G. H. KREUNEN.

COMBINED STOVE AND WATER HEATER.

APPLICATION FILED MAR. 4, 1911.

1,014,760. Patented Jan. 16, 1912.

Fig. 1.

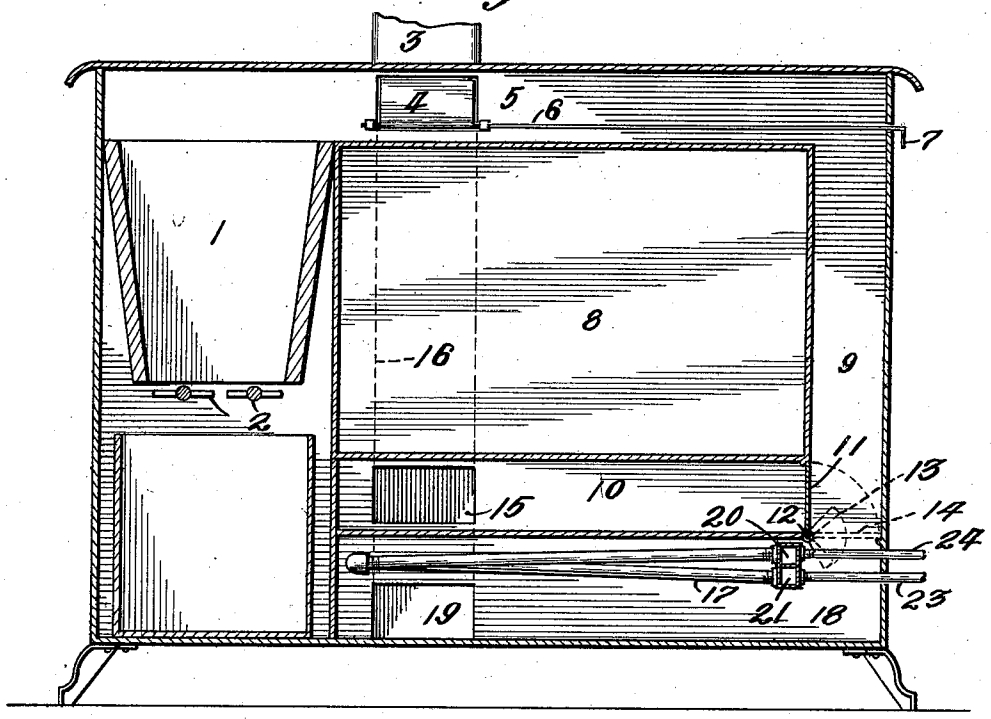
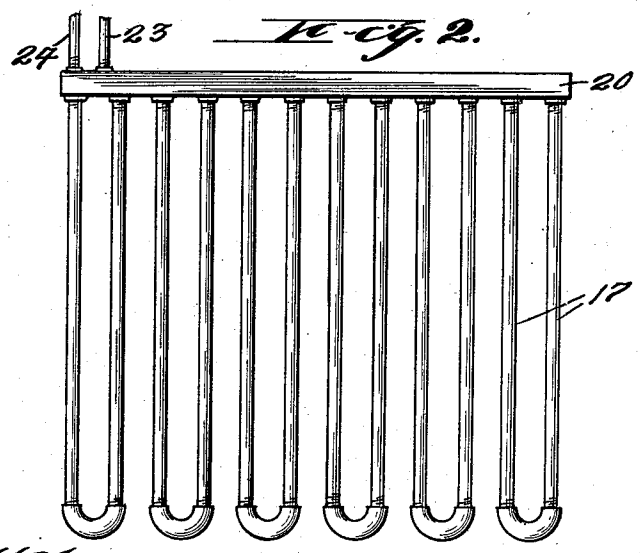


Fig. 2.



Witnesses

R. L. Farrington Jr.

Chas. C. Van Riper

Inventor:

Garret Henry Kreunen

by Edwin A. Hunter

Atty's.

UNITED STATES PATENT OFFICE.

GARRET HENRY KREUNEN, OF CEDAR GROVE, WISCONSIN.

COMBINED STOVE AND WATER-HEATER.

1,014,760. Specification of Letters Patent. Patented Jan. 16, 1912.

Application filed March 4, 1911. Serial No. 612,191.

To all whom it may concern:

Be it known that I, GARRET HENRY KREUNEN, a citizen of the United States, residing in Cedar Grove, county of Sheboygan, and State of Wisconsin, have invented new and useful Improvements in Combined Stoves and Water-Heaters, of which the following is a specification.

