

No. 831,972.

PATENTED SEPT. 25, 1906.

S. M. MORRISON.  
OIL BURNER.

APPLICATION FILED AUG. 16, 1905.

Fig. 1

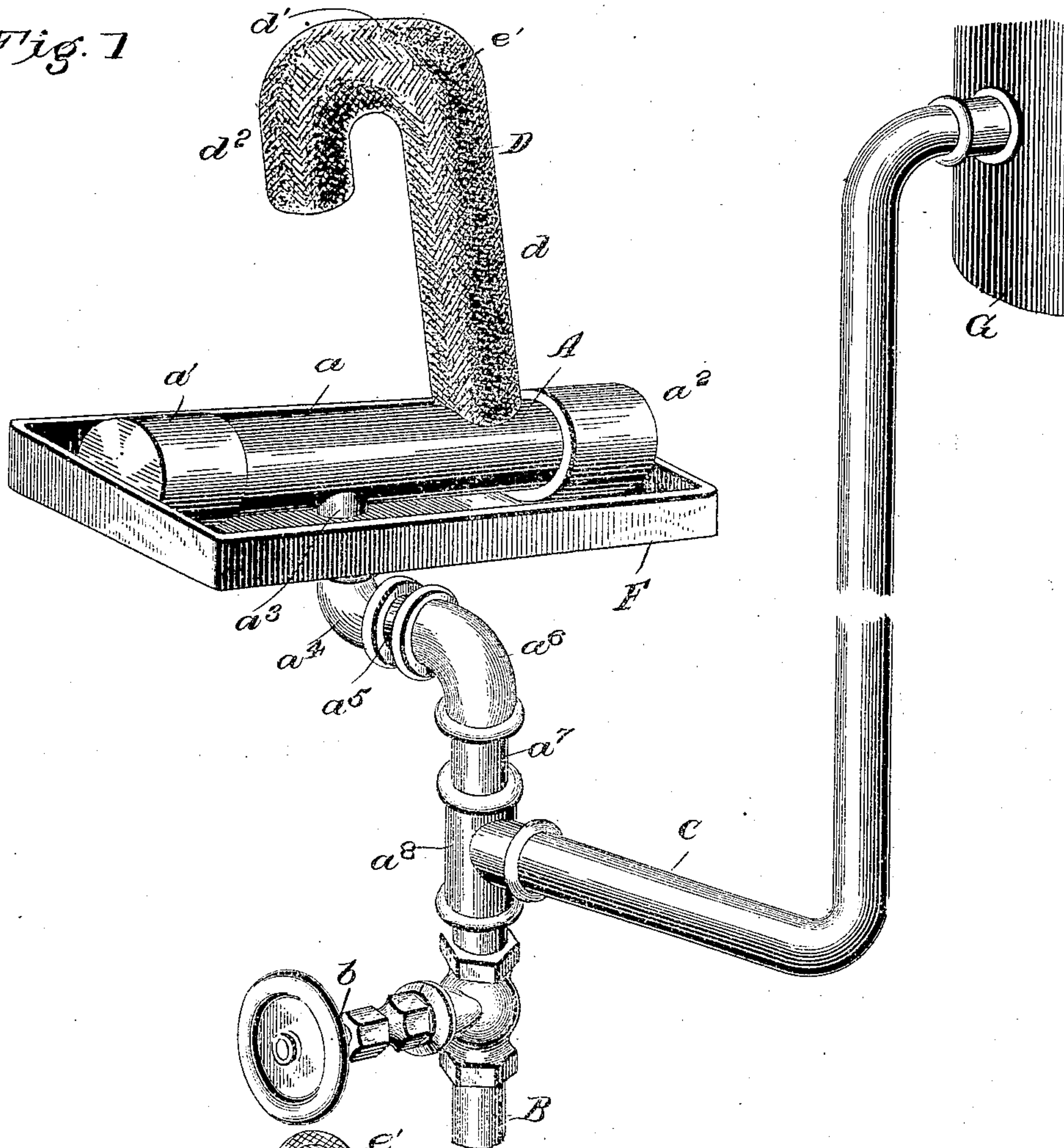
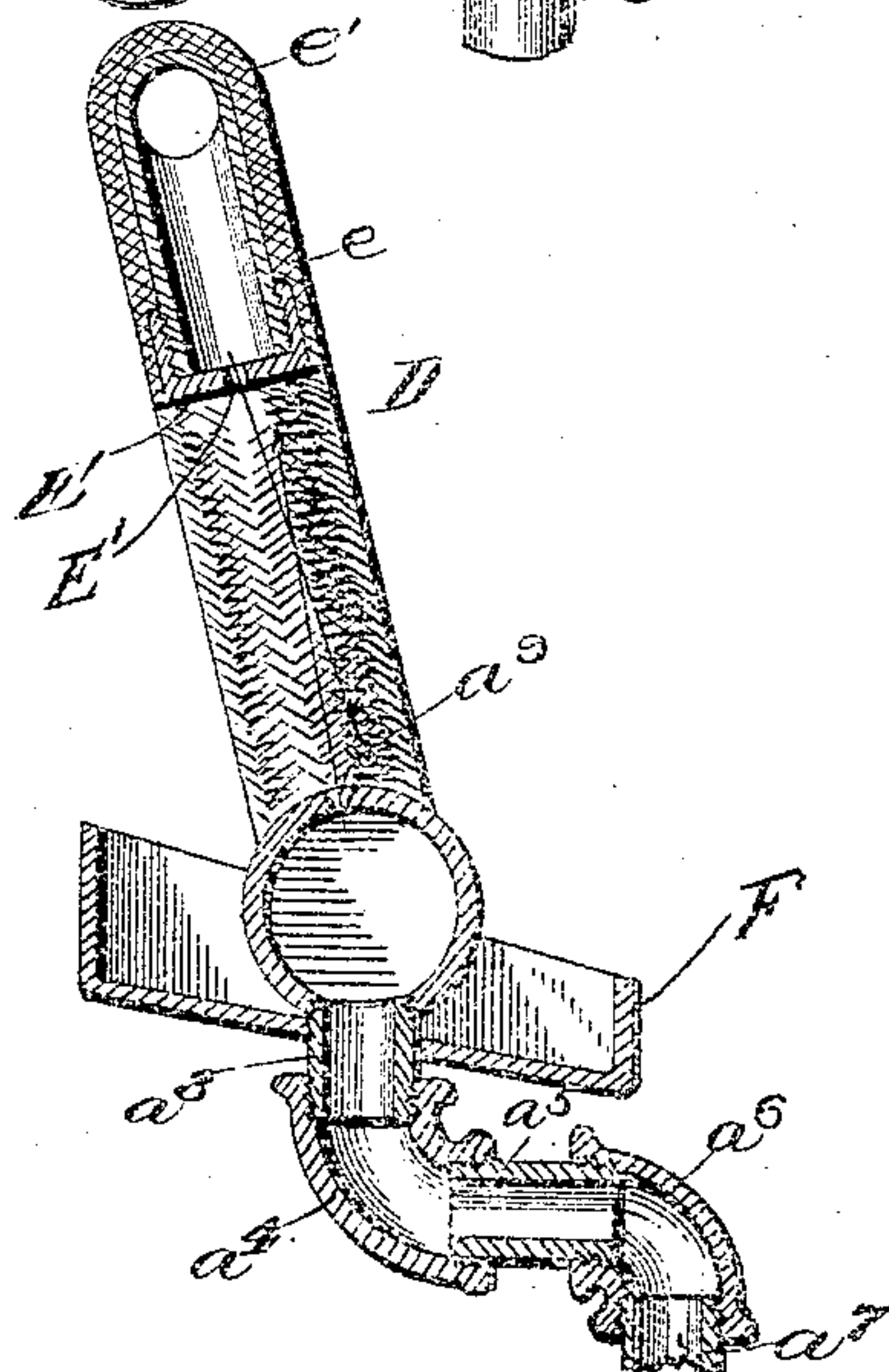


