

J. C. F. WOODWORTH.
CRUDE OIL BURNER.
APPLICATION FILED JAN. 12, 1911.

995,511.

Patented June 20, 1911.

2 SHEETS—SHEET 1.

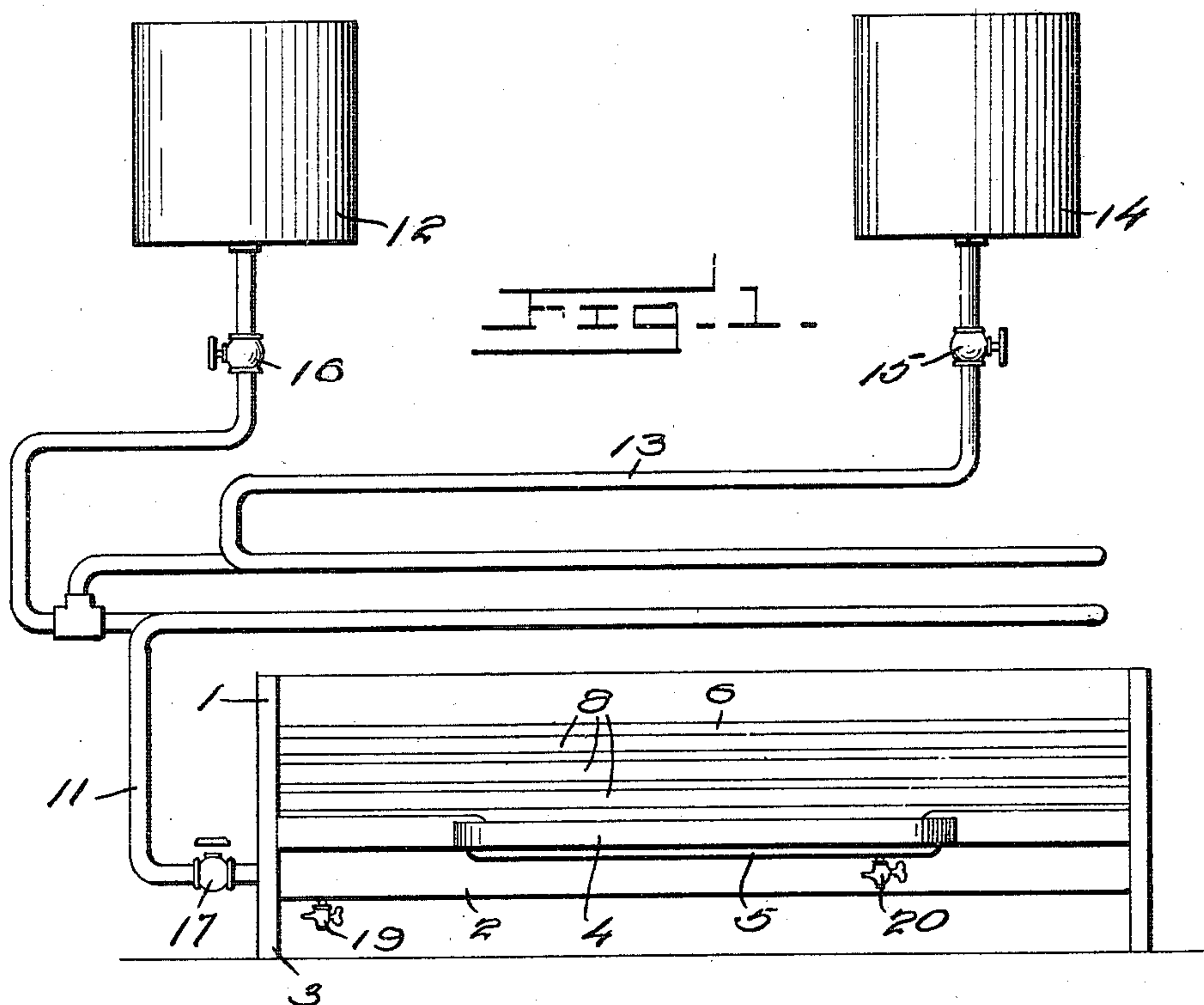
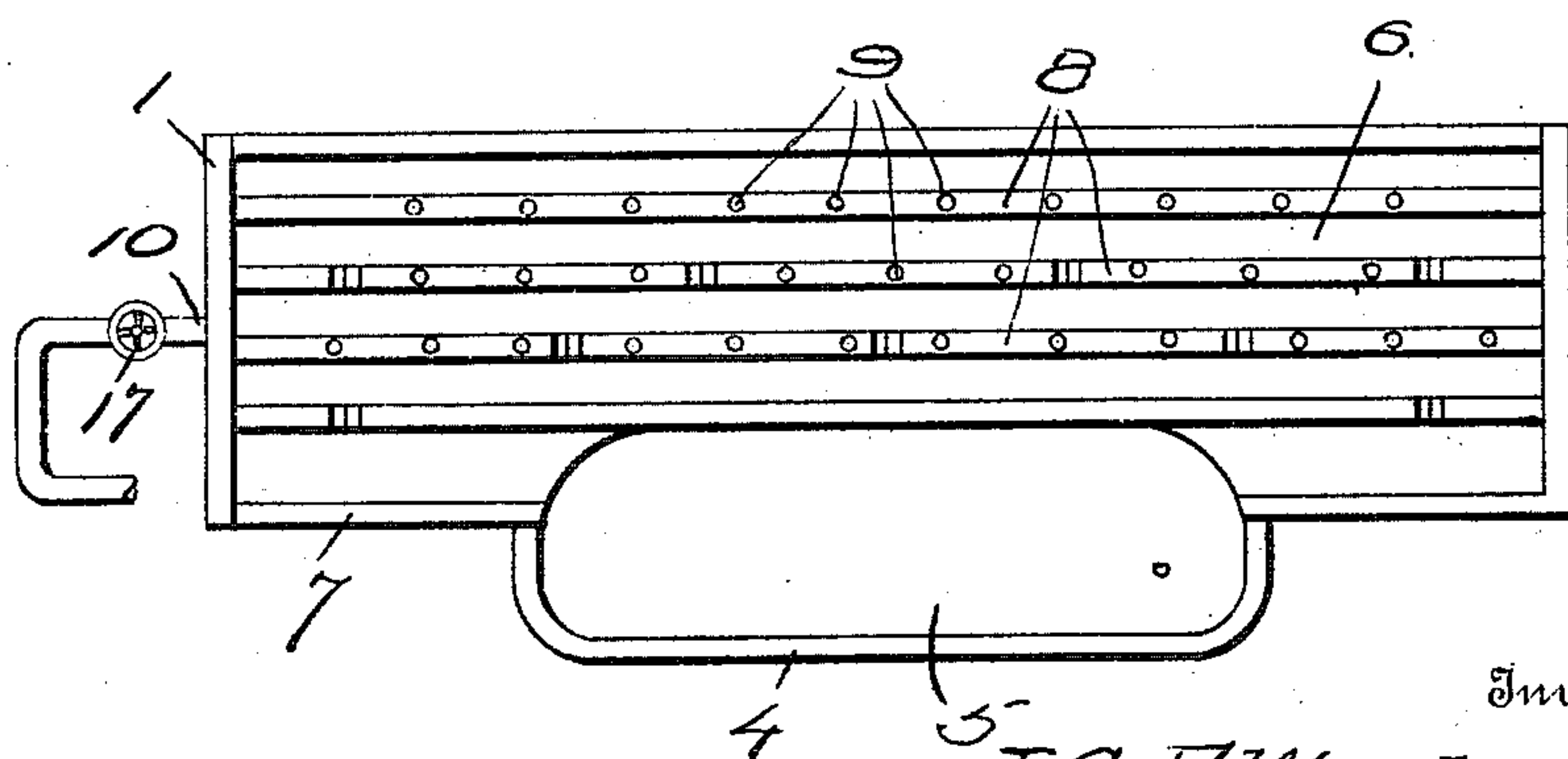