My invention relates to improvements in stoves and water heating attachments therefor.

One of the objects of my invention is to provide a stove by which the water heating coils may be heated without passing the products of combustion in direct contact with the bottom of the oven and by which the oven may, if desired, be heated without passing such products of combustion beneath the heating coils.

It is a well known fact that when the water in a heating system is heated excessively, or past the boiling point, the water pipes of the building are liable to be burst by excessive pressure caused by such heat. Also that when the water is thus heated, it is caused to boil and make an unpleasant noise, which is also objectionable. It therefore follows that when the heating coils are located directly beneath the oven, they are subjected to an intense heat, while baking. To avoid this objectionable feature, I have provided a special chamber for the heating coils, which is located directly beneath the horizontal heat flue located beneath the oven through which the heat and products of combustion pass to the vertical outlet flue, and I have provided a damper by which the heat and products of combustion are controlled so that they may be led either directly beneath the oven, when desirous to bake, or may be excluded from the space beneath the oven and caused to pass through the chamber in which the heating coils are located, whereby the oven may, as stated, be heated without heating the water, or whereby the heating coils may be heated without unduly heating the oven.

My invention is further explained by reference to the accompanying drawings, in which—

Figure 1 represents a longitudinal vertical section of a stove provided with my heating coils, and Fig. 2 represents a plan view of the heating coils shown in Fig. 1.

Like parts are identified by the same reference numerals throughout both views.

1 represents the combustion chamber or fuel box of the stove and 2 is a grate of ordinary construction.

3 represents the lower end of the smoke pipe.

4 is a damper for controlling communication between the space 5 above the oven and the smoke pipe.

6 is a rod for operating the damper.

7 is a handle by which the rod 6 is turned.

8 represents the oven.

9 is a vertical duct and 10 a horizontal duct.

11 is a heat controlling damper, which is operated by the rod 12, the damper operating handle of which is indicated by the dotted lines 13.

When desirous to heat the oven, the damper 11 is thrown back to the position indicated by dotted lines 14, when the heated products of combustion from the combustion chamber pass through the horizontal duct 5, thence down through the vertical duct 9, thence to the horizontal duct 10, thence through the opening 15, thence up through the vertical duct 16, indicated by dotted lines, and from thence through the smoke pipe 3 to the chimney. When, however, it is desirous to heat the water coils 17 without heating the oven, the damper 11 is closed as shown in Fig. 1, when the smoke, heat and other products of combustion pass down through the duct 9, thence through the chamber 18 beneath the heating coils 17 to the opening 19, thence up through the duct 16 to the smoke pipe 3, and from thence to the chimney. Thus it will be obvious that by opening and closing the damper 11, the course of the smoke, heat and other products of combustion may be controlled, whereby water in the coils may be heated, as stated, without heating the oven, and whereby the oven may be heated without heating the water coils.

The water heater comprises the upper horizontal chamber 20, the lower horizontal chamber 21, and a plurality of U-shaped coils 17, one end of said coils 17 being connected with the lower chamber 21 and the opposite end with the upper chamber 20. The cold water is led to the lower chamber 21 through the duct 23, while the hot water escapes from the upper chamber 20 through the duct 24. Thus it is obvious that as the cold water enters through the lower member of the heating coil, it becomes heated and

passes back through the upper member to the chamber 20 and from thence to the place of discharge through the duct 24.

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

A stove comprising a combustion chamber, an oven, a horizontal passage located above the oven and leading from the combustion chamber to a vertical passage in rear of the oven, a vertical passage located between the rear wall of the oven and the rear wall of the stove and adapted to communicate with two horizontal passages beneath the oven, one of said horizontal passages being located directly beneath the oven and the additional horizontal passage being located below said last named horizontal passage, a vertical side duct leading from both of said last named passages beneath the oven to a smoke pipe above the oven, a smoke pipe located above the oven, heating coils located in said additional horizontal passage, a damper adapted to control the flow of the products of combustion from said combustion chamber to either one of said last named horizontal passages beneath the oven, whereby the oven may be heated without unduly heating the water in the heating coils or the water in the heating coils may be heated without unduly heating the oven.

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

GARRET HENRY KREUNEN.

Witnesses:
ELLA HINSHEERE,
ARE J. BERENSCHOT.