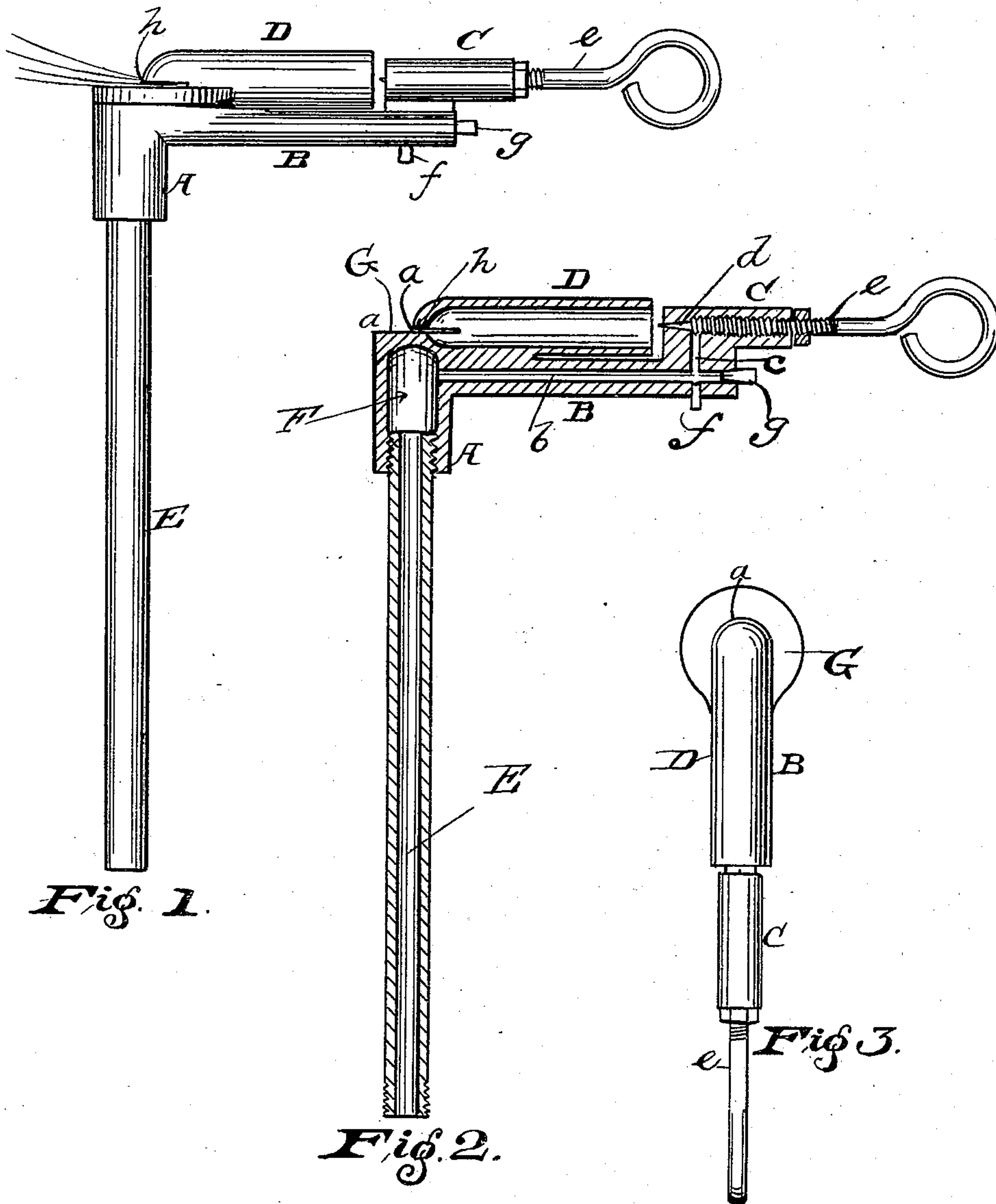


(No Model.)

