

No. 702,343.

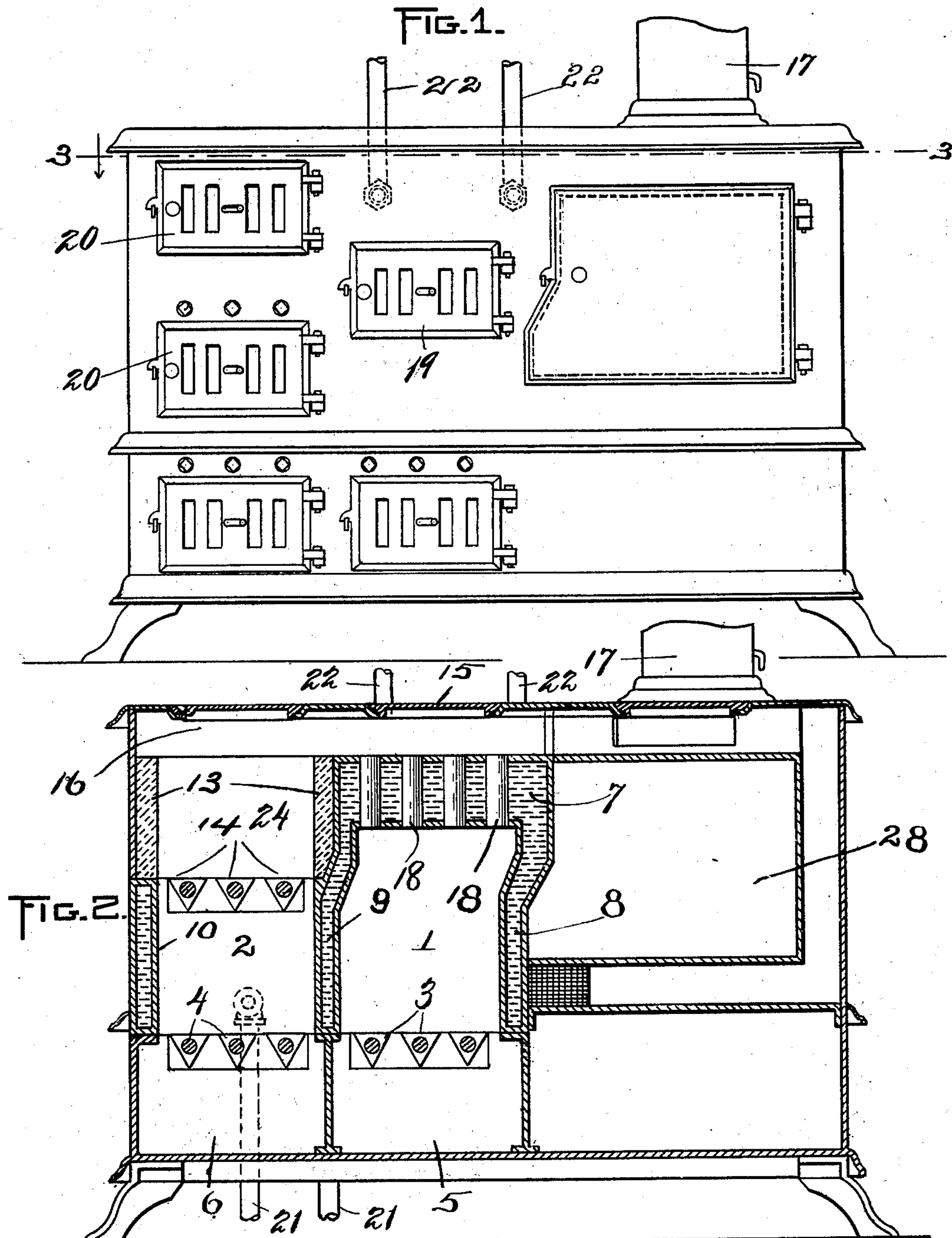
Patented June 10, 1902.

