H. PRATT.

Attachments to Steam-Boilers for Burning Naphtha.

No. 154,902. Patented Sept. 8, 1874.

Fig. 1.

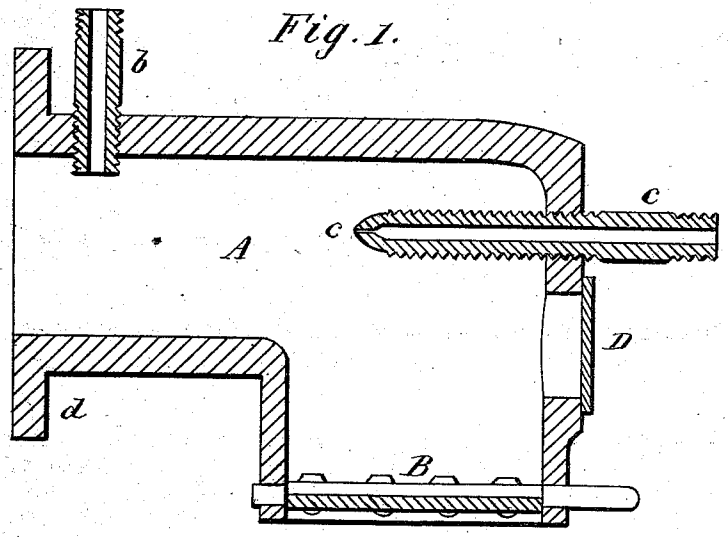
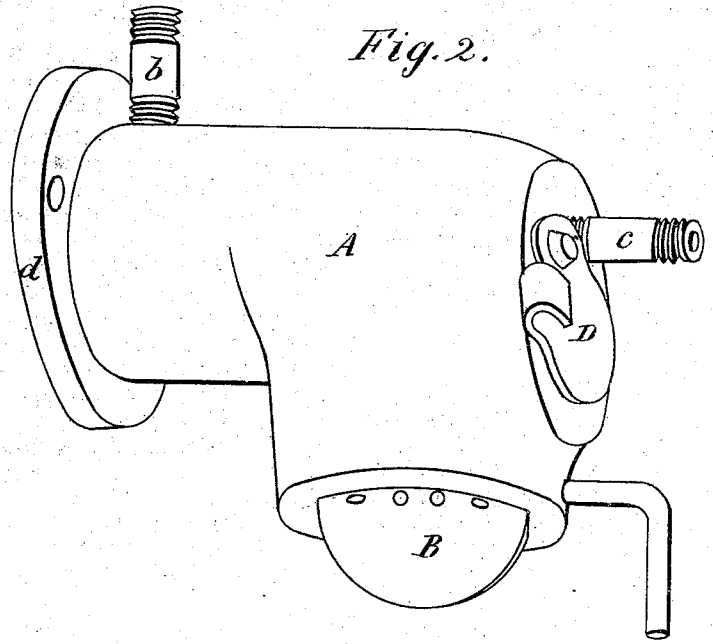


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY PRATT, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ATTACHMENTS TO STEAM-BOILERS FOR BURNING NAPHTHA.

Specification forming part of Letters Patent No. **154,902**, dated September 8, 1874; application filed May 18, 1874.

To all whom it may concern:

Be it known that I, HENRY PRATT, of Chicago, in the county of Cook and State of Illinois, have invented an Attachment to Steam-Boilers for Burning Naphtha, of which the following is a specification:

The object of my invention is to provide a simple attachment to steam-boilers or their furnaces, by means of which naphtha or other light hydrocarbons may be consumed as fuel for generating steam; and it consists in an elbow-shaped casting, provided with a flange at one end for bolting it to the furnace front, and an air-valve at the other and pendent end. Naphtha enters it through a drip-pipe at the front end, and a jet of live steam on a horizontal plane at the angle, for the double purpose of blowing in the fluid and drawing in sufficient atmospheric air to support combustion.

Figure 1 is a perspective view. Fig. 2 is a longitudinal section.

In the drawing, A represents an L-shaped hollow casting, having a flange, *a*, at the front end, by means of which it may be bolted to the furnace front of a steam-boiler, over an opening therein. In the pendent end is hung a butterfly-valve, B, to regulate the influent volume of air, above which a door, D, is hung, through which the process of combustion may be observed. *b* is a drip-pipe, tapped into the front top part of the casting A, and communicates with a vessel above it, containing a supply of naphtha or other light hydrocarbon, which is allowed to drip into the burner in a small volume, regulated by a suitable valve. *c* is a steam-jet pipe, horizontally tapped into the back end of the burner, and is supplied with live steam from the boiler, which is blown with great force through the contracted nozzle of the pipe *c* across the dropping naphtha, which it blows into the furnace, drawing in after it a volume of air, whose oxygen supports the combustion of the hydrocarbon, the proportion of air admitted being regulated by the air-valve. The number of burners required will, of course, vary with the size of the boiler.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination in a hydrocarbon burner of the L-shaped casting A, air-valve B, drip-pipe *b*, and steam-jet pipe *c*, the L-shaped casting being provided with the observing-door D, substantially as described.

HENRY PRATT.

Witnesses:

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