J. H. HERRIFF.

OIL BURNER.

APPLICATION FILED JUNE 22, 1910.

1,009,746.

Patented Nov. 28, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

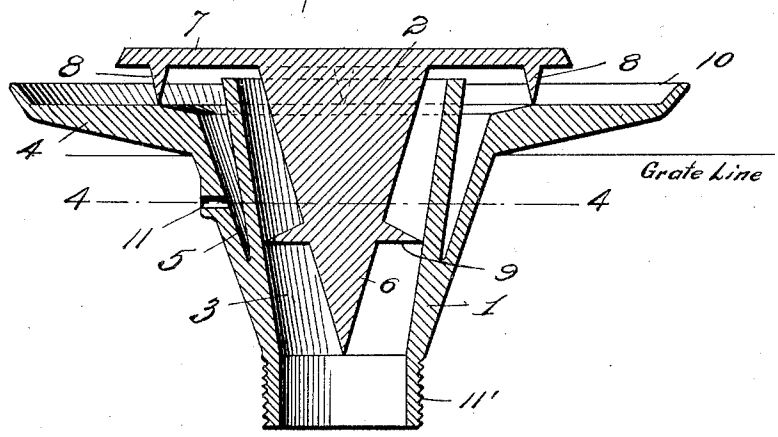
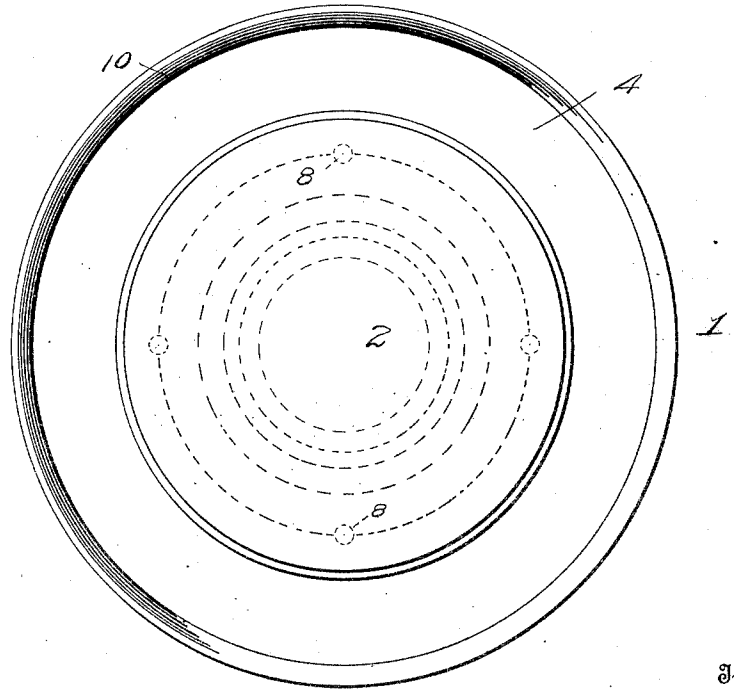


Fig. 2.



Witnesses

L. Helen Fowler.

E. C. Dieffey

Inventor

J. H. Herriff

By John P. Dieffey

His Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 3.

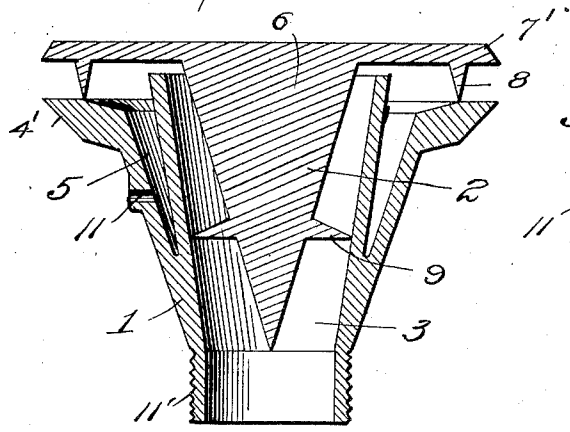


Fig. 4.

