

R. WILSON.
Cooking Stove.

2 Sheets—Sheet 1.

No. 3,919.

Patented Feb. 20, 1845.

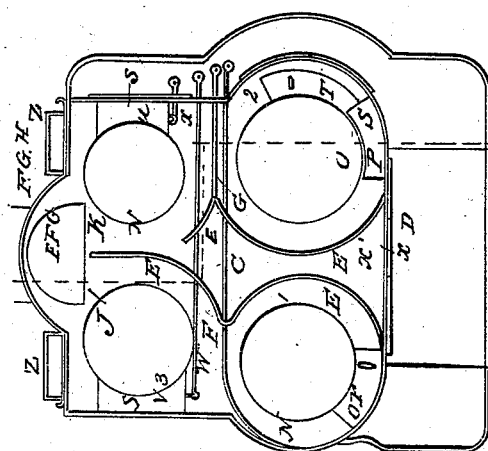


Fig. 2.

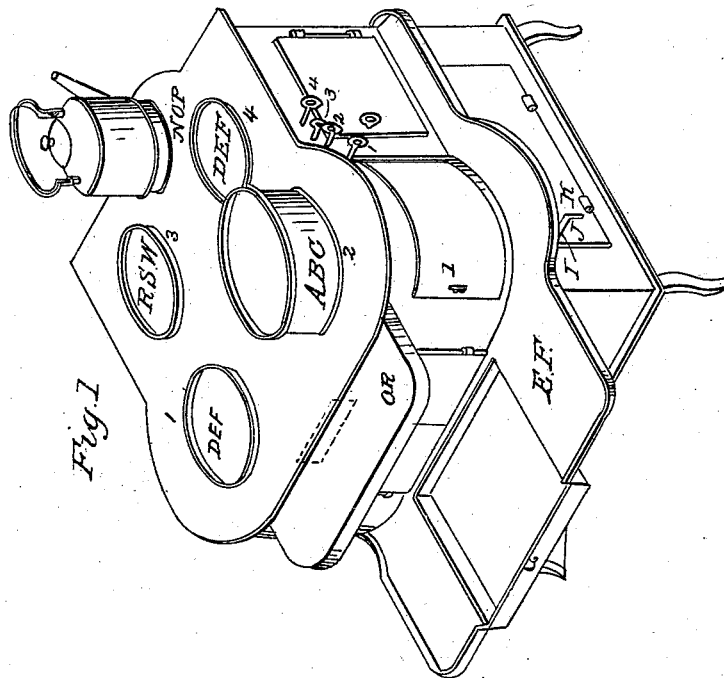
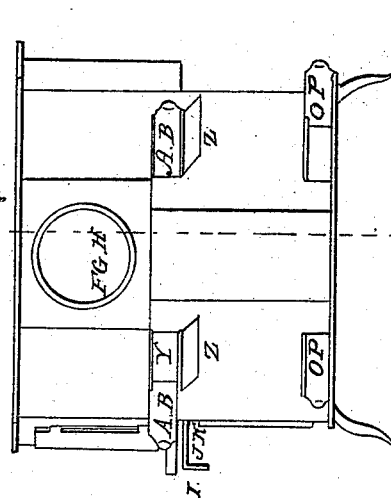


