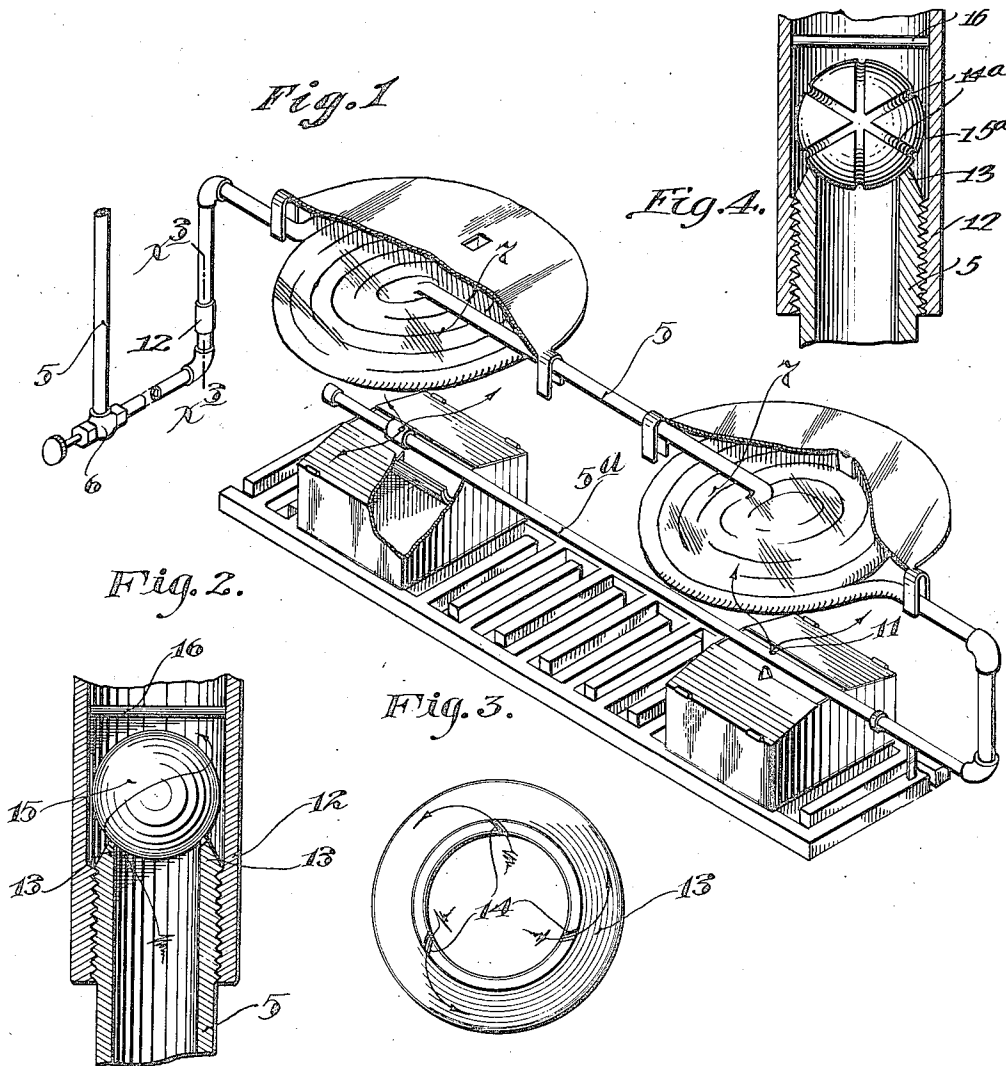


C. H. AUDETT & J. LINHOFF.
GAS GENERATING OIL BURNER.
APPLICATION FILED JUNE 20, 1912.

1,151,329.

Patented Aug. 24, 1915.



Witnesses:
E. C. Skinkle
Geo. Knudsen

Inventors:
Chris H. Audett
Joseph Linhoff
By their Attorneys:

Williamson Merchant

UNITED STATES PATENT OFFICE.

CHRISTOPHER H. AUDETT AND JOSEPH LINHOFF, OF MINNEAPOLIS, MINNESOTA.

