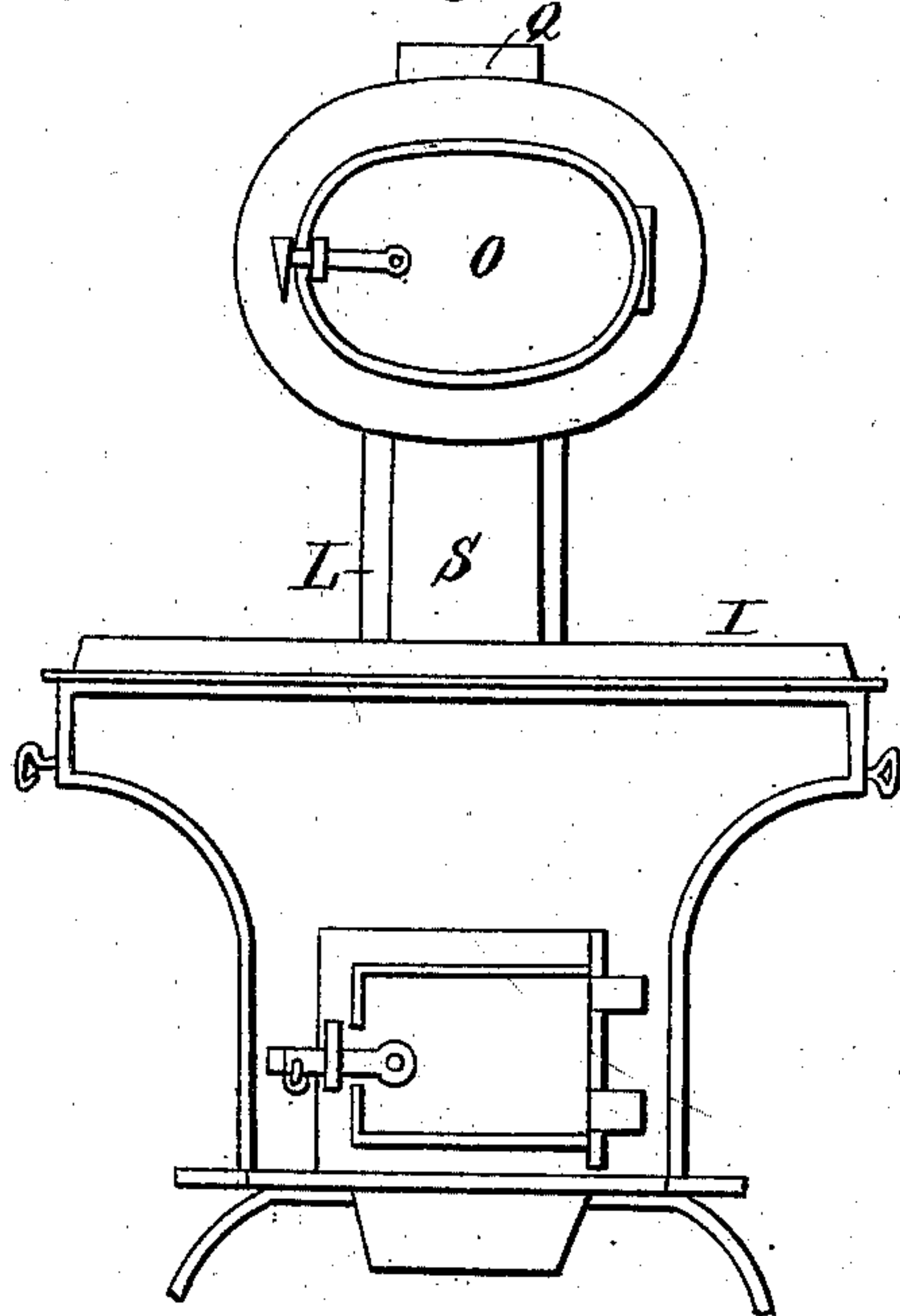


Fig: 2.

