

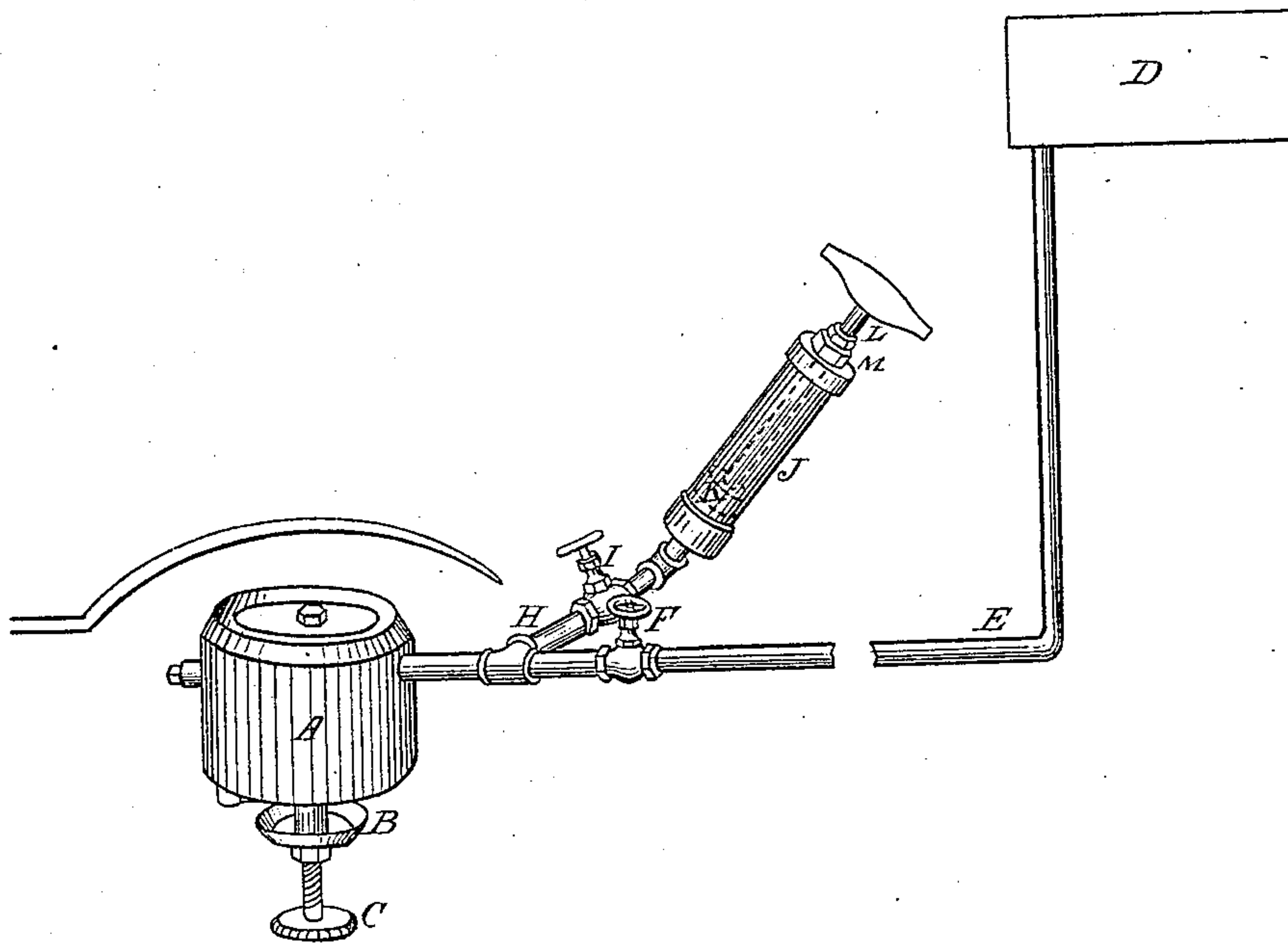
(No Model.)

B. MARTIN.

ATTACHMENT TO HYDROCARBON VAPOR BURNERS.

No. 291,918.

Patented Jan. 15, 1884.



Attest
J. H. Kent.
J. H. Kent

by his Att'y.

Inventor:
Bruno Martin.
Bruno Martin

UNITED STATES PATENT OFFICE.

