

(No Model.)

W. B. BLAKE.  
VAPOR STOVE.

No. 253,578.

Patented Feb. 14, 1882.

Fig. 1.

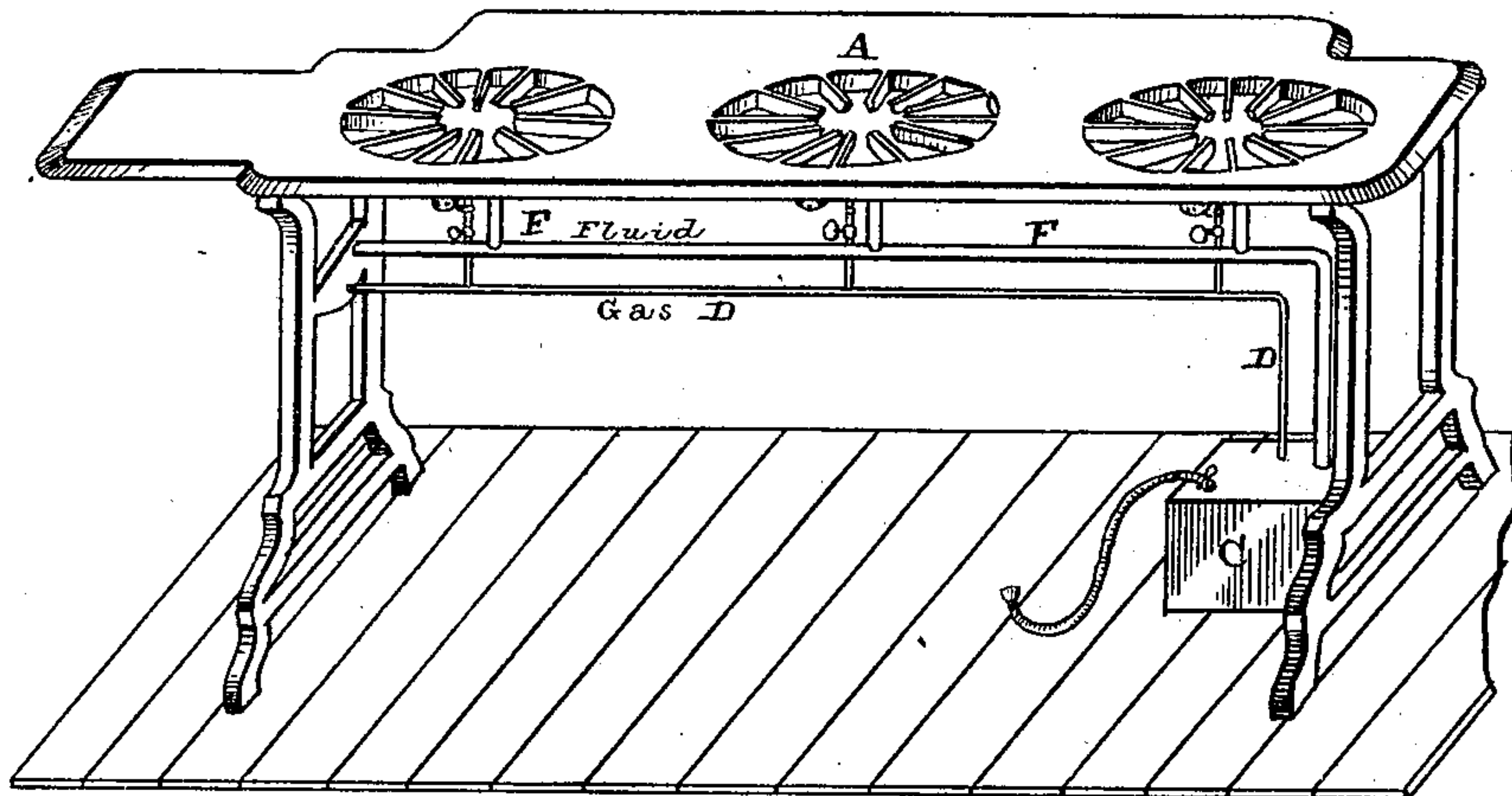
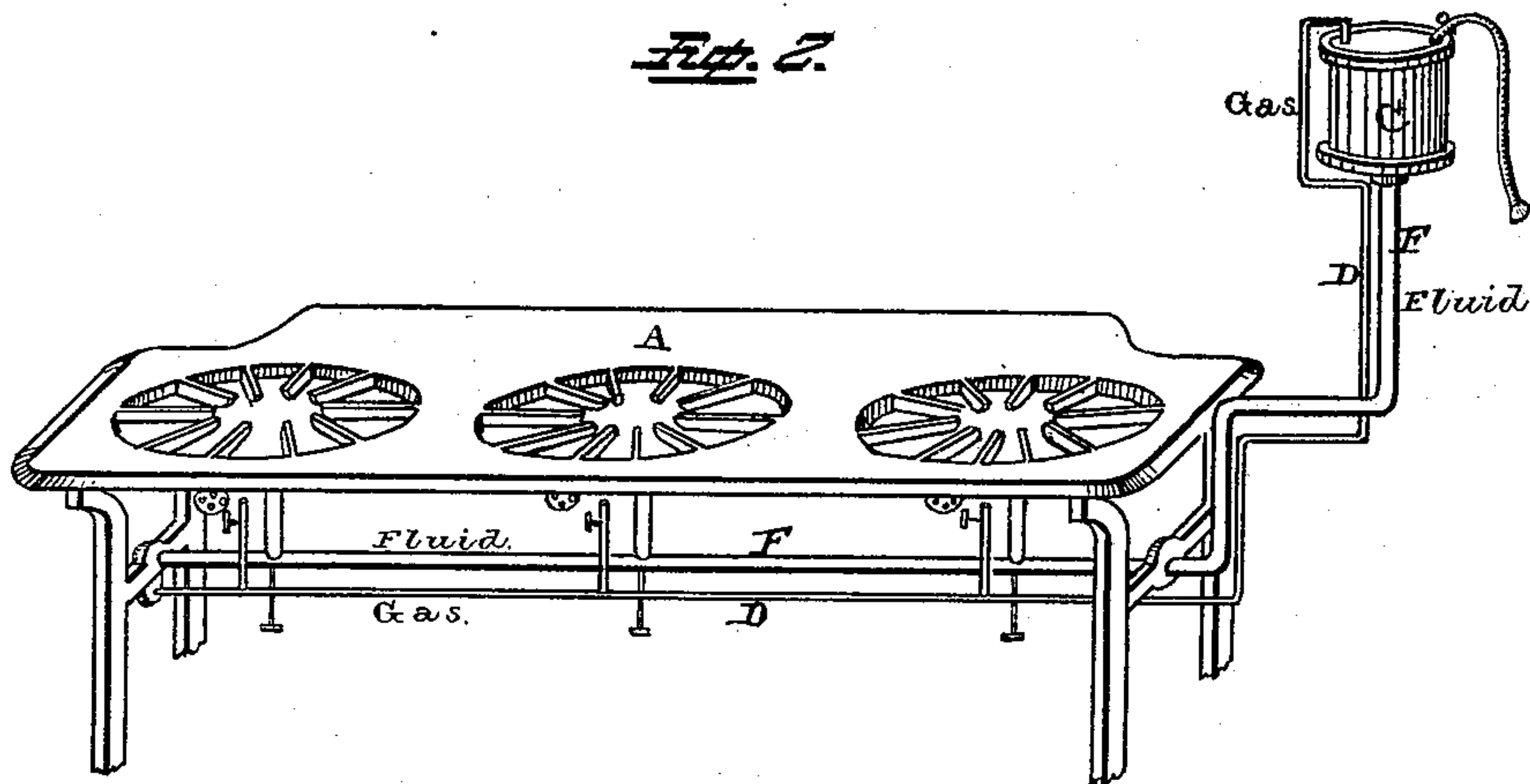


