

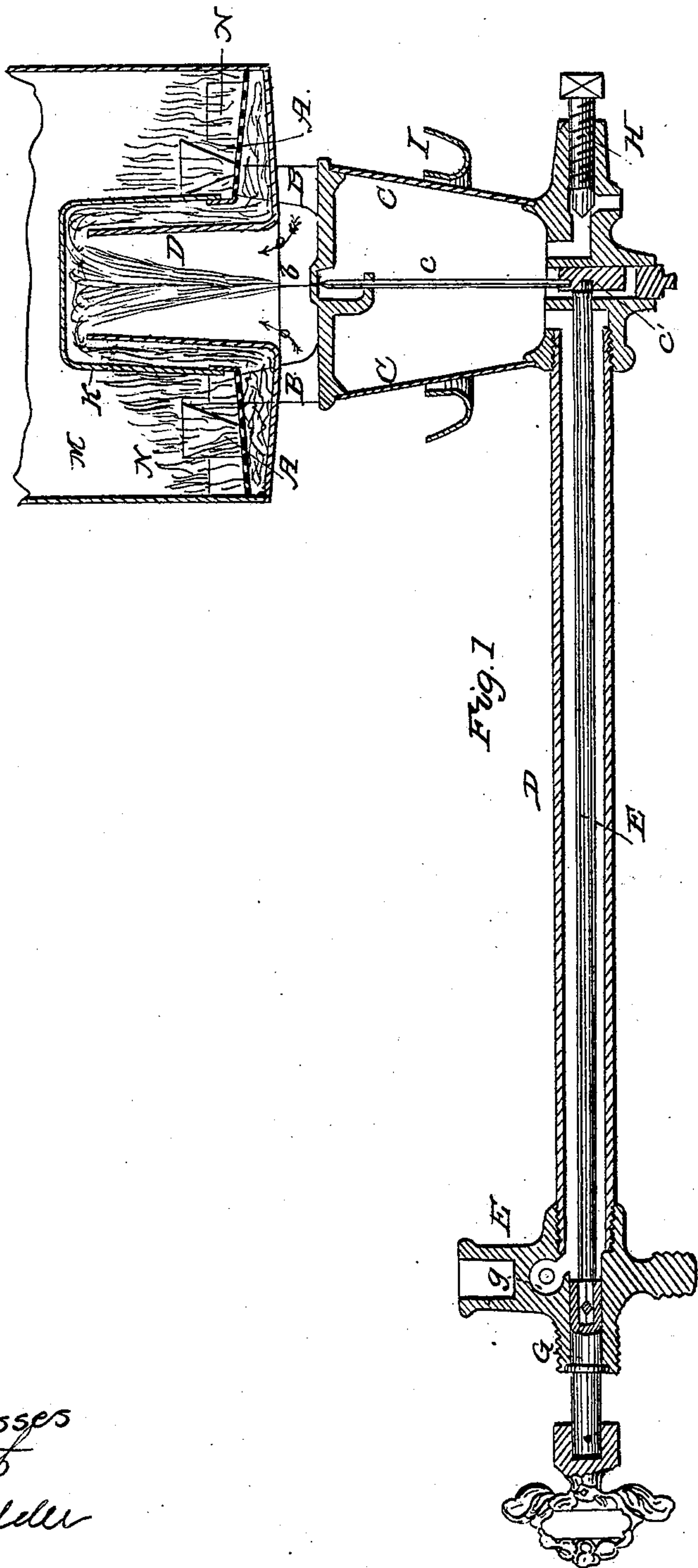
2 Sheets—Sheet 1.

H. W. DOPP.

Vapor Stove.

No. 41,975.

Patented March 22, 1864.



