

(Model.)

T. T. WOODWARD.  
FLUID OR VAPOR STOVE.

No. 263,007.

Patented Aug. 22, 1882.

Fig. 1.

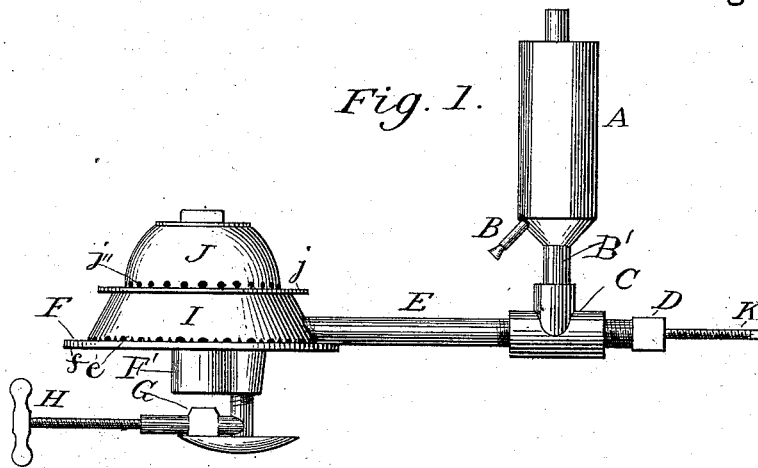


Fig. 2.

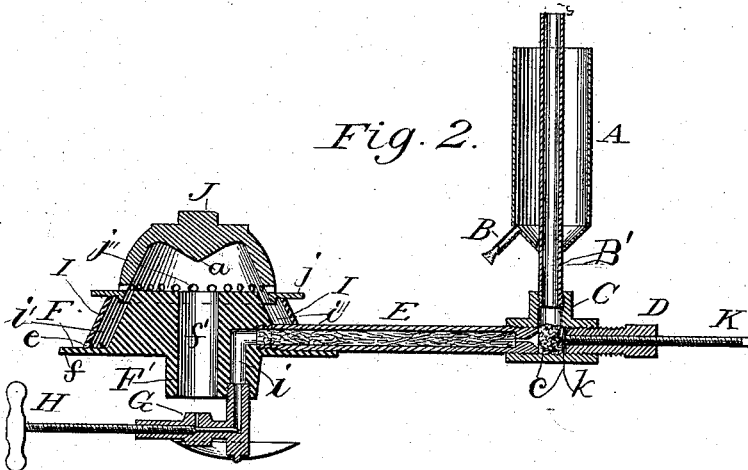


Fig. 3.

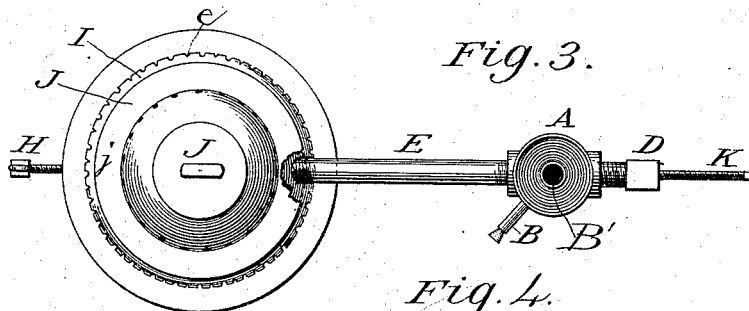
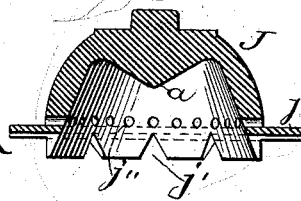


Fig. 4.



Witnesses:

Henry T. Morrison  
M. M. Jenkins

Inventor:

T. T. Woodward

# UNITED STATES PATENT OFFICE.

T. TRASK WOODWARD, OF DECATUR, ILLINOIS, ASSIGNOR TO WM. L. FURGERSON AND ARTHUR E. KINNEY, BOTH OF SAME PLACE.

## FLUID OR VAPOR STOVE.

SPECIFICATION forming part of Letters Patent No. 263,007, dated August 22, 1882.

Application filed October 13, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, T. TRASK WOODWARD, a citizen of the United States, residing at Decatur, in the county of Macon and State of Illinois, have invented a new and useful Improvement in Fluid or Vapor Stoves, of which the following is a specification.

My invention relates to certain new and useful improvements in fluid or vapor stoves; and it consists in the novel construction and arrangement of its several parts, the objects of which are to more perfectly filter and control the flow of fluid to the generator and to insure a more perfect generation, as hereinafter more fully described. I attain these objects by the device illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the burner complete. Fig. 2 is a longitudinal vertical section, showing its entire interior construction. Fig. 3 is a top view of the same. Fig. 4 represents the removable cap in section.

