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PATENTED MAR. 17, 1908.

E. W. VEST.

WATER HEATING ATTACHMENT FOR RANGES, &c.

APPLICATION FILED OCT. 20, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

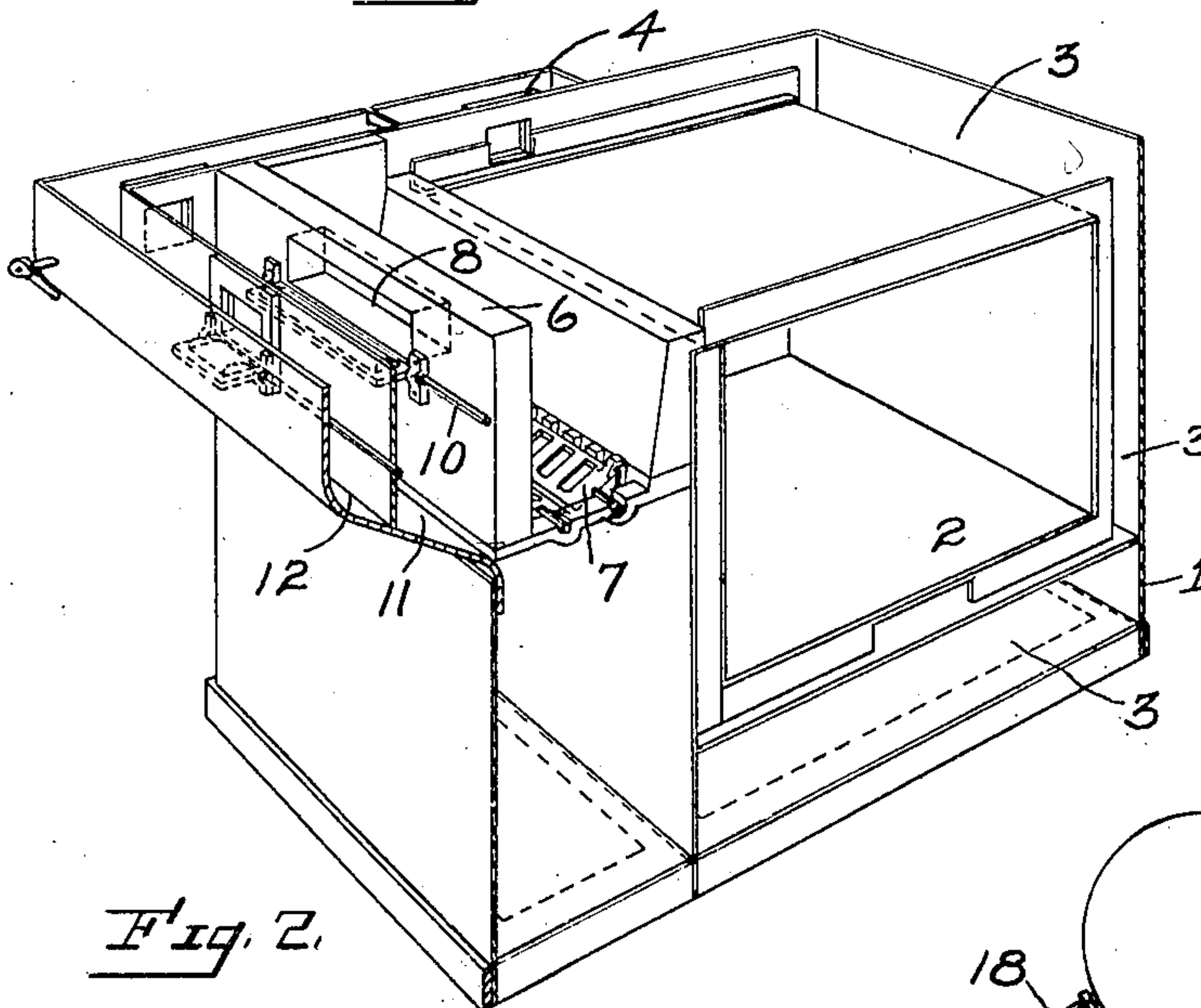
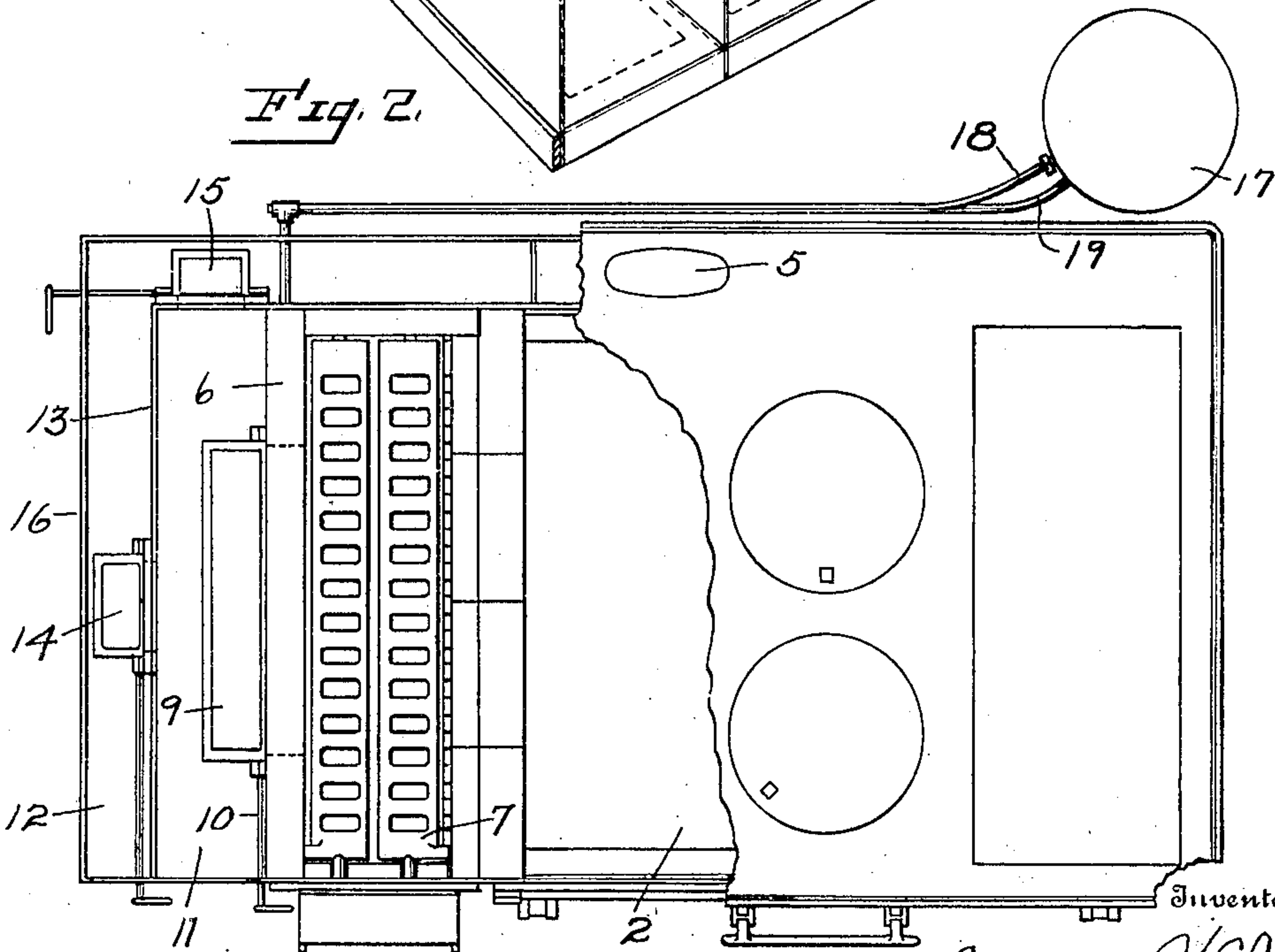