Witnesses
J. Forney
O. B. Edder

Inventor
H. W. Dopp

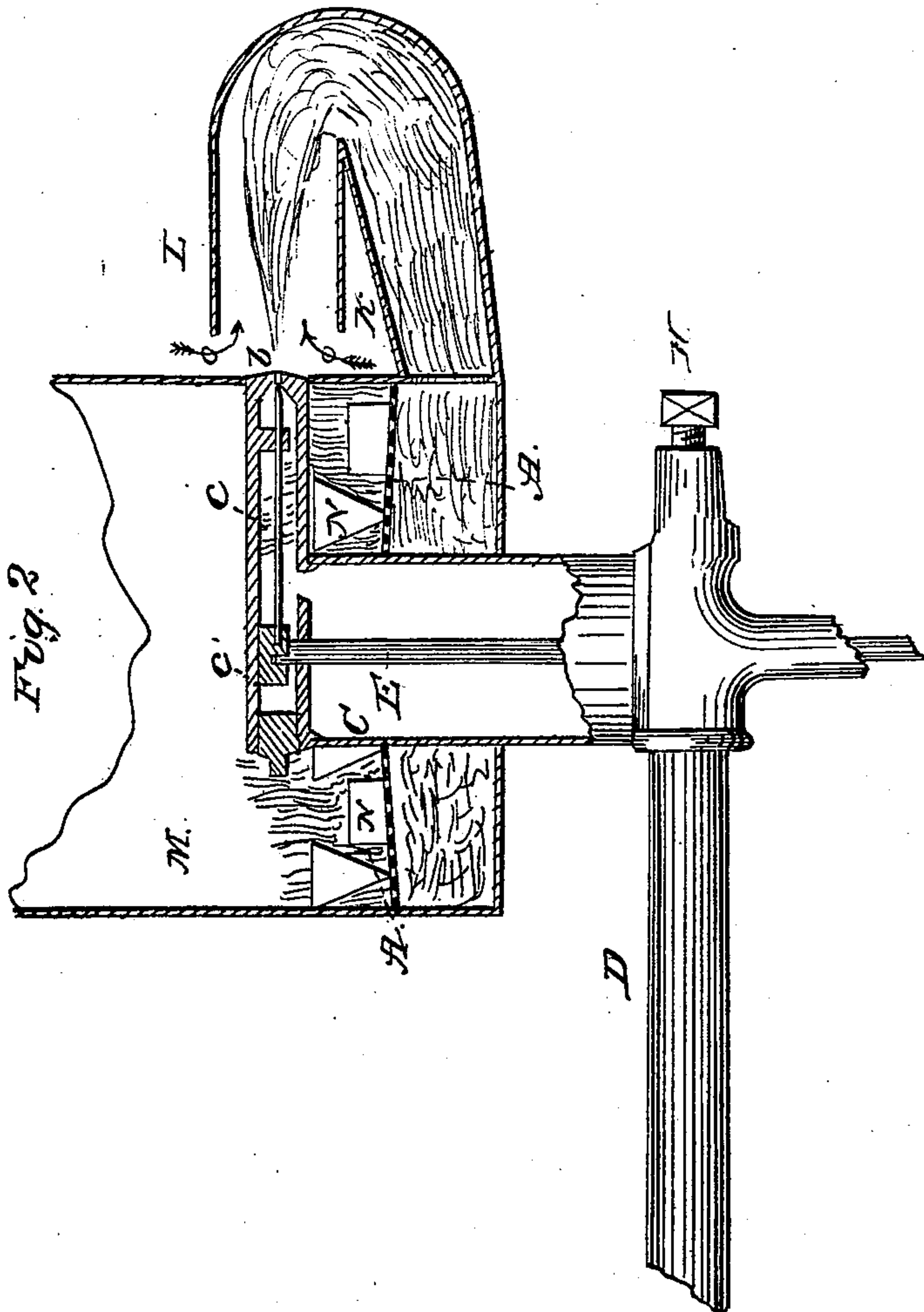
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UNITED STATES PATENT OFFICE.

H. W. DOPP, OF BUFFALO, NEW YORK.

IMPROVEMENT IN VAPOR-STOVES.

Specification forming part of Letters Patent No. 41,975, dated March 22, 1864.

