No. 721,755. PATENTED MAR. 3, 1903.

P. S. SPILLER.

GENERATING OIL BURNER.

APPLICATION FILED MAR. 14, 1902.

NO MODEL.

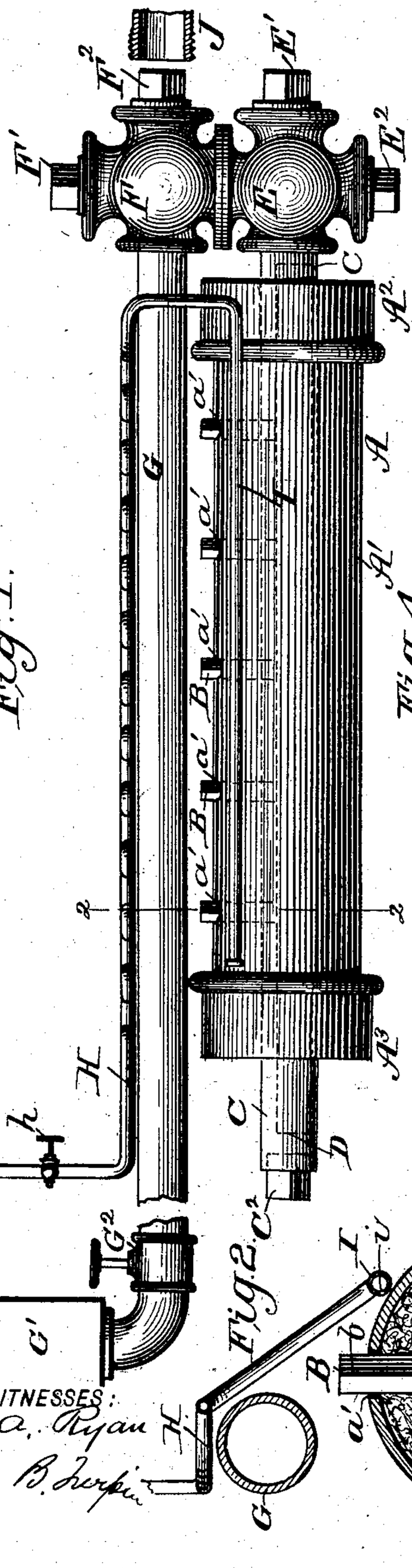

Fig. 1.

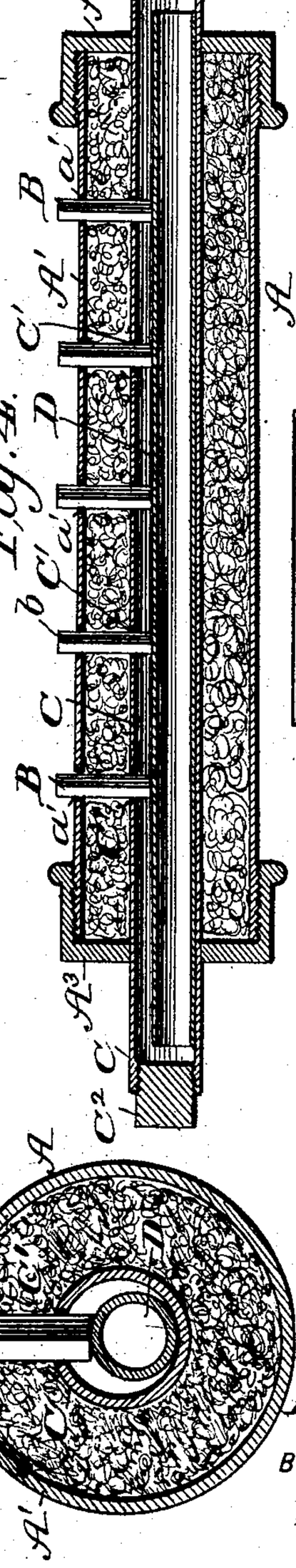

Fig. 4.