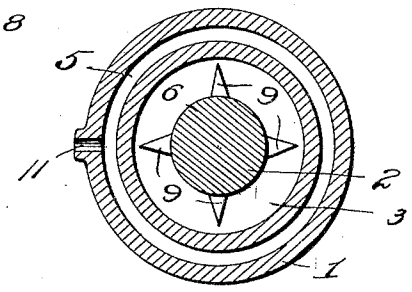


Fig. 5.

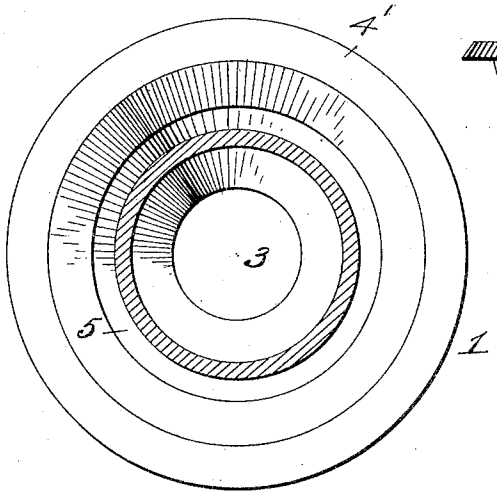
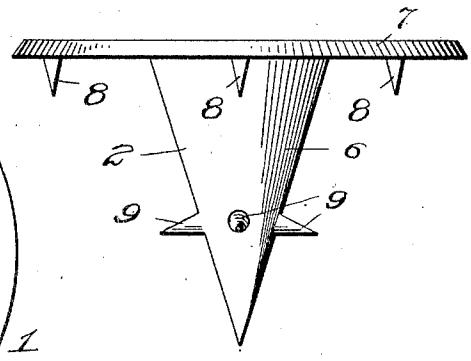


Fig. 6.



Witnesses

E. A. Duffy

R. Helen Fowler.

Inventor

J. H. Herriff

By John P. Duffie

His Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JONAS H. HERRIFF, OF ERIE, KANSAS.

OIL-BURNER.

1,009,746. Specification of Letters Patent. Patented Nov. 28, 1911.

Application filed June 22, 1910. Serial No. 568,347.

To all whom it may concern:

Be it known that I, JONAS H. HERRIFF, a citizen of the United States, residing at Erie, in the county of Neosho and State of Kansas, have invented certain new and useful Improvements in Oil-Burners, of which the following is a specification.

This invention relates to new and useful improvements in oil burners.

The primary object of this invention is to provide a burner especially adapted for heating purposes and by means of which a greater or more intense heat may be raised and in less time than is possible with the burners now on the market.

In carrying out the above objects in view, provision is made for supplying and distributing a liberal supply of air under pressure over the entire surface area of the oil chamber in order that it will quickly combine with the liberated or generated gases from the oil and insure perfect combustion and provision is further made for spreading the flame over a comparatively large area.

With the foregoing and other objects in view, the invention consists in certain novel features of construction, combination and arrangement of parts illustrated in the drawings and more particularly pointed out in the appended claims.

In the accompanying drawings:—Figure 1 is a vertical sectional view of a burner embodying my improvements. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a sectional view of a slightly modified form of burner. Fig. 4 is a horizontal section, taken on line 4—4 of Fig. 1. Fig. 5 is a plan view, partly in section, of the modified form of burner, and Fig. 6 is a side elevation of the air deflector.

Referring to the drawings for a more particular description of the invention and which drawings are for illustrative purposes only and are therefore not drawn to scale, the burner comprises the outer section 1 and the air deflector 2. The outer section is preferably formed in a single casting, as shown, and comprises a hollow flared body portion 3, forming an air chamber, the annular transversely disposed flame spreader 4 at the upper end of its body portion and the substantially V shaped oil chamber 5 formed in the upper end of the body portion and extending entirely around the same.

