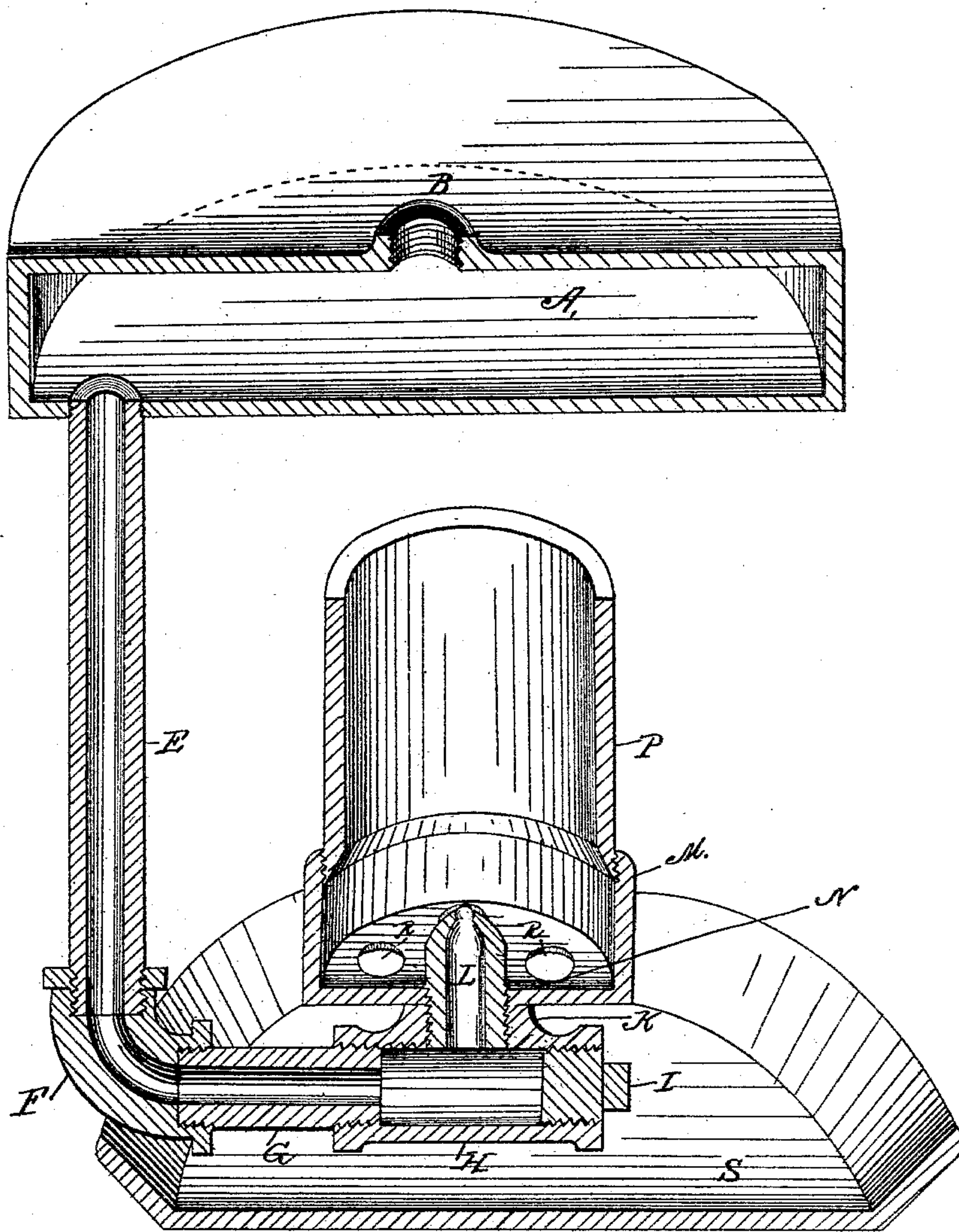


(No Model.)