To all whom it may concern:

Be it known that I, H. W. DOPP, of the city of Buffalo, in the State of New York, have invented a new and Improved Mode of Burning Coal-Oil for Heating and Cooking Purposes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon—

Figure I is a center section of the apparatus. Fig. II is a modification of Fig. I, by which the vapor makes its exit horizontally instead of perpendicularly, and where the continuous vaporization is effected by direct heat of the flame from the combustion of the vapor surrounding and inclosing the upper part of the retort C, in which oil is contained as supplied from reservoir above for vaporization.

A is a distributing-plate and generator, perforated, through which the vapor, after it has mingled sufficiently with the atmosphere, passes in order to be burned directly above said perforated plate without any noise, smell, or smoke, sufficient heat being obtained thereby from the combustion of said vapor to secure continuous vaporization.

B B are conductors, conveying heat from distributing-plate A to the retort C.

C is a retort in which the oil is converted into vapor by means of the heat conducted down from distributing-plate A. This retort is furnished with a small orifice, *b*, in the center of its top surface, through which the vapor to be burned makes its exit.

c is a rod within the retort, pointed on the upper end for graduating purposes, and secured at the lower end to a stem. It is operated by means of a crank-pin playing in a groove running across said stem at *c'*.

D is a supply-tube leading oil into retort C.

E is a shaft provided with a crank-pin on one end and a square pin on the other end. This shaft runs through the center of supply-tube D and serves as motive transferator to the stem and rod *c*.

F is a throttle-valve body, which is attached to supply-tube D.

G is a stem with a handle on one end and a square hole in the center of the other end, by means of which connection is had with shaft

E and rod *c*, the whole being for graduating the supply of vapor to be burned.

g is a throttle-screw or screw-valve, for controlling the supply of oil to retort.

H is a screw-valve placed in the bottom part of retort C for withdrawing the residuum of the oil.

I is a cup surrounding the retort for holding alcohol, the combustion of which in that mode is best adapted to produce the primary vaporization of the oil within the retort.

K is a tube by means of which the vapor is conducted, after it has mingled with the atmosphere, down to the perforated distributing-plate A, through which the vapor then passes to be burned.

L is a tube for mingling the vapor with atmosphere, which atmosphere passes into said tube at *o o*. This tube is in connection with tube K.

M is a cylinder surrounding perforated distributing-plate A and tubes K and L, for the purpose of inclosing the flame obtained from the combustion of the vapor passing out of the small orifice *b*.

N N are a number of holes in the cylinder M, for the purpose of creating a draft and supplying the flame with increased atmosphere.

To operate this heating and cooking apparatus a reservoir of coal-oil or petroleum is placed in connection with it by means of ordinary tubing, at an altitude of three or more feet, and leading to the throttle-valve F. Sufficient heat is then to be applied to the retort C and distributing-plate A by means of the combustion of the alcohol in cup I, surrounding the retort, to produce vaporization, which is first ascertained by opening the throttle-screw or screw-valve *g* to admit the oil into the retort C, and then partially opening the small orifice *b* in the upper surface of said retort C, at about the time the alcohol is nearly consumed by the partial withdrawal of the pointed rod *c*, which is done by slightly turning the handle of stem G. If vaporization is accomplished, the vapor will then issue from the small orifice thus partially opened. This vapor, as it rises in tube L, mingles with the atmosphere, and is then conducted down through tube K to beneath the perforated distributing-plate A. It then passes upward through said plate A and becomes ignited from contact with the

burning alcohol in cup I, and then burns noiselessly with strong concentrated heat, free from smell or smoke. The plate A thus becomes thoroughly heated by the action of the burning vapor, in close contact and immediately above it, and conducts sufficient heat, now, to the conductors B B and retort C to keep up a steady supply of vapor, and now the rod *c* is fully withdrawn by farther turning the handle of stem G, when increased production and consumption of vapor is at the

same time effected by the self-sustaining process of vaporization in the mode above described.

I claim—

Mingling-tube L and conducting-tube K, in combination with perforated distributing-plate A, for the purposes set forth.

II. W. DOPP.

Witnesses:

E. B. VEDDER,
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