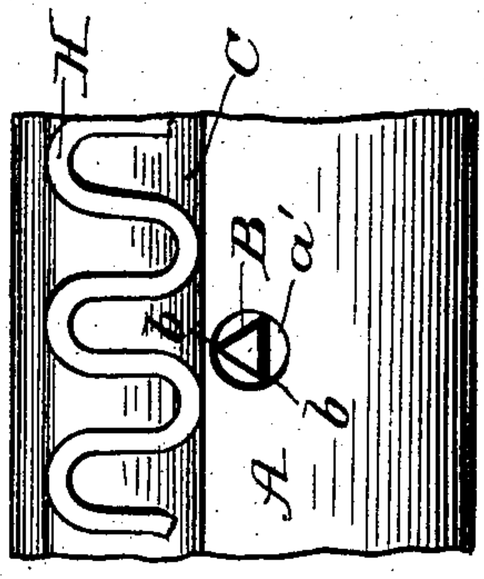

Fig. 3

Fig. 2.

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PHILIP SAMUEL SPILLER, OF AUSTIN, TEXAS, ASSIGNOR OF ONE-FOURTH TO HORACE P. HALDEMAN, OF AUSTIN, TEXAS.

GENERATING OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 721,755, dated March 3, 1903.

Application filed March 14, 1902. Serial No. 98,230. (No model.)

To all whom it may concern:

Be it known that I, PHILIP SAMUEL SPILLER, a citizen of the United States, and a resident of Austin, in the county of Travis and State of Texas, have made certain new and useful Improvements in Generating Oil-Burners, of which the following is a specification.

This invention is an improvement in oil-burners, and particularly in that class of said burners designed for using the heavy petroleum, such as that commonly found in the Texas oil-fields; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of my apparatus. Fig. 2 is a cross-sectional view on about line 2 2 of Fig. 1. Fig. 3 is a detail plan view showing one of the heating and cleaning pins in position in the burner-outlet of the burner-casing, and Fig. 4 is a longitudinal section of the main burner-casing and the parts immediately connected therewith.

The main casing A is of a suitable length to fit in the stove or furnace in which it is desired to use the same, and in the construction shown comprises the tube-section A′, whose ends are closed by the caps A^2 and A^3. The casing-tube A′ is provided in its upper side with the burner-openings a', preferably circular, and in which are fitted the heating and cleaning pins B, which have longitudinally-extending edges b, which operate as cutters in cleaning deposits of carbon or the like from the edges of the openings a'. Within the casing A′, I extend the burner oil-tube C, which is provided in its upper side, in line with the openings a', with openings C′, through which the pins B project, and such pins rest at their inner ends upon the filling-section D, which is placed within the oil-burner tube C, as shown in Fig. 2. It will thus be noticed the pins B are loosely supported and may be turned by a poker or other suitable tool to cut the deposits from the edges of the openings a'. The filling-section D is preferably in the form of a tube, as thereby it will not materially restrict the oil-holding capacity of the burner-tube C and yet will limit the amount of oil in said tube, which can be forced by the pressure of gas to jet through the openings a', especially in starting the burner. As shown in the drawings, the tubular section D lies loosely in the bottom of the tube C and is open at both ends, so oil and gas can circulate freely through the same. The tube C extends at one end beyond the cap A^3 and receives the cleaning-out plug C^2, while the other end of the tube C extends beyond the cap A^2 and connects with a coupling E, having cleaning-out plugs E′ and E^2, and united with a coupling F, having plugs F′ and F^2, and to which coupling F is connected the oil-feed pipe G, which extends thence longitudinally above the burner-casing A in position to be impinged by the flames from the burner-openings a', and thence connects with a tank G′ or other suitable supply, any suitable form of valve G^2 being employed to regulate the supply of oil to the burner.

