

(No Model.)

2 Sheets—Sheet 1.

C. S. DRAKE.  
VAPOR STOVE.

No. 401,258.

Patented Apr. 9, 1889.

Fig. 1

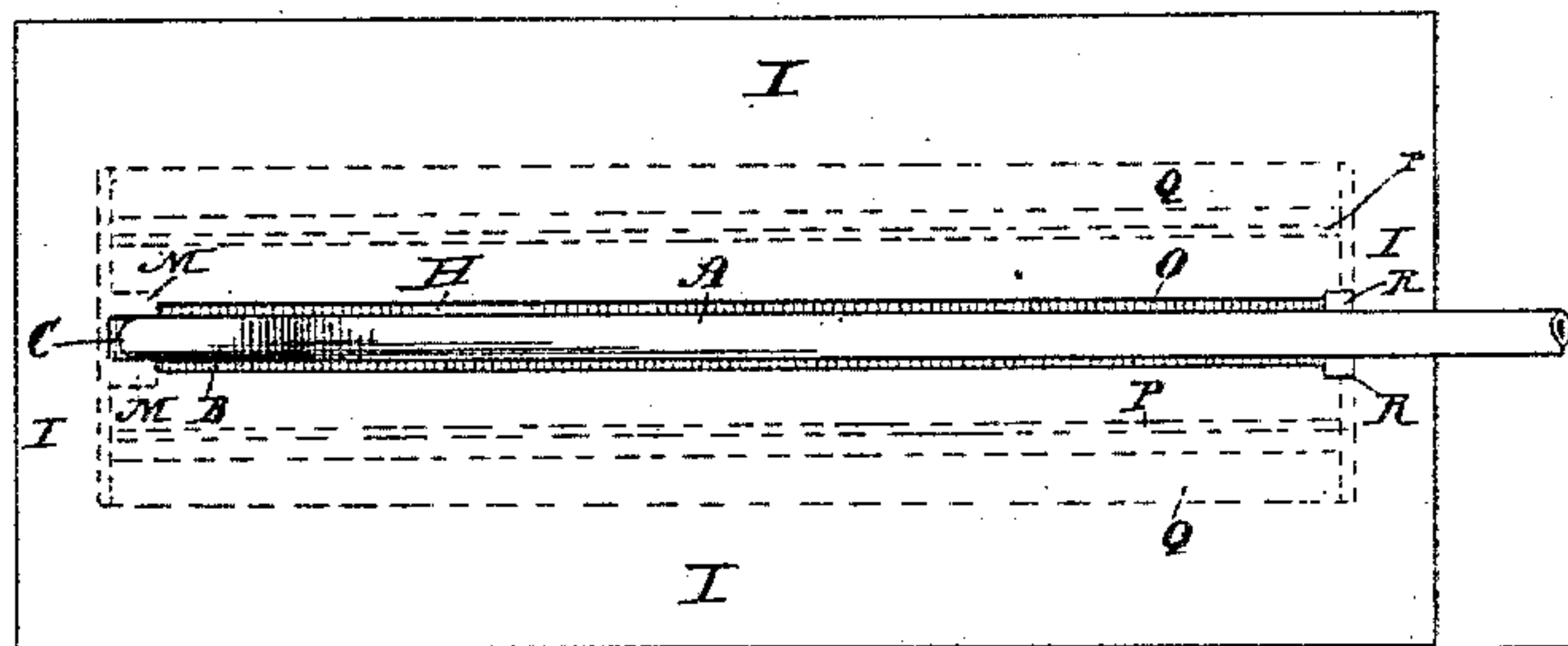


Fig. 2

