

No. 661,360.

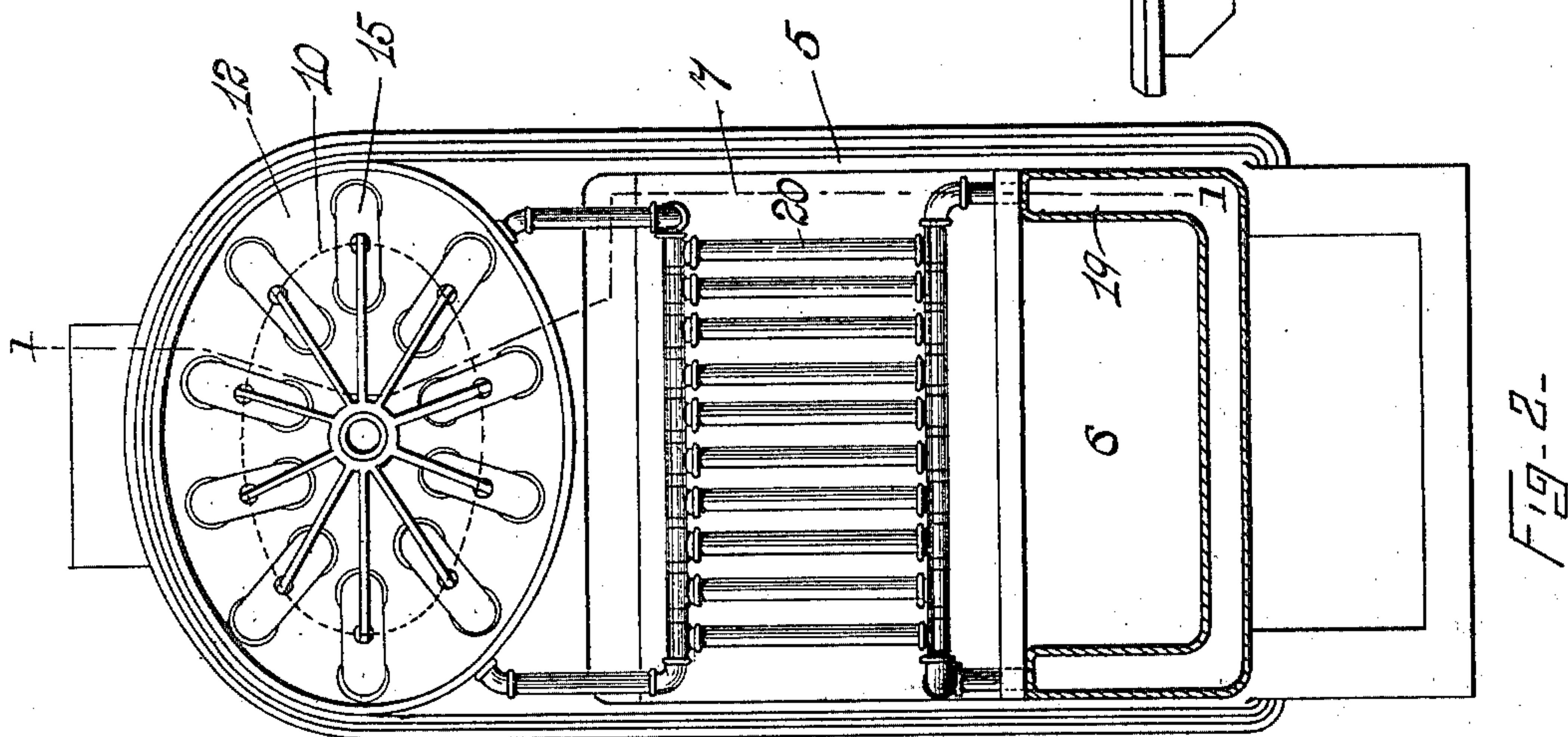
