

Patented Aug. 12, 1879.

Geo. H. Knight
Walter Allen

William B. Lesner
By Knight Bros.
Atty's

UNITED STATES PATENT OFFICE

WILLIAM BLIESNER, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN COMBINED GAS AND VAPOR STOVES.

Specification forming part of Letters Patent No. **218,476**, dated August 12, 1879; application filed April 9, 1879.

To all whom it may concern:

Be it known that I, WILLIAM BLIESNER, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Combined Gas and Vapor Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My improvement consists in the described combination of parts, consisting of a **Z**-shaped feed-pipe, whose lower arm contains the burner, and whose upper arm is in contact with a circular plate, forming the flange of a close vertical cylindrical tube, which is in contact with, or close proximity to, the vertical part of the **Z**-shaped feed-pipe. Resting upon the flange is a loose circular plate, extending upon every side considerably beyond the bore of the tube, and standing on legs that sustain its under side from contact with the disk, the disk forming a deflector, against which the jet of flame impinges, and constituting the top of the combustion-chamber.

My improvement also consists in the combination, in a gas-stove containing the cylindrical combustion-tube, of a gasoline and a gas burner, both arranged for use with said tube, substantially as set forth.

Figure 1 is an axial section, and Fig. 2 is a perspective view of the removable deflector-plate.

A is the pipe supplying gasoline or other inflammable liquid from an elevated reservoir. (Not shown.) The pipe and reservoir are supported on a stand, B.

C is a **Z**-shaped pipe extending from the upright portion A of the supply-pipe. The pipe C consists of two pieces, c^1 and c^2 , which screw into the casting, through which a passage, C' , is formed for the liquid, and which consists of a vertical cylindrical tube, D, with a horizontal flange or head, E, at top.

The vertical part c^1 is in close proximity to the pipe D, so as to receive heat from it. This part has, at bottom, a cup, F, to receive any liquid overflowing from the burner-jet hole G. The burner-hole G is in the top of the horizontal part c^2 of the pipe C. H is a valve, and E

is a screw valve-stem. The burner G is axially below the tube D, so that the jet of vapor and flame passes up through the middle of the tube.

At the top of the tube the flame impinges against the under side of the removable deflecting-cap J, by which it is spread outward upon every side in the combustion-chamber K, between the cap and the flange E. The cap is supported on marginal legs j , so as to keep it elevated above the flange E, and thus is formed the chamber K. The flame issues from between the legs j , and passes upward against any vessel which is set upon the stand B. I have shown the cap with a circular series of perforations, j' , for the issuance of a portion of the flame; but I do not consider these necessary to the successful working of the apparatus.

L is a burner for common city gas, or for gas produced by a carbureter. The burner is supported on a pipe, M, turning on a joint, N, so that the burner may be brought centrally beneath the tube or pipe D, or be swung to one side, (when the gasoline-burner is used.)

When it is desired to adapt the apparatus for burning ordinary gas and using the burner L, the pipe A may be disconnected by unscrewing the pipe C; or said pipe may be closed by a valve or cock, or the reservoir emptied of gasoline, as preferred. Then the valve-stem I is removed from the gasoline-burner pipe, (by simply unscrewing it therefrom,) and then the portion c^1 c^2 of the burner-pipe is unscrewed—say one-fourth of a turn—in the head E, so as to give place for the gas-burner L beneath the tube D.

The combination of the two burners makes the stove available to the best advantage in every situation. In some situations, where the use of gasoline might be objected to on account of danger from fire, and where city gas is available, the burner L may be used; and in all situations where city or other aeriform gas is not available, the gasoline-burner G would be used. These advantages will be seen to be considerable when the portability of the apparatus is considered.

Connection with the city gas-supply is usually made by means of a rubber or other flexi-

ble pipe connecting the pipe M with an ordinary gas-burner or gas pipe. The rubber pipe is shown at O.

I am aware that it has already been proposed to construct the burner of vapor-stoves with a cylindrical chamber, into which the gas and air are allowed to flow, such chamber having at its top a perforated disk, against which the flame impinges, and which disseminates the flame, so as to secure a large heating-surface. Such features, therefore, I do not broadly claim; but

What I do claim, and desire to secure by Letters Patent, is—

1. The combination of the Z-shaped pipe C, burner G, cylindrical combustion-tube D, and

flanged head E, cast in one piece, and the perforated cap J, having marginal legs *j*, for supporting said cap above the head, and forming a combustion-chamber, K, between the flanged head and cap, substantially as set forth.

2. The combination of the tube D and head or flange E, cast in one piece, perforated cap J, having marginal legs *j*, for supporting said cap on the flange E, and the burner L, attached to pipe M, turning on the joint N, as and for the purposes set forth.

WM. BLIESNER.

Witnesses:

SAML. KNIGHT,

GEO. H. KNIGHT.