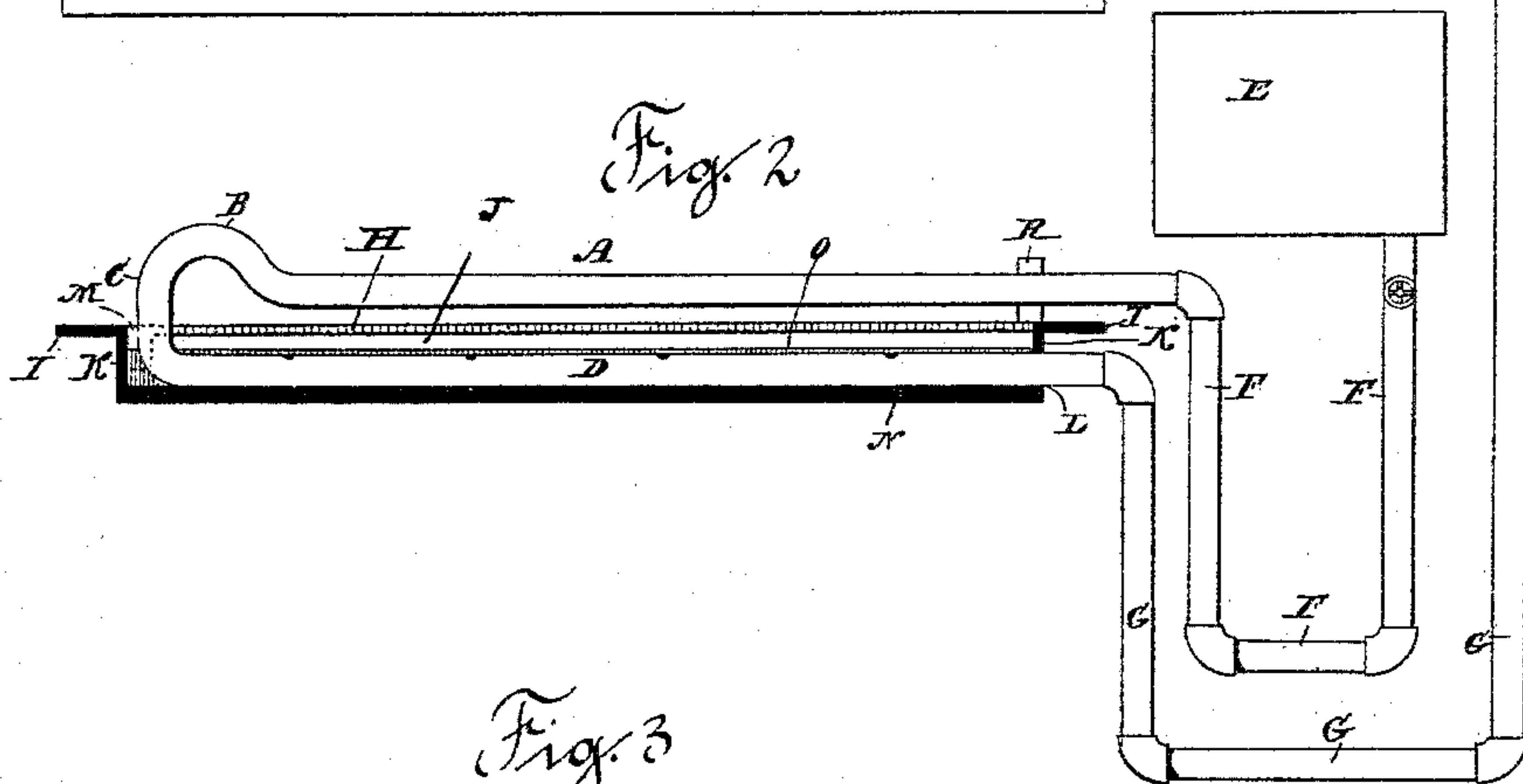
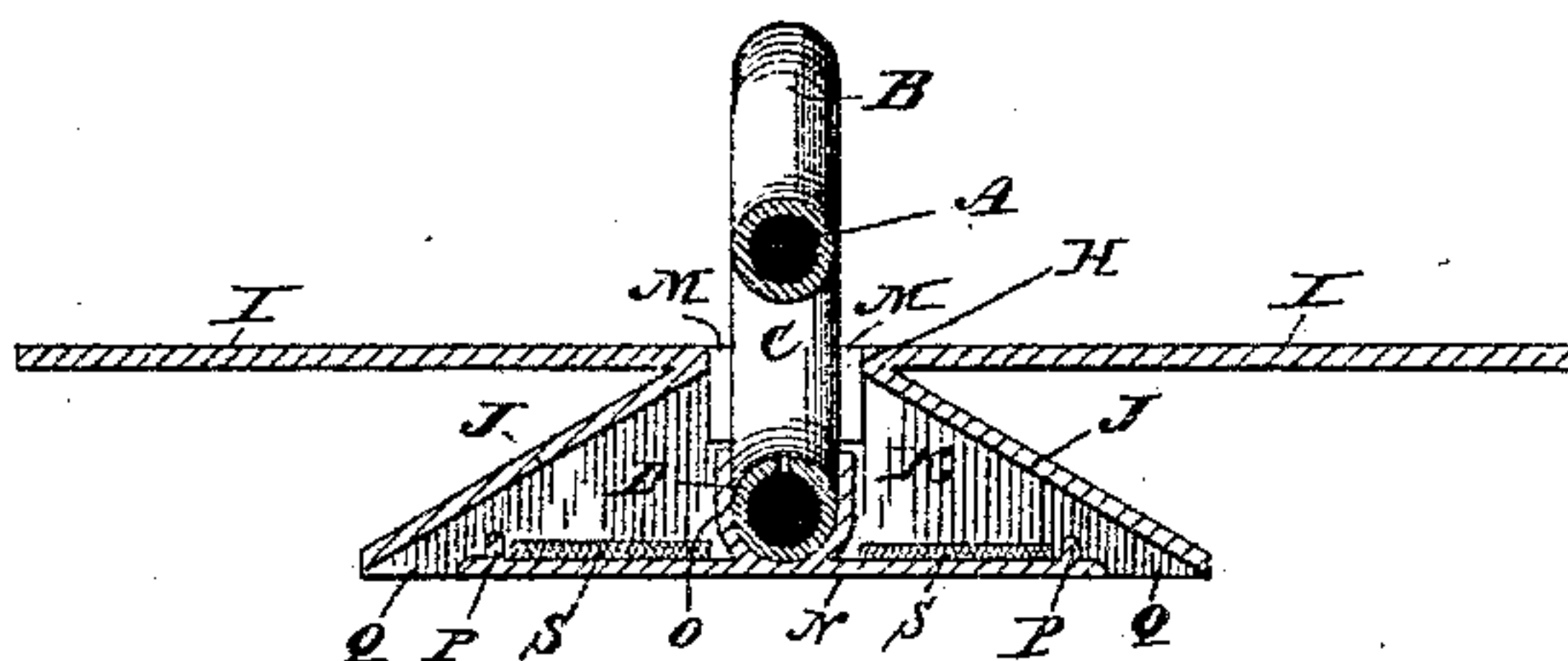