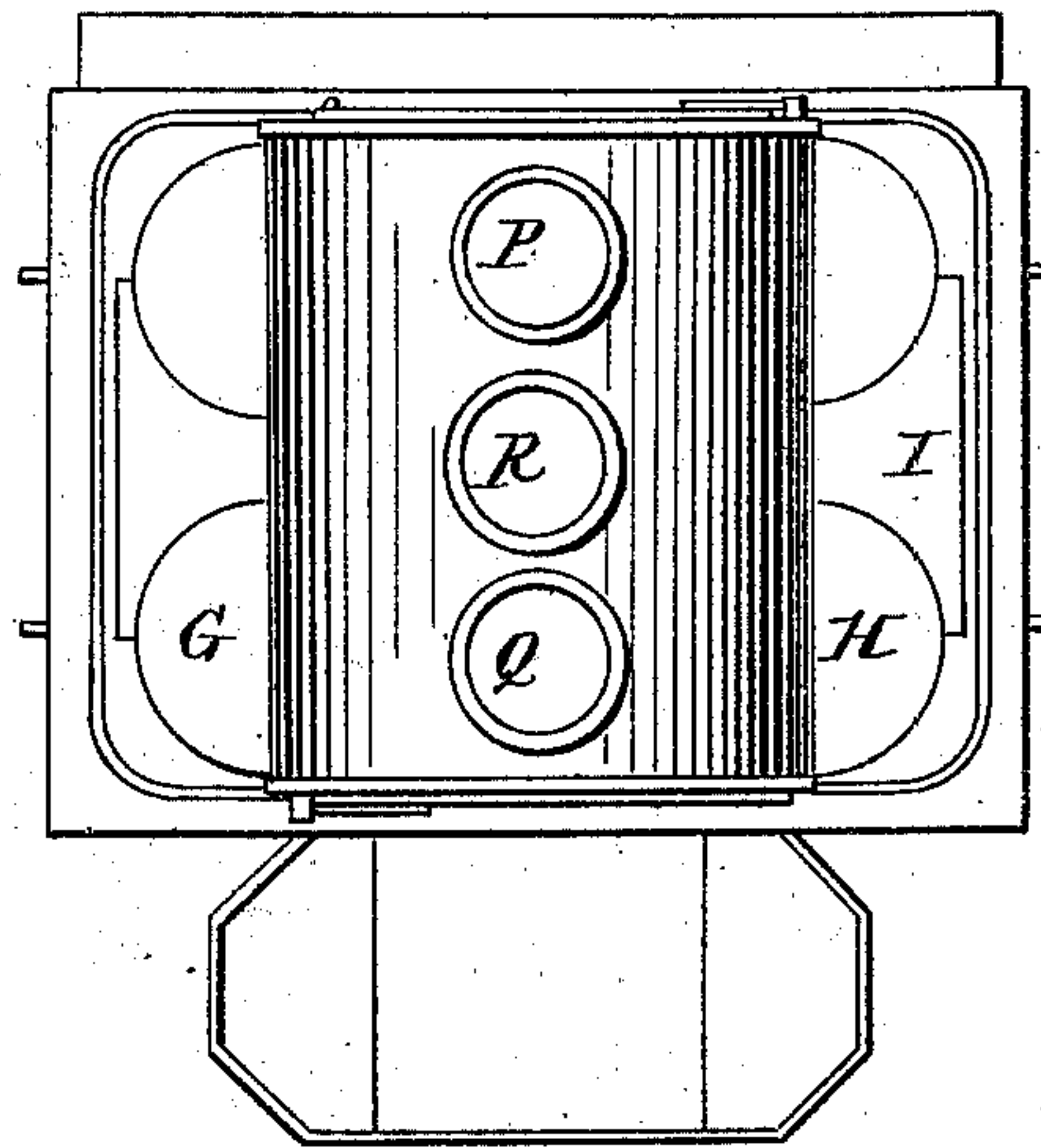


Fig: 4.
