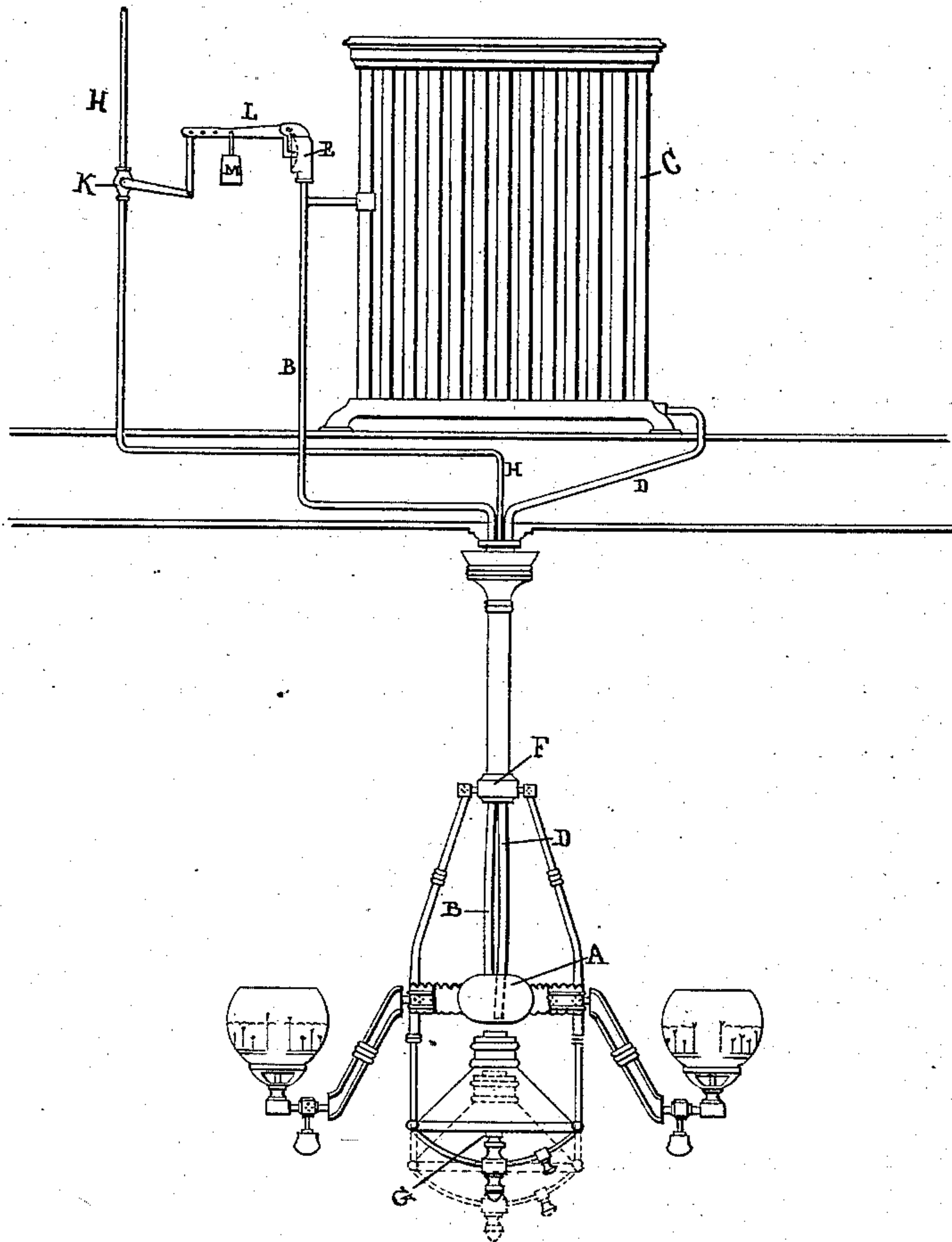


(No Model.)

G. L. LAVERY.
HEATING DEVICE.

No. 315,422.

Patented Apr. 7, 1885.



Witnesses
L. A. J. McKinley
J. M. Morton

Inventor
Geo L. Lavery

UNITED STATES PATENT OFFICE.

GEORGE L. LAVERY, OF BOSTON, MASSACHUSETTS.

HEATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 315,422, dated April 7, 1885.

Application filed April 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. LAVERY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Heating Devices, of which the following is a specification.

My invention is an improved heating device whereby the heat radiated by gas, kerosene-oil, or other illuminators can be utilized for heating and warming purposes.

The object of my invention is, first, to utilize the heat radiated by illuminators; second, to afford facility for regulating the temperature of the heater; third, to economize by automatic means the quantity of illuminating medium.

The heater can be constructed either as stationary or as portable. The accompanying drawing, which forms part of this specification, shows a stationary heater in conjunction with a chandelier, using gas as an illuminator, the radiator being situated in an apartment other than that in which the chandelier is located.

A is a generator; B, a pipe leading from the top of the generator A to a radiator, C. D is a pipe leading from the radiator C at a point lower than the entrance of the pipe B to the bottom of the generator A. E is a relief or automatic pressure-valve having a graduated arm, L. M is a movable weight attached to arm L, by which the valve E can be adjusted for different pressures as a means of varying the temperature of the heater when desired. The generator A, pipes B and D, radiator C, and valve E are filled with water or other liquid. F is a chandelier; G, one of the burners on same, which can be provided with a form of burner that radiates heat freely while illuminating. H is a supply-pipe for chandelier F. K is a valve on pipe H, in proper relation with and operated by the relief or pressure valve E.

The operation is as follows: The heat radiated by the illuminator at burner G is im-

parted to the water or other liquid in the generator A, which, as it becomes warmer, ascends in the pipe B to the radiator C, diffusing heat in the apartment where the radiator is situated, and, becoming cooler, descends in the radiator, and by the pipe D is conducted back to the generator, there to be reheated. When sufficient heat has been communicated to the water to cause the pressure-valve E to operate the valve K, the illuminating supply is diminished and the radiation of heat reduced at the burner G. The pressure - E being automatic in its action, operates the valve K, increasing the supply when the pressure on the heater falls sufficiently.

As a portable heater, the operation is identical, the construction differing to allow the heater to be placed in a frame or table capable of being moved from place to place.

I am aware that prior to my invention heaters have been made using heat from gas, kerosene, and other oils. I therefore do not claim such combinations, broadly; but

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

1. A heating device consisting of a generator, A, pipe B, radiator C, pipe D, regulating-valve E, all filled with water or other liquid, in combination with a chandelier, F, whereby is utilized the heat radiated at one or more of its burners, substantially as shown, and for the purpose set forth.

2. The combination of the generator A, pipe B, radiator C, pipe D, valve E, all filled with water or other liquid, the chandelier F, burner G, gas-supply pipe H, and valve K, substantially as shown, and for the purpose set forth and specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. L. LAVERY.

Witnesses:

SINCLAIR STUART,
J. W. CONKLIN.