

(No Model.)

A. GATEAU.
GASOLINE STOVE.

No. 394,070.

Patented Dec. 4, 1888.

Fig. 1

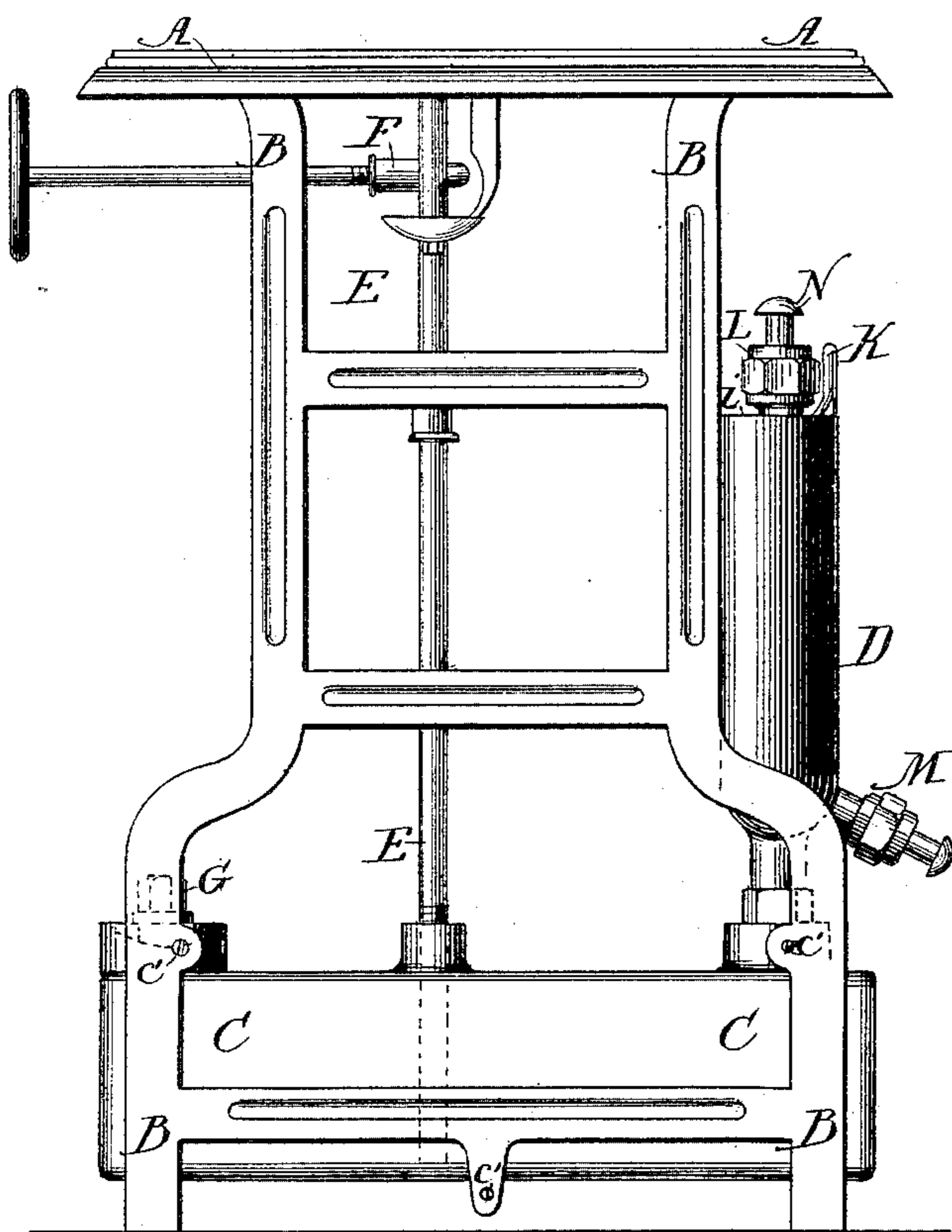


Fig. 3.

