(No Model.)

C. H. WEST.

DRY OIL GAS BURNER.

No. 588,520. Patented Aug. 17, 1897.

Fig. 1.

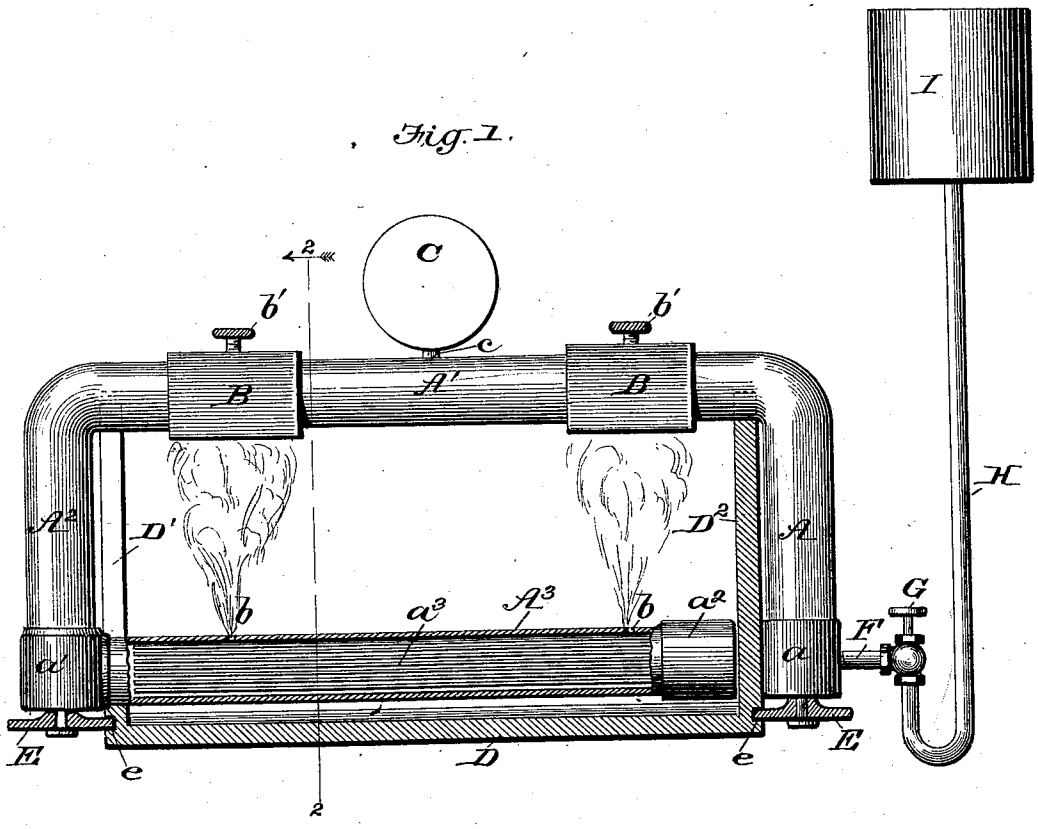
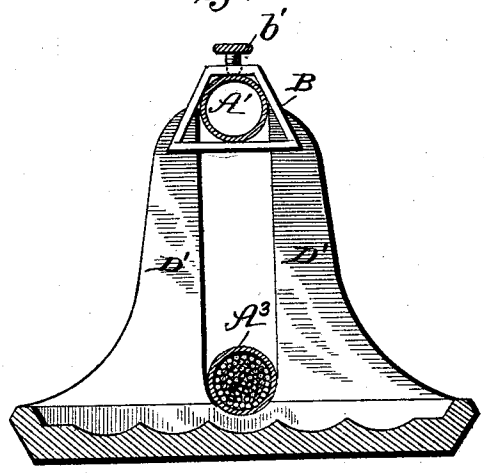


Fig. 2.



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DRY-OIL-GAS BURNER.

SPECIFICATION forming part of Letters Patent No. 588,520, dated August 17, 1897.

Application filed March 6, 1897. Serial No. 626,271. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. WEST, of Kearney, in the county of Buffalo and State of Nebraska, have invented a new and useful Improvement in Dry-Oil-Gas Burners, of which the following is a specification.

