

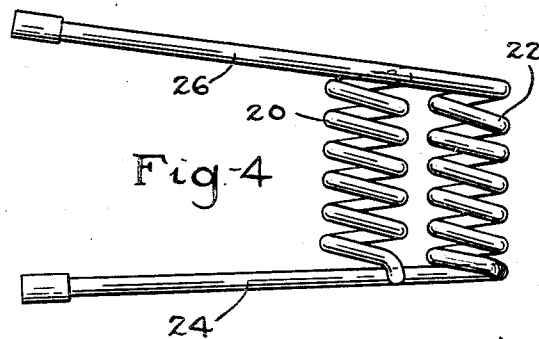
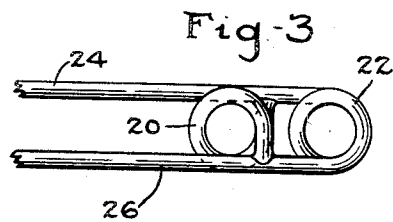
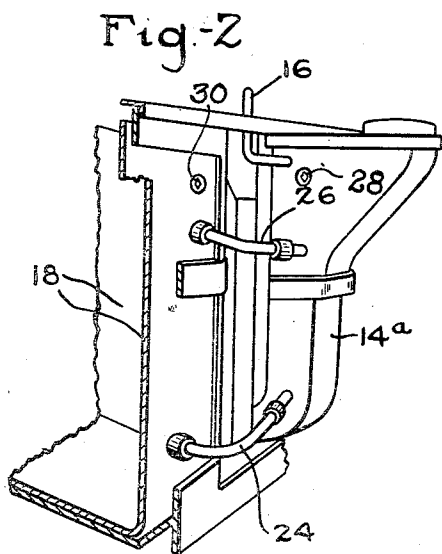
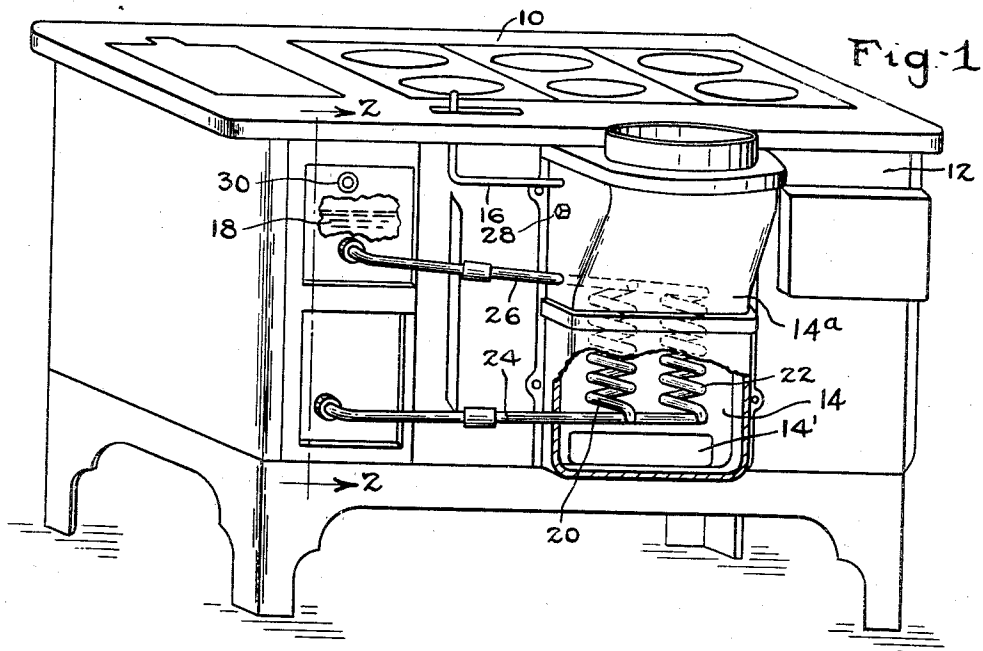
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2,178,002

WATER HEATER FOR RANGES

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2,178,002

WATER HEATER FOR RANGES

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4 Claims. (Cl. 126—34)

My invention relates to water heaters for ranges. An object of the invention is to provide convenient and economical means for obtaining hot water from ranges which supply heat produced from any suitable fuel such as coal, coke, oil and wood. In carrying out the principle of my invention, I provide a reservoir for water, a tubular coil structure in the smoke flue of the range, a tube connecting the lower portion of the reservoir with one end of the coil structure, and a tube connecting the other end of the coil structure with the reservoir at a point above the first tube.

The novel features which I believe to be characteristic of my invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation, together with additional objects and advantages thereof, will be best understood from the following description of a specific embodiment when read in connection with the accompanying drawing in which,

Fig. 1 is a view in perspective and partly broken away showing the rear side of a range with my water heater applied therein.