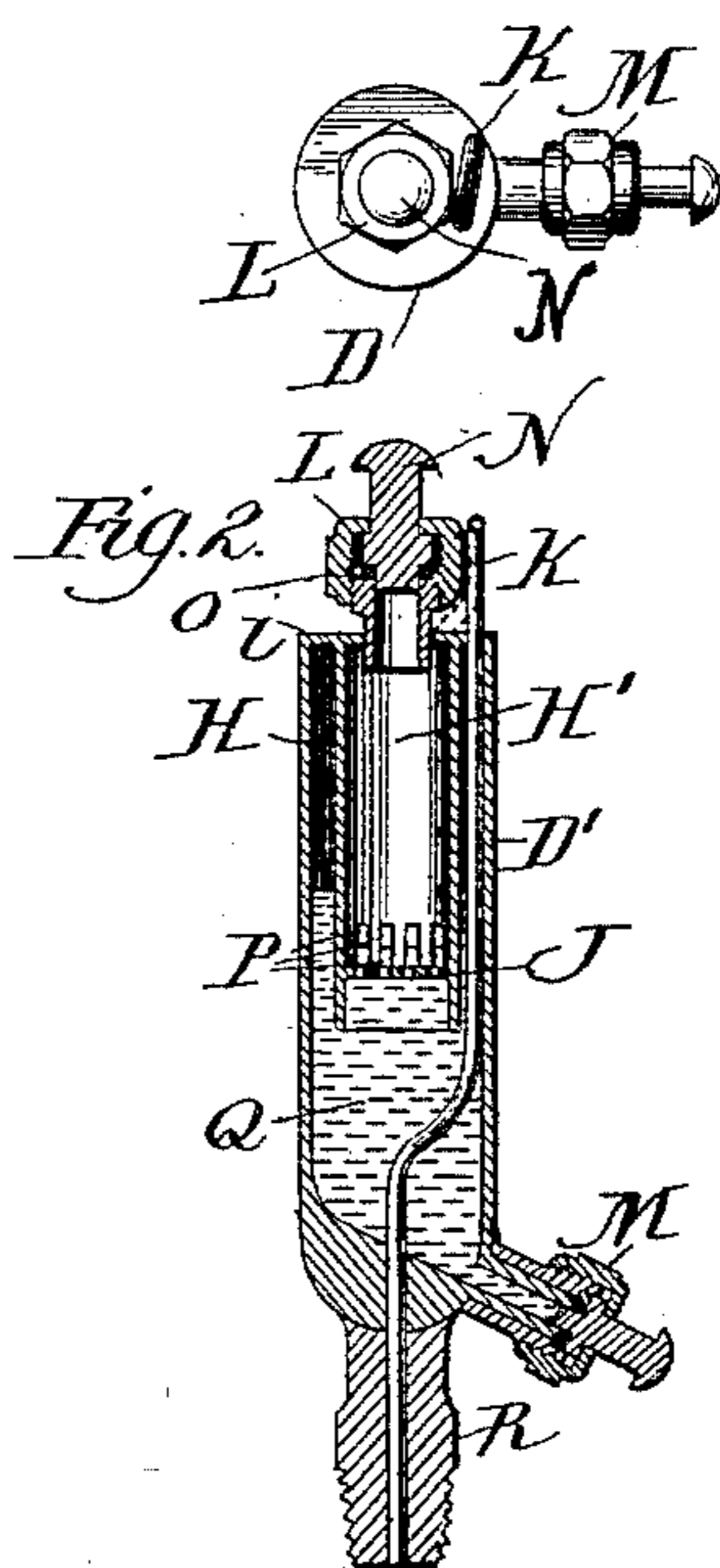


Fig. 2.

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GASOLINE-STOVE.

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To all whom it may concern:

Be it known that I, ANTOINE GATEAU, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Gasoline-Stoves; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in gasoline-stoves; and the object of the invention is to produce a gasoline-stove having devices by which the gasoline is forced uniformly and regularly to the burner by means of a pressure of hydrogen generated in such quantity only as is necessary to maintain a constant pressure of sufficient force to compensate for the amount of gasoline that is consumed by the burner; also, to accomplish this without the employment of a pump or its equivalent, as is the case with the ordinary gasoline-stoves now in use, in which the air under pressure is used, and the oxygen of said air combines with the gasoline-vapor; and furthermore, to prevent the decrease of pressure formed by the pump as now used, and which decreases as fast as the gasoline is used and thereby lessens the pressure and, correspondingly, the flame of the burner.

