

(Model.)

M. L. BEST.  
VAPOR BURNER.

No. 307,167.

Patented Oct. 28, 1884.

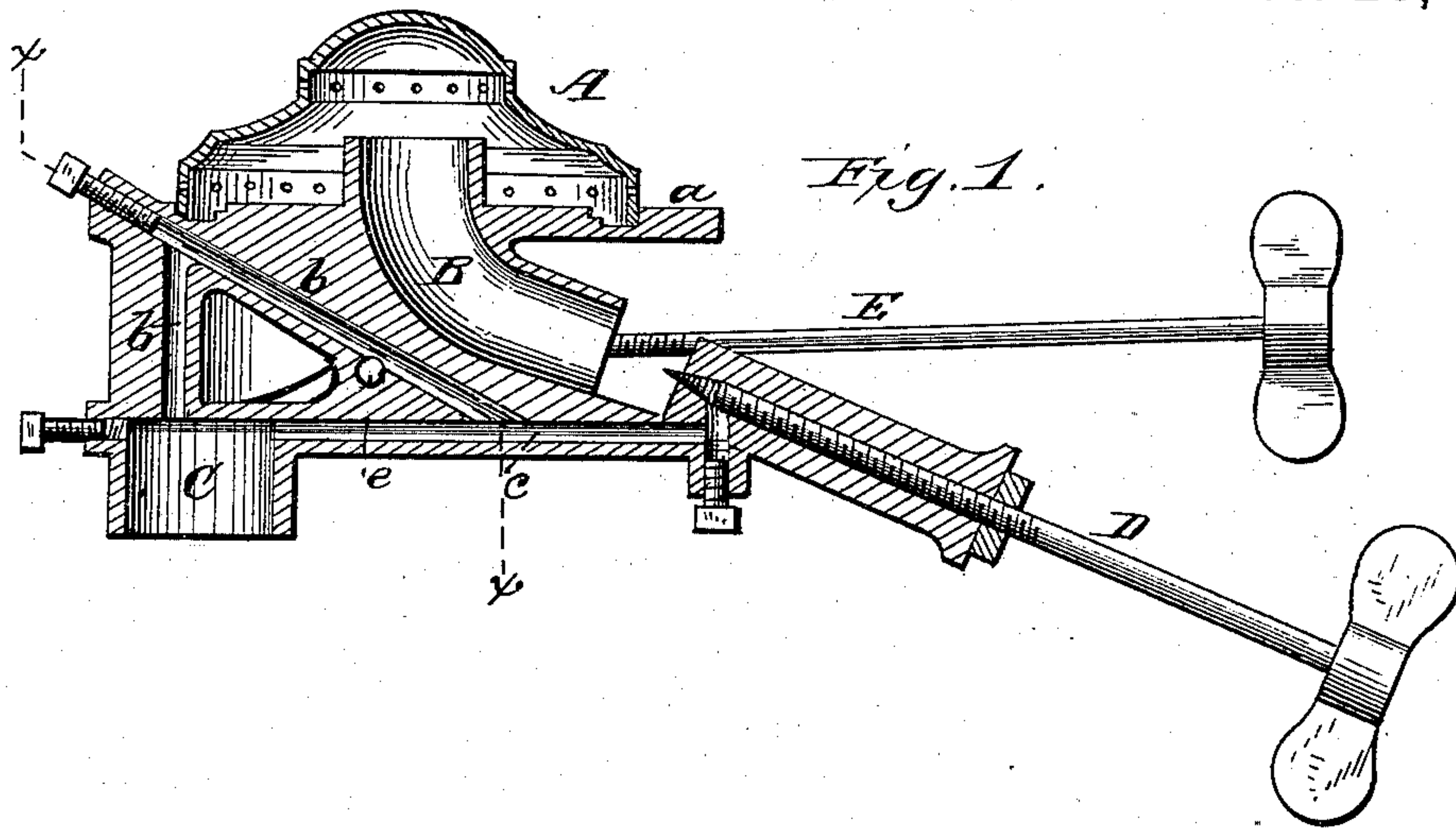


Fig. 2.

