No. 713,397. Patented Nov. 11, 1902.

W. E. CHANDLER.

OIL BURNER.

Application filed Apr. 14, 1902.)

(No Model.)

Fig. 1.

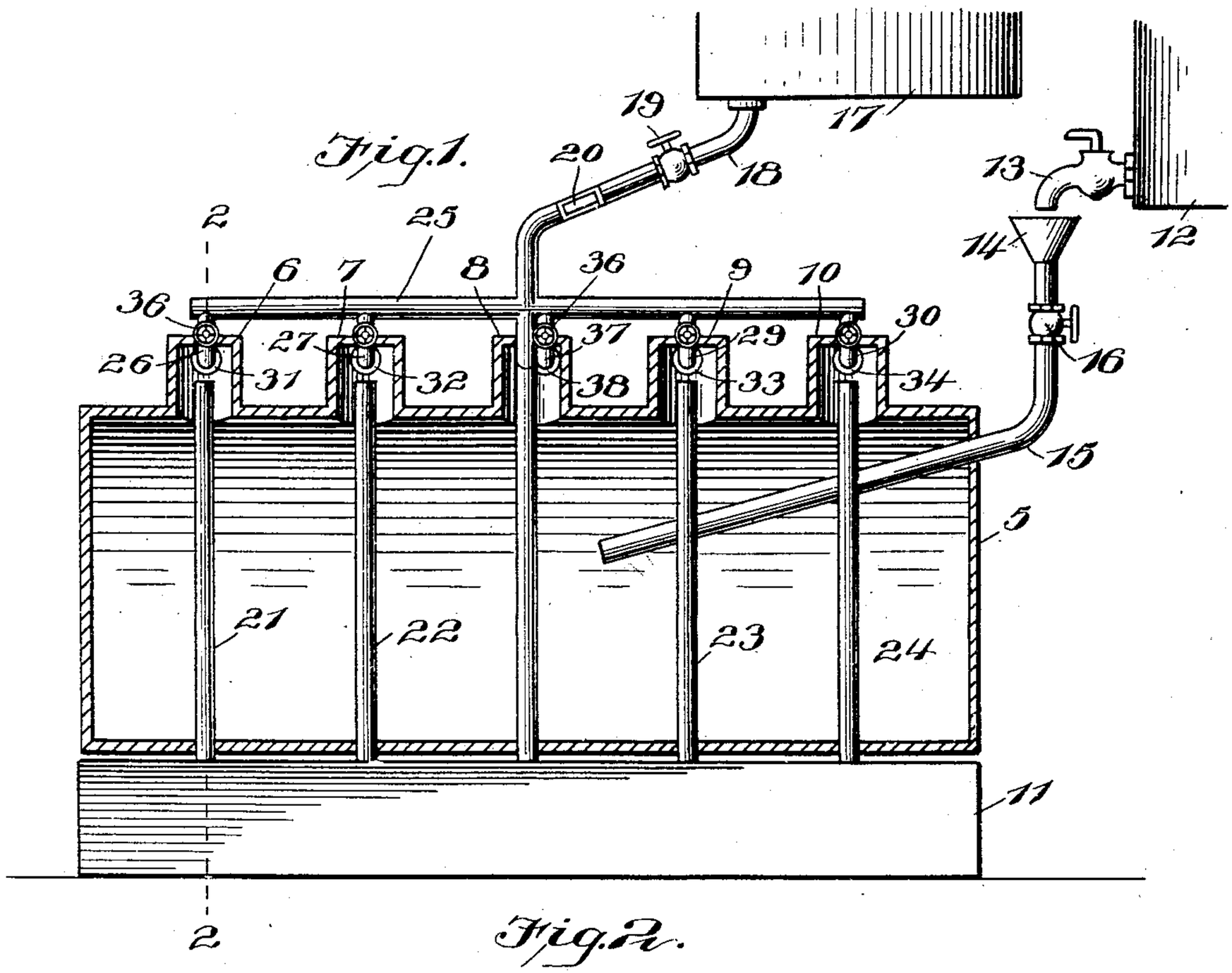
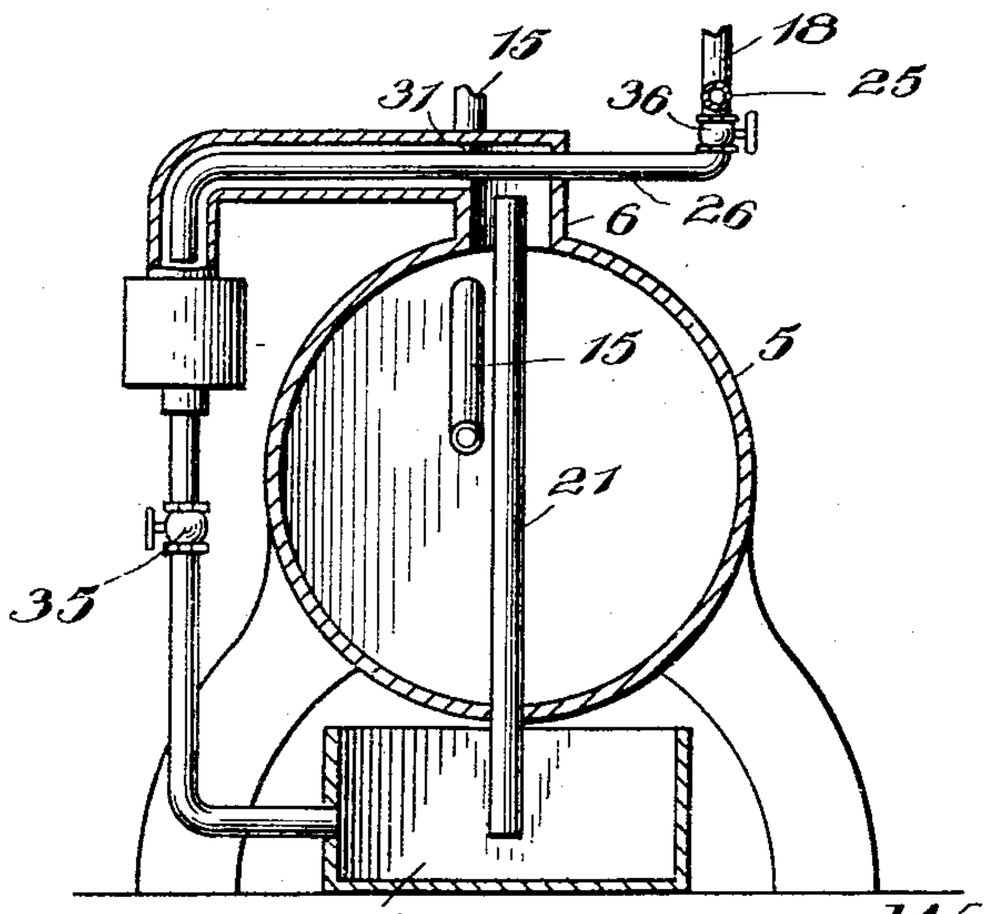