Another object of my invention is to dispense with the employment of manual labor in producing the required pressure and finally to obviate the employment of pump pistons or valves, that cannot be kept in proper working order on account of the difficulty experienced in keeping them tight or properly packed, and, lastly, to employ a gas (hydrogen) which will not combine with the vapors produced from gasoline.

The invention consists in the construction of certain devices and details and arrangement of parts, as will be more fully described hereinafter, and specifically pointed out in the claims, reference being had to the accompanying drawings and the letters marked thereon.

Like letters indicate similar parts in the different figures of the drawings, in which—

Figure 1 is an end elevation containing my improved apparatus in position. Fig. 2 is a vertical section of the apparatus. Fig. 3 is a plan or top view of the same.

In the drawings, A represents the top of a gasoline-stove supported on the legs B. A reservoir, C, contains the gasoline placed below the burners, and to said reservoir an apparatus, D, is connected, in which gas is generated by means of sulphuric acid mixed with water and iron for the purpose of forcing the gasoline through pipe E to the burners. The apparatus D is composed of the receptacle D', to which the screw-coupling L is soldered to the top and the coupling M to the bottom, and contains the screw-plugs M and R, respectively, and the apparatus is tightly closed by the cover i. An inner pipe, H, is secured to the cover i, forming the space H', and is provided at its lower end with a perforated diaphragm, J, upon which the iron blocks P are supported. A small pipe, K, is bent in such manner as to communicate with the space in the pipe H at one end, while its other end connects with the reservoir C, to which the apparatus is screwed. The upper end of the pipe K projects above the cover i to prevent any water entering the reservoir while cleaning it, and G is the plug in said reservoir, through which it is filled with gasoline. The screw-coupling with its plug, when opened, serves to introduce the required amount of acid, Q, mixed with water, as well as the iron blocks P.

The screw-coupling M and plug R serve to draw off the acid when it has lost its strength. The valve F serves to open and close the pipe E, as required.

The operation is as follows: The reservoir C is first filled with gasoline through the tube, closed by the plug G, which is removed for the filling operation and then tightly closed, and the acidulated water is introduced in the receptacle D' to the proper height, and also the blocks of iron placed on the diaphragm. The acidulated water coming in contact with the blocks P generates hydrogen gas, which passes through the pipe K into the reservoir C above the gasoline, and forces it through the pipe E to the burner, where it escapes as vapor, and is ignited when the valve F is opened. When the valve F is closed, the pressure in the inner pipe, H, will depress the acid Q and force it up into the annular space H' and below the blocks of iron P, thus causing the formation of gas to cease until the valve is again opened, which again causes the

acidulated water to rise in the inner pipe, H, coming in contact with the iron blocks and forming more gas.

Having thus described my invention, what I claim is—

1. In a gasoline-stove, the combination of an oil-reservoir, a pipe leading from near the bottom thereof, a burner surmounting said pipe, and a gas-producing apparatus in communication with the reservoir, consisting of an outer tube closed at both ends, and an inner tube smaller and shorter than the outer tube, extending from the top thereof and open at the bottom, having within its lower end suitable blocks of metal for producing gas when acidulated water or other chemical placed within the producer is brought in contact with the blocks.

2. In a gasoline-stove, an oil-reservoir, a pipe leading therefrom to a burner, a gas-generating apparatus in communication with said reservoir, and consisting of an outer tube

closed at both ends, and an inner, smaller, and shorter tube attached to the top and open below, and provided with a diaphragm, supporting suitable metal for producing hydrogen gas, when acidulated water introduced within the producer is brought in contact with said metal, as specified.

3. The combination of an oil-reservoir provided with a pipe leading to the burner, with a gas-producing apparatus consisting of an outer closed tube, and an inner, smaller, and shorter tube open at its lower end and forming with the outer tube a space, H', and provided with a support for suitable metal blocks for producing hydrogen gas when brought in contact with acidulated water or other suitable chemicals introduced in the gas-producing apparatus, as specified.

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Witnesses:

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