A. J. Griffin,

Vapor Stove.

No. 52,246. Patented Jan. 23. 1866.

Fig. 1.

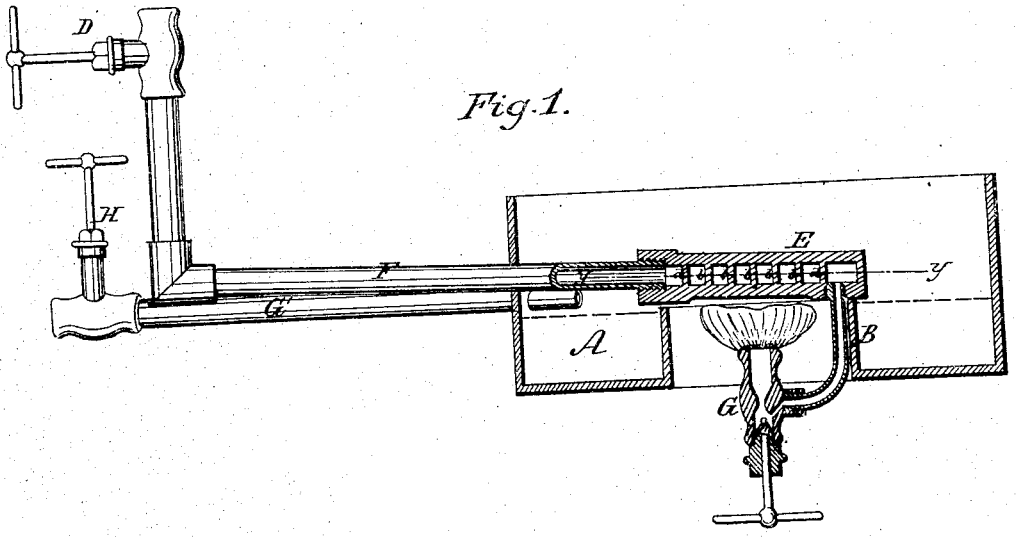
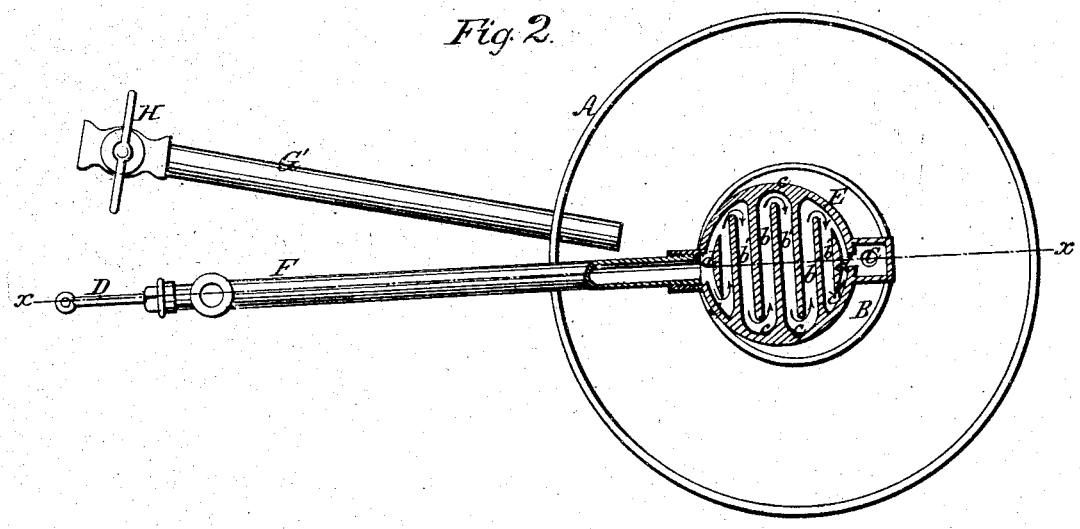


Fig. 2.



Witnesses.
John A. Wiedersheim
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UNITED STATES PATENT OFFICE.

A. J. GRIFFIN, OF LOWELL, ASSIGNOR TO HIMSELF AND WM. T. VOSE, OF NEWTONVILLE, MASSACHUSETTS.

HYDROCARBON-STOVE.

Specification forming part of Letters Patent No. **52,246**, dated January 23, 1866.

To all whom it may concern:

Be it known that I, A. J. GRIFFIN, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Stove for Burning Petroleum and other Fluid Hydrocarbons; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line *x x*, Fig. 2. Fig. 2, a horizontal section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved stove, in which petroleum and other hydrocarbons are used for fuel; and it consists in a novel and improved device for vaporizing the substance used as a fuel, so that the flame or jet will be properly supplied; and it also consists in using, in connection with the vaporizing device aforesaid, a water-reservoir arranged in such relation with the flame or jet that the water will be converted into steam and the latter decomposed by the heat from the flame or jet and consumed, so that a very simple and economical heat generator and diffuser is obtained.

A represents a cylinder which forms the body of the stove, and B is a cylindrical tube, projecting upward from the bottom of the stove and open at its lower end.

F represents a tube, which leads from the reservoir containing the material to be burned. This tube is provided with a faucet or cock, D, and said tube extends within the cylinder A and communicates at its inner end with a circular chamber, E, which is directly over the tube B.

C is a tube, which extends down from the chamber E and communicates with a burner, G, which is fitted vertically and centrally within B, and is provided with a conical valve, *a*, by which the supply of vapor to the flame may be regulated as desired. (See Fig. 1.)

The chamber E is provided with a series of vertical partitions, *b*, having a space or opening, *c*, at one end, the space of one partition being opposite the closed end of the adjoining one, as shown clearly in Fig. 2, so as to form a sinuous route or passage through the chamber, as indicated by the arrows 1. Short partitions *d* are opposite the ends of the tubes C F, a space, *c'*, being allowed at each end of these partitions.

The space within the cylinder A around the cylinder B is a water-chamber, which is supplied from a fountain through a tube, $G^{\times}$, the latter being provided with a cock, H, to regulate the flow of water into said chamber.

The operation is as follows: The burning material passes down the tube C into the chamber E, (the flow being regulated by the cock D,) where it is vaporized by the heat from the flame of burner G after the device has been in operation a short time, the first vaporizing being produced by a sponge dipped in alcohol, ignited, and placed under E. The circuitous route formed by the partitions *b* in E insures the complete evaporation of the fluid which passes into it, and it also prevents the impurities or solid matter which may be contained in the fluid passing down into the burner and choking up the same. Solid particles will be arrested by the partitions *b*, and will lodge in the chamber and be entirely consumed. The heat from the flame of burner G vaporizes the water within the cylinder A, and the steam arising therefrom is decomposed by the heat of said flame and the hydrogen gas eliminated thereby consumed, the flame or jet from the burner and the consumption of the decomposed steam causing a great amount of heat to be generated and radiated from the stove.

I do not claim, broadly, the decomposing of steam in connection with a fire for the purpose of economizing in fuel, for that is old; but—

I do claim as new and desire to secure by Letters Patent—

1. The employment or use of a water-reservoir within a stove placed in such relation with a vapor-burner that the water will be vaporized and the steam decomposed by the heat from said burner, substantially as and for the purpose herein set forth.

2. The vaporizing-chamber E, provided with partitions to form a sinuous passage, substantially as and for the purpose specified.

The above specification of my invention signed by me this 17th day of August, 1865.

A. J. GRIFFIN.

Witnesses:

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J. M. COVINGTON.