GAS-GENERATING OIL-BURNER.

1,151,329.

Specification of Letters Patent.

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Application filed June 20, 1912. Serial No. 704,749.

To all whom it may concern:

Be it known that we, CHRISTOPHER H. AUDETT and JOSEPH LINHOFF, citizens of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Gas-Generating Oil-Burners; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to what is known as gas generating oil burners, and has for its object to improve the construction and action thereof.

Generally stated, the invention consists of the novel construction and combination of devices hereinafter described and defined in the claim.

Particularly, our invention has for its object to provide an extremely simple and highly efficient automatic feed regulating valve for use in the oil supply pipe leading to the burner or burners. This improved feed regulating valve mechanism, as preferably constructed, includes a gravity seated ball valve and a seat therefor, the said valve seat having a main passage that is normally closed by the said valve, but having one or more small feed channels or leakage passages that are never closed by the said ball valve. As a modification within the scope of the invention, the so-called leakage passage or passages might be in the valve itself instead of in its seat, but the first indicated construction is preferred. With a feed regulating valve mechanism of this character, a restricted supply of oil is normally afforded while the valve is closed, and the said valve will automatically open up and permit a greater supply of oil when the demands of usage require. Also, under certain conditions, such as extremely rapid generation, the leakage passages permit a back flow of gas through the regulating valve. By the action of this feed regulating valve, a very even and automatically regulated supply of oil is delivered to the burners.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a perspective view with some parts broken away, showing a gas generating oil burner

embodying our invention; Fig. 2 is an enlarged detail in section taken on the line $x^3 x^3$ on Fig. 1; Fig. 3 is a plan view showing in detail the valve seat of the feed regulating valve, shown in detail in Fig. 2; and Fig. 4 is a view corresponding to Fig. 2, with the exception that the leakage passages are shown in the valve instead of the valve seat.

The numeral 5 indicates the oil delivery pipe, the same having an ordinary cut-off valve 6 applied therein, for opening and closing the same, at will. At its intermediate portion, this supply pipe 5 is shown as provided with two horizontally disposed coils 7 that overlie drip cups.

The delivery portion 5^a of the pipe 5 is horizontally extended over the drip cups, and at points just above each drip cup it is provided with small discharge orifices 11 that are axially alined with the overlying gas generating coil 7.

The improved regulating valve, which is interposed in the oil supply pipe 5, is preferably located therein, between the cut-off valve 6 and the first coil of the burner. The casing of this check valve, as shown, is afforded by a short pipe section 12, into which the ends of the adjacent pipe sections are screwed. The valve seat is formed on the upper end 13 of the pipe section that is screwed into the lower end of the casing 12, and this valve seat is formed with very small leakage passages 14, preferably extended eccentrically or obliquely in respect to the axis of the valve seat.

The numeral 15 indicates the regulating valve proper which is in the form of a metal ball normally gravity-held on the seat 13. A stop pin 16, passed through the casing 12, above the ball valve 15, prevents the same from being forced too far away from its seat.

Referring to the modification shown in Fig. 4, the ball valve 15^a is provided with a plurality of small feed channels or leakage passages 14^a, at least one of which affords constant communication around or through the valve 15^a.

Of course, so far as this invention is concerned, any desired number of generating coils or burner units may be employed. The above described automatic feed regulating valve is especially adapted for use in connection with gravity feed generators, but may be used in connection with any gas

generating oil burner wherein the oil is supplied under approximately a constant or a continuous pressure.

5 While the valve element proper of the feed regulating valve mechanism is advisably in the form of a gravity seated metal ball, it may, nevertheless, take various other forms.

What we claim is:

10 In a gas generating oil burner, an oil delivery pipe having a discharge orifice and provided with a generating portion overlying said discharge orifice, and a yielding

normally seated automatic regulating valve disposed in said pipe between the receiving 15 end thereof and its said generating portion, said valve having a restricted constantly open feed passage.

In testimony whereof we affix our signatures in presence of two witnesses.

CHRIS. H. AUDETT.
JOSEPH LINHOFF.

Witnesses:

HARRY D. KILGORE,
F. D. MERCHANT.