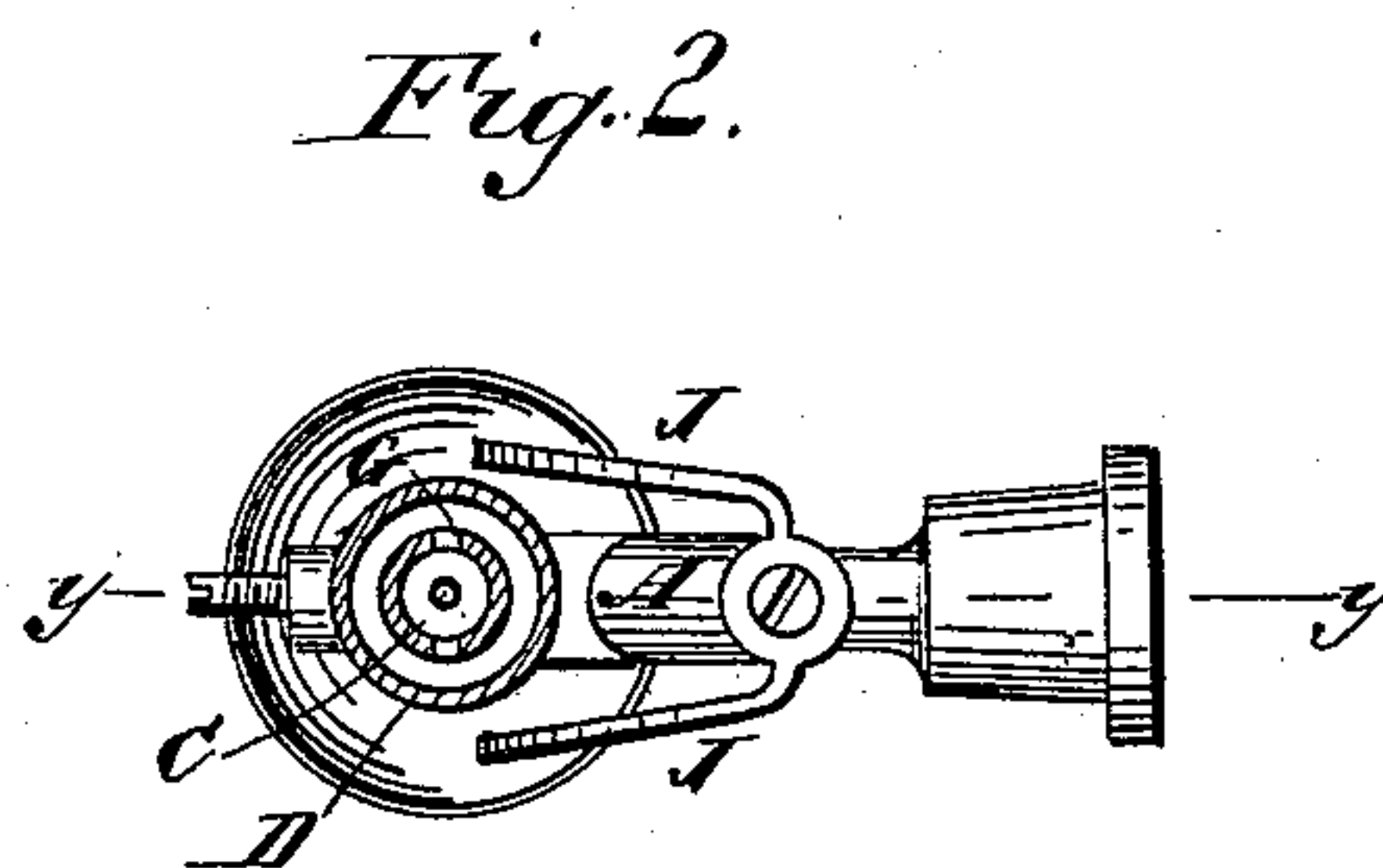