To supply steam, I prefer to employ a water-pipe H, leading from a tank H′ and suitably disposed above the oil-feed pipe as it passes from end to end of that portion of the pipe G which overlies the burner proper so it will be heated in such passage and then having a burner branch I, which extends over the casing A, adjacent to the openings a', as shown in Fig. 2, and supplied with burner-openings i, through which steam will be discharged adjacent to the openings a', as best shown in Fig. 2. The water may be regulated by a needle or other valve h, and the flow may be adjusted to secure the discharge of steam in the desired quantities to properly effect the burning of the oil and gas as desired.

In operation in starting the burner a slight quantity of oil may be permitted to discharge into the oil-burner C and be ignited at the openings a', and in a short time the heat from the flames at a' will so heat the pipe G as to generate gas from the oil therein, and the said gas will pass to the openings a' and be consumed, the flow of oil being regulated to secure a gas-flame. In this operation the pins B will get very hot and will aid in securing a complete generation of gas from all the oil, said pins being also useful for cleaning purposes, and their form in cross-section, preferably triangular, which secures the cleaning function, aiding in providing passages for the

gas to escape through the openings a', as will be understood from the drawings.

As before suggested, the burner is designed for use within a stove or furnace for heating the same for any desired purpose. As indicated at J in Fig. 1, the pipe may be connected with the coupling F in lieu of the plug F^2 and the gas generated in the pipe G be conducted to a suitable gasometer and thence to a system of pipes for illuminating or other purposes, it being designed to thus utilize the surplus gas generated in the use of the burner.

The space in the casing surrounding the oil-burner tube C may be filled with mineral wool or fire-clay, or such casing may be solid and simply bored to receive the tube C and the pins B.

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

1. The improvement in generating oil-burners herein described comprising the casing having burner-openings, the oil-burner tube within the casing and having openings in line with those in the casing, the filling-section within the oil-burner tube, the heating and cleaning pins fitting in the coincident openings in the casing and the oil-burner tube and resting at their inner ends upon the filling-section and having longitudinal edges whereby to clean the edges of the burner-openings when turned therein, the oil-feed pipe and connections between the same and the burner-tube, and the steam-pipe extending over that portion of the oil-feed tube which overlies the burner-casing and having a return branch extending over the casing and provided with steam-outlets adjacent to the burner-openings in the casing substantially as set forth.

2. The combination of the burner-casing having burner-openings, the oil-burner tube arranged within the casing and having openings in line with the burner-openings of the casing, the filling-section within the oil-burner tube, and the pins extending through the openings in the casing and burner-tube and resting at their inner ends upon the filling-section substantially as set forth.

3. The improved burner comprising the casing having burner-openings, the oil-burner tube within the casing and having openings coinciding with those of the casing, the tubular filling-section within the burner-tube, and the pins resting at their inner ends upon the tubular filling-section and extending thence outwardly through the openings in the burner-tube and the casing, substantially as set forth.

4. The burner herein described comprising the casing having burner-openings, the burner-tube extending within the casing and having openings coinciding with those in the casing, the filling-section within the burner-tube, and the heating and cleaning pins edged longitudinally and fitting in the openings in the casing and burner-tube and resting upon the filling-section substantially as set forth.

5. An oil-burner comprising the casing having burner-openings and the heating and cleaning pins in said openings and angular in cross-section whereby to permit the passage of gas past them in all positions of said parts, substantially as set forth.

6. The combination with the casing and the burner-tube therein, such casing and tube having coincident openings, of the cleaning-pin arranged and operating in said openings, and made non-circular in cross-section and adapted to permit the passage of gas alongside of it in the direction of its length, substantially as set forth.

7. The combination with the casing having the burner-openings and the oil-feed pipe extending over said casing of the burner-tube connected with the oil-feed pipe and extended within the casing, and the steam-pipe extending over the oil-feed pipe and having a burner branch extending over the casing adjacent to the openings therein, substantially as set forth.

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