Section

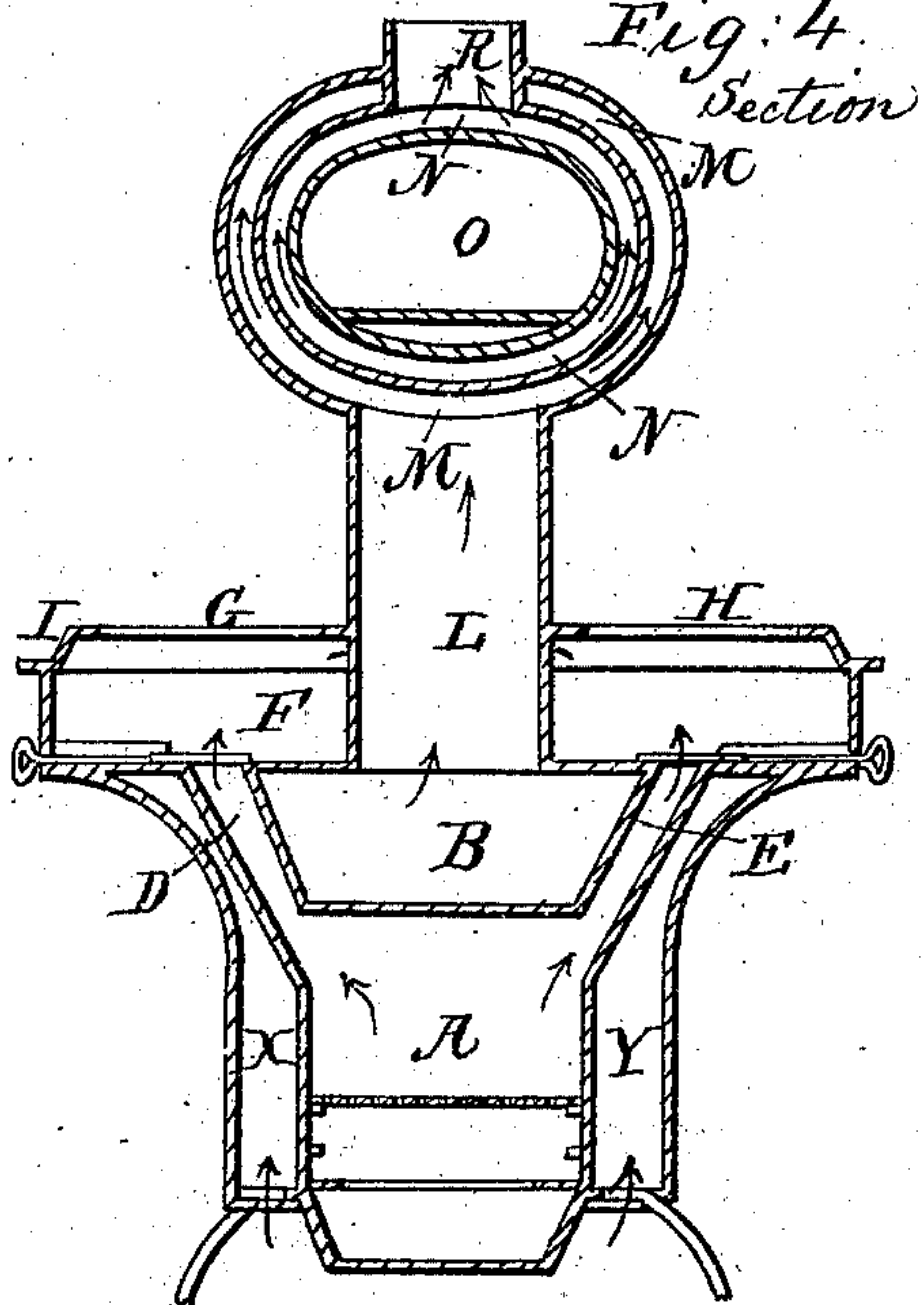