Similar letters refer to similar parts throughout the several views.

A represents a water-tank surrounding the perpendicular conducting-tube leading from a fluid-reservoir above. B is its lower outlet.

C is a common T-pipe.

D is a screw-plug.

E is a parallel section connected to the conical base or generator above the flange, and filled with wire-gauze, which acts as a filler and not a filter, but simply to occupy space.

F is a solid cone-shaped base or generator having a lower extension, F', and a flange or platform, f; also a large circular hole, f', passing up through the center of the cone, which serves as a conductor of the flame as it rises from the jet of the screw-valve G. On one side of the lower extension, F', an enlargement is formed, and a canal, i, is formed therein, as shown in Fig. 2, by drilling up into the lower end to a point above the flange f, and by drilling a hole at right angles thereto above the flange, which meets the perpendicular hole. Into the lower orifice of this canal i is screwed the jet-valve G, and into the upper orifice, above the flange, is screwed the section of pipe E, thus forming a communication between the fluid-reservoir and the jet-valve G through

one side of the conical base F. By this manner of conducting the fluid through a canal on one side of the conical base in close proximity to the flame-conductor f' perfect generation is insured, and hence I deem it proper to call the solid conical base F my "generator."

H is a valve-screw, which regulates the flow of gas or vapor through the jet G, as in other burners of its class.

I is a cone-shaped sleeve adapted to pass on over the upper part of the generator F and rest upon the flange or platform f, its lower edge being provided with notches e, as shown in Figs. 1 and 3, to admit of the passage of flame. The diameter of this sleeve I is larger than the conical portion of the generator, thus leaving a space or chamber, i', between them, as shown in Fig. 2. Onto the top of this sleeve I is placed a cap, J, having a hollow cone-shaped interior, a flange, j, and a portion extending below the flange j, provided with notches j', and channels formed in the under side of the flange j, which correspond with the notches j' in the lower portion. An annular row of small holes or perforations j'' is made through the side walls of the cap J above the flange j and as close to it as is possible to make them. The upper exterior formation of the cap is immaterial; but the interior is provided with an inverted cone, a. (See Figs. 2 and 4.) The importance of this inverted cone is apparent from the fact that it, being centrally located in the top of the cap, occupies a position directly over the flame-conductor f' of the generator for the purpose of spreading or radiating the flame as it rises through the conductor f', turning its course downward into the chamber i', thus enveloping the conical portion of the generator F as well as that portion of the conducting-pipe E which joins the generator, as before described.

An oblong slot is let into the lower edge of the sleeve I to allow it to fit down over the pipe E and rest upon the platform f of the generator.

The T-pipe C has a screw-plug, D, inserted into its outer end. Through the center of this plug D is a gage-screw, K, having a flat head or washer, k, on its inner end. There is a small chamber in the center of the T-pipe C,

formed by the end of the pipe E, plug D, and perpendicular conducting-pipe B'. The chamber thus formed is filled with sponge, wool, or other similar porous material, which serves  
5 as a filter and may readily be removed or replaced by unscrewing the plug D. The screw K serves as a gage for regulating the flow of fluid from the reservoir by simply screwing it inward or outward, compressing or relaxing  
10 the sponge or wool filter c.

The cap J and sleeve I are simply laid on the generator in the manner before described, and can be readily lifted off for the purpose of cleaning out the conducting-tube and jet below.

15 The mode of operation will be readily understood and needs no further description.

Having thus fully described my improvement, what I claim, and desire to secure by Letters Patent, is—

20 1. The combination, in a fluid or vapor stove, of a stand-pipe, B', surrounded near its lower end by a water or cooling tank, A, the T-pipe C, plug D, and compression or gage screw K, provided with disk k for the purpose of com-  
25 pressing the filtering material c, thereby regulating the flow of fluid from the reservoir, as specified.

2. In combination with the generator F and conical sleeve I of the cap J, the upper part of which is provided with an inverted cone, a, 30 for spreading the flame, the flange j, adapted to rest upon the sleeve I and support the cap J above the generator, substantially as shown and for the purpose described.

3. The cap J, having a lower extension 35 adapted to pass down into the top of the sleeve I, and provided with notches j', and an exterior rim or flange, j, having channels on its under side corresponding with said notches to allow the flame to pass out of the chamber i', as 40 specified.

4. In a fluid or vapor stove, the cap J, having a continuous circle of perforations, j'', above the flange j, in combination with the sleeve I, having notches e on its lower edge, and the 45 solid cone-shaped generator F, all arranged in connection with the conducting-tube E and screw jet-valve G, as and for the purpose herein set forth.

T. TRASK WOODWARD.

Attest:

M. WOODBURN JENKS,  
HENRY MITCHELL.