Fig. 2.



WITNESSES.

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INVENTOR.

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# UNITED STATES PATENT OFFICE.

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## VAPOR-STOVE.

SPECIFICATION forming part of Letters Patent No. 253,578, dated February 14, 1882.

Application filed August 8, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. BLAKE, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Vapor-Stoves; and I do hereby declare the following to be 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 it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in vapor-stoves; and it consists in heating the burner, or those parts connected therewith through which the oil passes for the purpose of being vaporized, by means of a jet of gas or hydrocarbon vapor, which is taken from the reservoir or any other part of the stove, and which jet serves to heat the burners so as to dispense with the usual drip-cup which has heretofore been used for the purpose of heating the burner preparatory to lighting, as will be more fully described hereinafter.

The object of my invention is to dispense with the usual drip-cup which has heretofore been used, and which has to be filled first with gasoline or other fluid being burned, and to substitute therefor a small gas-jet, which will serve not only to heat the burner, but to light the sub-jet.

Figure 1 represents a perspective of a stove embodying my invention. Fig. 2 is a perspective of a stove having a raised reservoir and having my invention applied thereto.

A represents a stove of any desired shape, size, form, or construction, in which the gasoline or other fluid to be burned is forced up to the burners by means of atmospheric pressure, or in which an elevated reservoir is used, as shown in Fig. 2. To the reservoir, whether placed above or below the burner, is attached an air-pipe, I, provided with a suitable valve, and through which air is blown into the reservoir. Where the reservoir is raised up the air is blown in simply for the purpose of making a lighting or burning gas, but where the reservoir is placed below the burners the air is blown in to both force the burning-fluid up to the burners and to make the gas which is used for lighting the burners.

Heretofore vapor-burners have been provided with drip-cups which have been filled with the gasoline or other hydrocarbon fluid that is being burned, and then this fluid lighted so as to produce sufficient heat to heat the burner or the pipes through which the oil is passed to generate the vapor. This cup is objectionable, not only because it fills the room with smoke and an unpleasant odor, but because it fills the burner with soot and clogs it up, and is more or less dangerous and very expensive. In order to dispense with this drip-cup and to heat the burner or the pipe through which the fluid passes, I take the vapor which fills the top of the reservoir C and conduct it by means of a suitable pipe, D, which is provided with a cock for regulating the flow of the vapor to any suitable place in the vicinity of the burner or the pipe E, through which the oil passes, so that when the vapor issues from the end of its pipe and is lighted the flame will impinge directly against the burner or the pipe through which the oil or gasoline passes, and thus vaporize the fluid in the usual manner. This pipe D also serves for the purpose of relieving the pressure in the reservoir when it is so great as to cause the flame to jump or burn irregularly and to light the sub-jet at the same time that it lights the burner. Where the pressure of the air in the reservoir is so great as to cause but an imperfect flame to be produced it is only necessary to open the stop-cock in this vapor-pipe and allow enough of the pressure to escape to cause the burners to produce an even, steady flame. Where the pressure of the atmosphere is too great in the reservoir the vapor is forced upward in a larger quantity than can be consumed, and then there is a struggle between the gasoline and the vapor for ascendancy, and hence the jumping or irregular movement of the flame is produced.

By means of this invention a much larger flame can be used and a corresponding degree of heat obtained without any of the unpleasant results which have heretofore attended their use.

I do not limit myself to any particular arrangement of parts, for my invention may be used equally as well in connection with the reservoirs which are placed below the burners, and from which the fluid is forced upward by at-



mospheric pressure, as with those tanks which are elevated above the stove, as shown in Fig.

2. Where the vapor is taken from a tank which is placed below the stove the vapor-tube may  
5 be made long enough to extend along under all of the burners and be provided with a separate branch pipe for each one, or there may be a separate tube for each burner.

Where this invention is to be applied to those  
10 stoves which have elevated reservoirs there will be a small pipe connected directly with the top of the reservoir, and extend downward to the burner in any desired relation to the tube which conducts the gasoline. Should it be de-  
15 sired, a small rubber or other tube may be attached to the reservoir and provided with a stop-cock, so that air may be blown into the top of the reservoir for the purpose of producing the vapor in sufficient quantities to heat the  
20 burner to any desired degree before lighting it. This tube, which is attached to the reservoir for the introduction of air, may be simply at-

tached to the top of the reservoir, or may be passed down near the bottom of the reservoir, so that as the air rises upward toward the top  
25 of the tank it will be richly laden with the hydrocarbon vapor.

Having thus described my invention, I claim—

The combination of a vapor-stove, A, the  
30 reservoir C, provided with a pipe for the introduction of air, the fluid-pipe F, provided with a series of burners, and a gas-pipe, D, which extends along under the stove and has  
35 a branch pipe and regulating-cock for each burner, the branch pipes extending up close to the burners for the purpose of heating them, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM B. BLAKE.

Witnesses:

ABNER MCKINLEY,  
THOS. D. MCCORMICK.