FIG. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

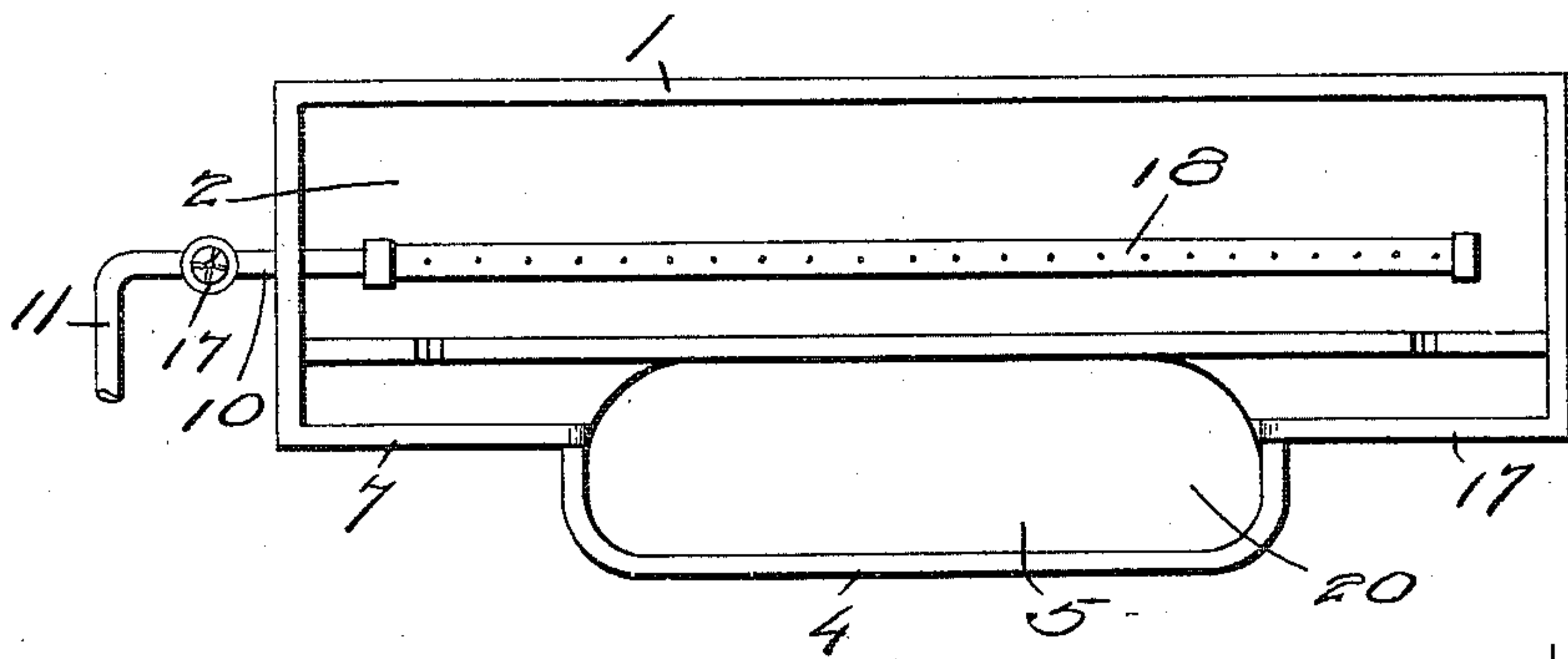
