

A. J. JONES.

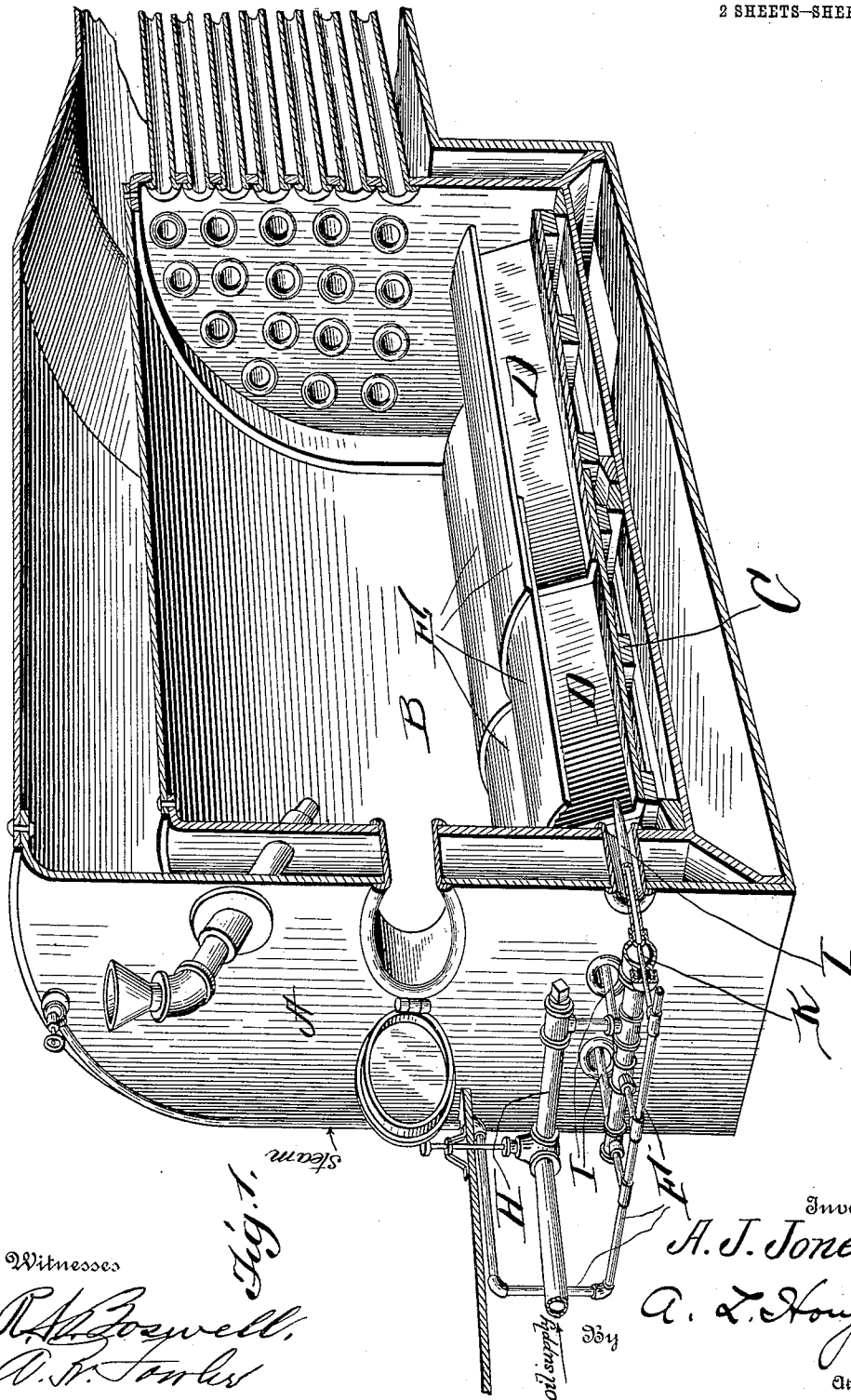
OIL BURNING APPARATUS FOR LOCOMOTIVES.

APPLICATION FILED JULY 5, 1911. RENEWED SEPT. 21, 1912.

1,042,797.

Patented Oct. 29, 1912.

2 SHEETS—SHEET 1.



Witnesses

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Fig. 1.

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Fig. 2.

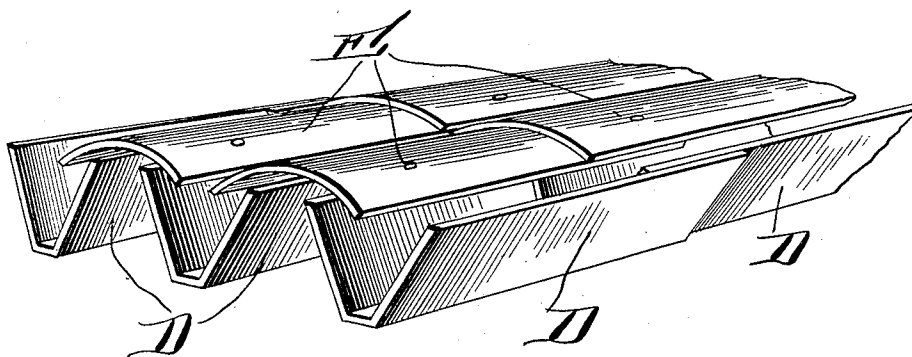


Fig. 3.