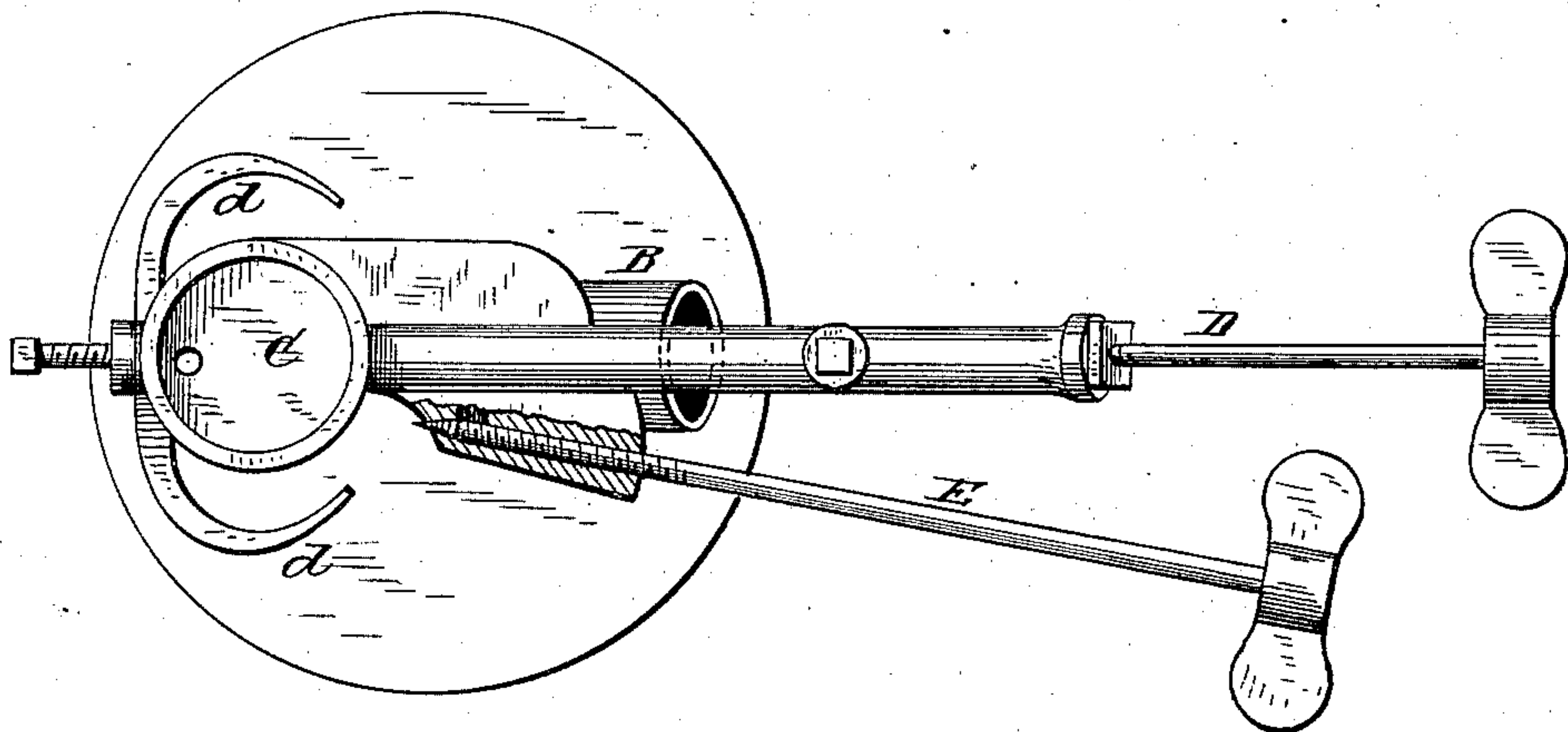
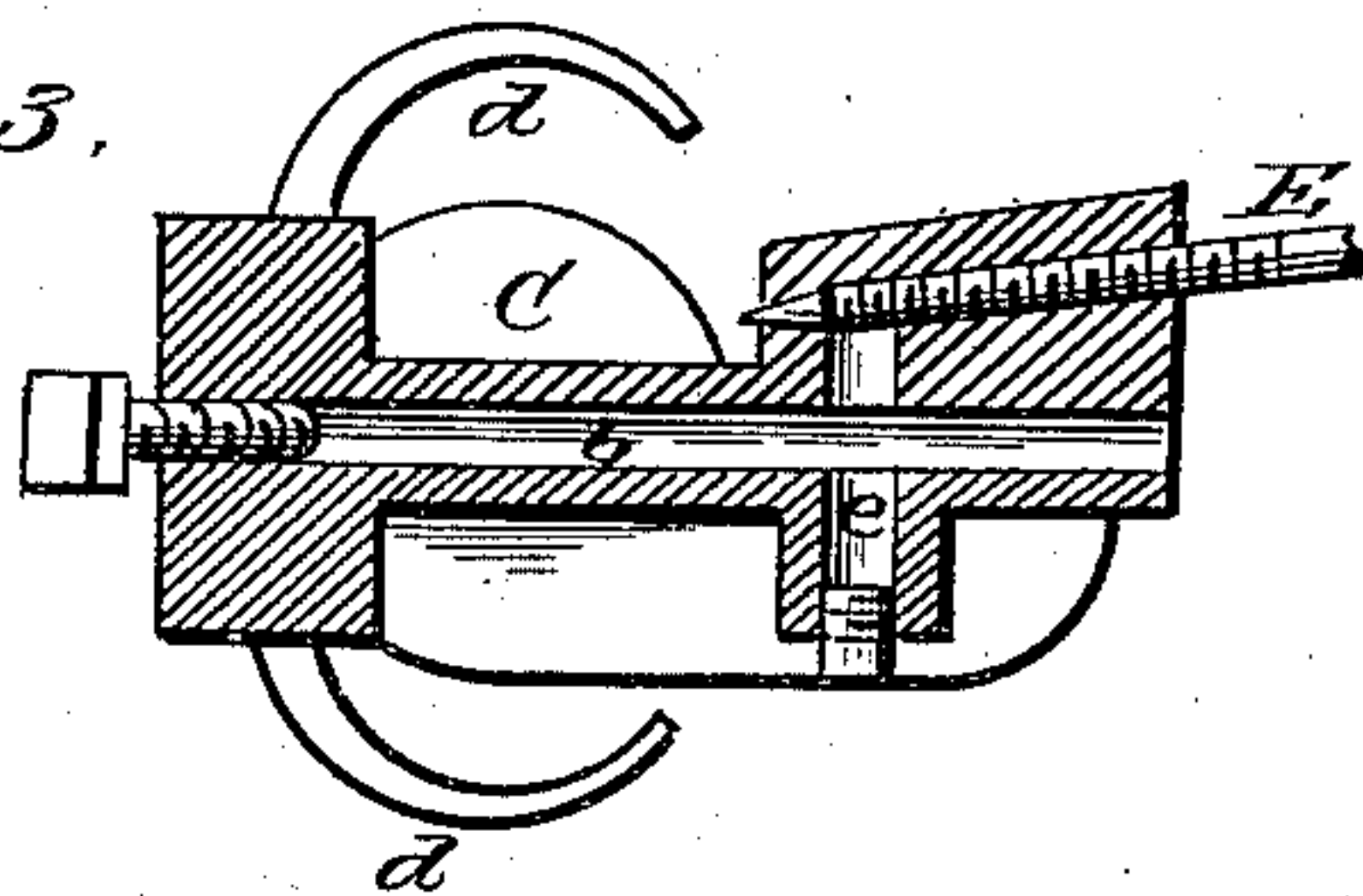


