No. 723,206. PATENTED MAR. 17, 1903.

H. LUCKENBACH.

OIL BURNER.

APPLICATION FILED OCT. 9, 1902.

NO MODEL.

Fig. 1.

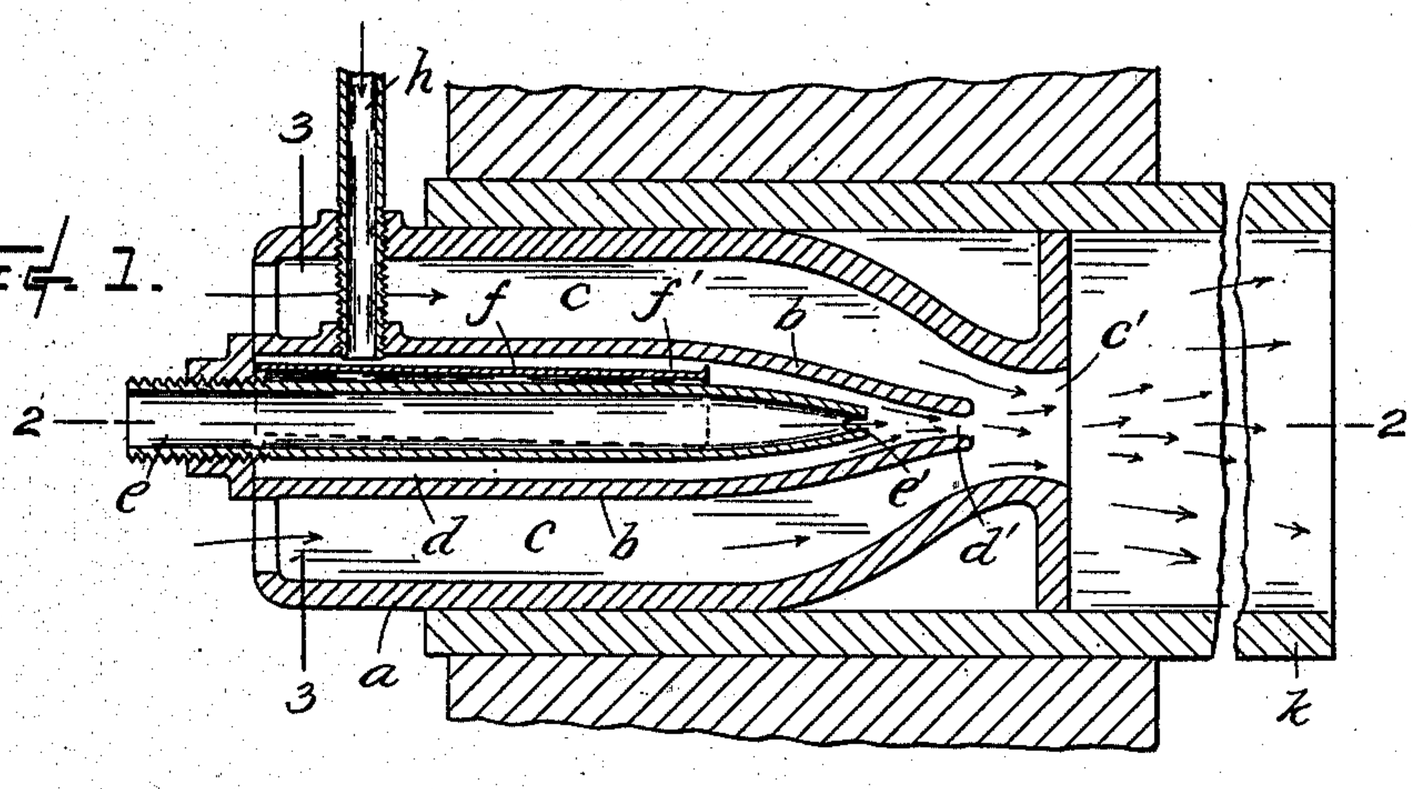


Fig. 2

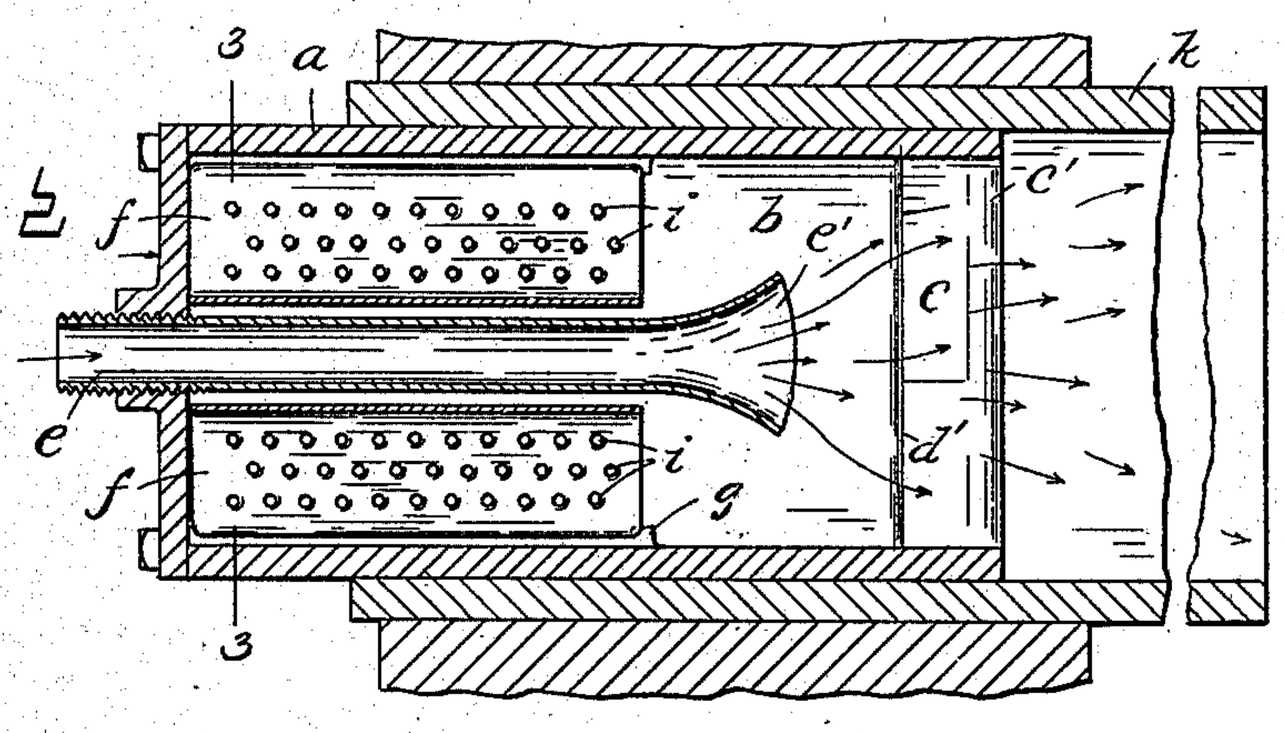
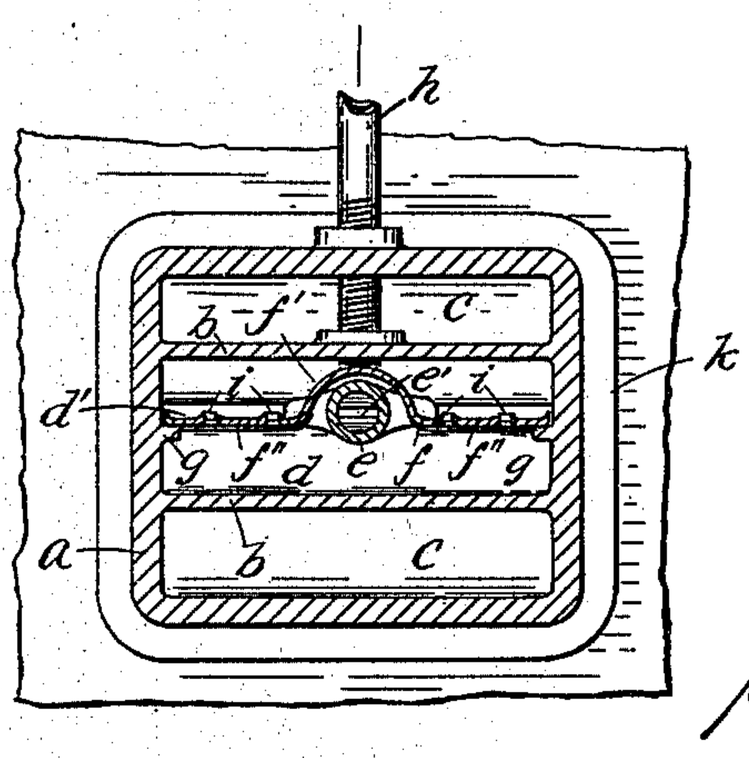


Fig. 3.



