

G. D. WILL.
OIL BURNER.
APPLICATION FILED NOV. 23, 1908.

947,363.

Patented Jan. 25, 1910.

Fig. 1

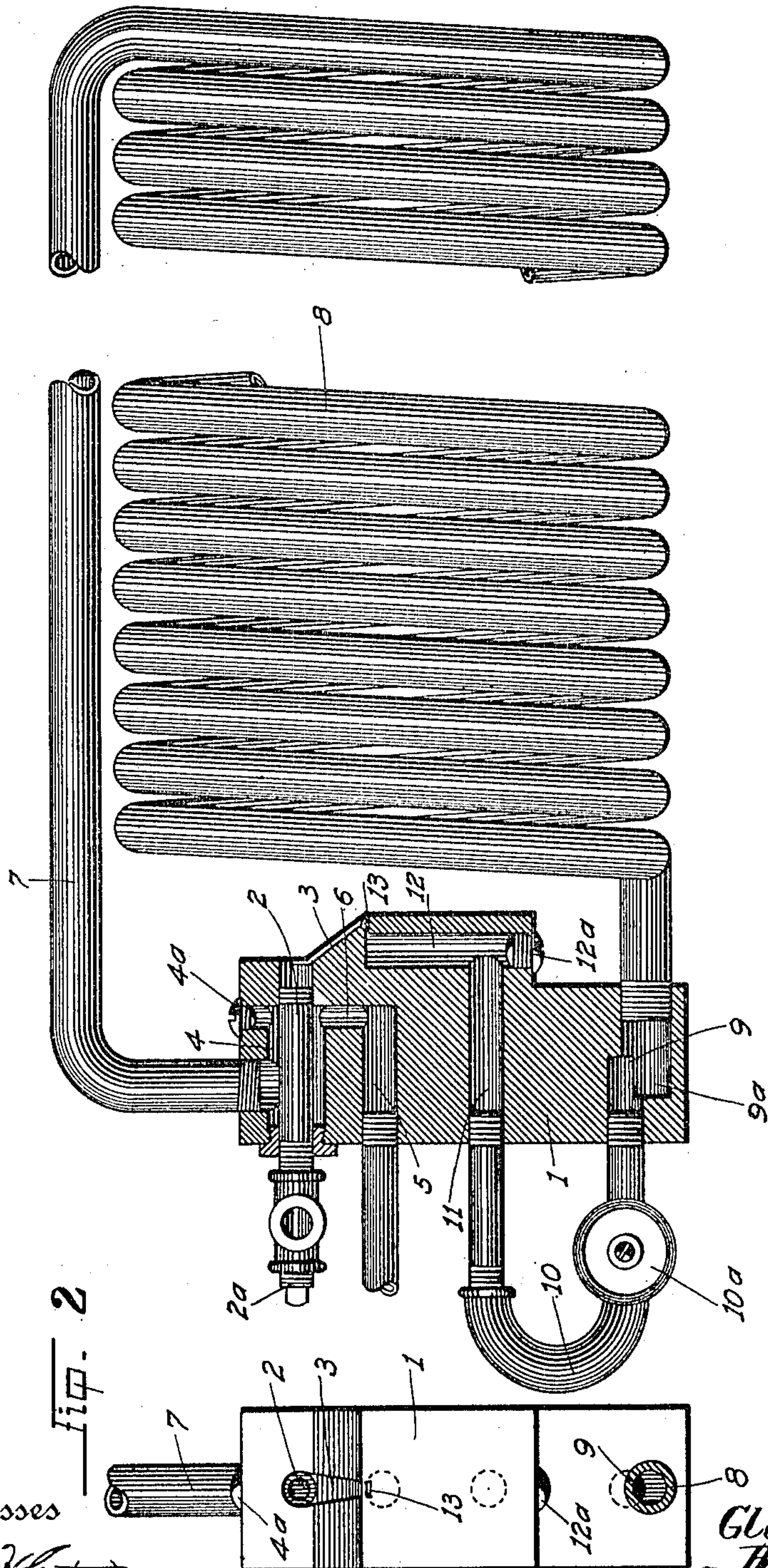
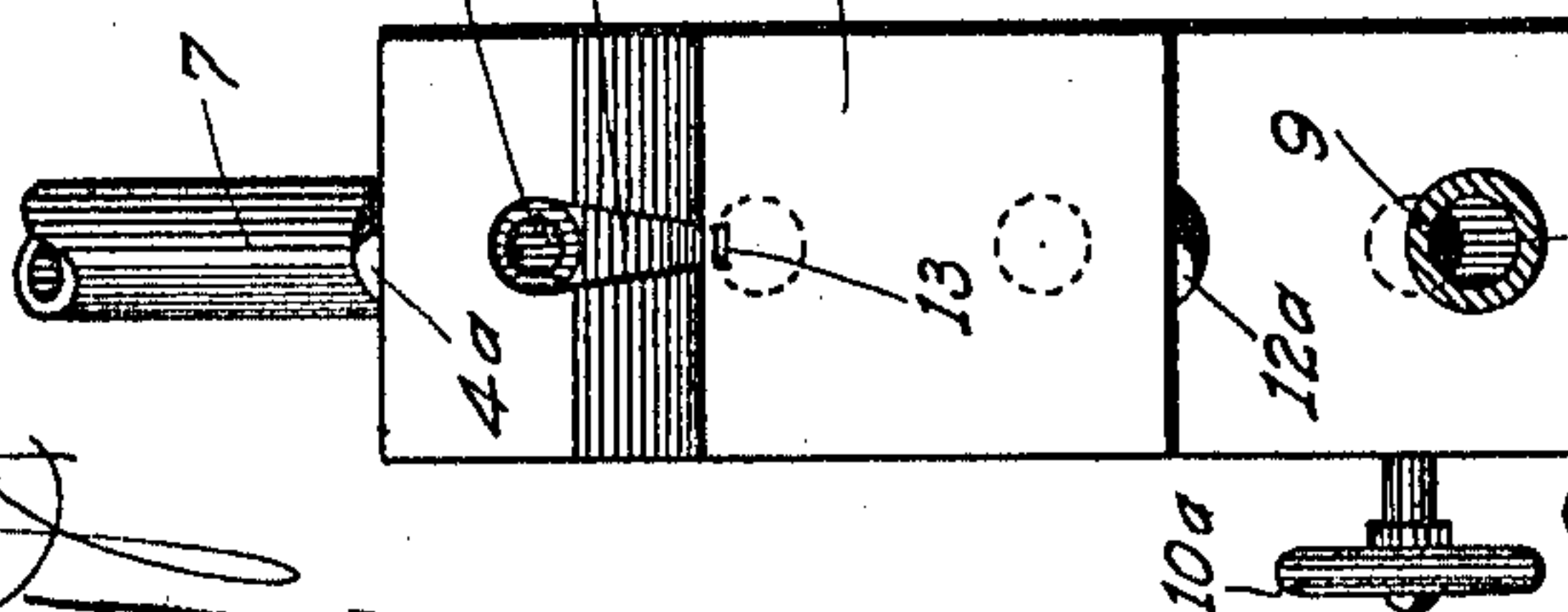