BRUNO MARTIN, OF EAST SAGINAW, MICHIGAN.

ATTACHMENT TO HYDROCARBON-VAPOR BURNERS.

SPECIFICATION forming part of Letters Patent No. 291,918, dated January 15, 1884.

Application filed October 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, BRUNO MARTIN, of East Saginaw, in the county of Saginaw and State of Michigan, have invented new and useful
5 Improvements in Attachments to Hydrocarbon-Vapor Burners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of
10 this specification.

This invention relates to certain new and useful improvements in vapor-burners for hydrocarbons of that class where the hydrocarbons are vaporized by the heat of the burner,
15 which is initiated by means of an external flame made by burning alcohol in a receptacle below such burner.

The invention consists in an attachment to such devices by means of which the process
20 of extinguishing the flame of the burner, when desired, is improved and simplified, and the production of the disagreeable odors arising from the escape of the unconsumed vapor after the burner is extinguished is entirely
25 avoided, while at the same time the unconsumed gas is preserved and stored in such a manner as to be available for relighting and reheating the burner when again desired, within a limited time, without the necessity
30 of burning alcohol for the purpose. A further advantage is also obtained in the clearing of the vapor-passages in the burner, as my attachment produces the same result upon such passages as is had by the use of the well-
35 known plumber's suction-pump in removing obstructions from waste-pipes. In the present construction of hydrocarbon-burners, when it is desired to extinguish the flame, the valve which regulates the flame is closed.
40 This has two disadvantages: first, it produces a very disagreeable odor, as the flame gradually or suddenly is extinguished; and, second, the employment of such burners for obtaining a fixed amount of heat—i. e., stated temperatures—in technical operation, is thereby rendered unreliable, as the valve must be reset
45 again to its former position—an operation requiring much and careful attention.

In the accompanying drawings, which form
50 a part of this specification, A represents a vapor-burner of any of the well-known con-

structions for vaporizing and burning hydrocarbons. B is the cup below the burner, in which to ignite alcohol to create the initial heat. C is the handle to the regulating-valve. 55 D is the supply-tank, and E the connecting-pipe, provided with a valve, F, by means of which the hydrocarbon is supplied to the burner, and these are of the known constructions. H is a branch, provided with a valve, 60 I, connecting the pipe E with one end of the cylinder J tightly. The cylinder is provided with a piston, K, and a rod, L, projecting through a tight stuffing-box, M.

When the lamp is burning, of course the 65 valve in the supply-pipe is open, to allow the hydrocarbon to pass from the tank to the burner, and the valve in the branch pipe must be closed. When it is desired to extinguish the flame, the valve in the supply-pipe 70 is closed and the one in the branch opened, and the piston is at the bottom of the cylinder until this change is made in the position of valves. Now, after making this change in the valves, slowly withdraw the piston to 75 ward the opposite end of the cylinder, and this operation will draw all the unconsumed vapor from the burner and extinguish the flame. Now, by closing the valve I, the vapor will be stored in the cylinder. If, after a few 80 hours, it is desired to again use the burner, both valves should be opened—the valve I a little before the other—and a lighted match applied to the burner, at the same time forcing the vapor from the cylinder by a slow reverse 85 motion of the piston, which forces the vapor to the burner.

What I claim as my invention is—

1. The combination, with a hydrocarbon-vapor burner, of an exhausting device adapted 90 to extinguish the flame of said burner by withdrawing from it any unconsumed vapor within it, substantially as described.

2. The combination, with a hydrocarbon-vapor burner, of a pump adapted to extin- 95 guish the flame of said burner by withdrawing from it any unconsumed vapor within it, and to return said unconsumed vapor to said burner when desired, substantially as specified.

3. The combination, with a hydrocarbon- 100 vapor burner and its feed-pipe, of the ex-

haust-cylinder J, provided with a piston constructed to withdraw the unconsumed vapor from the burner, substantially as and for the purposes set forth.

- 5 4. The combination, with a hydrocarbon-vapor burner and its feed-pipe, of the branch H, valves F I, and cylinder J, provided with

a piston and rod, constructed to withdraw the unconsumed vapor from the burner, substantially as and for the purposes described.

BRUNO MARTIN.

Witnesses:

H. S. SPRAGUE,
E. W. ANDREWS.