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM E. CHANDLER, OF ELCAMPO, TEXAS.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 713,397, dated November 11, 1902.

Application filed April 14, 1902. Serial No. 102,870. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. CHANDLER, a citizen of the United States, residing at Elcampo, in the county of Wharton, State of Texas, have invented certain new and useful Improvements in Oil-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to oil-burners; and it has for its object to provide a construction in which steam will be admitted to the oil or commingled therewith in sufficient quantity to aid combustion, a further object of the invention being to provide means for regulating the proportions of steam and to provide for governing the quantity of both steam and oil fed to the fire tank or pan.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a view showing the boiler in longitudinal section and showing in elevation the pipes, supply-tanks, and other portions of the apparatus. Fig. 2 is a transverse section on line 2 2 of Fig. 1.

Referring now to the drawings, there is shown a boiler 5, having steam-domes 6, 7, 8, 9, and 10, while below the boiler is arranged the fire-pan 11, in which the oil is received and in which it is burned.

A water-supply tank 12 is provided and has a spigot 13, by means of which the water is regulated in its flow to the funnel 14 at the end of the water-supply pipe 15, which leads into the boiler, and is provided with a regulating and cut-off valve 16.

An oil-supply tank 17 is provided and has connected therewith an oil-pipe 18, which leads downwardly through the top of the steam-dome 8 and thence through the boiler 5 and terminates in the pan 11, this oil-pipe having a globe-valve 19 to regulate the flow of oil therethrough and having also a gage-glass 20 in its side, through which the interior of the pipe may be seen to determine when the oil is flowing properly.

Passed vertically through the boiler are steam-pipes 21, 22, 23, and 24, the upper ends of which are in the domes 6, 7, 9, and 10, respectively, while the lower ends of the pipes extend into the fire-pan and below the surface of the oil contained in the pan, so that steam may pass from the boiler below the surface of the oil and may rise with the gases from the oil to aid combustion, it being understood that the burning oil in the pan heats the boiler to supply the steam.

Connected with the oil-pipe 18 is a pipe 25, which extends longitudinally of the boiler and slightly above the plane of the upper ends of the domes, the pipes 18 and 25 being trunk-pipes, and from the pipe 25 extend pipes 26, 27, 29, and 30, which are passed through the upper ends of the domes 6, 7, 9, and 10 above the steam-pipes above referred to.

The openings in the sides of the domes through which the oil-pipes are passed outwardly from the domes are of greater diameter than said pipes, and engaged with these openings are the steam-outlet pipes 31, 32, 33, and 34, into which the branch oil-pipes open, said steam-outlet pipes passing downwardly to the fire-pan and having regulating globe-valves 35, while the branch pipes at the opposite sides of the domes have regulating-valves 36. An additional branch pipe 37 is provided for the pipe 25 and passes through the dome 8 at one side of the pipe 18, and this pipe 37 opens into a steam-outlet pipe 38, corresponding to the pipe 32 and having also a valve 35 for regulating the flow therethrough. In this construction the oil and steam mix in the steam-supply pipes, so that the oil and steam pass to the fire-pan in a mixed condition.

In practice the pipe 25, with its branches and the steam-supply pipes into which the branches open, may be omitted and other modifications may be made. Also any suitable materials and proportions may be used for the various parts without departing from the spirit of the invention.

What is claimed is—

1. In a burner, the combination with a boiler and a fire-pan therebelow, said boiler having steam-domes, of steam-supply pipes leading from the domes through the boiler to the fire-pan, an oil-tank and an oil-supply pipe leading from the oil-tank through the boiler to the fire-pan.

2. In a burner, the combination with a boiler and a fire-pan arranged therebelow, said boiler

having steam-domes, of an oil-supply tank having a pipe leading through a dome and the boiler to the fire-pan, steam-supply pipes leading from the remaining domes through the boiler to the fire-pan, steam-supply pipes leading from the last-named domes exteriorly of the boiler to the fire-pan, and branch pipes leading from the oil-pipe through the last-named domes and into the last-named steam-pipes to mix with the steam therein.

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

WILLIAM E. CHANDLER.

Witnesses:

TOM UNDERWOOD,

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