WITNESSES:

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HARRY LUCKENBACH, OF SEATTLE, WASHINGTON, ASSIGNOR OF ONE-HALF TO HAROLD G. PRICE, OF SEATTLE, WASHINGTON.

OIL-BURNER.

SPECIFICATION forming part of Letters Patent No. 723,206, dated March 17, 1903.

Application filed October 9, 1902. Serial No. 126,526. (No model.)

To all whom it may concern:

Be it known that I, HARRY LUCKENBACH, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification; reference being had therein to the accompanying drawings.

This invention relates to oil-burners, and specifically to an improvement in the oil-burner shown and described in my Letters Patent No. 639,257, dated December 19, 1899; and the object of the invention is to produce an oil-burner capable of thoroughly vaporizing the heavier grades of hydrocarbon oils and generally to render the device more simple, convenient, and of higher efficiency in operation.

In the accompanying drawings, Figure 1 is a central longitudinal section of a burner embodying my invention. Fig. 2 is a horizontal section on line 2 2 of Fig. 1. Fig. 3 is a transverse section taken on lines 3 3 of Figs. 1 and 2.

The improved burner comprises a casing *a*, preferably rectangular in cross-section, which is divided by partitions *b* into compartments *c* and *d*. The compartments *c* are open at both ends, their forward ends being connected and terminate in a flattened orifice *c'*, extending the entire width of the compartments. The inner compartment *d*, forming an oil-chamber, is closed at the back end and terminates in a flattened outlet *d'*, positioned in the same plane as the first-named orifice *c'* and at a short distance to the rear thereof. A steam-supply pipe *e* projects into the said oil-chamber and terminates a short distance back of the outlet *d'* in a flattened nozzle *e'*. Extending transversely across the said oil-chamber is a metal sheet or pan *f*, sloping slightly toward the forward end and formed of a convex or hipped central portion *f'*, with lateral wings *f''*, Fig. 3, which are supported on shelf-pieces *g* of the casing. The said wings are in a transverse direction horizontal, or nearly so, and provided with a plurality of perforations *i*, preferably formed by punching the sheet from the under side, so as to slightly elevate the borders or rims thereof. An oil-supply pipe *h* extends through the outer casing and the upper of said partitions into the said oil-chamber adjacent to its back end.

The operation of the burner is as follows: Steam being first admitted through the pipe *e* raises the temperature of the oil-chamber *d*, and particularly of the pan *f*, so that when fuel-oil is delivered upon the latter it is rapidly vaporized and expelled with the steam-jet, to be intimately mixed with the converging streams of air drawn in through the ducts *c* and consumed within a tile *k* or other combustion-chamber. In the event of the oil being delivered upon the said pan in such quantities as to retard its immediate vaporization, then after spreading over the upper surface of the wings the surplus would be spilled or sprinkled through the said pan-perforations, to be vaporized therebeneath.

When working under extremely cold atmospheric conditions, the air-ducts may advantageously receive their supply of combustive air from a heater, or the outer air-contact surfaces of said burner-partitions may be protected from being chilled by a covering of an efficient heat non-conductor; but ordinarily I find in practice that radiated heat from the steam-supply pipe is sufficient to vaporize the heaviest of oils which have come to my notice.

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

1. In a device of the class described, the combination of an oil-chamber having a contracted opening at its delivery end, a metal sheet or pan positioned interiorly of said oil-chamber, a steam-supply pipe projecting within said oil-chamber and terminating in a flattened nozzle at a short distance to the rear of the said opening of the oil-chamber, air-ducts located above and below the said oil-chamber and having a common discharge-opening in advance of and in line with the aforesaid discharge-openings of the steam-pipe and oil-chamber, and an oil-supply pipe extending into said oil-chamber, substantially as and for the purposes set forth.

2. In a device of the class described, the

combination, with a casing divided by partitions into a central oil-chamber and outer air-ducts having contracted discharge-openings at their advance ends, and steam and oil supply pipes; of a pan positioned within said oil-chamber, said pan comprising a perforated metal sheet, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY LUCKENBACH.

Witnesses:
PIERRE BARNES,
P. C. DORMITZER.