J. R. SAPP.
VAPOR BURNER.

No. 484,114.

Patented Oct. 11, 1892.



Witnesses:
M. E. Ambler
M. M. Barnes

Inventor,
Joseph R. Sapp,
by *Geo. W. Tibbitts atty.*

UNITED STATES PATENT OFFICE.

JOSEPH R. SAPP, OF CUYAHOGA FALLS, OHIO.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 484,114, dated October 11, 1892.

Application filed July 30, 1891. Serial No. 401,230. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. SAPP, a citizen of the United States, and a resident of Cuyahoga Falls, county of Summit, and State of Ohio, have invented certain new and useful Improvements in Vapor-Burners, of which the following is a specification.

In the accompanying drawings, Figure 1 is a side elevation of my new burner. Fig. 2 is a vertical section of the same. Fig. 3 is a top or plan view of the same.

This invention relates to improvements in that class of vapor-burners where the vaporization of the gasoline is automatically produced by the flame itself, which serves the double purpose of vaporizing the gasoline, and thereby producing the illuminant on which said flame feeds, and of illuminating, and, also, where an automatic admixture of the gasoline vapor and atmospheric air is insured.

A represents an elbow or right-angle shaped pipe or coupling, to the lower end of the vertical portion of which is connected the gasoline-supply pipe E. The vertical portion of this pipe or coupling is formed with a gasoline-vaporizing chamber F, up into which the gasoline ascends from the supply-pipe E. The top face or crown of said vertical portion of the pipe or coupling A, immediately above the vaporizing or vapor-generating chamber F is of flat horizontal shape, as shown at G, and is horizontally in line with the flame-exit slit *a* to insure the flame traveling directly along and in contact with said flat portion G, so as to heat the generating-chamber F and vaporize the gasoline therein. Extending horizontally from said vertical portion the pipe or coupling branches, as shown at B, and through which branch horizontally extends a channel or passage-way *b*, connecting at one end with said vaporizing-chamber F and extending vertically upward, as shown at *c*, into an offset C in a horizontally-threaded passage-way *d*, of which is seated a needle-valve *e*. Through this angular passage or channel *b c* the gasoline-vapor passes from the vaporizing-chamber F to the valve-guarded exit end of the offset C.

f and *g* represent plugs closing end and

bottom openings in the branch B, communicating with the vapor-channel *b*. By removing said plugs the channel *b c* can be readily cleaned.

D represents the commingling-chamber, which consists of a tube or cylinder lying parallel with and above said branch B, and is open at its rear end to admit atmospheric air and within which chamber the air and vapor are automatically commingled, the flame, when the needle-valve is open, drawing the air and vapor into and mixing them together within said chamber, as is well understood.

a represents the flame-exit slit in the otherwise closed front end of said chamber D. The upper lip *h* of said slit extends forwardly of and overhangs the lower lip thereof and extends over the flat top G of the vaporizing-chamber, so as to guide and insure the flame passing across and impinging against said flat top G, and thereby imparting its heat thereto for the purpose of insuring the vaporization of the gasoline in said chamber F.

Having thus described my invention, what I claim is—

The vapor-burner herein described, consisting of a right-angled or elbow-shaped pipe or coupling having in its vertical portion a gasoline-vaporizing chamber, said vertical portion at its lower end being connected with the gasoline-supply pipe and having at its upper end a flat crown, the horizontally-extending or branch portion of said pipe having at its rear end an interiorly-threaded upwardly-extending offset and a right-angled passage-way connecting said vaporizing-chamber and offset, a needle-valve having bearing within said offset, a tubular air and vapor commingling chamber extending parallel with and above the horizontal portion of said elbow-shaped pipe and having an open rear end, and a lipped and slitted front end, the upper lip of which extends forwardly over a portion of the flat crown of the vaporizing-chamber, substantially as and for the purpose set forth.

JOSEPH R. SAPP.

Witnesses:

C. S. KNIGHT,
V. S. RUSSELL.