Fig. 2



WITNESSES:

C. E. Huffy  
C. E. Tamm

INVENTOR  
M. MORRISON  
BY *Munn & Co.*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

SAMUEL M. MORRISON, OF BAKERSFIELD, CALIFORNIA.

## OIL-BURNER.

No. 831,972.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed August 16, 1905. Serial No. 274,430.

*To all whom it may concern:*

Be it known that I, SAMUEL M. MORRISON, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have made certain new and useful Improvements in Oil-Burners, of which the following is a specification.

My invention is an improvement in oil-burners; and it consists in certain novel constructions and combinations of parts, as hereinafter described and claimed.

Referring to the drawings forming a part hereof, Figure 1 is a perspective view of my invention, and Fig. 2 is a transverse vertical section of the same.

In the practical application of my invention I provide a generator A, comprising a section of pipe  $a$ , having its ends closed by the caps  $a^1$   $a^2$ . A nipple  $a^3$  is provided on the lower face of the generator, and connected with the nipple is an elbow  $a^4$ , to which is connected a pipe  $a^5$ , having at its free end a second elbow  $a^6$ . A second pipe  $a^7$  extends downwardly from the elbow and has connected to the outer end thereof a T-joint  $a^8$ . A sediment-pipe B is connected with the vertical branch of the T-joint, and a feed-pipe C is connected with the lateral branch thereof. Within the sediment-pipe is a valve  $b$  for a purpose which will be hereinafter described. A perforation  $a^9$  is arranged in the upper face of the generator for the discharge of vapor, the line of discharge being approximately vertically upward from the generator.

A vapor-pipe D is connected with the upper face of the generator, the vapor-pipe being set at an incline to the vertical plane through the longitudinal center of the generator. The vapor-pipe comprises an approximately vertical portion  $d$ , connected with the generator, an arched portion  $d'$ , extending parallel with the generator, and a portion  $d^2$ , extending parallel with the vertical portion, the free end of the pipe being spaced apart a suitable distance from the generator.

The end of the vapor-pipe is closed by a cap E, having at approximately the center thereof a perforation  $E'$  for discharging vapor, the line of discharge through the perforation crossing the line of discharge from the perforation in the generator at a point approximately half-way between the cap and the generator. To prevent undue heating of the vapor-pipe, it is covered with asbestos

coating  $e'$  and connected with the feed-pipe in a feed-tank G.

A drip-pan F is arranged below the generator and inclosing the lower part of the same for the purpose of containing oil for initially heating the generator.

In operation oil is introduced into the drip-pan and ignited. When the generator is sufficiently hot to vaporize the oil, jets of vapor are discharged from the perforations in the generator and the cap, the lines of discharge crossing each other, whereby a better vaporization of the oil is secured both in the generator and the vapor-pipe.

By arranging the feed-tank at a lower or higher level with respect to the generator the pressure may be varied to any desired degree. My improved burner is adapted for use in a small stove or the largest furnace, and in both cases the combustion is complete and a smokeless fire produced. The burner is especially adapted for the use of low-grade distillate or crude oil, its construction being such that waste product may be removed from the sediment-pipe by means of the valve therein without displacing the burner. Where crude oil is used, the asphalt drawn off, if preserved, is of more value than oil in its crude state.

The size of my improved burner may be varied within wide limits in accordance with the end to be obtained.

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

1. In an oil-burner, the combination of the generator, comprising a section of pipe closed at both ends, and provided with a perforation in its upper face for the discharge of vapor, a pipe connected with the lower face of the generator, a T-joint on the end of the pipe, a sediment-pipe extending downwardly from the T-joint, a valve in the sediment-pipe, a feed-pipe extending laterally from the T-joint, an arched vapor-pipe connected with the upper face of the generator and inclined with respect to the line of discharge through the perforation in the generator, a cap on the free end of the vapor-pipe and provided with a perforation for the discharge of vapor, the lines of discharge from the perforation in the cap and the perforation in the generator crossing each other at approximately half the distance between the cap and the generator, and a drip-pan below the generator.



2. In an oil-burner, the combination of the generator, provided with a perforation in its upper face for the discharge of vapor, a pipe extending from the lower face of the generator, a T-joint on the end of the pipe, a  
5 valved sediment-pipe extending downwardly from the T-joint, a feed-pipe extending laterally from the T-joint, an arched vapor-pipe extending from the upper face of the  
10 generator, a cap on the free end of the vapor-pipe and provided with a perforation for the discharge of vapor, the lines of discharge from the perforation in the cap and the perforation in the generator being inclined with  
15 respect to each other.

3. In an oil-burner, the combination of the generator provided with a perforation in its upper face, a valved sediment-pipe extending  
20 downwardly from the generator, a feed-pipe extending laterally from the sediment-pipe, an arched vapor-pipe extending upwardly

from the generator, a cap on the free end of the vapor-pipe and provided with a perforation, the lines of the discharge from the perforation in the cap and the perforation in the  
25 generator being inclined with respect to each other.

4. In an oil-burner, the combination of the generator, provided with a perforation in its upper face for the discharge of vapor, a  
30 valved sediment-pipe extending downwardly from the generator, a feed-pipe connected with the sediment-pipe, and an arched vapor-pipe extending upwardly from the generator and provided with an opening discharging in  
35 a line inclined with respect to the line of discharge from the perforation in the generator.

SAMUEL M. MORRISON.

Witnesses:

S. C. SMITH,  
W. S. ALLEN.