Fig. 2.



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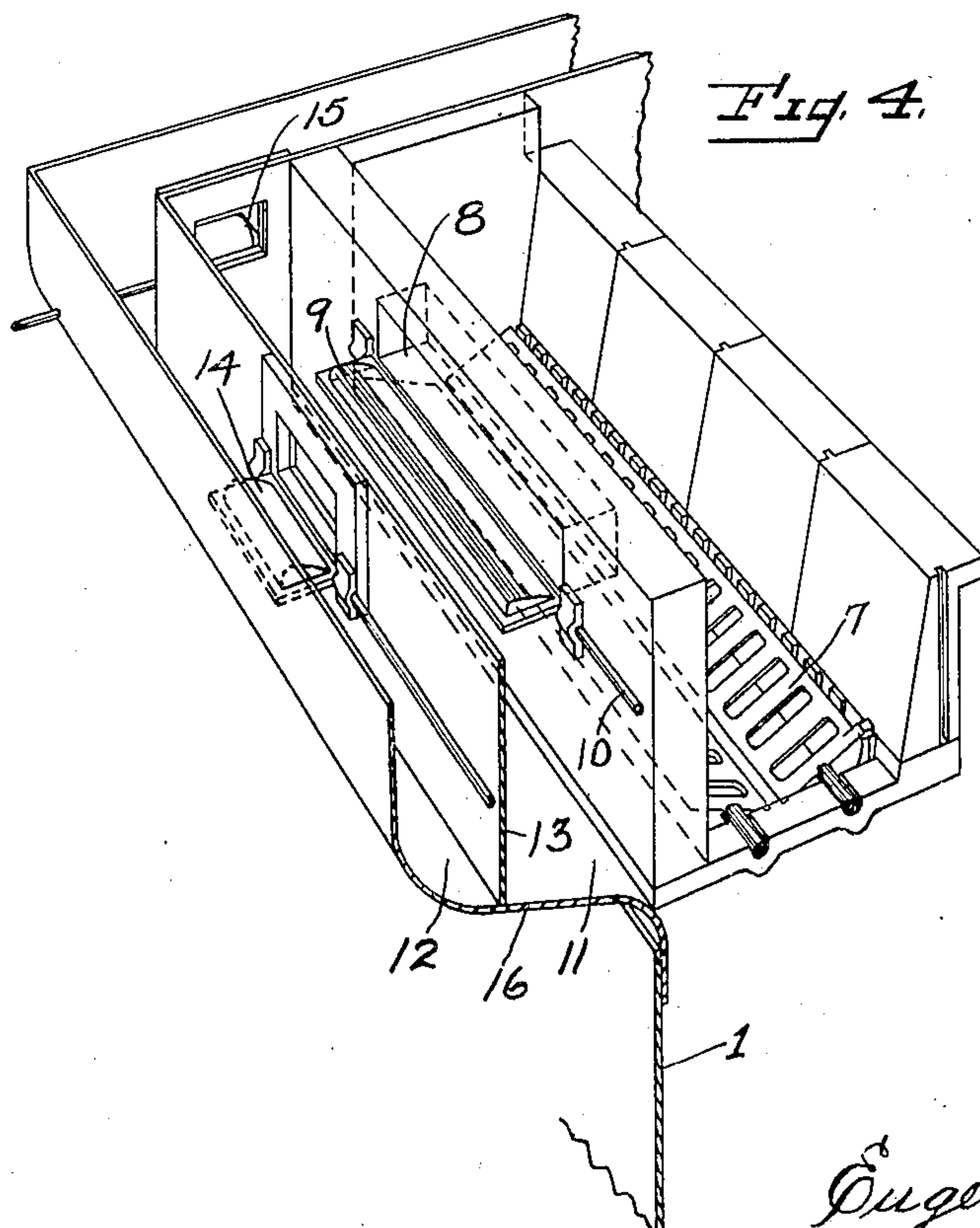
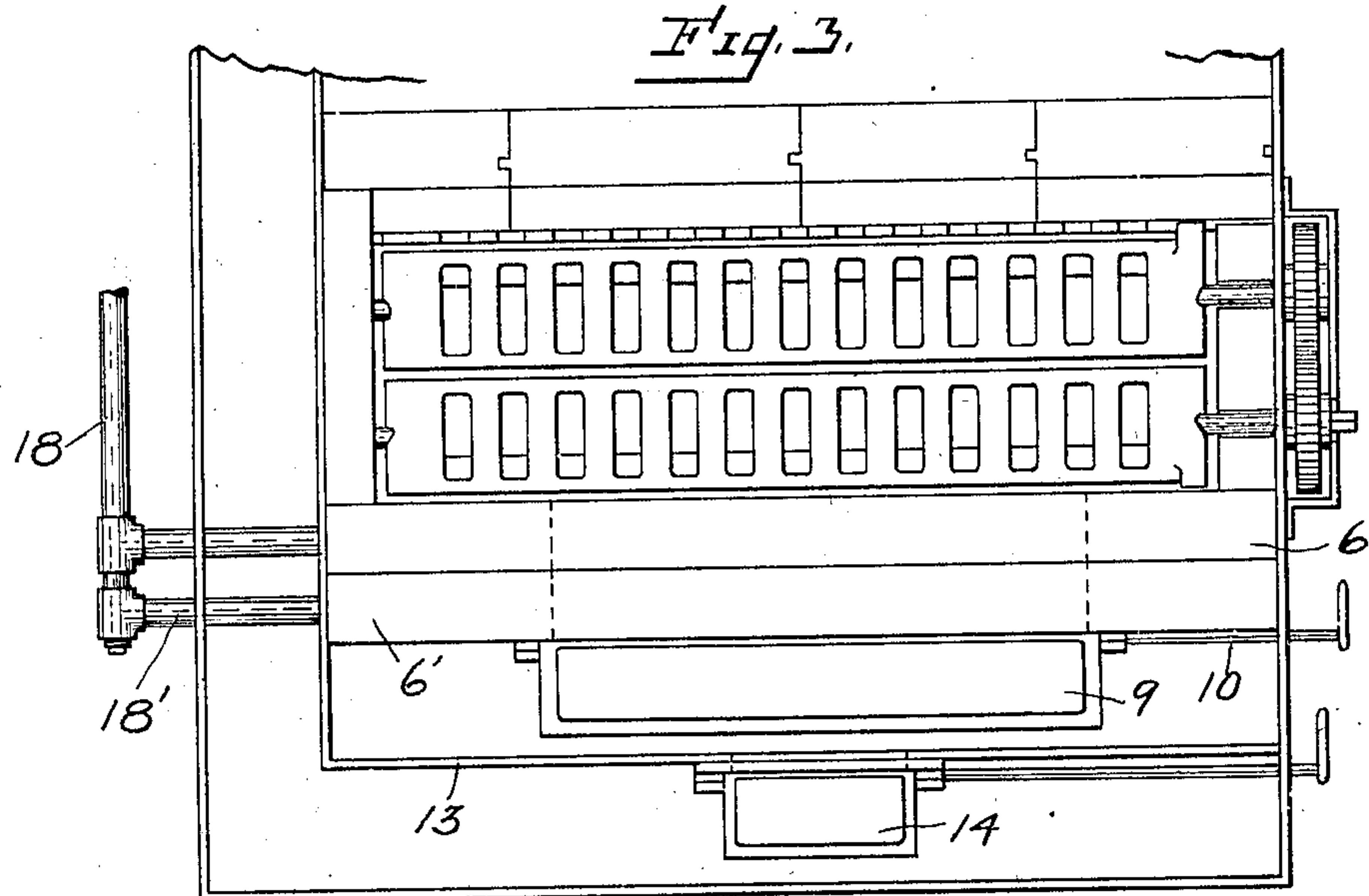
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UNITED STATES PATENT OFFICE.

