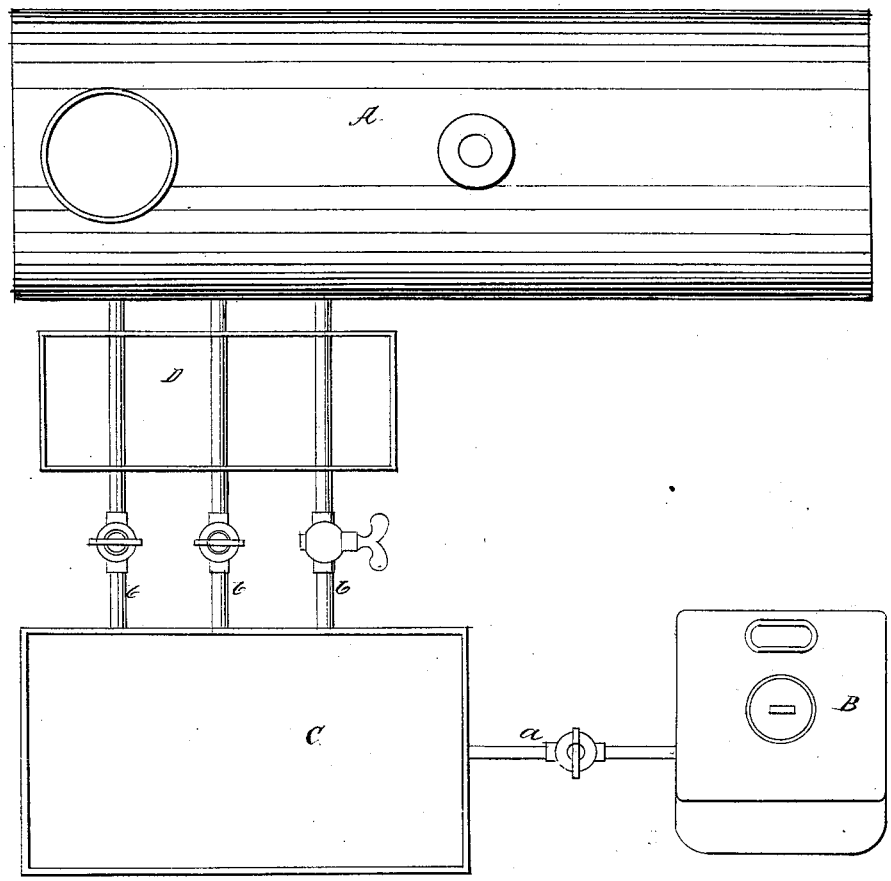
E. Mc Kinney,

Burning Hydrocarbon.

No. 48,967. Patented July 25, 1865.



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UNITED STATES PATENT OFFICE.

E. McKINNEY, OF MIDDLETOWN, PENNSYLVANIA.

APPARATUS FOR BURNING PETROLEUM.

Specification forming part of Letters Patent No. **48,967**, dated July 25, 1865.

To all whom it may concern:

Be it known that I, E. McKINNEY, of Middletown, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Burning Petroleum; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming a part of this specification.

The drawing, containing only one figure, represents an apparatus by which I propose to illustrate my invention.

This invention consists in a new method of generating heat by the burning of petroleum, and it is applicable to domestic and culinary purposes, to producing steam in boilers, and generally to every use where heat is required.

In the drawing I have shown a plan view of a steam-boiler, A, and of a stove, B, each connected by suitable pipes to a tank, C, intended to contain petroleum, crude or refined, for the purpose of illustrating in the same view how my invention can be used either with a stove or a steam-boiler.

The furnace of the steam-boiler and the fire-chamber of the stove are not seen in the drawing, but the pipes *a* and *b* are directed toward and are supposed to enter them.

C is a tank, of any suitable construction and size, for holding petroleum.

D is a cold-water tank, placed between the furnace of the steam-boiler and the tank, through which the pipes *b* pass, and the object of which is to keep the pipes cool and intercept any heat which may be radiated from the boiler and furnace. Any other suitable refrigerating medium may be used. Each pipe is provided with a stop-cock by which the flow of the oil is regulated.

The pipe *a* which conducts the oil to the stove B is not shown as passing through a refrigerating medium, for the reasons that a tank like D may not be necessary where the combustion takes place in a small furnace or stove in which a small degree of heat is generated, and that to show another tank would not be necessary to show my invention, because it would be only a duplication of the one placed between the tank C and the boiler.

The pipes *a b* are introduced into the fire-chamber and furnace near or through their bottoms, and the said fire-chamber and furnace are supplied with air to support combustion, as in other fire-chambers, either through their doors or through their bottoms, by means of air-pipes or otherwise. The embouchures of said pipes *a* and *b* are covered with plumbago or other suitable refractory material in a fine or pulverized state, so that the oil will be discharged into the same and will saturate it. Dry clay will answer as a substitute for plumbago, and where a high heat is not desired sand will answer, but in that case the heat produced must not be high enough to vitrify it.

My invention is different from that patented to Mr. Dick, of Pennsylvania, inasmuch as he supplies hydrocarbon oils into a fire-box in such quantities as to rise above the level of the pumice-stone or other material which he places in the box, whereas I use plumbago or other refractory material in a pulverized or powdered state in sufficient quantity to cover and protect the delivery-pipes and their embouchures from contact with the fire and to cause the oil to saturate the mass and diffuse the oil over and through it. I do not allow the oil to stand above the surface of the bed of plumbago, but it is brought up to the surface by capillary attraction as the combustion proceeds.

This invention can also be applied to the production of light.

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

The method above described of generating heat and light from the combustion of petroleum or other hydrocarbon, crude or refined, by introducing it through pipes controlled by stop-cocks passing through any proper refrigerating medium to keep said pipes cool and prevent the transmission of the generated heat to the reservoir of oil into the place or places of combustion, and there mixing it with a refractory material pulverized, so that the pipes are protected from the fire, the oil being supplied in such quantity as merely to saturate the mass of material with which it is mixed, and being drawn to its surface by capillary attraction, substantially as above set forth.

EDMUND McKINNEY.

Witnesses:

SEYMOUR RAYMOND,

JOSEPH CAMPBELL.