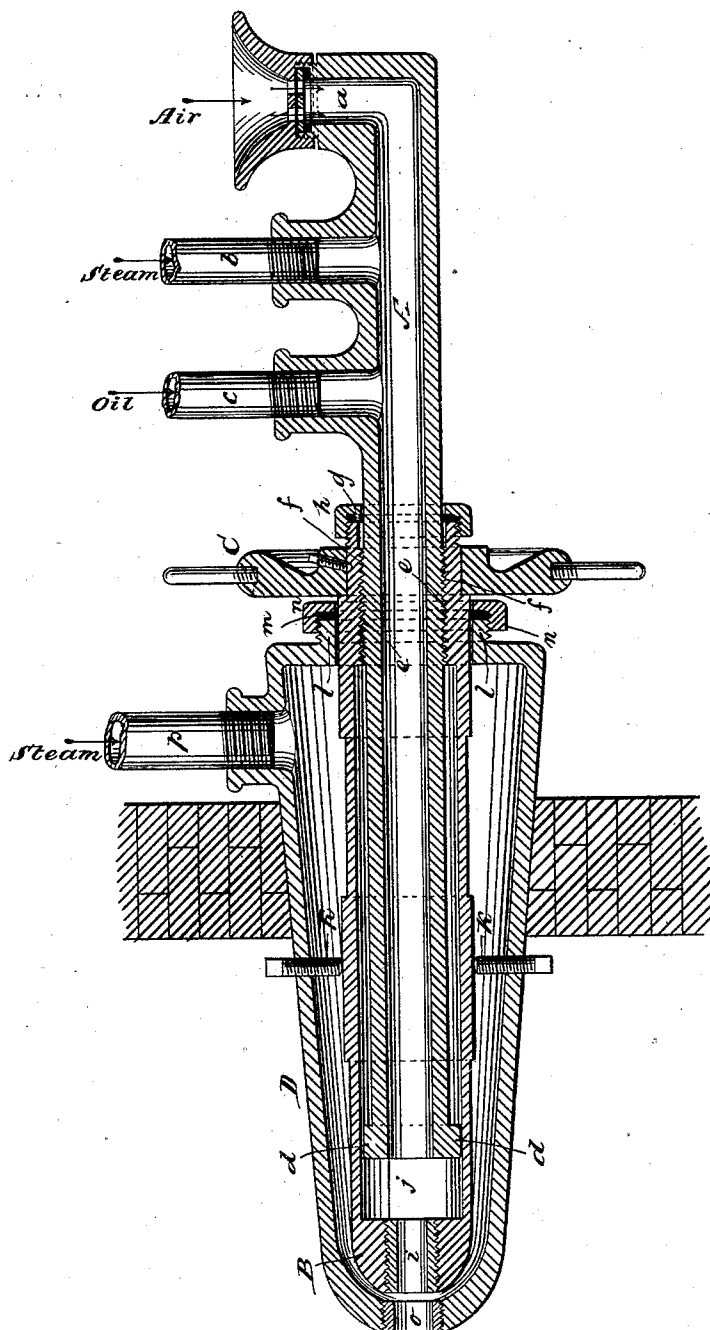


(No Model.)

J. FEORST.
HYDROCARBON BURNER.

No. 426,371.

Patented Apr. 22, 1890.



WITNESSES:

Eduard Wolff.
William Miller

INVENTOR

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BY

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UNITED STATES PATENT OFFICE.

JOHN FEORST, OF BAYONNE, NEW JERSEY.

HYDROCARBON-BURNER.

SPECIFICATION forming part of Letters Patent No. 426,371, dated April 22, 1890.

Application filed February 20, 1890. Serial No. 341,115. (No model.)

To all whom it may concern:

Be it known that I, JOHN FEORST, a citizen of the United States, residing at Bayonne, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Hydrocarbon-Burners, of which the following is a specification.

This invention appertains to that class of devices employed in injecting a spray of inflammable liquid into a boiler-furnace or other combustion-chamber by the action of a steam-jet.

The improvements will be readily understood from the following description, taken in connection with the accompanying drawing, which represents a longitudinal central section of my burner.

In the drawing, the letter A designates a tube, which is provided with an air-inlet *a*, a steam-supply pipe *b*, and a feed-pipe *c*, through which the hydrocarbon liquid is introduced.

B is a nozzle, which is movably fitted upon the tube A, said tube being provided at its front end with an enlargement *d*, which forms a guide for the nozzle, and on the body of said tube is a male screw-thread *e*, which engages a screw-thread *f* in the nozzle. On the nozzle near its rear end is firmly mounted a hand-wheel C, so that by means of this hand-wheel the nozzle B can be turned and caused to move backward or forward, according to the direction in which the hand-wheel is turned. The rear end of the nozzle B is closed by a packing *g*, which is held in place by a nut *h*. In the discharge-opening of the nozzle is secured a bushing *i*, of refractory material, which is capable of withstanding the heat to which it is exposed when the burner is in use.

Between the front end of the tube A and discharge-opening of the nozzle B is formed

a chamber *j*, which may be termed a "mixing-chamber," and in which the steam, the hydrocarbon liquid, and the air admitted to the tube A become mixed before they reach the discharge-opening.

D is the regulating-nozzle, which covers and surrounds the nozzle B, and is held in position by guide pins or screws *k k* and by the tubular extension *l*, which is closed by a packing-ring *m*, held in position by a nut *n*. The discharge-opening of this regulating-nozzle is provided with a removable bushing *o*, and from the rear portion of said nozzle extends a pipe *p*, through which steam or air under pressure is introduced. By this action of the steam admitted through the pipe *p* the mixture of air, steam, and oil formed in the tube A is blown out with great force, and if said mixture is injected a very powerful flame is produced. The power of this flame is increased when the nozzle B is moved backward and decreased when said nozzle is moved forward.

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

The combination, with the tube A, having an air-inlet *a*, the steam-inlet *b*, and an oil-inlet *c*, of the nozzle B, adjustably fitted upon the tube A, forming the mixing-chamber *j* between the mouth of the tube A and the nozzle B, the regulating-nozzle D, fitted upon the nozzle B, and the pipe *p*, connected to the nozzle D, substantially as shown and described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN FEORST.

Witnesses:

J. VAN SANTVOORD,
E. F. KASTENHUBER.