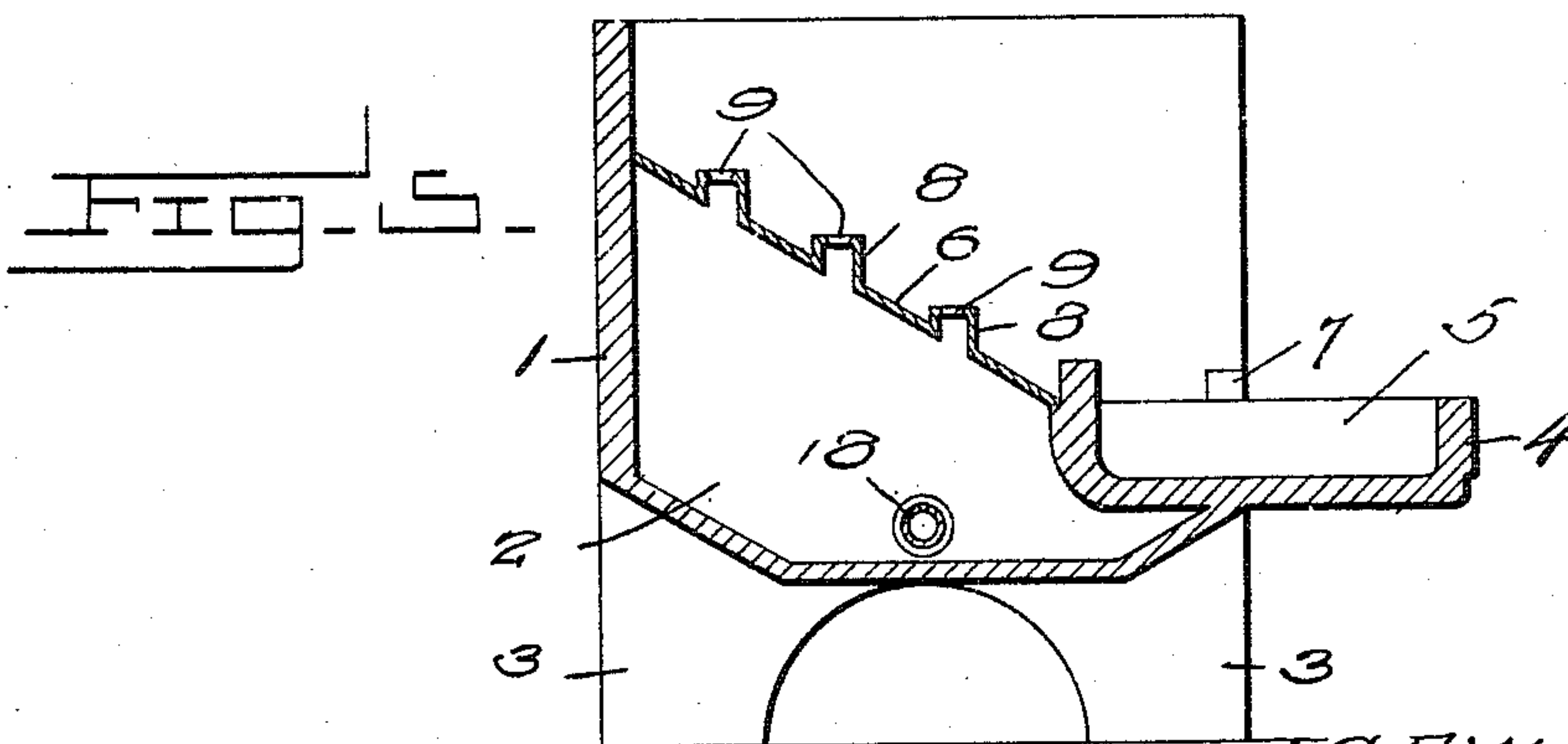
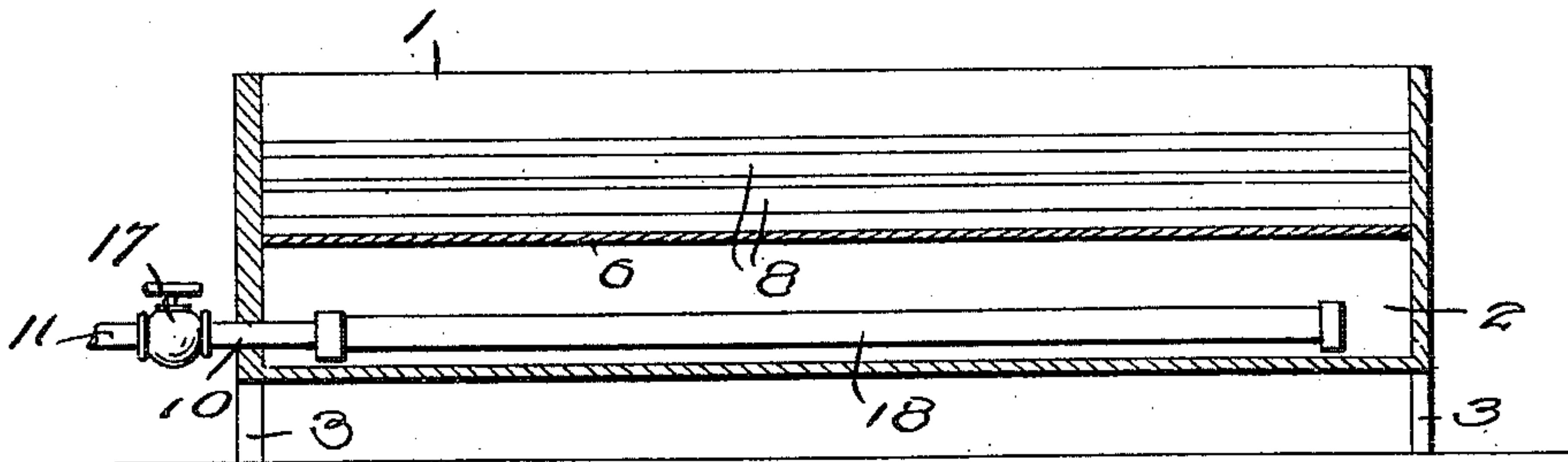