H. W. CONNER.
COMBINED RANGE AND WATER HEATER.

(Application filed Jan. 31, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Charles E. Bulluck
R. E. Bulluck

INVENTOR:

Harrison W. Conner
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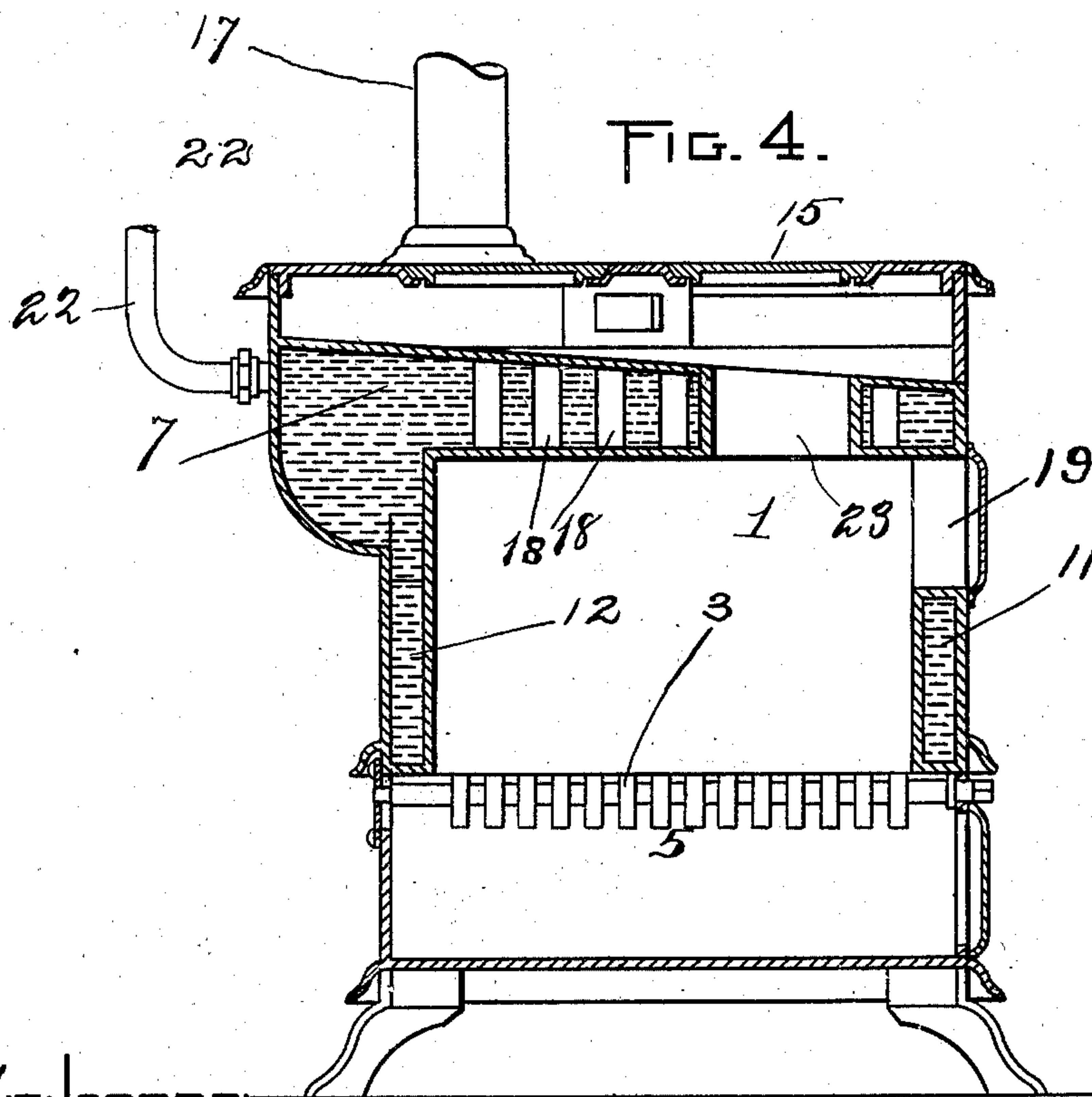
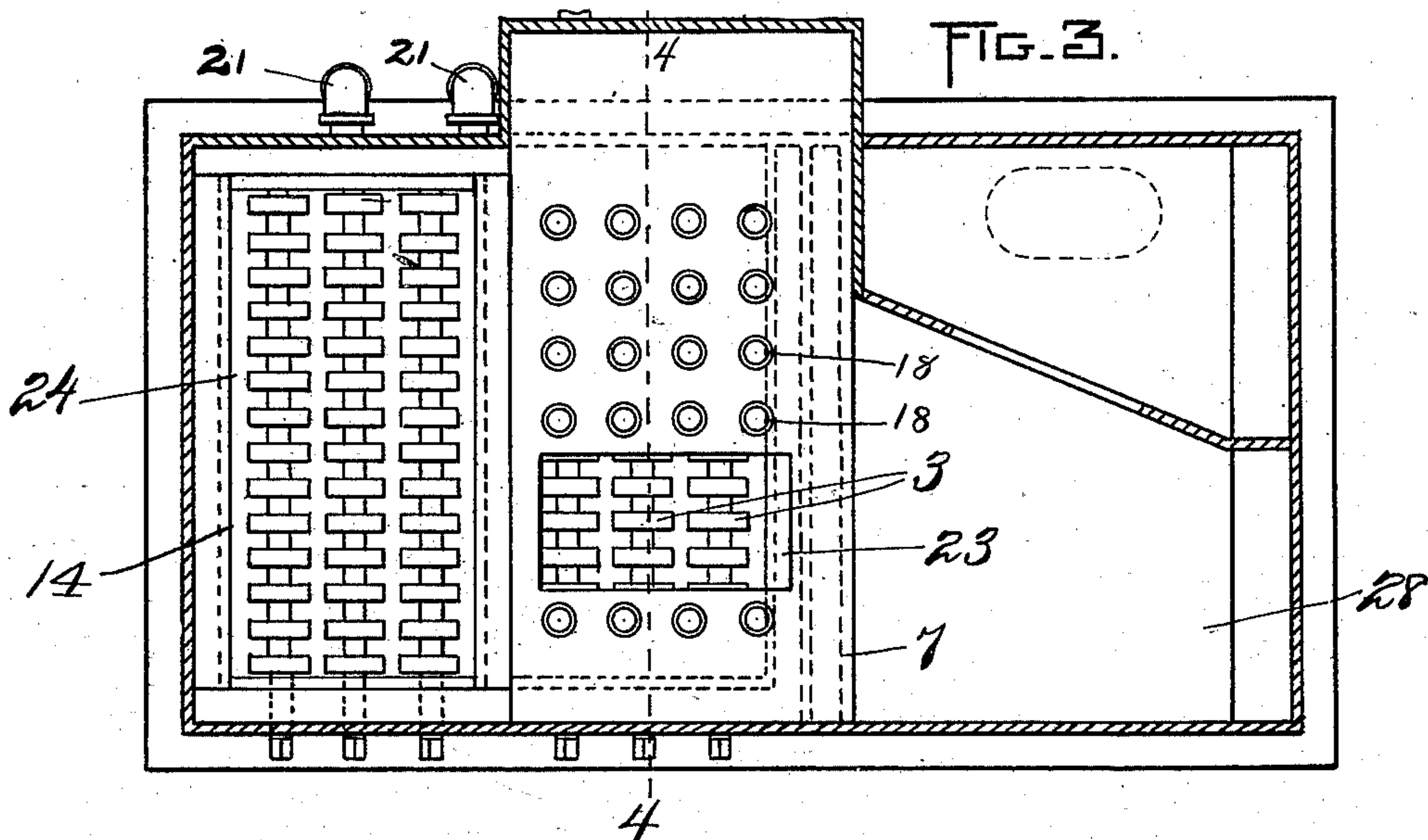
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COMBINED RANGE AND WATER HEATER.

