

W. THOMPSON.

Vapor Burner.

No. 107,737.

Patented Sept. 27, 1870.

Fig. 1.

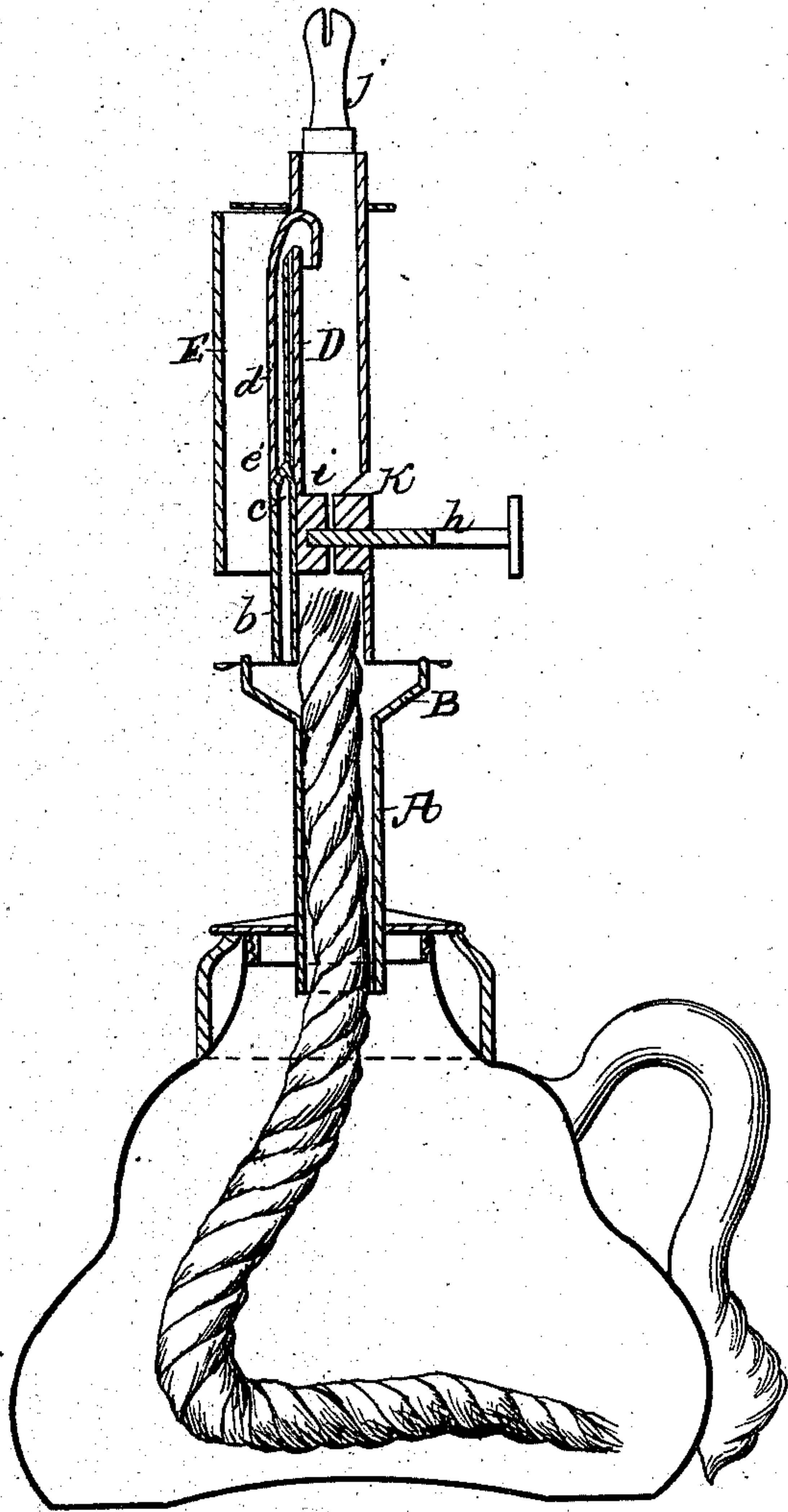
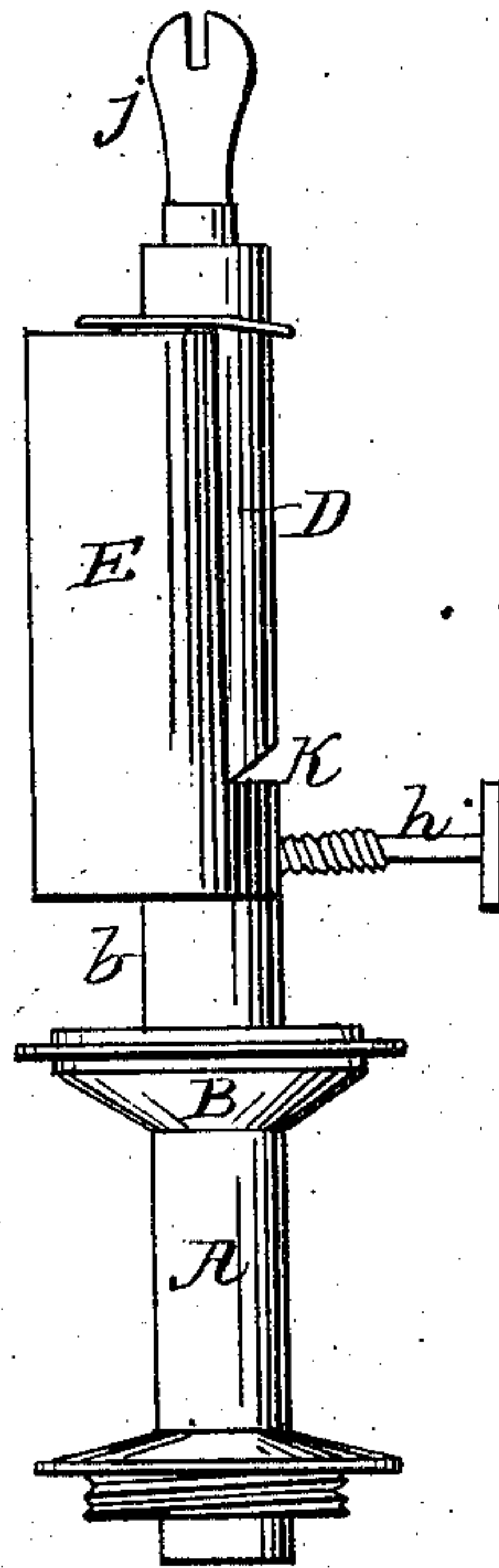