Fig. 1

Line of Section 4-5 shown in fig. 4

Fig. 3

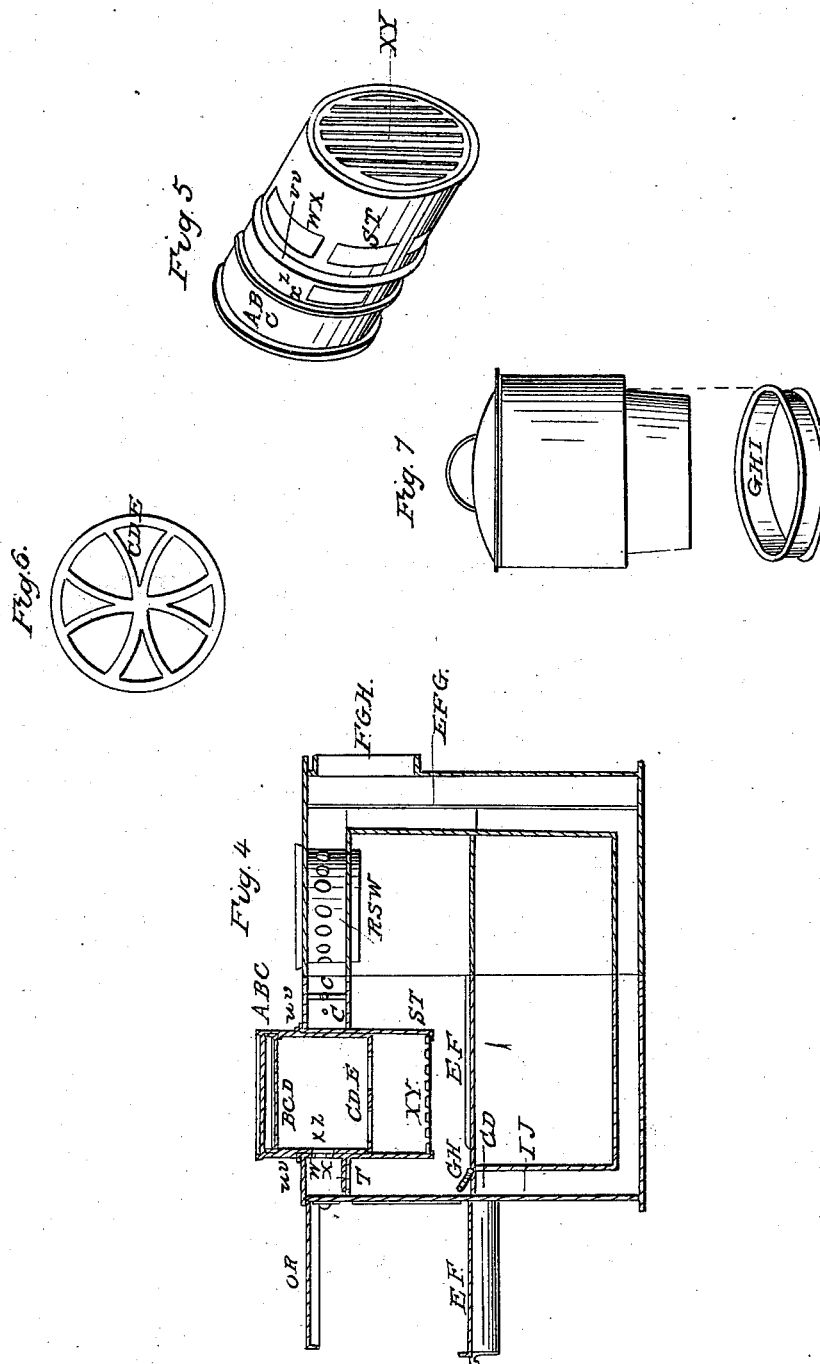


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UNITED STATES PATENT OFFICE.

ROBERT WILSON, OF WILLIAMSPORT, PENNSYLVANIA.

COOKING-STOVE.

Specification of Letters Patent No. 3,919, dated February 20, 1845.

To all whom it may concern:

Be it known that I, ROBERT WILSON, of Williamsport, county of Lycoming, and State of Pennsylvania, have invented new and useful Improvements in Cooking-Stoves for Using Wood or Coal; and I do hereby declare that the following is a full and correct description of the same.

The nature of my invention consists, 1st, in the construction of a set of flues and dampers belonging thereto between two horizontal plates and placing the same over the fire chamber; 2nd, in the construction of the boiler aperture in the lower plate of the two above named; 3rd, in constructing the draft aperture through the lower plate above named; 4th, in the points I admit the fresh air to the fire chamber; 5th, in the points at which I admit the flame and heated air to the bottom of the oven; 6th, in constructing the coal cylinder to suit the same draft as that to the boilers; 7th, the arrangement to put on the pipe at two different places.

