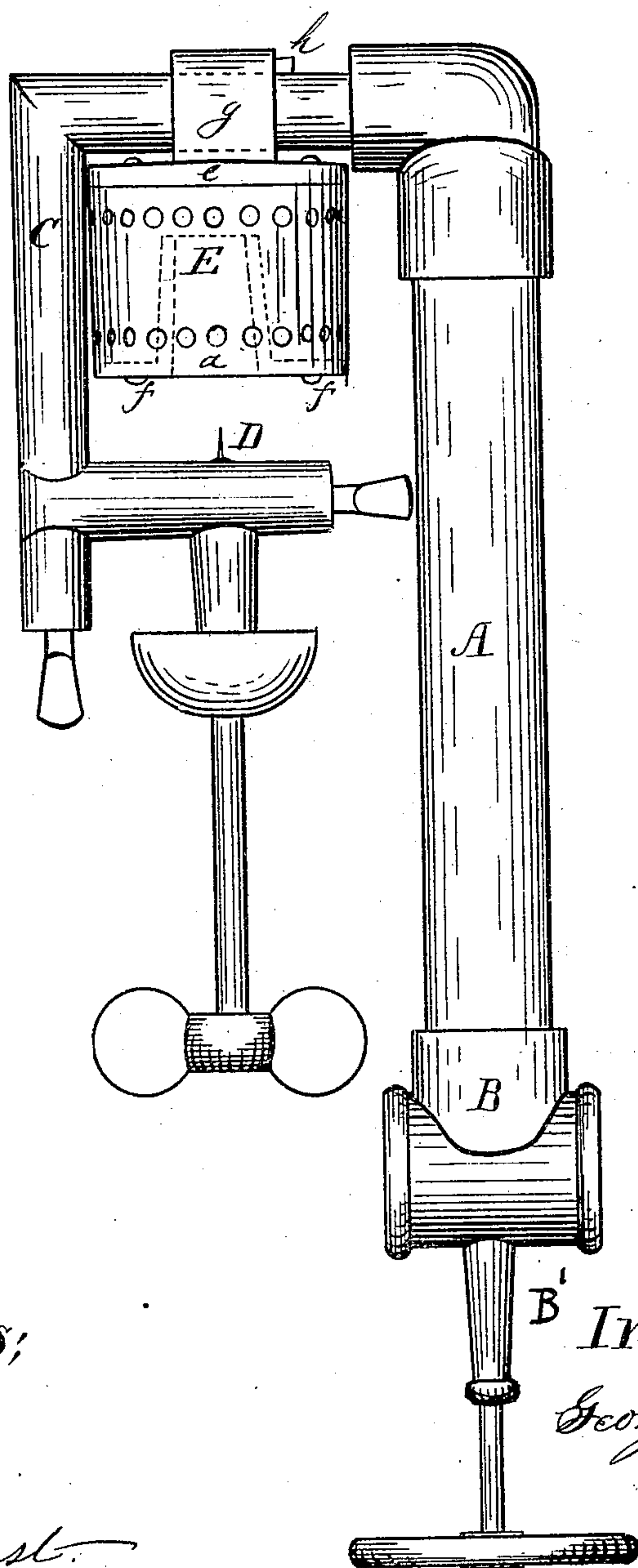


(No Model.)

G. W. BILLINGS.
Vapor Burner.

No. 238,633.

Patented March 8, 1881.



Witnesses;

E. W. Laird,

B. S. De Forest.

B' Inventor;

George W. Billings

by

Geo. W. F. F. F. F.
Atty.

UNITED STATES PATENT OFFICE.

GEORGE W. BILLINGS, OF CLEVELAND, OHIO, ASSIGNOR TO OTIS D. CROCKER, OF SAME PLACE.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 238,633, dated March 8, 1881.

Application filed May 24, 1880. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. BILLINGS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Vapor-Burner, of which the following is a specification.

This invention relates to vapor-burners, and has for its object to furnish a simple device for vaporizing coal-oil and burning the same for heating purposes.

The nature of the invention will fully appear from the subjoined description, when considered with reference to the accompanying drawing, in which the figure is a side elevation.

A is a tube arising from a T-joint connection, B, containing a shut-off valve, B'. To the upper end of said tube A is connected, by an elbow, a tubular frame, C, having a jet-orifice and needle-valve, D.

E is a mixing-chamber and burner, consisting of a cup or shell having a central opening in the bottom, and a short cone-shaped tube, *a*, (shown in dotted lines,) rising therefrom and standing up about three-fourths of the height inside of the cup. The cup is secured to a disk or cover, *e*, by means of long rivets *f*, or otherwise, and the disk has a loop, *g*, for

suspending the cup to the upper cross-arm of the frame C, by means of which the cup may be readily adjusted in relation to and directly over the jet-orifice, where it may be secured by means of a key, *h*.

The space between the tube A and the perpendicular arm of the frame C is made narrow, so as to have the sides of the cup E stand close to them, for the purpose of having the jets of flame come in close contact for heating them and generating vapor therein.

This makes a simple, perfect, and noiseless burner for vaporizing coal-oil, and is equally adapted for all products of petroleum.

Having described my invention, I claim—

In a vapor-burner, the perforated adjustable cup E, constructed as shown and described, with closed top *e*, having loop *g*, closed bottom having central opening, and short central tube, *a*, in combination with the quadrangular frame C and valve D, as and for the purpose described.

G. W. BILLINGS.

Witnesses:

GEO. W. TIBBITTS,
C. D. O'CONNOR.