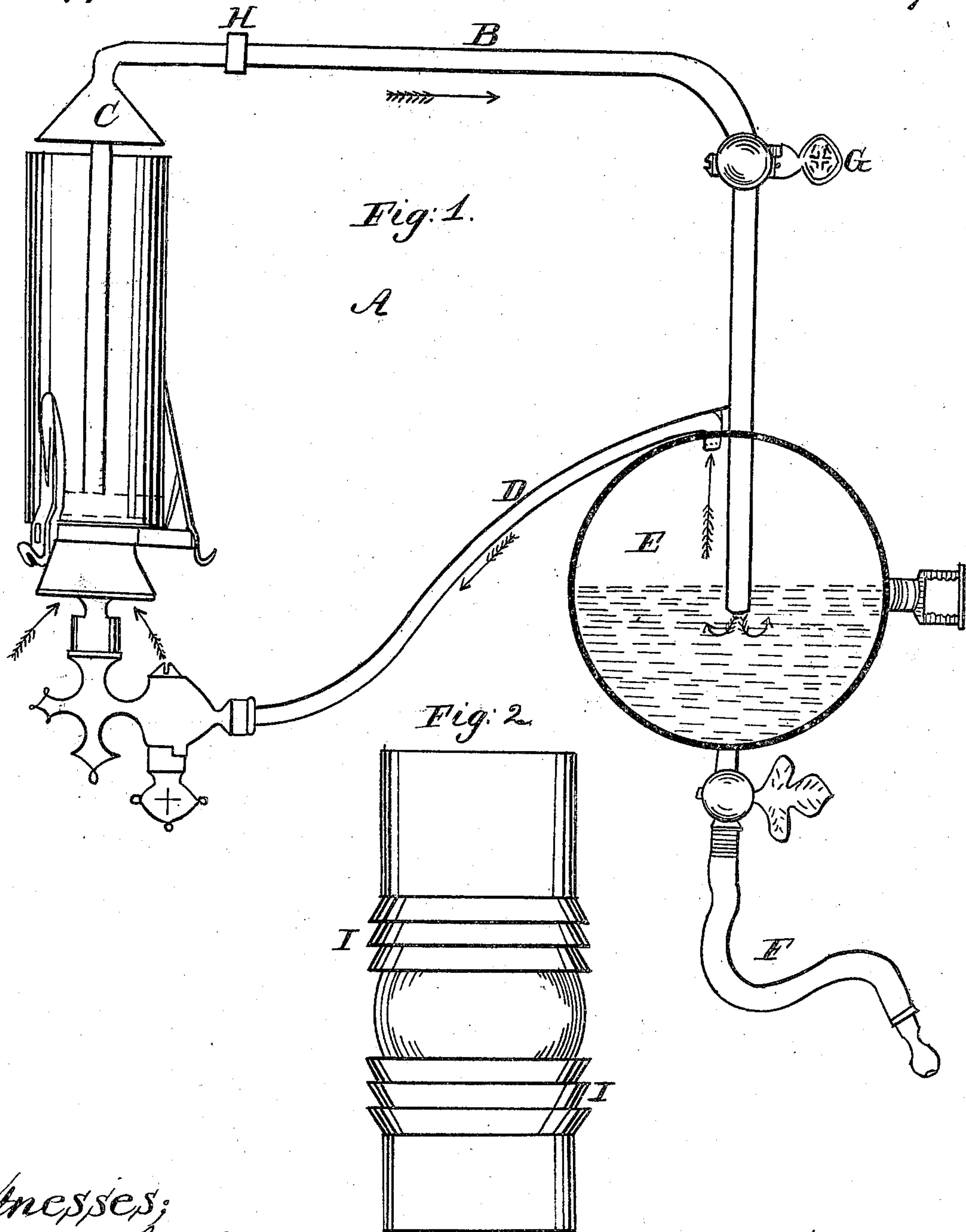


C. F. Dunderdale Carburetted Air.

N^o 97283.