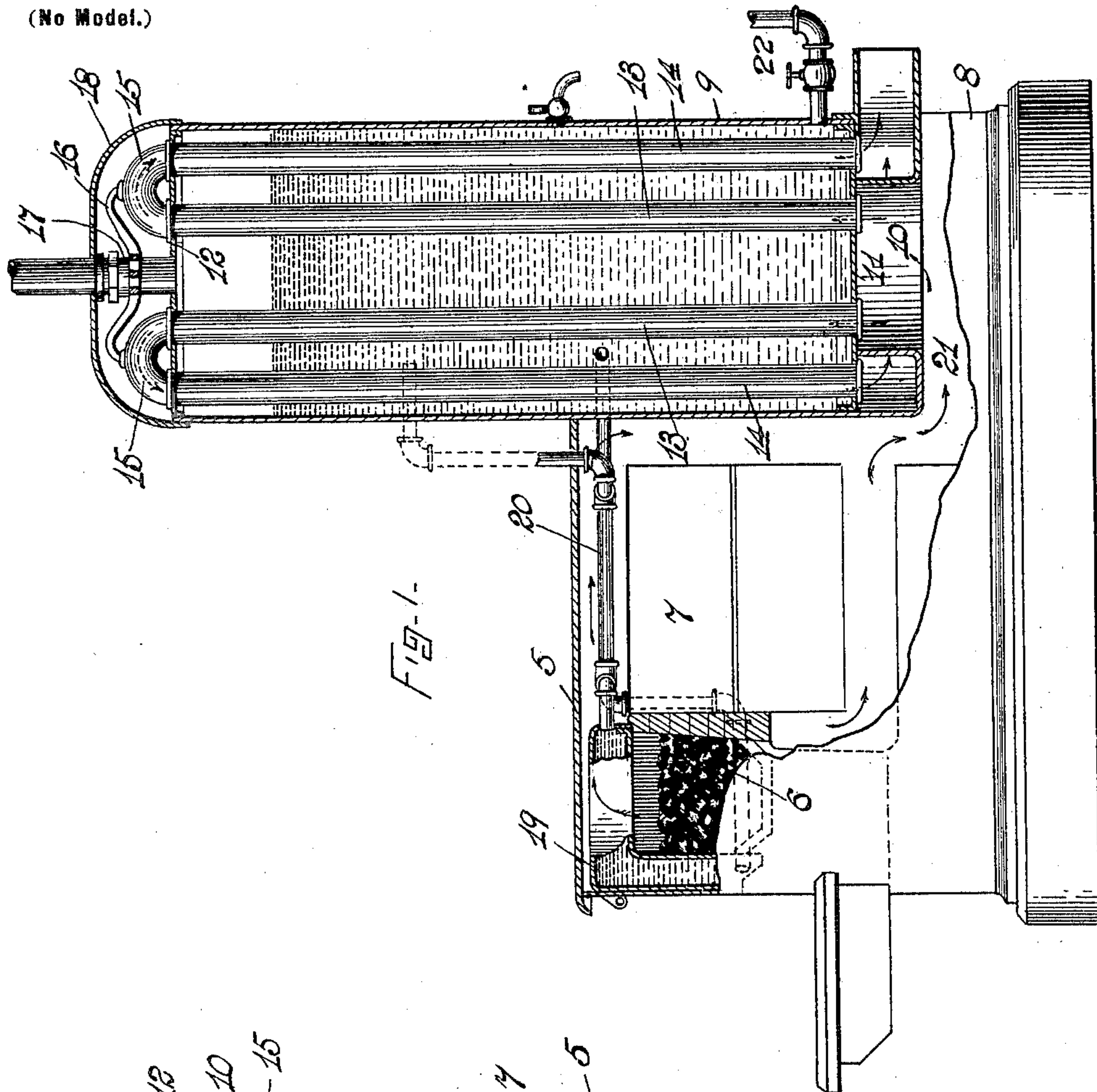
W. W. J. TOUSSAINT.

