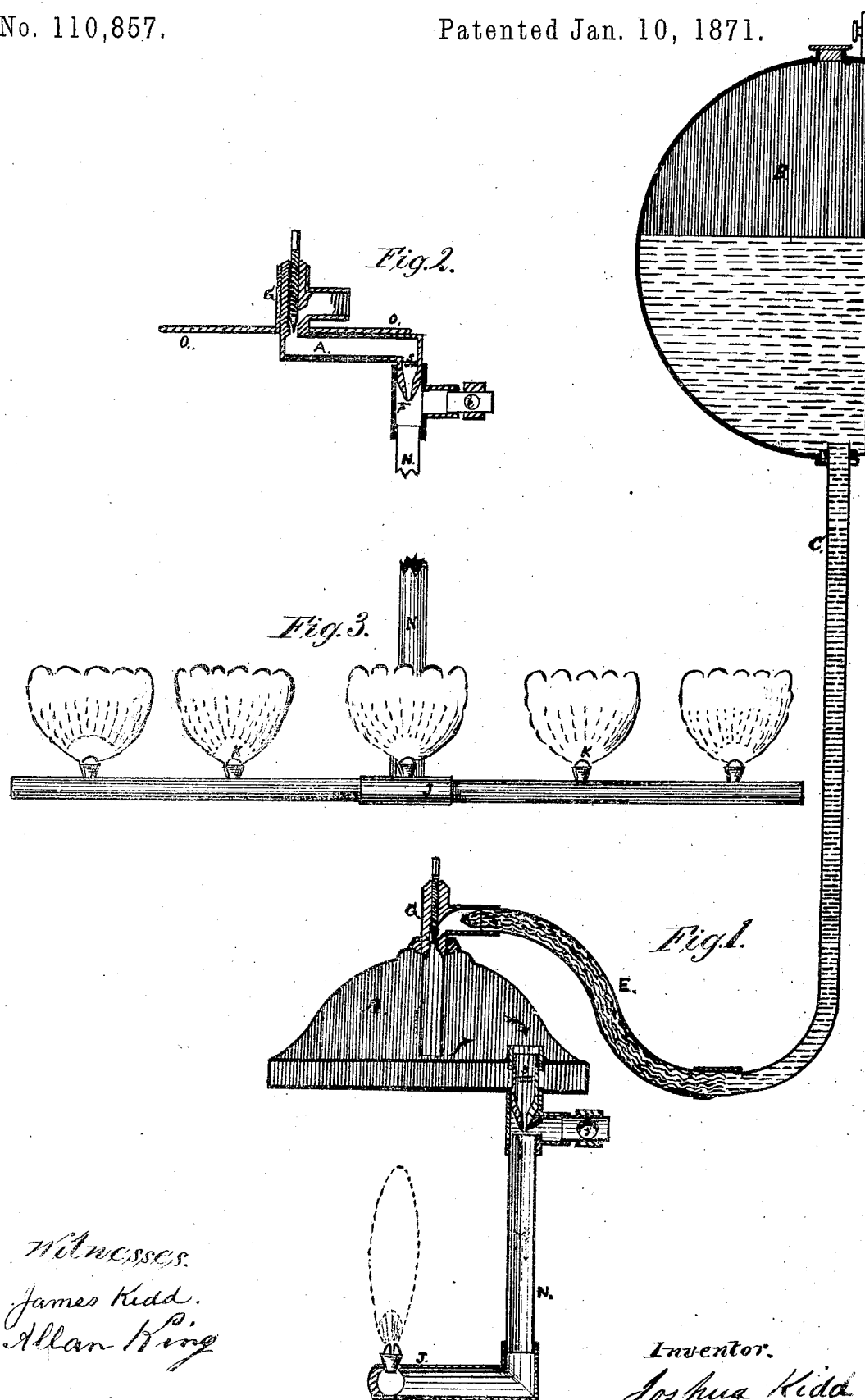


J. KIDD.

APPARATUS FOR GENERATING AND BURNING VAPOR FROM  
HYDROCARBONS.

No. 110,857.

Patented Jan. 10, 1871.



Witnesses:  
James Kidd.  
Allan King

Inventor.  
Joshua Kidd

# United States Patent Office.

JOSHUA KIDD, OF NEW YORK, N. Y.

Letters Patent No. 110,857, dated January 10, 1871.

## IMPROVEMENT IN APPARATUS FOR GENERATING AND BURNING VAPOR FROM HYDROCARBONS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, JOSHUA KIDD, of the city, county, and State of New York, have invented a new and improved Apparatus for Generating and Burning the Vapors from Liquid Hydrocarbons; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the drawing attached and making part of this specification, where similar letters represent similar parts.

Figure 1 represents a vertical section of my improved apparatus complete.

Figure 2 is a modification of the retort A, shown in fig. 1.

Figure 3 shows a front elevation of the jets and burner-tube.

My present invention is an improvement upon a former invention relating to the same subject, for which Letters Patent were granted to me dated March 9, 1869, No. 87,680, and consists in combining a device with the vaporizer there shown for mixing air with the vapor by an induced current caused by the escaping force of the vapor.

I am aware that the inducing of a current of air by the escaping force of a jet of vapor has been used before in combination with numerous mechanical devices for the utilization of liquid hydrocarbon for lighting and heating purposes.

I lay no claim to the method of inducing a current of air, except when combined with a retort or its equivalent, where the heated oil is injected, under pressure, sparingly, into the aforesaid retort.

This retort or vaporizer is heated by the heat given off from the vapor burning under it.

The liquid hydrocarbons most suitable to be used in this apparatus are petroleum, naphtha, or gasoline, ranging from 60° to 85° Baumé's scale.

### *Description of Drawing.*

A shows a section of a round retort or vaporizer.

This retort may be made any desired shape, or it may be made of tube bent in a circular or zigzag form, with a metallic heat-conductor, O, attached to it, and placed over the flame, as shown at fig. 2.

B is the reservoir.

C, the pipe, about eighteen inches long, for conducting the liquid to the retort.

E, bent tube filled with cotton or other fibrous material, for regulating the flow of oil, and stopping its oscillation in the tube. This tube is made to rise toward the retort, to prevent the communication of heat from the retort to the reservoir.

G, faucet for regulating and stopping the oil-supply.

F, small jet for inducing a current of air from the atmosphere, which air is drawn into the tube N at the adjustable opening I.

S, wire gauze to prevent any solid matter from stopping up the jet.

J shows the tube for holding the jets K K for burning the vapor-gas. These jets may be arranged in a variety of forms to suit the taste of parties using the apparatus.

Having now described my invention, I would have it to be understood that I do not confine myself to the exact arrangement shown and described, as the same may be varied; but

What I do claim is—

The combination of retort A, in which vapor is generated by admitting the oil into the same, under pressure, sparingly, with the air-inducing jet F, fixed in a larger pipe, open to the atmosphere, together with bent tube E, adjustable faucet G, and wire gauze S, or the equivalent of any one or all of said parts, when combined to form an illuminating apparatus, as described.

JOSHUA KIDD.

Witnesses:

JAMES KIDD,  
ALLAN KING.