I construct my stove with one or more boiler apertures one pair double doors in front; and two side doors to the large size stove and all the other appendages thereto belonging. To use all of my improvements, I construct my stove with the oven under the fire chamber, but the same principle of draft may be used to the boilers of stoves whose ovens are differently located.

The pattern or general view that I prefer is that represented at Figure 1. In order to fully concentrate the draft to either boiler exclusively, or to each and all divided I make use of a plate C horizontally about four inches below the top plate D. (see Fig. 4,) to rest on a flanch projecting from the end and side plates. I construct boiler apertures in the plate C to correspond with those in the upper plate D except that they ought to be about one half inch less in order that the bottom of the boilers may have a slope and yet fit them neatly, and at about two inches from the front boiler apertures I place a set of circular partition plates E set vertically between plates C and D and curving around between the two front boiler apertures so as to form one side of the circular flues N, around each kettle in the boiler apertures (the remainder of the flues being formed by the side plates). The flues

N around the apertures open into the back flues at the back thereof, said openings being stopped by the slide dampers F and G, thence the flue passes around the back apertures at N' and out at the spaces J and K into the pipe. In order to admit the flame and heated air into the circular flues N, I make apertures O to each, through the horizontal plate C at the front and sides being at the greatest distance from the center of the fire chamber that the arrangement will admit of thereby causing the fire to draw from the center to each kettle. The back apertures O situated at the sides of the stove opposite the boiler apertures, Nos. 3 and 4 are formed by taking an oblong notch out of plate C, at those places about 8 inches long and 4 or 5 inches wide have damper plates U V to cover them and are made to open and shut by means of rods W and X with which they are connected, thereby admitting or cutting off the draft into the flues between the plates C and D, at pleasure, all the damper rods to the rising draft pass out the side of the stove between and over the two side doors. I admit the fresh air into the fire chamber by means of one or more apertures Y and Y at the back part of the fire chamber which are provided with a hearth (Z Z) (these are shown clearly at Fig. 3 in the back plate of the stove). I admit the flame and heated air to the bottom of the oven through an aperture C D Fig. 4 about 3 inches wide and thirty inches long in the hearth or fire plate, E, F, in the front of the fire chamber immediately behind the front or double doors which aperture is provided with a damper plate G, H, which reaches across the fire chamber, this damper plate G H is hung at the edge I J on a rod which passes out the side under the fire plate or hearth at the right hand side with the end J J K (see Figs. 1 to 3) turned down. This damper plate answers two purposes to wit when turned up, it serves to keep the wood and coal from falling down the draft aperture as well as to cover it up when turned down. In order to clear out the soot and ashes that collect under the oven I make two apertures O P situated at the bottom of the back end, at each side of the pipe chamber, 5 inches long and two inches high, with tight slide doors. In order to draw off all the steam and smoke arising at the time any

thing is broiling or roasting in front of the double doors I make use of a draft aperture α which is cut through the front plate just above the double doors, 2 inches wide and four inches long which passes into the flue α' leading to pipe L independent of and between the circular flues; over this aperture I place a sheet or cast iron cover as represented at Q R with a rim turned down which forms a kind of fire place in the hearth of the stove and the draft aperture spoken of is the chimney to the same. For burning coal I make use of a cast cylinder S T (see Figs. 4 and 5) constructed for that purpose. It rests on the top plate D by a flange on the cylinder when let down through the boiler aperture and rests on a flange U V coming in contact with the plate D the lower end passes through within about two or three inches of the hearth or fire plate E F. The grate X Y for the bottom of the cylinder is to be loose and rests on a flanch in order that it may be replaced. There is a draft aperture (W X Fig. 4) in the side of the cylinder commencing 2 inches below the flange U V and extends down to plate C.