Fig. 3



Witnesses:  
Char. B. Shumway  
Belle Ford

Inventor,  
Charles Seaver Drake  
By George D. Seymour.  
Atty

(No Model.)

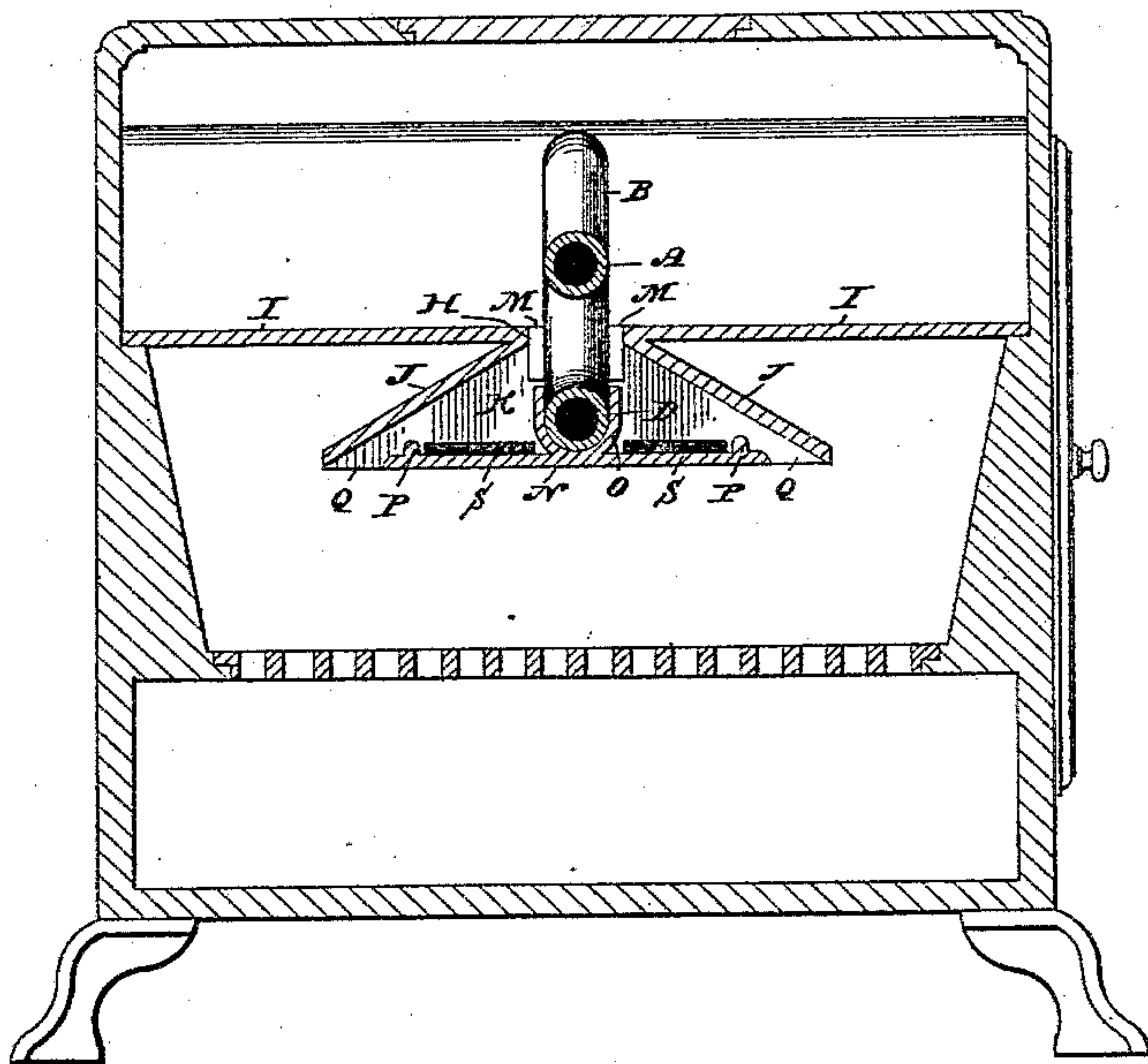
2 Sheets—Sheet 2..

C. S. DRAKE.  
VAPOR STOVE.

No. 401,258.

Patented Apr. 9, 1889.

Fig. 4



Witnesses:

Chas. B. Shumway  
Harry Hall.

Inventor.

Charles S. Drake.  
Ryerson & Beaman.  
Atty.



# UNITED STATES PATENT OFFICE.

CHARLES SEAVER DRAKE, OF SAN RAFAEL, CALIFORNIA.

## VAPOR-STOVE.

SPECIFICATION forming part of Letters Patent No. 401,258, dated April 9, 1889.

Application filed September 27, 1888. Serial No. 286,597. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES SEAVER DRAKE, residing at San Rafael, in the county of Marin and State of California, have invented certain  
5 new and useful Improvements in Vapor-Stoves; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specifica-  
10 tion.

My invention relates to an improvement in vapor-stoves, the object being to produce a compact, inexpensive, and efficient device for using oil for fuel in stoves.

15 With these ends in view my invention consists in a box of peculiar construction, as will be described, for combination with such pipe.

In the accompanying drawings, Figure 1 is a plan view of my improvement with the pipe broken away at a point outside of the box. Fig. 2 is a view thereof in vertical longitudinal section. Fig. 3 is an enlarged view thereof in transverse section, looking toward the step in the pipe; and Fig. 4 is a similar view showing the burner in the fuel-chamber of a stove which is represented in vertical section.