The object of my invention is to provide a dry-oil-gas burner or a burner for burning oil-gases in a perfectly dry state, in contradistinction to burning the oil in the form of a mist or spray; and to this end it consists in the special construction and arrangement of the various parts of the burner, which I will now proceed to more fully describe with reference to the drawings, in which—

Figure 1 is a side elevation of the burner, partly in section; and Fig. 2, a vertical cross-section taken through line 2 2 of Fig. 1.

In the drawings, A A' A^2 are the main parts of the burner-tube. The part A stands vertically and has a cap *a* at its lower end which connects with an inlet-tube F. The vertical part A bends at right angles into the longer horizontal part A', and this in turn bends downwardly at its other end into another vertical section A^2, the two bends at the end of pipe A' being simple bends in the pipe without any elbow-couplings, so that there can be no leaky joints, and no lodging-places for deposits are left in this part of the pipe. At the lower end of the vertical section A^2 there is a coupling *a'*, with which connects a horizontal pipe A^3, filled with metal wires or rods a^3 to increase the heat-conducting power, and on the end of this pipe is a closing-cap a^2. In the top surface of this pipe A^3 there are two outlet-holes or jet-orifices *b b* for the issuance of the gasified oil, and immediately above them and hung upon the horizontal pipe A' there are two peculiarly-shaped deflectors B B. These are of a generally triangular cross-section, with the top part flattened and parallel with the bottom, which latter is larger than the top and joined to it by two inwardly-inclined sides. The top of each deflector is provided with a set-screw *b'*, by which their position upon the pipe is fixed. These deflectors have their ends open to the air and their broad sides to the bottom, and they serve to spread the flame rising from the orifices *b b* and give a better distribution of the heat upon the pipe A' to convert the oil into gas. These deflectors B may by means of their set-screws *b'* be moved along the tube A' to different positions to suit the requirements of the case.

In the middle of the pipe A' there is upon the upper side a gas-dome C, which is designed to superheat the gas and render it dry and give more space for gas. This dome is in open communication with the pipe A' through a thimble *c*.

D is a metal base having at its ends uprights D' D^2, which support the upper horizontal section A' of the pipe. This base has upturned retaining-flanges on its sides and has in its bottom longitudinal corrugations adapted to receive parallel layers of absorbent wicking made of asbestos.

At the bottom of the couplings *a* and *a'* there are turn-buttons E E, which are adapted to engage with recesses *e e* in the ends of the metal base D and thus lock the base and the burner-pipes firmly together and yet permit them to be separated at will when desired.

With the inlet-pipe F for the oil there connects a feed-pipe H, leading from the oil-reservoir I, and at the junction of pipes H and F there is a valve G, by which the oil may be cut off or regulated at will.

The operation of my burner is as follows: The reservoir I being placed above the level of the burner, the valve G is first opened and oil is allowed to flow through the pipes A A' A^2 A^3 and to issue through the holes *b b* upon the asbestos in the pan D. The valve G is then closed and the saturated asbestos is ignited, the flames from which heat the overhanging tube A' and dry-gas dome C, so as to convert the oil into gas, which then commences to discharge forcibly through the holes *b b*, and the valve G being now opened to the requisite extent the admission of oil, its conversion into gas, and its immediate combustion proceeds continuously, the amount of heat and flame being regulated by the adjustment of the valve G.

I am aware that oil-gas burners have heretofore been invented in which the same general arrangement of pipes and subjacent base for holding the drip oil to start the fire with has been employed, and I do not claim this broadly.

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

1. In an oil-gas burner the combination with the overhanging vaporizing-pipe, and the subjacent burner-pipe; of an adjustable deflector, or flame-spreader, consisting of a broad flat base, a smaller parallel top, and inwardly-inclined sides connecting the top and bottom and having entirely open ends to receive the vaporizing-pipe, and a set-screw in the top for adjustably fixing the position of the deflector on the vaporizing-pipe substantially as and for the purpose described.

2. A dry-oil-gas burner consisting of the pipes A A′ A^2 bent as described and having a subjacent communicating pipe-section A^3 with outlet-holes; a flanged or dish-shaped base D having end standards D′ D^2 supporting the top pipe-section A′, and also locking-notches *e e*, and turn-buttons E E arranged on the lower ends of the pipe-sections A and A^2 to lock in notches *e*, substantially as and for the purpose described.

CHARLES H. WEST.

Witnesses:
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