(Application filed Jan. 31, 1902.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

C. C. Stecher
R. E. Bulluck

INVENTOR

Harrison W. Conner
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UNITED STATES PATENT OFFICE.

HARRISON W. CONNER, OF BOSTON, MASSACHUSETTS.

COMBINED RANGE AND WATER-HEATER.

SPECIFICATION forming part of Letters Patent No. 702,343, dated June 10, 1902.

Application filed January 31, 1902. Serial No. 92,013. (No model.)

To all whom it may concern:

Be it known that I, HARRISON W. CONNER, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in a Combined Range and Water-Heater, of which the following is a specification.

This invention relates to ranges or cooking-stoves having provisions for supplying hot water to be circulated through a house or apartment, so as to heat the same.

The object of the invention is to provide a simple, practical, and durable device of this character which can readily be arranged for winter or summer use, as will appear hereinafter.

Of the accompanying drawings, Figure 1 represents a front elevation of a combined range and water-heater constructed in accordance with my invention. Fig. 2 represents a longitudinal vertical section thereof. Fig. 3 represents a section on line 3 3 of Fig. 1. Fig. 4 represents a section on line 4 4 of Fig. 3.

The same reference characters indicate the same parts in all the figures.

In carrying out my invention I provide the range with two fire-chambers 1 2, having grates 3 4 in their lower portions arranged above ash-pits 5 6, and a water-chamber 7, disposed principally above the fire-chamber 1, but having vertical legs 8 9 10 11 12, which form water-walls for the sides of both chambers 1 and 2. The water-leg 9 forms a vertical water-partition, separating the fire-chambers 1 and 2. The upper part of chamber 2 is provided with a refractory lining 13 of fire-brick and a removable upper grate 14 to support a fire in said upper portion for summer use. The portion 24 of said chamber 2 above the grate 14 may be considered as a fire-chamber extension, through which the gases pass to the uptake by way of passage 16, hereinafter mentioned.

15 is the top of the range, provided with the usual pot-holes and lids and serving as a support for cooking utensils. This top is separated from the water-chamber 7 by a substantially horizontal passage 16, which carries the products of combustion from both fire-chambers to a stack or uptake 17. Said products also pass around or over an oven 28, which

may be located in any suitable position other than that shown. The fire-chamber 1 has connection with the passage 16 by way of a series of substantially vertical flues or tubes 18 18, and the fire-chamber 2 has direct connection through its upper end with said passage.

23 is a larger hole traversing the water-chamber 7 for the introduction of fuel to the grate 3 and the passage of gases.

It will be seen that the fire-chamber 1 is primarily assigned to the heating of the water-chamber 7, though it also serves in part to heat the stove-top 15 and the oven. The principal function of the fire-chamber 2 is to heat the stove-top 15 and the oven for cooking purposes; but its lower portion is also disposed in heating relation to the water-chamber 7. In winter, when the water-heat is desired in the house or apartment, the upper grate 14 in the fire-chamber 2 is preferably removed, and fires are built on the two lower grates 3 4, the fire on the grate 3 serving in the manner described principally to heat the water-chamber and the fire on the grate 4 being used for cooking purposes, although it will be understood that a lesser heating effect on the water in the water-chamber 7 may be obtained by building the fires on the grates 3 and 14. In summer, when hot-water heat is not desired, a single fire only is built on the grate 14, the refractory lining 13 serving to protect the walls of said water-chamber from the heat of the fire on said grate. When fires are built on the grates 3 and 4, the metal walls of the water-legs 8 9, &c., are protected by the water in said legs, making a refractory lining necessary on these portions. I may, however, while retaining the water-leg 9, separating the two fire-chambers, omit one or more of the water-legs 8 10 11 12.

Access is had to the fire-chambers 1 2 for coaling or other purposes either through doors 19 20 in their ends or through the pot-holes in the stove-top 15.

21 22 are return and supply pipes for circulating the water from the heater and through the house-heating system.

I claim—

1. A combined cooking-stove and water-heater having a top or support for utensils, a water-chamber separated therefrom by a

space or passage for the gases, upper and lower grates arranged in a tier, the lower grate being in direct heating relation to the walls of said chamber and the space which
5 said grates occupy having an outlet to said passage, and a third grate positioned to one side of said grates and in heating relation to said chamber, the space which it occupies having a separate outlet for gases.
10 2. A combined cooking-stove and water-heater having a top or support for utensils, a water-chamber separated therefrom by a space or passage for the gases, upper and lower grates arranged in a tier, the lower
15 grate being in direct heating relation to the

walls of said chamber and the space which said grates occupy having an outlet to said passage, a refractory lining forming the walls of said space above the upper grate, and a third grate positioned to one side of said 20 grates and in heating relation to said chamber, the space which it occupies having a separate outlet for gases.

In testimony whereof I have affixed my signature in presence of two witnesses.

HARRISON W. CONNER.

Witnesses:

E. BATCHELDER,
R. M. PIERSON.