Fig. 2 is a fragmentary view in section on the line 2—2 of Fig. 1.

Fig. 3 is a top plan view of the coil structure and its connecting tubes.

Fig. 4 is a side elevational view of the coil structure and its connecting tubes.

Referring to the construction shown in the drawing which illustrates the principle of operation of my device, the numeral 10 designates in general a range which is provided with a fire box 12, a smoke flue 14 and a damper rod 16 which may be operated whenever desired to check the draft going through the smoke flue. A reservoir 18 for water is provided in the end of the range opposite the fire box. A coil structure is placed in the smoke flue 14. In the form shown, the coil structure is vertical and compound consisting of two coils 20 and 22. It will be understood as a matter of course that any desired number of coils may be used. The lower end of the coil structure and the lower portion of the reservoir are connected by a tube 24. The upper end of the coil structure is connected with the reservoir by a tube 26 at a point above the tube 24. The tube 26 preferably inclines upwardly toward the reservoir as shown. In order that the tube 26 may be connected with the reservoir at a point higher up than that shown, the smoke flue is shown provided with a plug 28 and the reservoir with a plug 30. Upon removal of these plugs, the upper

tube may be passed through the openings thus provided. It is important to note that the smoke flue 14 is extended through a smoke outlet box 14a applied to one side of the stove or range; that the lower portion of the box 14a is contracted or made narrow in respect to the width of the box, and that the flames or hot gases from the stove enter the bottom of the box through an intake port 14' that is extended nearly or quite the full width of the box and opens into the box immediately below and longitudinally of the lower pipe 24. Also, it will be noted that the coils 20 and 22 that connect the pipes 24 and 26 are laterally spaced in a vertical plane that includes those portions of the pipes 24 and 26 that are within the box. This arrangement positions the coils so that the flames or hot gases will be directed upwardly not only against the inner ends of the pipes 24 and 26 but against and around and between the several coils as the gases move upwardly in the contracted portion of the outlet box. The coil 22 is formed integral with and by the same pipe or tube that forms the inner ends of the pipes 24 and 26, while the coil 20 is independently formed and independently connected to the pipes 24 and 26.

The operation and advantages of my invention will be readily understood in connection with the foregoing description and the accompanying drawing. Referring particularly to Fig. 1, it is apparent that the water in the coil structure is heated by waste heat in the smoke flue and passes through the tube 26 into the upper portion of the reservoir, while the cooler water in the lower portion of the reservoir flows through the tube 24 into the coil structure to be heated thus causing a continuous circulation of the water. Placing the coil structure in the smoke flue of the range provides a convenient and economical means for heating the water since heat which would otherwise be wasted is utilized and effective heat is not taken from the range. Although I have shown and described a specific embodiment of my invention, I am fully aware that other embodiments are possible. My invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the following claims.

I claim:

1. In a water heater for heating apparatus having a smoke flue, the combination of a reservoir for water, a vertical tubular coil structure in said smoke flue, a tube connecting the lower portion of said reservoir with the lower end of said coil structure, a tube connecting the upper end

of said coil structure with said reservoir at a position above said first tube, and removable plugs at different levels in the walls of said reservoir and smoke flue whereby the place of attachment of the ends of the upper tube may be varied for the purpose of heating the water in said reservoir to the best advantage.

2. A stove structure of the kind described involving a hot water tank and provided at one side with a box-like smoke outlet having an intake port at its lower portion, upper and lower pipes extended to and from said hot water tank and into said smoke outlet box, said pipes being substantially in the same vertical plane and the lower pipe being extended above and longitudinally of said intake port, and a plurality of coils connecting said upper and lower pipes and spaced laterally in said smoke outlet box in the vertical plane including said upper and lower pipes.

3. A stove structure of the kind described involving a hot water tank and provided at one side with a box-like smoke outlet having an intake port at its lower portion, upper and lower pipes extended to and from said hot water tank and into said smoke outlet box, said pipes being

substantially in the same vertical plane and the lower pipe being extended above and longitudinally of said intake port, and a plurality of coils connecting said upper and lower pipes and spaced laterally in said smoke outlet box in the vertical plane including said upper and lower pipes, one of the said coils being formed integral with and as a continuation of the inner ends of the upper and lower pipes, and the other coil being independently formed and independently connected to the said upper and lower pipes.

4. A stove structure of the kind described involving a hot water tank and provided at one side with a box-like smoke outlet having an intake port at its lower portion, upper and lower pipes extended to and from said hot water tank and into said smoke outlet box, said pipes being substantially in the same vertical plane and the lower pipe being extended in the vicinity of and longitudinally of said intake port, and a plurality of coils connecting said upper and lower pipes and spaced laterally in said smoke outlet box in the vertical plane including said upper and lower pipes.

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