L. Stevens
Manf Gas.

No. 100208. Patented Feb. 22. 1870

Fig. 2.

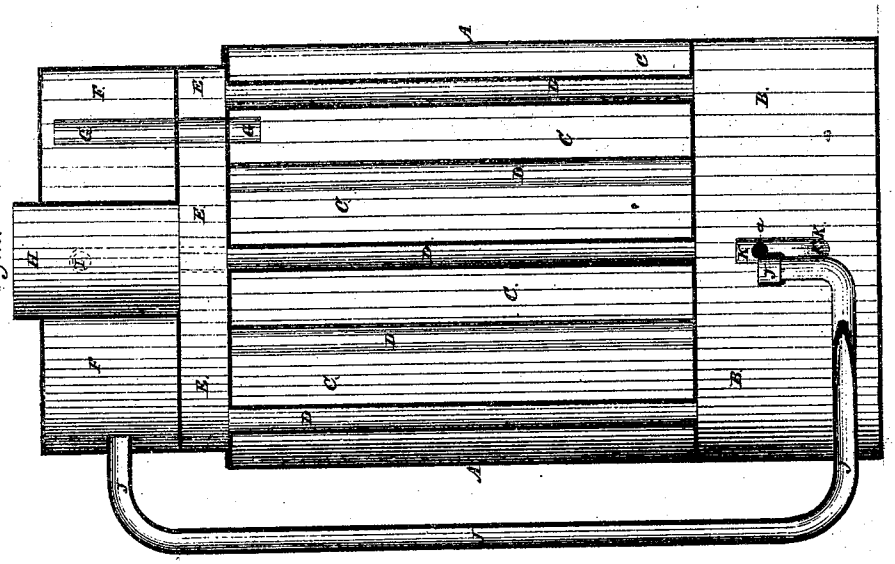
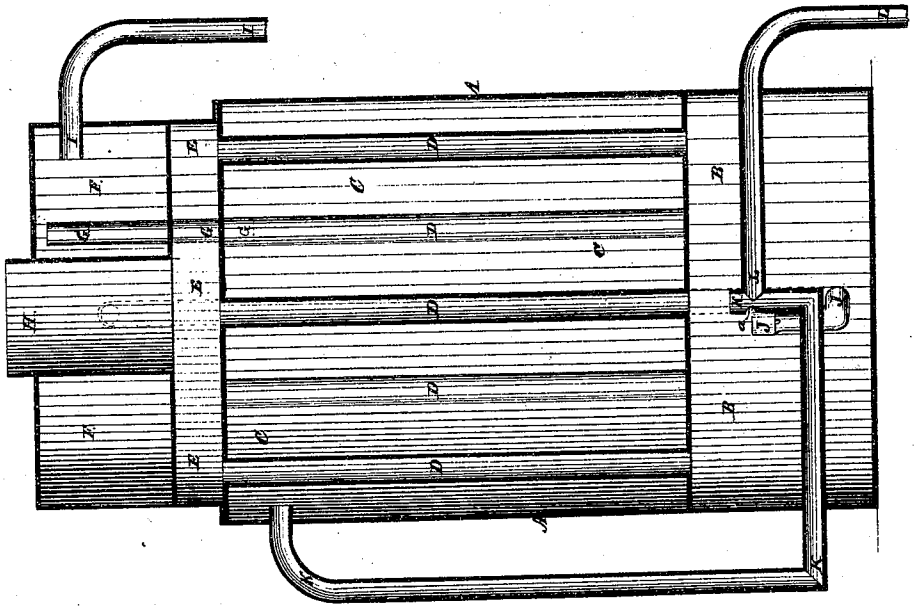


Fig. 1.



Witnesses.
Jno. D. Patten
S. Morris Cook

Levi Stevens
By atty A. B. Stoughton.

UNITED STATES PATENT OFFICE

LEVI STEVENS, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN THE MANUFACTURE OF GAS FROM PETROLEUM.

Specification forming part of Letters Patent No. **100,208**, dated February 22, 1870.

To all whom it may concern:

Be it known that I, LEVI STEVENS, of Washington city, in the District of Columbia, have invented certain new and useful improvements in the manner of mixing, using, and burning hydrocarbon and hydro-oxygen vapors or gases for burning and heating purposes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a vertical section through an apparatus, which will illustrate my invention; and Fig. 2 represents a similar vertical section through the apparatus, though taken at right angles, or nearly so, to that shown in Fig. 1.

Similar letters of reference, where they occur in the separate figures, denote like parts of the apparatus in both of them.

My invention relates to the manner of making and using a mixed gas or vapor as a fuel, for burning and heating purposes, in generating steam in boilers and other purposes.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

Within a shell, jacket, or case, A, is arranged a combustion-chamber, B, where the mixed gaseous or vaporous fuel is burned, and above this chamber is arranged a steam-generator, C, through which flue-pipes D pass, leading from the combustion-chamber B into a flue-chamber, E, and over the flue chamber or space E is arranged a steam-chamber, F, said steam-chamber being connected to the generator C by a steam-pipe, G. Through the steam-chamber F rises the exit-pipe H, by or through which the gaseous products of combustion may pass to the chimney or stack.

The steam-chamber F being immediately over the flue-space E, the steam therein may be dried or superheated by the direct conduction of dry heat to the under portion thereof, as well as through the exit-pipe H passing vertically through its central portion.

Into the steam-chamber F is forced, through the pipe I, a hydrocarbon, heated or otherwise, by an injector, as explained in my application for a patent filed on the 19th day of December, 1867, and for which a patent has been or is about to be ordered to issue. The hydrocarbon is forced into the steam-chamber F against a resistance equal to about one hundred or one hundred and twenty pounds to the square inch, or the pressure of the steam therein, whatever it may be. The hydrocarbon or its vapor or gas is thus mixed with the hydro-oxygen or steam in said chamber, and in this mixed condition is conveyed, through a pipe, J, into the combustion-chamber B, and there burned in jets, flame, or otherwise spread out under the generator C.

I do not claim vaporizing petroleum by means of steam, either common or superheated; nor do I claim converting petroleum into gas or vapor by subjecting a mixture of steam and oil vapor to a furnace-heat. I bring the steam and petroleum together into a receiver or chamber, F, which is heated by the flues E H, and keep them there under a pressure of from twenty to one hundred pounds, and do not allow the pressure in the chamber to fall during the process.

What I claim is—

The process herein described of forming a mixed gas or vapor by uniting steam and hydrocarbon in a heated receiver, the contents of such receiver being kept under pressure, as above set forth.

LEVI STEVENS.

Witnesses:

A. B. STOUGHTON,

GEO. O. EVANS.