F. G. LILLY.
OIL BURNER FOR HEATING PURPOSES.

No. 411,964.

Patented Oct. 1, 1889.



Witnesses
George C. Poulton
Chas. Rhodes.

Francis G. Lilly Inventor

By his Attorney
J. W. Plummer & Co

UNITED STATES PATENT OFFICE.

FRANCIS G. LILLY, OF JAMESTOWN, NEW YORK, ASSIGNOR TO CHARLES H. GREGORY, OF SAME PLACE.

OIL-BURNER FOR HEATING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 411,964, dated October 1, 1889.

Application filed February 28, 1889. Serial No. 301,463. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS G. LILLY, a citizen of the United States, residing at Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Oil-Burners for Heating Purposes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in oil-burners for heating purposes; and it has for its objects to provide a device wherein the oil may be converted into gas in a suitable retort, from which the gas thus generated passes to a suitable jet-burner, where it is consumed, producing the heat necessary for the continued generation of the gas, and for general heating and cooking purposes, as more fully hereinafter specified.

The above-mentioned objects I attain by the means illustrated in the accompanying drawing, in which the figure represents a vertical sectional view of my improved device.

Referring to the drawing, the letter A indicates a retort or generator, which is constructed of metal, preferably of cast-iron, and is formed substantially in the shape of a hollow cylindrical vessel. The upper side of said vessel at its center is formed with a screw-threaded boss B, with which is connected a supply-pipe connected with a suitable oil-reservoir and having a controlling-valve, by which the amount of oil supplied to said retort or reservoir may be regulated. From the said retort or generator at one side extends downwardly a pipe E, which at its lower end is provided with an elbow F, having a horizontal extension G, to the end of which is secured a screw-threaded section H, which has at its end a removable screw-plug I, which may be detached and replaced at will to permit the cleaning of the tubes. To the said section, in a vertical screw-threaded branch K of the same, is secured an externally-threaded jet-burner L, having a contracted opening at its upper end for the escape of the gas to be burned as it is

generated and supplied from the retort or generator. To the upper portion of the said jet-burner is secured a short cylindrical section M, having a central internally-screw-threaded aperture N, which fits over the externally-screw-threaded portion of the jet-tube, projecting above the vertical branch of the screw-threaded section before mentioned. The upper portion of the screw-threaded section mentioned is provided with a series of internal screw-threads, and in such threaded portion is secured the lower end of an externally-screw-threaded cylinder P, the upper end of which terminates directly under the center of the bottom of the retort or generator, leaving sufficient space for the necessary draft under the same. The bottom of the cylindrical section M is provided with a series of annularly-arranged apertures R, through which the air necessary to support the combustion of the gas escaping from the jet-burner is supplied.

The letter S indicates a pan located at the lower part of the device, which is designed to contain oil or other inflammable fluid, which may be ignited to supply the initial heat to commence the generation of the gas.

The operation of my invention will be readily understood from the above description, and is as follows: To start the generation of the gas, a small quantity of oil is supplied to the pan and ignited, so as to heat the retort and burner. When these have acquired a proper temperature, the oil is supplied in properly-regulated quantities to the retort or generator, becoming converted into vapor therein and escaping at the jet-burner where it burns, supplying the heat necessary for the continued generation of the vapor and the heat necessary for cooking or other purposes.

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

1. The combination, in an oil-burner, of the retort A, the section H, connecting therewith by means of a pipe E, the externally-threaded jet-burner connected to the branch K of said section, and the cylindrical section M, secured to the jet-burner and resting

upon the branch K, the said cylindrical section being provided with draft-apertures R, substantially as and for the purposes specified.

- 5 2. The combination, with the section H, connected with the retort A, of the externally-screw-threaded jet-burner, the short section M, secured thereto and resting on the branch K, and the cylinder P, mounted on

the upper part of said section M, substantially as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS G. LILLY.

Witnesses:

LAFAYETTE P. KENNEDY,
A. HAZELTINE.