To heat flat irons with coal I make use of a sheet iron pan A B C that fits into cylinder S T with a draft aperture X Z in the side and opposite to aperture W X in the cylinder when in place. (The pan in Fig. 5 is shown drawn out of cylinder S T.) This pan is made with a loose grate or bottom B C D (see Fig. 4) in it resting on flanges near the top. For using coal a cast iron grate (C D E Figs. 4 and 5) is placed in the pan on which the flat irons are put.

The horizontal slide plate T see Figs. 2 and 4 having been slid over the aperture O in plate C a draft is formed through the cylinder and causes the heat and flame to rise into the pan among the irons and out at the draft aperture X Z in the pan and the draft aperture W X in the cylinder. The pan must have a lid on it when used; for heating flat irons with wood a sheet iron bottom B C D is placed in the pan and the pan put in the aperture in plate D and passes through plate C, the slide plate T on the aperture O is then removed.

To heat water when the irons are heating with coal place the boiler Fig. 1 in the top of the pan in the lugs or flanch made for that purpose about two inches from the top. This boiler must be provided with a sheet iron ring G, H, I, which can be slid on or off at pleasure, of such a height as will allow the boiler (when the pan A B C is not used) to pass into the cylinder just to the top of the draft aperture W X thereby preventing the aperture from being closed by the boiler going in too far. This ring G H, I must have a flanch turned out at the lower end for the purpose of closing up the aperture in plate D. (Note.—When the pan is

used with wood, the aperture in the side should be closed; there may be a lip left on one part of the lid which when turned in the proper direction will close it up and prevent the heat drawing out of the pan into the flues.)

In order to bake griddle cakes or frying things over the boiler apertures with the least possible quantity of wood or coal I make use of a ring R S W to fit and pass through the boiler aperture with a row of round or other apertures close to the under side of the top plate D then slide the damper over the draft aperture O. The griddle or frying pan is then placed over the aperture in the ring R S W and the draft is caused to pass up to the bottom of the griddle or pan to get out the row of apertures in the ring R S W. The two griddle lids D E F to fit the boiler apertures are to answer two purposes to wit: to close the top of the aperture and to be a substitute for a kettle to fill the lower aperture in plate C by means of a flanch that extends down to it in order that the flue may be formed when there is no kettle in it thereby causing the draft to pass out at the draft apertures made for that purpose I have an arrangement by which I can put on the pipe at two different places, thereby giving an opportunity to increase the number of boiler apertures and not alter the size of the patterns; that is I can make a three boiler and four boiler stove with one set of patterns and so on from 4 to 5 (as shown in the drawings) increasing to any size. This is effected by having an enlargement E F G at the back of the stove just at the top and an aperture F G H formed on the enlarged part behind to receive the pipe. To increase the number of boiler holes the pipe is taken off the top and placed on the aperture formed in the enlargement E F G. When a kettle belonging to the other apertures is used on the pipe aperture there must be a sheet iron ring N O P placed on the bottom to prevent it from going through too far and choke the flue beneath it. The boiler apertures should be numbered by placing a figure at a convenient place to be seen and a corresponding one at each damper rod belonging to the same thereby telling with a moments reflection what rod to move to direct the draft to, or from the desired boiler.

What I claim and desire to secure by Letters Patent as my invention is—

1. The combination of a set of flues and dampers as above described between two horizontal plates for the purpose of drawing the flame and heated air around and about the boilers or kettles as herein set forth, by which I admit the flame and heated air through the lower horizontal plate C into the flues N above named at one side or portion of the boiler apertures thereby

obliging the draft first to cross the bottom of the boilers or kettles and then through the apertures O P Q R in the horizontal plate C thence around the boilers or kettles
5 through the flues to the pipe.

2. I claim the combination and arrangement of the cylinder S, T, for burning coal

with the plates C and D, in the manner and for the purpose above described.

ROBERT WILSON.

Witnesses:

E. COVERT,
A. I. LITTLE.