Fig. 3.



WITNESSES  
F. L. Ouraud,  
N. E. Oliphant.

INVENTOR  
Martin L. Best.  
per Cha. H. Fowler,  
Attorney



# UNITED STATES PATENT OFFICE.

MARTIN L. BEST, OF CANTON, OHIO, ASSIGNOR OF TWO-THIRDS TO LEVI L. MILLER AND JACOB MILLER, OF SAME PLACE.

## VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 307,167, dated October 28, 1884.

Application filed June 13, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, MARTIN L. BEST, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Vapor-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a sectional elevation of my invention, and Fig. 2 an under side plan view thereof. Fig. 3 is a horizontal section taken on line *xx* of Fig. 1.

The present invention refers more particularly to that class of vapor-burners used in heating stoves, and is designed as an improvement on my former patent of August 1, 1882, No. 262,172.

The object of the invention is to provide the burner with an arrangement of passages whereby greater heating capacity is produced, and also the employment of a needle-point placed alongside the mixing-chamber, thus enabling the heating-jet to be regulated independent of the main jet, and thereby admitting of the heating-power of the burner being obtained without interfering with the main jet, and can close the same and let the heating-jet burn to keep the burner hot, so that when it is desired to use it the burner will start at once without loss of time in waiting. These objects I attain by the construction substantially as shown in the drawings, and herein-after described and claimed.

In the accompanying drawings, A represents the usual burner-cap supported by the disk *a*, and B the mixing-chamber, consisting of a curved tube extending through and above the disk. The burner is provided with a passage, *b*, extending upward from the supply-pipe C to lower part of disk *a*, thence downward at an angle and communicating with the horizontal passage *c*, which communicates with the supply-pipe and extends to the needle-point D.

To the side of the mixing-chamber B is a

needle-point, E, to form a sub-jet, and around the sides of the supply-pipe are heating-plates *d*. A transverse passage, *e*, communicates with the space around the needle-point E, and also with the passage *b*, thereby forming communication between the angular passage and needle-point, as shown in Fig. 3.

By the arrangement of the passages above described a greater intensity of heat is produced, and the sub-jet produced by the needle-point E, with or without the main jet, throws the heat between the aforesaid passages, thereby converting all fluid into gas or vapor of superior heating qualities, the mixing-chamber and disk being directly over the passages *b c*. By the employment of the needle-point E, arranged alongside the mixing-chamber to produce a sub-jet the sub-jet can be regulated and kept burning after the main jet is turned off, thereby keeping the burner always hot, and can easily be relighted. By running the fluid up to the disk *a* and down at an angle through the passage *b* to the horizontal passage *c* a great heating-surface is obtained, thereby rendering the burner much more effective and much quicker in generating heat than if the vapor were cold.

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

In a vapor-burner, the combination, with a sub-jet, of a passage for the fluid extending from the supply-pipe upward, and thence downward and communicating with a horizontal passage, which in turn communicates with the supply-pipe and with the needle-point of the main jet, and a transverse passage communicating with the first-named passage, and also the needle-point of the sub-jet, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MARTIN L. BEST.

Witnesses:

ABNER MCKINLEY,  
HENRY E. STREIBER.