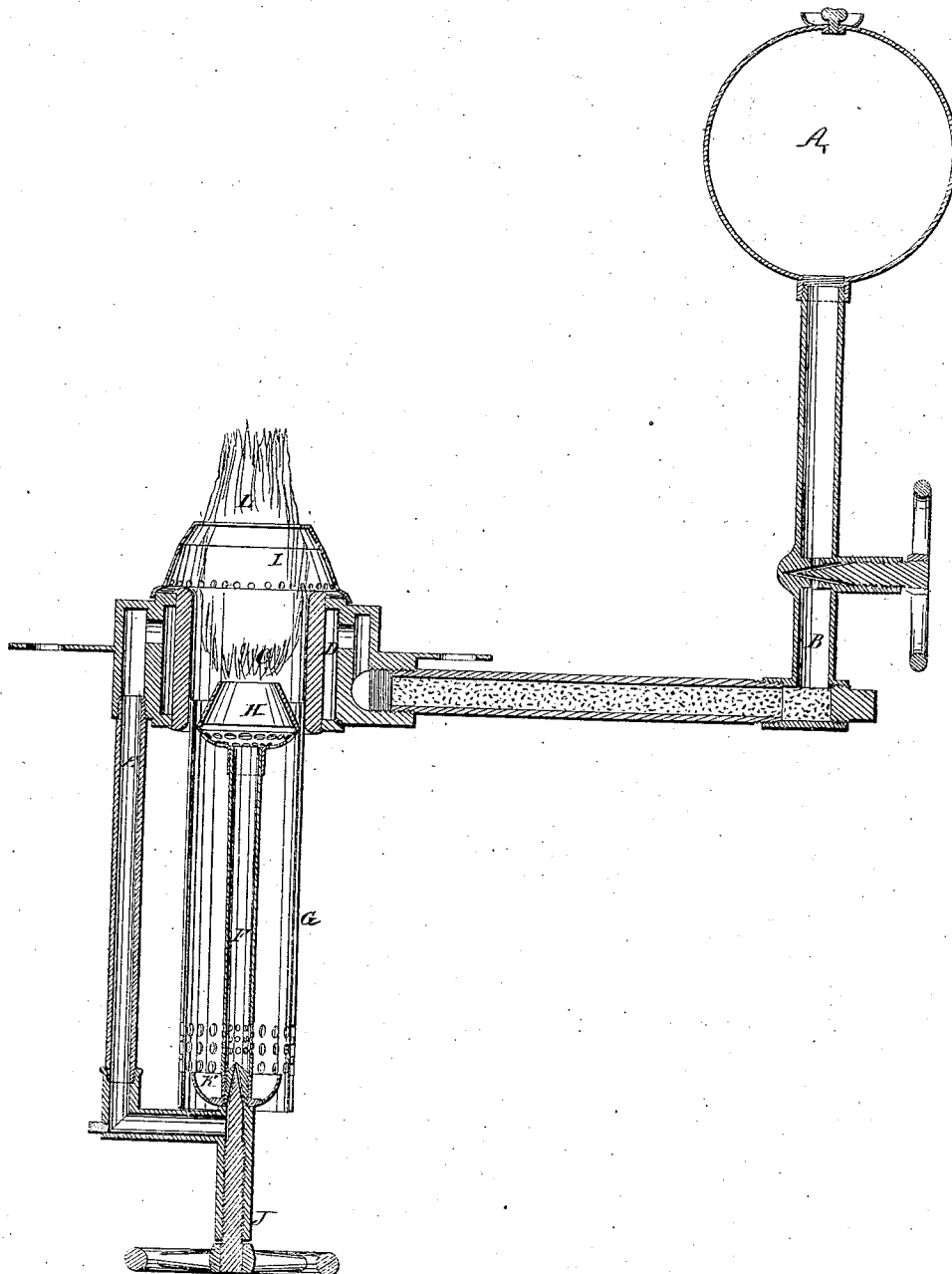


W. H. Smith.

Vapor Stove.

N^o 51,876.

Patented Jan. 2, 1866.



Witnesses
J. M. Noble.
John Peters.

Inventor.
W. H. Smith.

UNITED STATES PATENT OFFICE.

W. H. SMITH, OF NEW YORK, N. Y.

PETROLEUM-BURNER FOR COOKING PURPOSES.

Specification forming part of Letters Patent No. 51,876, dated January 2, 1866.

To all whom it may concern:

Be it known that I, WILLARD H. SMITH, of the city, county, and State of New York, have invented a new and useful Hydrocarbon-Vapor Burner for Heating and Cooking Purposes; 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 drawing, forming part of this specification, in which—

A is the oil-reservoir.

B is a conduit pipe, in two parts, the horizontal part being filled with woven wire, or its equivalent, having a screw-gage to regulate the flow of oil. The upright section of this conduit and the oil-reservoir, not being a part of my invention, form no part of the model, and are shown in the drawing only to show how the device is connected with the oil-reservoir.

C is a cylindrical chamber in which combustion begins to generate the vapor.

D is an oil-chamber passing quite around the flame-chamber, wherein the oil is heated and converted into gas or vapor.

E is a pipe to convey the vapor to the inner hollow tube, F.

G is a larger tube surrounding the other, both foraminous at their lower ends, as represented, to admit air freely to the burner, with an intermediate space between them for its flow, and also to admit the flame to rise from the spirit-basin, hereinafter described.

H is a deflector placed on the top of the tube F. The chamber C is made large enough for the tube G to be raised to fill the spirit-basin K, and has on its top the larger deflector I. Both the deflectors have holes, as shown in the drawing.

J is a gage with a point, screw, and wheel to regulate the flow of vapor into the tube F.

K is a small basin to hold a small quantity of spirit to heat the generator and start it into operation.

The operation is as follows: The tube G is raised and the basin K supplied with spirit, which is lighted, the flame whereof rises and heats the generator. The oil is then suffered to flow in proper quantity, regulated by the gage in tube B, into the oil-chamber D, where it is converted into vapor which flows through the pipe E, regulated by the gage J, into the tube F. It there meets the flow of atmospheric air admitted through the small holes at the lower ends of the tubes, and the oil-vapor and air are thoroughly mixed and rise to the flame L, passing first through the deflector H, where combustion begins, and after heating the oil in chamber D rises through the deflector I in a perfect flame to heat any vessel or stove placed above it.

The vessel or basin K is specially adapted for burning naphtha as well as alcohol.

Having thus fully described the mode of construction and the operation of my burner, I claim and desire to secure by Letters Patent—

1. The flame-chamber or vapor-generator C, surrounded by the annular oil-chamber D, which passes quite around the flame. This form I prefer, but it may pass around only one-half thereof.

2. The tubes F and G, or their equivalents, one within the other, with an air-space between them, and with their foraminous lower ends for the admission of air, with the deflector H on the top of the tube F, and the deflector I on the top of the flame-chamber C, substantially as and for the purposes set forth.

3. The flame-chamber C, in combination with the oil-chamber and deflectors aforesaid, for the purposes described.

4. The burner in all its parts, constructed and arranged, as represented and described, for the uses and purposes herein set forth.

W. H. SMITH.

Witnesses:

JOHN S. HOLLINGSHEAD,
JOHN D. BLOOR.