Fig. 2.



Witnesses

C. E. Wyman

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Inventor

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att'y.



# UNITED STATES PATENT OFFICE.

WILLIAM THOMPSON, OF CLEVELAND, ASSIGNOR TO HIMSELF, JEREMIAH S. BOLLMAN, AND MICHAEL H. KLINE, OF MANSFIELD, OHIO.

## IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. 107,737, dated September 27, 1870.

I, WILLIAM THOMPSON, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in Non-Explosive Hydrocarbon-Vapor Burners, of which the following is a specification:

The nature of this invention relates to a burner for burning the gas or vapor of hydrocarbon oils.

In the drawing, Figure 1. is a vertical section of burner. Fig. 2 is a detached view of burner.

A is a tube, attached to the cap, screwed into the collar of a lamp, for containing a wick. The tube is divided midway up, and is provided with an enlarged chamber, B. To one side of the chamber arises a small tube, *b*, having a very small opening, *c*, near the top.

On the top of the tube A is placed an extension-tube, D, also having a small tube, *d*, attached, leading from an opening at the top downward, and has a small opening, *e*, near the bottom. The top of tube A is made solid, and is pierced with a small opening, *i*, for the gas to pass up through from the wick *m*.

*h* is a thumb-rod, which screws into the side of the solid top of the tube A, in an opening which crosses the small opening *i*, and is for the purpose of shutting off the gas when desired.

Upon the side of the tubes D, and surrounding *d*, is a larger tube, E, making a chamber around it, there being a hole, *k*, made in the bottom of tube D for the admission of air. The top of the chamber is nearly covered by a plate, the tube D projecting through it, and

having a slit burner, *j*, on it. The wick reaches to the top of the tube A only.

The operation of this burner is as follows: By lighting a match and holding it just under the enlarged chamber B, when it becomes heated gas will be generated, and, passing up, fills the tubes *b d* and D, and, issuing at the burner *j*, may be lighted, giving a brilliant flame.

The gas issuing at the openings *c* and *e* is also lighted, which small jet of flame heats the outer tube E, thus making a heating-chamber which continues generating gas.

By turning the thumb-rod *h*, the opening *i* is closed, shutting off the supply of gas to the tubes D *d*, when the light will go out; but the small tube *b*, being still supplied from the chamber B, continues to burn, when the burner may again be lighted by turning the thumb-rod and opening the communication with the tube D. The gas, passing into the tube *d*, is again lighted at *e*, and will, also, be lighted at *j*, thus making a self-lighting lamp-burner. It is also non-explosive, as there can be no communication with the fluid in the font of the lamp.

I claim—

The tube A, chamber B, tube D, small tubes *b* and *d*, outer tube E, burner *j*, and thumb-rod *h*, all combined, arranged, and operating substantially as and for the purpose set forth.

WILLIAM THOMPSON.

Witnesses:

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GEO. HESTER.