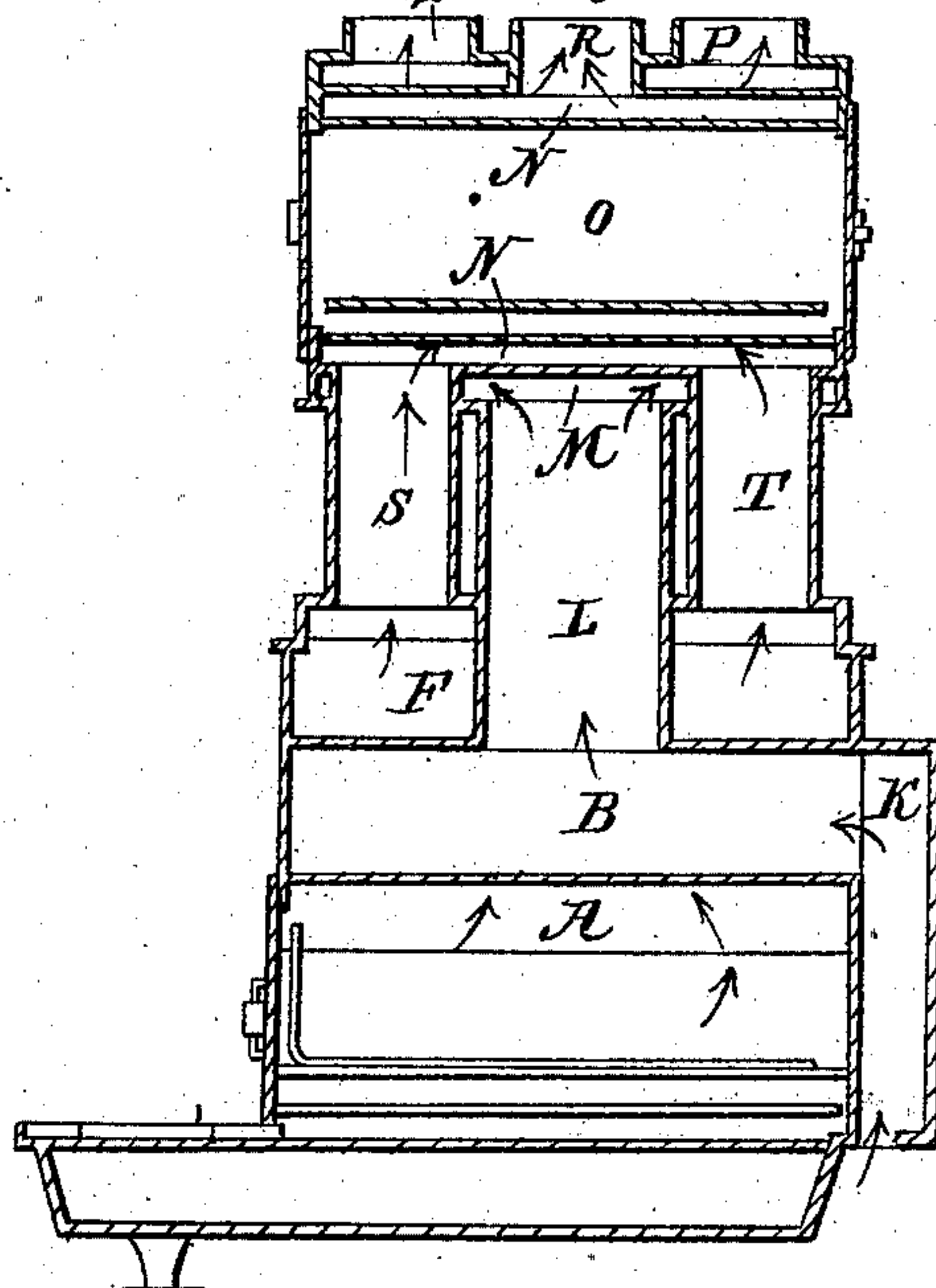