As herein shown, a pipe or conduit is bent or shaped to form a vaporizing-chamber, A, a step, B, extending above the level of such chamber, a bend, C, and a perforated vapor-chamber, D, extending under and parallel with the vaporizing-chamber. A fount, E, connected through pipes F with the chamber A, supplies oil thereto, while pipes G, connected  
30 with the outer end of the chamber D, leads therefrom any gas that may not be burned in the stove. The said vaporizing and vapor chambers are combined with a cast-iron box having a central longitudinal opening or slot, H, and a wide flange, I, located at the top of the box and adapting the same to be supported in the fuel-chamber of a stove. The box proper, which is located below such flange, is composed of inclined side walls, J, converging to the said slot of end walls, K, one of which has an opening, L, and the other two uprights supporting ribs M, separated by the width of the slot and extending inward into the box, and a flat bottom, N, having a central longitudinal trough, O, located under and  
45 parallel with the slot H, two ribs, P, respectively

located on opposite sides of the trough, and two long draft-openings, Q, located between such ribs and the sides of the box, which is further provided upon its upper face and  
55 at one end of the slot with two upright arms, R, as shown. A layer of asbestos wicking, S, is located within the shallow space inclosed by the ribs P and the ends of the box, which is set into the combustion-chamber of a stove  
60 and cemented around the edges of its flange, so that the draft of the stove will be exclusively through its draft-openings. The pipe is combined with the box by introducing its vapor-chamber into the trough thereof, the  
65 outer end of such chamber being passed through the opening in the adjacent end of the box. The bend C of the pipe passes down between the upright supporting-ribs within the box, while the outer end of the vaporizing-  
70 chamber is supported between the upright corresponding arms at the other end of the box.

In using my improved device the oil is allowed to pass through the pipe, so as to overflow and saturate the asbestos in the box, which is then lighted. The heat of this combustion converts the oil in the pipe into gas which escapes from the perforations in the vapor-chamber. This gas ignites and burns  
80 directly under the vaporizing-chamber with the effect of vaporizing the oil therein. The draft for the combustion of the oil and then the gas is had through the draft-openings in the bottom of the box, the air-currents being  
85 deflected by the inclined converging sides of the box to that point over the vapor-chamber where the gas escapes and burns. The inflow of oil into the said pipe is regulated as nearly  
90 as possible to the amount of gas required and to the vaporizing capacity of the apparatus. In case, however, that from some cause some oil should pass through the vaporizing-chamber without being vaporized the step in the pipe will prevent it from dripping into the  
95 vapor-chamber where it would interfere with the free burning of the gas. It will thus be seen that after the apparatus has once been started it employs a portion of the heat generated by it for producing the gas that it  
100 burns.

It is apparent that in carrying out my in-



vention some changes may be made in the construction herein shown and described. I would therefore have it understood that I do not limit myself to such construction, but hold  
5 myself at liberty to make such alterations as fairly fall within the spirit and scope of my invention.

I am aware that it is not broadly new to make provision in vapor-stoves for preventing the oil from flowing too rapidly toward the  
10 vapor-chamber.

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

15 1. A vapor-stove having a vaporizing and a vapor chamber formed of a pipe or conduit and a box with which the pipe is combined, and having a central longitudinal slot and inclined side walls converging toward such slot to de-  
20 flect the draft to a point over the vapor-chamber and below the vaporizing-chamber, substantially as set forth.

2. A vapor-stove having a vaporizing and a vapor chamber formed of a pipe or conduit  
25 and a box with which the pipe is combined, and having a central longitudinal slot, and a trough receiving the vapor-chamber and located di-

rectly under such slot, over which the vaporizing-chamber extends, substantially as set forth.

3. A vapor-stove having a vaporizing and a vapor chamber formed of a pipe or conduit and a box with which the pipe is combined, and having a central longitudinal slot, and supports located at the opposite ends of such slot  
35 for supporting the pipe in position, substantially as set forth.

4. A vapor-stove having a vaporizing and a vapor chamber formed of a pipe or conduit and a box with which such pipe is combined, having a central longitudinal slot, a trough  
40 located under such slot and running parallel therewith, inclined side walls, draft-openings formed in the bottom of the box, and means for supporting the pipe in place therein, sub-  
45 stantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES SEAVER DRAKE.

Witnesses:

CHAS. B. SHUMWAY,  
BELLE FORD.