Patented Nov. 30. 1869.



Witnesses;
John Lightbody
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CLEAVELAND F. DUNDERDALE, OF NEW YORK, N. Y.

Letters Patent No. 97,283, dated November 30, 1869.

IMPROVED APPARATUS FOR CARBURETTING AIR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CLEAVELAND F. DUNDERDALE, of the city, county, and State of New York, have invented a new and useful Improvement for Carburetting Atmospheric Air in an automatic manner, for attachment to fixtures, such as used for ordinary gas, and in an apparatus for increasing the power of illumination of gas-lights and others, by an arrangement of a combined chimney and lens; and I do hereby declare the following to be a clear and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view, partly in section, of my improved automatic carburetter-apparatus attached to a side-wall gas-bracket.

Figure 2 is a sectional view of my improved lens chimney.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved means of causing a draught of hot air to pass through tubes, heated by the flame, into a carburetting-chamber, in connection with the fixture, in an automatic manner, caused by being expanded by the heat of the flame of the burner, rising and passing along the conducting-tubes and into the chamber containing a hydrocarbon-liquid, which it volatilizes and passes to the burner mixed with the same, where it is consumed, the passage to the burner from the carburetting-chamber being facilitated by the draught of the chimney.

Also, it has for its object the increase of the light-giving power of gas-lights, lamp-lights, and others, by making the chimney partly of a lens on the dioptric or catadioptric system, for magnifying and parallelizing the rays that emanate from the said flames, in an economical manner about the apartment.

It consists in the construction and combination of the various parts of the apparatus, as hereinafter more fully described.

A, in the drawing, represents an ordinary side-wall bracket-fixture, to which is attached a tube, B, leading upward and back from the burner to the interior of the chamber containing the hydrocarbon-liquid, one end of B extending downward through the centre of the flame (when an argand-burner is used) to a point clear of the point of combustion, where pure atmospheric air enters and rises, owing to the heating of the tube by the flame, to the chamber C, where it is further heated and forced along the pipe to the car-

buretting-chamber in a continuous stream, where it mixes with the vapor of the liquid therein contained, and passes into and along pipe D to the burner, where it is consumed; the flame being first started by blowing with the breath through the flexible tube F, connected with the lower part of the carburetting-chamber, which also serves as a drain-pipe, for the contents of said chamber.

The chamber C also serves to prevent the too rapid draught of air through the chimney, and thereby preventing the carbon from being carried out of a state of incandescence too rapidly, thereby increasing the quantity of light, by allowing it to remain longer in a state of white heat. This heater may be made of any shape or form desired for appearances.

The draught or supply of the heated air passing through tube B into chamber E, may be regulated by a cock, as at G.

The tube B, attached to chamber C, may be detached and lifted out of the chimney, by having a slide-joint, as at H.

The chimney has a band of thick corrugated glass surrounding it, as shown at I, in fig. 2, arranged as a lens, and made either separate or as part of the chimney, constructed on the dioptric, catadioptric, or other systems, the effect of which is to increase the light by magnifying it and parallelizing the rays in a horizontal manner and direction about the room where used.

I do not claim a process for heating the products of combustion by means of the flame of the burner, for I am aware that such devices are old. Such a process is described in the patent of John H. Irwin, dated April 11, 1865.

Neither do I claim the chambers E and C, with the pipe-connection therewith, for they are represented in my patent of May 25, 1869; but

What I claim as new and useful, and desire to secure by Letters Patent, is—

1. The tube herein described and shown, attached to the lower side of chamber C, so constructed and arranged, that its lower open end shall extend downward below the flame of the burner, substantially as and for the purpose specified.

2. In combination with an air-carburetter, constructed as described, the corrugated lens-chimney I, constructed and arranged substantially as described.

CLEAVELAND F. DUNDERDALE.

Witnesses:

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