Patented Nov. 6, 1900.

STOVE.

(Application filed July 23, 1898.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

WINAND W. J. TOUSSAINT, OF BROOKLINE, MASSACHUSETTS.

STOVE.

SPECIFICATION forming part of Letters Patent No. 661,360, dated November 6, 1900.

Application filed July 23, 1898. Serial No. 686,667. (No model.)

To all whom it may concern:

Be it known that I, WINAND W. J. TOUSSAINT, of Brookline, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Stoves; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in combined cook-stoves and boilers.

One object of the invention is to produce an economical combined cook-stove and boiler for storing hot water or for heating purposes.

Another object of the invention is to economize the heat of a cook-stove by the novel application thereto of a boiler.

The invention consists in the novel construction of the stove and boiler and in their combination.

The invention also consists in such other novel features of construction and combination of parts as may hereinafter be more fully described, and pointed out in the claims.

Figure 1 represents a vertical elevation, partly in section, taken on line 1 1, Fig. 2, showing the improved combined cook-stove and boiler. Fig. 2 represents a plan view of the same.

Similar numbers of reference designate corresponding parts throughout.

In the drawings, 5 represents the body portion of a stove, having the usual fire-pot 6 and the oven 7. At the rear of the oven the upper portion of the stove is cut away and the lower portion is extended below the oven to form the base 8. On the base 8 is mounted a boiler having the shell 9, provided with the annular flue 10 at its lower end and with the tube plates or sheets 11 and 12, the tube-sheet 11 forming the upper wall of the annular flue 10. In the tube-sheets are secured a series of direct tubes 13 13, located above the central open space around which the flue 10 extends, a series of return-tubes 14 14 being also secured in the tube-sheets above and connecting with the flue 10. The upper ends of the tubes 13 and 14 are connected by elbows 15 15, which fit over the ends of the tubes and are held in place by the arms of the spider 16, mounted on the main steam-supply pipe 17,

while over the upper end of the shell 9 is fitted the hood 18, which may be moved up on the pipe 17 to allow of access to the spider 16 and to the elbows 15 for removing the elbows and cleaning the tubes.

Partially embracing the fire-pot 6 is the water-back 19, the sides of which are connected at different levels with the water-coil 20 and this in like manner with the boiler-shell 9, so that circulation of the water in the boiler is furnished through the coil and the water-back to carry the water to and from the hottest gases.

The heat-gases, first acting on the water-back, pass around the oven 7, those passing over the oven acting on the coil to raise the temperature of the water therein. Thence the gases pass into the chamber 21 in the extended base 8 and, following the course of the arrows in Fig. 1 of the drawings, pass up through the direct tubes 13, through the elbows 15, and return through the tubes 14 to the annular flue 10, from whence they are conducted to the chimney through any suitable pipe. By this construction the utmost utilization of the heated gases is effected in raising and maintaining the temperature of the water, and a combined cook-stove and boiler is produced which when connected with a suitable radiator system will heat rooms removed from that in which the stove is located.

The boiler is particularly desirable for heating the rooms of small tenements, effecting the saving of the cost of an additional heating system and the cost of the fuel therefor. The boiler may also be connected with a hot-water-supply system, particularly when it extends through rooms on the same floor as that on which the stove is located.

The supply-pipe 22 connects with any suitable water-supply system, through which water may be supplied to the boiler as required.

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

1. In a stove, the combination with the fire-pot and oven portion, and a rearwardly-extending base forming a flue-chamber, of a boiler mounted above said flue-chamber and comprising a shell and flue-sheets, direct vertical tubes connected with said chamber, return-tubes fixed in said tube-sheets, an an-

nular flue with which the lower ends of the return-tubes are connected, and connections between the upper ends of the direct and return tubes.

- 5 2. The combination with the stove 5 having the fire-pot 6, the oven 7 and the base 8 furnished with the chamber 21, of the boiler comprising the shell 9 mounted above the chamber 21, the annular flue 10, the tube-
10 sheets 11 and 12, the tubes 13 secured in said tube-sheets and open to the chamber 21, the

tubes 14 also secured in said tube-sheets and connected at their lower ends with the annular flue 10, the elbows 15 connecting the upper ends of the tubes in pairs and means for 15 securing the elbows, and the water-back 19, and coil 20 connected with the water-back and the boiler, as described.

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Witnesses:

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