EUGENE W. VEST, OF TACOMA, WASHINGTON.

WATER-HEATING ATTACHMENT FOR RANGES, &c.

No. 882,541.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed October 20, 1905. Serial No. 283,683.

To all whom it may concern:

Be it known that I, EUGENE W. VEST, a citizen of the United States of America, and a resident of the city of Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Water-Heating Attachments for Ranges, &c., of which the following is a specification.

My invention relates to improvements in range or stove constructions, and the primary object thereof is to provide a water heating attachment therefor which is so arranged that by proper adjustment of suitable damper means, the operator may, at will, change the course of the volatile products of combustion from about the oven, to the said water heating attachment.

A further object of my invention is to provide an improvement of this nature which will be comparatively simple in construction, embracing but few parts, and is very efficient in operation.

With the above and other objects in view, to be referred to in the following description, the invention consists of the construction, parts, arrangement and combinations of parts hereinafter described and succinctly defined in the appended claims.

In the accompanying drawings in which like numerals of reference indicate like parts throughout the several views: Figure 1 is a fragmentary view in perspective of a range provided with my improvements. Fig. 2 is a top plan view thereof, with a portion of the top of the range in position, and showing a suitable supply tank connected with the attachment arranged in the range. Fig. 3 is an enlarged fragmentary top plan view of a range provided with a slightly modified form of attachment, and Fig. 4 is an enlarged detail view in perspective of the invention, showing more clearly the arrangement of the flues and dampers.

The range 1 has the usual oven 2 and flues 3 whereby the products of combustion of the fire can, if damper 4 is closed, be caused to take a circuitous course about the oven before they are allowed to pass through flue opening 5 into the chimney. This construction thus far described constitutes no part of my invention, the same having been shown merely with the idea of more clearly illustrating the application and operation of my improvements which consist of suitable means adapted to contain the water to be

heated, such means being illustrated as being in the form of a hollow approximately rectangular casing 6, which is preferably arranged at one side edge of the grate 7 and is adapted to serve as one wall of the fire box. Casing 6 is of open form to provide a passage, as 8, for the flames and smoke, and this passage is controlled by a damper 9 which can be opened or closed, at will by the operator by rotating rod 10 which is fixed to the damper and provided at its outer end with a handle, as shown.