FIG. 4.



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UNITED STATES PATENT OFFICE.

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CRUDE-OIL BURNER.

995,511.

Specification of Letters Patent. Patented June 20, 1911.

Application filed January 12, 1911. Serial No. 602,273.

To all whom it may concern:

Be it known that I, JOHN C. F. WOODWORTH, a citizen of the United States, residing at Phoenix, in the county of Maricopa and Territory of Arizona, have invented certain new and useful Improvements in Crude-Oil Burners, of which the following is a specification.

This invention relates to an improvement in crude oil burners.

The primary object of the invention is to provide a device of this character which will be simple in construction, economical to manufacture and efficient in practice.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings: Figure 1 is a front elevation, Fig. 2 a top plan view, Fig. 3 a similar view with the burner removed, Fig. 4 a longitudinal section, and Fig. 5 a transverse section.

In the drawings, the numeral 1 designates the metal casing of my device which incloses the mixing chamber 2 and is supported on the legs 3, while formed at one side of the casing 1 is the offset 4 providing the trough or receptacle 5. Secured to the upper edge of the casing 1 at one side is the plate 6 which inclines laterally to the lower side 7 of the casing and is adapted to discharge any fluid resting thereon into the trough 5, as will be best understood by reference to Figs. 1 and 5.

It will be observed that the plate 6 has formed on its face a plurality of upstanding ribs 8 having countersunk openings 9 therein extending through the plate, while secured to the nipple 10 at one end of the casing is a pipe 11 which extends in a coil above the face of the plate and has its other end connected to an oil supply tank 12. Branching from the pipe 11 intermediate the coil and the supply tank is a second pipe 13 which coils back over the plate and the pipe 11 and extends laterally and is connected to the water supply tank 14.

In the operation of my device I build upon the plate 6 a fire either from kindling or liquid fuel poured upon the plate, and I then open the valve 15 to admit water from

the tank to the coil of the pipe 13. The fire kindled on the plate 6 will serve to generate steam in the said pipe and I then open the valve 16 to admit oil from the tank into the pipe 11, the steam and oil mingling together in the coil of the pipe 11. When sufficient pressure has been raised in the coil of the pipe 11 I open the valve 17 to admit the mixed oil and steam to the chamber 2 beneath the plate 6, said steam and oil rising through the countersunk openings 9 in the ribs of the plate when the mixture can be ignited.

From the foregoing description taken in connection with the drawings the construction and operation of my improved device will be readily understood, and it will be seen that after the same has been once started by the burning of fuel upon the plate that the burner will automatically generate its own fuel to cause the continuous operation thereof, while the space or chamber 2 below the plate 6 serves as a supplemental mixing chamber for the further commingling of the vaporized oil and the steam entering through the nipple 10. I may either introduce the steam and vaporized oil merely through the nipple through the chamber or I may locate in said chamber the perforate pipe 18 in communication with the nipple 10 to cause the mixture to be forced upward toward the plate 6 in jets. It will further be seen that through the medium of the valves 15 and 16 I may regulate the richness of the mixture as desired, while the valve 17 serves to regulate the quantity of the mixture entering the mixing chamber of the casing.

To empty any superfluous oil from the chamber 2 I provide the casing with the pet-cock 19 while the trough 5 is provided with a similar pet-cock 20.

The many advantages of a construction of this character will be clearly apparent and it will be seen that the device is simple and inexpensive of construction but thoroughly practical and efficient in operation and that it may be employed either as an independent stove or heater or may be introduced into a cook stove or furnace to transform the same into an oil burning heater.

I claim:

1. An oil burner, comprising a receptacle, a burner plate arranged at an angle within said receptacle, said plate having spaced

perforated ribs formed thereon, oil and water supply tanks, connections from said tanks having coils disposed above the burner plate, a mixing chamber for the contents of the 5 coils, and means for controlling the flow of the mixture to the burner.

2. An oil burner, comprising a receptacle, a burner plate arranged at an angle in the receptacle to provide a mixing chamber be- 10 tween the plate and the bottom of the receptacle, said plate having perforated ribs formed thereon, a perforated pipe mounted

in the chamber and having an end projecting from the casing, fuel supply coils extending above the burner plate and connected with 15 the perforated pipe, and means for controlling the flow from the coils to the pipe.

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

JOHN C. F. WOODWORTH.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