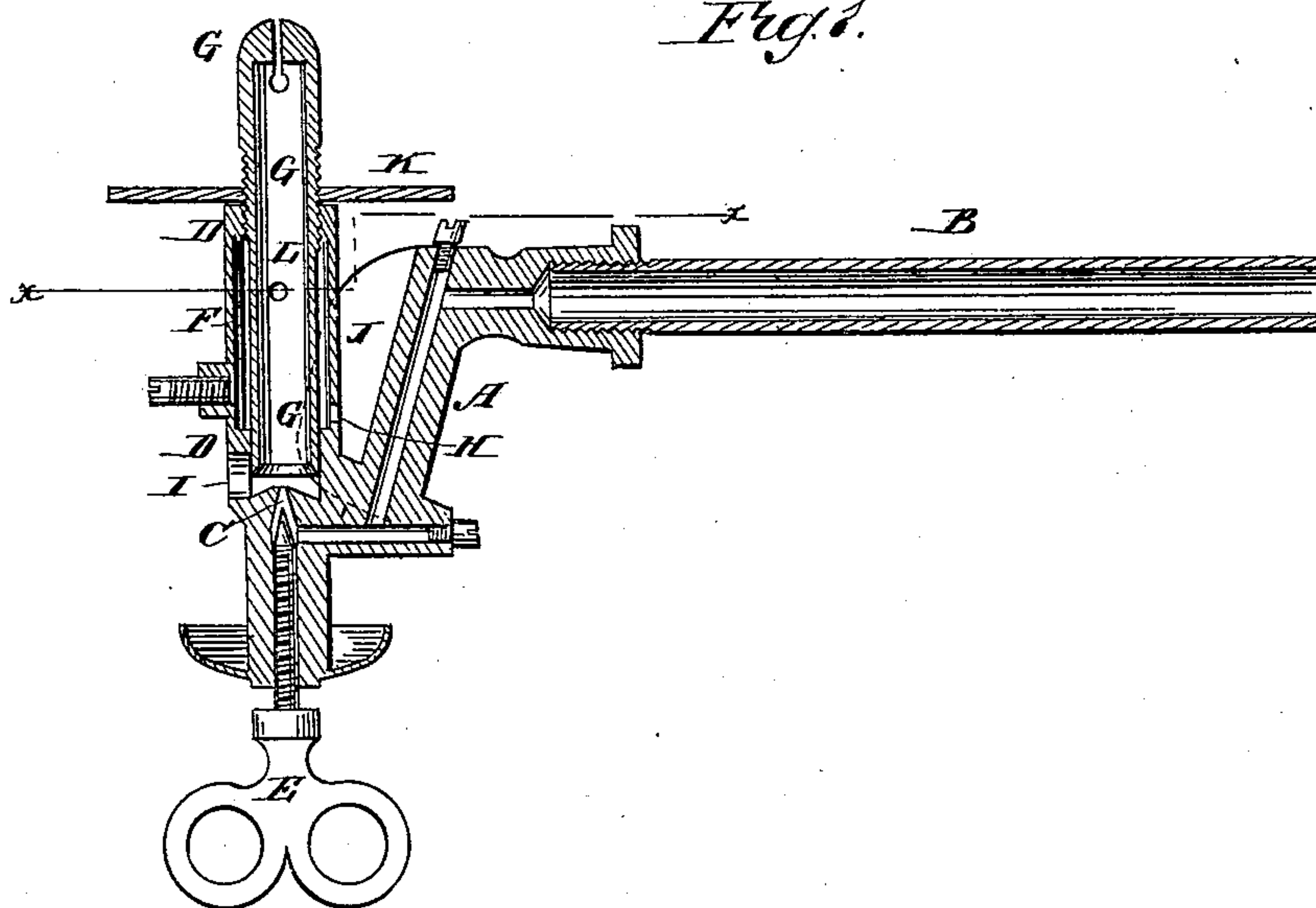