At the outside of casing 6 are flues 11, and 12, the latter leading directly to the flue opening 5, and the former having those of its side and end walls which are formed by partition 13 provided with openings adapted to be closed by suitable dampers 14 and 15. These flues are provided in a section, as 16, conveniently termed a "flue section," which can be an integral part of the range or riveted to the casing thereof as shown.

The casing 6 is removable and being arranged between the grate and flue 11 will have both of its side walls exposed to the heating action of the products of combustion as they travel toward the chimney.

If damper 15 be opened and damper 14 closed the course of the products of combustion to the chimney will be more direct than when there is a reverse arrangement of said dampers, and the water casing will therefore not have all of its outer side face impinged by said escaping products of combustion, the same being drawn directly over only that outer end portion of the casing 6 lying between opening 8 of the casing and the flue opening closed by damper 15, as is obvious. When however, damper 15 is closed, the products of combustion will fill flue 11 and consequently impinge the entire outer face of the casing 6 and communicate the greater part of their heat to said casing before escaping to flue 12.

In starting a fire on the grate, it is desirable, in order to maintain a perfect draft, that the products of combustion should not be suddenly chilled while passing to the chimney and therefore I preferably close damper 9 until the fire has a good start so that the flues 11 and 12, which necessarily contain cold air will not be traversed by the products of combustion. Of course damper 9 can be closed when it is desired that the products of combustion should pass over or around the oven. But when damper 4 is closed and

damper 9 open the course of the products of combustion will be changed from the oven to the means containing the water to be heated.

5 Casing 6 can be supplied with water in any desired manner, a convenient construction, however, consisting of the usual tank 17 from which water circulates through pipes 18 and 19 back and forth to the casing 6.

10 The detail construction of the means for containing the water to be heated can be readily varied without departing from the broad spirit of my invention, a modified form consisting in the provision of a multiplicity of water chambers, as illustrated in Fig. 3 of the drawings, the additional chamber being removably arranged in flue 11 and connected to pipes 18 and 19 by upper and lower branch pipes as 18'.

20 When it is desired to add a water chamber, the damper 9 is removed from the first chamber and attached to the additional or outer chamber as clearly shown in Fig. 3.

In the foregoing description and drawings I have described and shown merely the preferred form of my invention and I therefore reserve the right to make various alterations and changes in the structural details as defined in the appended claims.

30 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is:—

1. In a stove, the combination of a fire box, a removable water receptacle forming one side thereof, a heating chamber on the opposite side of the water receptacle, flue connections with said heating chamber at a side and end thereof, said water receptacle being formed with a passage establishing communication between the fire box and the heating chamber, and dampers controlling said passage and flue connections.

2. In a stove, the combination of a fire box, an oven on one side thereof and a water receptacle on the opposite side and forming one wall thereof, the oven and water receptacle providing independent passages to a common exit for the products of combustion, and means in one of said passages whereby the heat of the products of combustion may be caused to act upon a greater or less surface of the water receptacle as desired.

3. In a stove, the combination of a fire box, of a water receptacle forming one wall

thereof, a heating chamber on the opposite side of the water receptacle from the fire-box, means communicating the fire-box with the heating chamber, and means controlling the amount of surface of the water receptacle affected by the heat of the products of combustion.

4. In a stove, a fire box, a plurality of removable water receptacles, one of which forms one wall of the fire box, a heating chamber on one side of the outer water receptacle, and a flue section extending around the side and end wall of the heating chamber, said water receptacles and side wall of the heating chamber being formed with registering damper controlled ports and the end wall of the heating chamber being also formed with a damper controlled port in communication with the said flue section.

5. In a stove, a fire box, a water receptacle on one side thereof having a damper-controlled port, a heating chamber on the opposite side of the water receptacle in communication through the said port with the fire box and provided in its side and rear walls with damper-controlled ports, and a flue extending around the said side and rear walls of the heating chamber and in communication therewith through said ports, said flue leading to the usual stove flue.

6. In a stove, a fire-box having the usual connection on its one side with the outlet flue for the products of combustion, a water receptacle on the opposite side, a heating chamber on the side of the water receptacle, and a flue adjacent one side and end wall of the heating chamber and leading to the outlet flue, the water receptacle being formed with a damper-controlled port for directing the products of combustion from its usual course through the water receptacle into the heating chamber, said heating chamber being provided with ports in its side and rear end walls through which the products of combustion pass to said flue, and means controlling said ports to cause the products of combustion to act upon a greater or less surface of the water receptacle before passing into said flue.

Signed at Tacoma, Washington this 9th day of October 1905.

EUGENE W. VEST.

Witnesses:

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