The air deflector comprises a cone shaped body portion 6 which extends down into the air chamber and the air deflector plate 7. The deflector plate positions over the top of the air and oil chambers and the center of the flame spreader and is suitably spaced above the same by the supporting lugs 8 projecting from the bottom of the deflector plate and resting on the top of the flame spreader. The body portion of the air deflector is held in a central position in the air chamber by the radial spacing lugs or projections 9.

In the form of burner shown in Fig. 1, the flame spreader 4 projects somewhat beyond the edge of the air deflector plate 7 and is provided with the upturned flange or rim 10. This form of burner is used for distillate oil. When crude oil is used as the fuel, however, the flame spreader 4′ is made of somewhat less diameter, or to be more exact, is of the same or approximately the same diameter as the deflector plate 7′, as clearly shown in the modified form of burner illustrated in Fig. 3. The purpose of this change in construction is to obviate any possibility of the residue of the oil from accumulating in the oil chamber.

In practice, the burner is arranged in a furnace on the grate and the oil supplied to the oil chamber 5 through the inlet port or opening 11 and a blast or stream of air passed into the air chamber under pressure to combine with the liberated gases from the oil. When the fittings above the grate become heated, the generated gases from the oil rise and combine with the constant incoming stream or blast of air. This stream of air is delivered under the deflector plate 7 and is spread or distributed over the entire area of the oil chamber and for this reason rapidly combines with the liberated gases from the oil, resulting in a flame greatly resembling in character high pressure gas. The generated gases or products of combustion are compressed in the furnace with the draft closed and may be supplied or directed to any suitable point or points for heating purposes.

It is to be observed that the upper end of the air chamber projects slightly above the top of the oil chamber as a safeguard against any oil flowing into the air chamber.

It is evident that the burner may be made in different sizes to meet the requirements of different furnaces.

The lower end of the burner is threaded, as at 11′, for connection with an elbow to which the air supply pipe is connected. The

air may be supplied by a motor of any suitable design or by other equivalent means.

From the foregoing description taken in connection with the drawings it is thought that the construction and operation of the burner will be readily understood without requiring a more extended explanation.

Various changes in the form, proportions and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention as defined in the appended claims.

Having described the invention, what I claim as new is:—

1. An oil burner of the class described comprising an outer casing and an air deflector, said outer casing having a hollow body portion entirely open at its lower end, forming an air chamber, and provided in its upper edge with a V-shaped oil chamber, said air deflector comprising a cone-shaped body portion projecting into the air chamber of the outer casing and a deflector plate at the upper end thereof extending across the air and oil chambers and adapted to spread the incoming air over the entire area of the oil chamber.

2. An oil burner of the class described comprising an outer casing and an air deflector, said outer casing having a hollow body portion entirely open at its lower end, forming an air chamber, provided in its upper edge with a V-shaped oil chamber, and having a flame spreader at the upper end of its body portion, said air deflector comprising a cone-shaped body portion projecting into the air chamber of the outer casing and a deflector plate at the upper end of its body portion extending across the air and oil chambers and adapted to spread the incoming air over the entire area of the oil chamber.

3. An oil burner of the class described comprising an outer casing and an air deflector, said outer casing having a hollow body portion provided in its upper edge with an oil chamber, and a flange at the upper end thereof to spread the flame, said air deflector comprising a body portion projecting into the outer casing, a deflector plate at the upper end of its body portion extending across the oil chamber, supporting lugs projecting from the bottom of the deflector plate and resting on the flange of the outer casing, and spacing lugs extending radially from the body portion of the air deflector and engaging the inner wall of the outer casing for holding the air deflector in a central position.

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

JONAS H. HERRIFF.

Witnesses:
B. J. GARD,
ROBERT GARDNER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."