Fig. 2



Witnesses
Frank H. Hart
B. Webster

Inventor
Glenn D. Will
By
Percy S. Webster
Attorney

UNITED STATES PATENT OFFICE.

GLENN D. WILL, OF EUREKA, CALIFORNIA.

OIL-BURNER.

947,363.

Specification of Letters Patent.

Patented Jan. 25, 1910.

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To all whom it may concern:

Be it known that I, GLENN D. WILL, a citizen of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented certain new and useful Improvements in Oil-Burners; and I do declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in oil burners or hydrocarbon burners of any kind and particularly to those in which a low grade or commonly called crude oil is used, the object of the invention being to produce a burner which will readily burn the lowest grades of oil without making soot or other accumulations of deleterious substances, and one in which the oil will not carbonize in its conduits or burner plate and thus choke the apparatus and render it useless.

A further object of the invention is to produce a burner in which the steam will be highly vaporized into a dry state and thus render the atomizing of the oil highly efficient for the purposes of combustion which is necessary to prevent soot and smoke.

A still further object of the invention is to produce a burner which is simple and effective and one which can be operated at a minimum of expense.

These objects I accomplish by means of a burner proper, an oil inlet thereto, a burner tip thereon, a water inlet leading into said burner proper and into a chamber around said oil inlet and thence out of said burner and through a coil and thence back to said burner and out through a narrow steam slit directed toward the coil below the oil burning tip to atomize the oil as it comes from the tip and direct the flame upon said coil. Also such other and further construction and relative arrangement of parts as will appear by a perusal of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of the com-

plete device showing the burner proper in section. Fig. 2 is an end elevation of the burner proper.

Referring now more particularly to the characters of reference on the drawings 1 represents the casing or frame of the burner proper in which is a transverse oil inlet pipe 2 discharging upon an inclined burner tip 3. Surrounding the oil inlet pipe 2 is a chamber 4 while 5 is a water inlet entering the member 1 parallelly with the chamber 4 and connected with said chamber 4 by means of a transverse passage way 6. A pipe 7 leads from the chamber 4 to a coil 8 disposed to the front of the burner 1 which coil 8 is connected at its other end with a passage way 9 through the burner 1 which passage way 9 connects with an elbow 10 returning to a transverse passage way 11 in said member 1 connecting with a vertical passage way 12 from whence a discharge slit 13 opens just below the burner lip 3.

In practice the fuel is lighted at the junction of the lip 3 and discharging slit 13 and plays upon the coil 8 which is supplied with water from the inlet 5, such water becoming very dry steam by the time it reaches the discharge slit 13 and thus being very effective in aiding combustion. The water circulating through the inlet 5 and passage 6 and in the chamber 4 around the oil pipe 2 keeps the oil therein at such a temperature as to prevent any carbonization either in the pipe 2 or on the lip 3, thereby permitting them to be clean and allow a free flow of oil as is necessary.

The chambers 4 and 12 or pipe 2 may be cleaned if desired by the removal of screw caps 4^a, 12^a and 2^a, respectively. The steam supply may be regulated by a valve 10^a in the elbow 10. The passage 9 has a lower recessed portion 9^a to catch any water which might be in the coil 8 and thus permit nothing but dry steam to reach the slit 13.

Instead of the coil 8 any suitable steam generator may be used although the coil is the most preferable.

From the foregoing description it will be readily seen that I have produced an oil burner which will substantially fulfil the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the burner still in practice such devia-

tions from such detail may be resorted to as do not form a departure from the spirit of the invention.

Having thus described my invention what
5 I claim as new and useful and desire to secure by Letters Patent is:—

An oil burner comprising a block having an oil inlet, a steam discharge port, a water chamber surrounding said oil inlet, a water
10 inlet into said chamber, another chamber in said block having a recessed portion in a lower plane than its outlet, a coil pipe con-

necting at one end with said water chamber and at the other end with said second named chamber, a pipe connecting said last 15 named chamber with said discharge port, and a burner lip upon which the oil discharges.

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

GLENN D. WILL.

Witnesses:

PERCY S. WEBSTER,
JOSHUA B. WEBSTER.