(Model.)

R. SEEGER.  
VAPOR BURNER.

No. 247,121.

Patented Sept. 13, 1881.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ROBERT SEEGER, OF ST. PAUL, MINNESOTA.

## VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 247,121, dated September 13, 1881.

Application filed June 13, 1881. (Model.)

*To all whom it may concern :*

Be it known that I, ROBERT SEEGER, of St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful  
5 Improvement in Vapor-Burners, of which the following is a specification.

Figure 1 is a sectional side elevation of my improvement, taken through the line *y y*, Fig.

2. Fig. 2 is a plan view of the same, partly  
10 in section, through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to promote convenience, safety, and efficiency in the use  
15 of vapor-burners.

The invention consists in a vapor-burner constructed with an inlet or retort tube, the burner-tube having jet-hole, auxiliary jet-hole, air-inlet hole, and interior chamber, the tip-  
20 tube having holes opening into the upper part of the interior chamber, the disk to lock the tube in place, and the shields to protect the auxiliary jet and confine the heat around the inlet or retort tube, as will be hereinafter fully  
25 described.

In the accompanying drawings, A represents the inlet or retort tube, the upper part of which projects outward and is countersunk, and has a screw-thread formed in its inner surface to receive the end of the tube B, leading  
30 to the liquid-reservoir. The cavity of the tube A, at its lower end, communicates with the jet-hole C in the lower part of the burner D. The amount of vapor passing through the jet-hole C is limited by a thumb-screw, E, the forward end of which is tapered to correspond with the taper of the said jet-hole C. The interior of the burner D is turned out from near  
35 its upper end to a point a little above the jet-hole C, forming a chamber, F, in the interior of the said burner D.

G is a tube, the upper end of which is slitted or perforated to form a burner-tip. The tube G fits into the interior of the burner D, and  
40 upon the outer surface of the part of the said tube G that enters the upper end of the burner D is formed a screw-thread, to fit into a screw-thread formed in the inner surface of the up-

per end of the said burner D. The tube G is made of such a length that its lower end may  
50 extend below the shoulder at the bottom of the chamber F. In the tube G, at the upper part of the chamber F, are formed holes L, leading into the said chamber.

In the lower part of the burner D, next the  
55 lower part of the inlet or retort tube A, is formed a hole, H, for the auxiliary jet, so that the flame of the said jet will impinge against the lower part of the inlet-tube A to heat the said tube and vaporize the liquid passing  
60 through it.

In the lower part of the burner D, directly opposite the inlet-tube A and just above the jet-hole C, is formed a hole, I, to admit air to mix with the vapor and prepare it for com-  
65 bustion. With this construction, by screwing the tip-tube G up or down the air-inlet hole I can be covered less or more, to regulate the supply of air, as desired.

Upon the sides of the inlet-tube A are formed  
70 wings J, which overlap the sides of the burner D and serve as shields to protect the auxiliary jet and confine the heat around the said inlet-tube A.

Upon the screw-thread at the upper part of  
75 the tip-tube G is screwed a disk, K, which, when the said tip-tube G has been adjusted, can be screwed down against the upper end of the burner D, to serve as a jam-nut for lock-  
80 ing the said tip-tube in place. The disk K is made of such a size as to cover the space between the burner D and inlet-tube A, so as to prevent the heat and flame of the auxiliary jet from interfering with the flame from the burn-  
85 er-tip.

The inlet-tube A, burner D, and shields J are cast in one piece, so as to bring the lower end of the inlet-tube A as close as possible to the jet-hole C, so that the vapor will have the least possible distance to travel before reach-  
90 ing the burner.

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

1. A vapor-burner constructed substan-  
95 tially as herein shown and described, consist-

ing of the inlet or retort tube A, the burner D, having jet-hole C, auxiliary jet-hole H, air-inlet hole I, and interior chamber, F, the tip-tube G, having holes L, opening into the upper  
5 part of the chamber F, the disk K, and the shields J, as forth.

2. In a vapor-burner, the combination, with the burner D, having interior chamber, F, air-inlet hole I, and auxiliary jet-hole H, of the

vertically-adjustable tip-tube G, having holes 10 L, substantially as herein shown and described, whereby a return-current of gas to the jet-hole is formed and the entrance of air is regulated, as set forth.

ROBERT SEEGER.

Witnesses:

ADOLPH STIERLE,  
GUSTAV HEUERMAN.