Fig: 3. Section



UNITED STATES PATENT OFFICE.

BENJAMIN SHEPARD, OF BOSTON, MASSACHUSETTS.

COOKING AND AIR-HEATING STOVE.

Specification of Letters Patent No. 3,242, dated September 1, 1843.

To all whom it may concern:

Be it known that I, BENJAMIN SHEPARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hot-Air Stoves for Warming Buildings and for Performing the Various Operations of Cooking at the Same Time, and that the following description, taken in connection with the accompanying drawings thereof, constitutes a full and exact specification of my said invention.

Figure 1 of the drawings above mentioned represents a front elevation of my stove. Fig. 2, is a top view thereof. Fig. 3 is a vertical, central and longitudinal section, while Fig. 4, is a transverse vertical and central section of it.

My improvements consist in a certain peculiar arrangement of the chamber in which cold air is introduced to be warmed and from thence conducted to different apartments; and also in the arrangement of the air and smoke flues surrounding the oven; the stove being in its character similar to that for which Letters Patent were granted to me on the thirtieth day of May of the year eighteen hundred and forty-two.

A, Figs. 3, 4, represents the fire place or fuel chamber directly over which a long hot air chamber B is placed, the flues D, E for the escape of smoke from the fire being carried upwardly and on the sides of the hot air chamber as seen in Fig. 4. These flues unite or enter into a space or boiling chamber F, situated directly over the hot air chamber, the kettles G, H, or vessels for boiling being placed over the upper part of the flues D, E, and within suitable orifices of the top plate I of the stove. The hot air chamber receives its supply of cold air through a passage K situated within the rear of it, also through side passages X, Y, which extend up the sides of the smoke flues D, E, and open at their ends into the passage K, the whole communicating either with the air of the room in which the stove is, or with the external atmosphere. The air thus received into the chamber B passes from thence through a central pipe L leading from the top of the said chamber into the lower part of a flue space M which surrounds a smoke space N encircling or being carried around the oven O, as seen in Figs.

3, 4. From its point of entrance into the space M the hot air radiates or branches off in diagonal directions in its course upward or around the smoke space, and is discharged into the apartments to be warmed, through the two exterior pipes P, Q, which enter the top of the air space M, and which are situated on opposite sides of a central pipe R which passes through the air space and opens into the smoke space N.

Two pipes S, T connecting the space F with the flue space N immediately around the oven, convey the smoke from the said space F and discharge it into the space N at points on opposite sides of the air pipe L. From these points the smoke courses upward in diagonal directions through the space N and escapes through one central pipe R before mentioned. Thus it will be seen that the paths of the smoke and hot air, are, as it were, crossing by each other, the particular disposition of them causing the air proceeding from the chamber B and also that in the oven to be more perfectly and equally heated than the same is in the arrangement of the said flues or passages as described and represented in the specification of my Letters Patent, hereinbefore mentioned.

The hot air chamber being situated directly over the fire and beneath the boiling chamber, and having the flues which conduct the smoke from the fire extending around its sides and top, is thereby brought into such complete contact with the flame and heat, that the air passing into the said chamber, impinging against the hot surfaces of its sides, readily abstracts a very great quantity of heat therefrom. This disposition of the chamber I consider a great improvement over that mentioned in my former patent.

Having thus set forth my invention I shall claim:

1. The combination with the furnace or fire place and its flues D, E, F, of the side passages X, Y, the end passage K and the air chamber extending over the furnace, the whole being arranged as set forth.

2. Also placing the hot air chamber B (which is combined with the flue space M,) directly between a fire place or grate, a boiling chamber or flue space over the said hot air chamber, and flues D, E, passing

in direct contact with the sides of the air chamber, the whole being arranged in the manner and for the purposes as specified.

3. Also the peculiar arrangement of the
5 entrance and exit air and smoke pipes of the spaces surrounding the oven by which arrangement the paths of the air and smoke are caused to pass by or cross each other in the manner and for the object above speci-
10 fied, viz—placing the entrance air pipe L, between the entrance smoke pipes S, T, in connection with the peculiar method of ar-

ranging the discharging air pipes P, Q on each side of the discharging smoke pipe R, the whole being substantially as set forth. 15

In testimony that the above is a correct specification of my said invention I have hereto set my signature this twentieth day of June, A. D. 1843.

BENJAMIN SHEPARD.

Witnesses:

R. H. EDDY,
DAVID A. GRANGER.