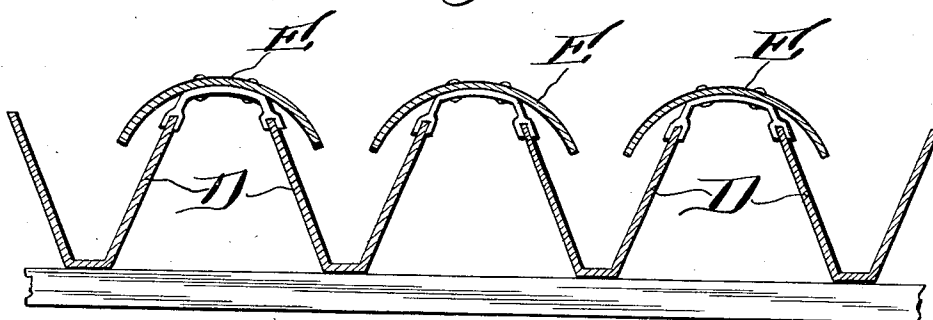
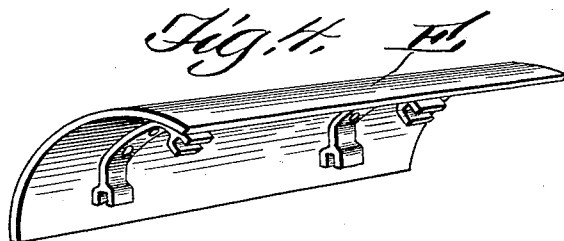


Fig. 4.



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UNITED STATES PATENT OFFICE.

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OIL-BURNING APPARATUS FOR LOCOMOTIVES.

1,042,797.

Specification of Letters Patent.

Patented Oct. 29, 1912.

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To all whom it may concern:

Be it known that I, ARTHUR J. JONES, a citizen of the United States, residing at Washington, in the District of Columbia, post-office address 932 E street northwest, Washington, District of Columbia, have invented certain new and useful Improvements in Oil-Burning Apparatus for Locomotives; and I 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in oil burning apparatus for locomotive furnaces, etc., and comprises essentially the provision of an injector whereby liquid fuel and steam may be introduced into the fire box and in the provision of elongated troughs into which the fuel is sprayed and guided thereby, so that the flame of the burning fuel may be evenly distributed over the entire grate surface of the furnace, thereby obtaining more beneficial results than with the types of burners commonly in use and in which oil is introduced into trays and thereby localizing the heat within the fire box.

The invention comprises various details of construction and combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a sectional perspective view of a portion of a locomotive furnace showing the application of my invention thereto. Fig. 2 is an enlarged perspective view showing the troughs provided for the purpose of directing the sprayed fuel the entire length of the fire box. Fig. 3 is a cross sectional view of the troughs, and Fig. 4 is a perspective view of a deflecting hood.

Reference now being had to the details of the drawings by letter, A designates a portion of a locomotive having a fire box B with the usual grate C therein. Resting upon said grate is a series of elongated V-shaped troughs, designated by letter D, each

of which is slightly flattened at its apex and resting upon the grate, as shown clearly in the drawing. Said troughs are spaced apart as shown, and E, E designate concaved deflecting hoods, each mounted over the adjacent longitudinal edges of the troughs, as shown, and spaced apart therefrom, the purpose of said hoods being to prevent the cool air which may be drawn through the grates by the draft of the furnace from coming into contact with the crown sheet but rather causing the air to pass down where it will commingle with the fuel as it is sprayed through the injectors into the ends of the troughs.

It will be noted that the adjacent ends of the troughs slide one within the other, thus making the same capable of adjustment to fit different lengths of fire boxes and affording convenient means whereby the device may be removed from the fire box or replaced when desired for any purpose. Steam is introduced through the pipes F and K and oil through the pipe H with its nozzles I extending into the interior of the furnace and opening into a trough, thus forming, with the introduction of the air and steam, injectors.

In operation, it will be noted that, by the provision of the troughs positioned as shown and extending the entire length of the fire box, the atomized fuel which is introduced through the injectors is distributed the entire length of the fire box, thereby causing a flame when the fuel is ignited to extend over the entire surface of the fire box and thereby distributing the heat uniformly and producing a maximum amount of heat for generating steam.

What I claim to be new is:—

1. An oil burner for locomotives comprising a series of V-shaped troughs with their outer ends closed and their inner ends adapted to slide one within the other, injector nozzles extending through holes in the end of the furnace and adapted to introduce oil and steam into the troughs, the latter adapted to direct the atomized oil the entire length of the fire box.

2. An oil burner for locomotive furnaces having a series of V-shaped troughs, flattened upon their lower edges and designed to rest upon the furnace grate, concaved deflecting plates projecting over the upper edges

of the adjacent walls of the troughs and overlapping each other, yokes having curved shank portions held against the concaved surfaces of said deflecting members and each
5 yoke terminating in a forked end adapted to engage the upper edges of the adjacent walls of the troughs, as set forth.

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

ARTHUR J. JONES.

Witnesses:

A. L. HOUGH,

ROBERT A. BOSWELL.

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