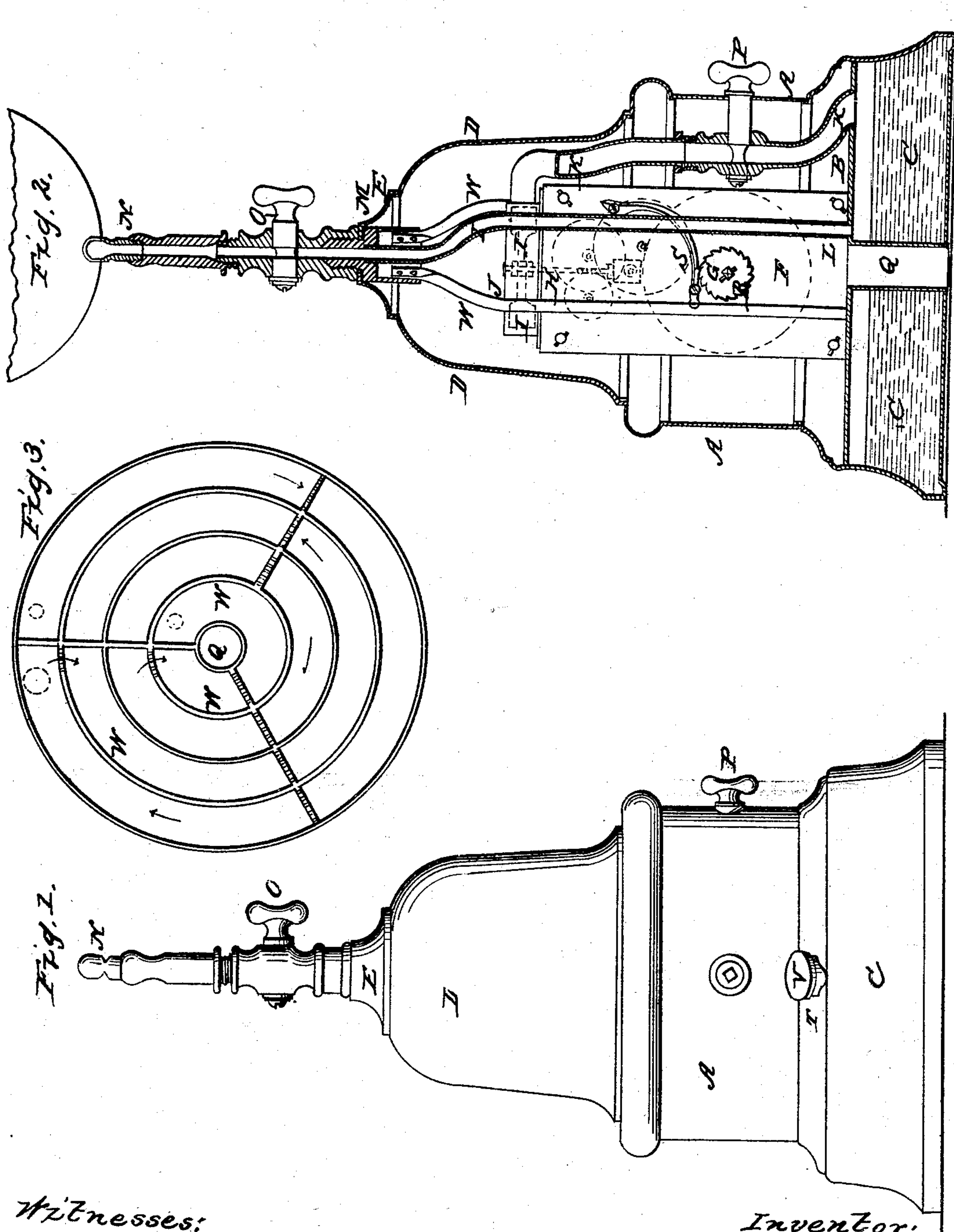


# Hydrocarbon Burner

No. 56,155.

Patented July 3, 1866.



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# UNITED STATES PATENT OFFICE.

MORITZ HERZOG, OF VIENNA, AUSTRIA, AND D. L. COHN, OF LONDON, ENGLAND.

## IMPROVED HYDROCARBON-BURNER.

Specification forming part of Letters Patent No. 56,155, dated July 3, 1866.

*To all whom it may concern:*

Be it known that we, MORITZ HERZOG, of Vienna, Austria, and DAVID LEOPOLD COHN, also of Vienna, but temporarily resident in London, England, have invented an Improved Hydrocarbon Lamp or Apparatus for Carbureting Atmospheric Air; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the figures and letters marked thereon—that is to say:

Figure 1 is an elevation, and Fig. 2 a vertical section, of a lamp constructed according to our invention. Fig. 3 is a horizontal section of the reservoir for hydrocarbon-oil, showing the various compartments through which the atmospheric air may be caused to travel, as hereinafter described.

Our invention consists in drawing a current of atmospheric air into the apparatus, in forcing it into contact with any hydrocarbon—such as petroleum, benzine, ether, naphtha, and others contained in a convenient reservoir—whereby the air becomes carbureted or impregnated with the hydrocarbon vapor, and in then leading the air thus carbureted or impregnated to a burner or burners to be consumed.

A is the outer case of the lamp. B is a division-plate, forming the top of a reservoir, C, for the hydrocarbon. D is a dome fitted upon the case A, and E is a cap to the dome. F is a spring-barrel fitted with a spindle, G, by which it is wound up, when required, to impart motion to ordinary clock-work. The last wheel of this clock-work is in gear with a worm on a vertical spindle, H, to which it imparts motion. This spindle carries a fan or ventilator, I, in a box, J. From this box a pipe, K, leads into the oil-reservoir C. L is another pipe leading from the reservoir C through a block, M, to a burner, N, fitted with a cock, O.

P is a cock for opening and closing the pipe K. Q is a passage leading from the interior of the case A through the middle of the reservoir to the bottom of the lamp. This passage Q allows of the admission of air to the case. Air also enters by the aperture formed in the

case for the cock P and by the aperture for the key which winds up the clock-work.

R is a ratchet-wheel, and S a spring-pawl, which takes therein to prevent the barrel F turning in the wrong direction. T is an aperture for the admission of the hydrocarbon. It is kept hermetically closed by a screwed stopper, U. V V are supports for the block M and burner N. The block M is composed of or filled with some material which is a bad conductor of heat.

The operation is as follows: The hydrocarbon having been supplied to the reservoir C, and the barrel F having been wound up, the clock-work G drives the wormed spindle H, and consequently the fan I. The rapid motion of the fan draws in air through the passage Q and other openings in the case A, as above mentioned, and forces the current of air through the pipe K into the reservoir C. The air becomes carbureted or impregnated with the hydrocarbon vapor, and then rises through the pipe L to the burner N, where it will burn on a light being applied thereto.

Sometimes, in order to keep the current of air a greater time in contact with the hydrocarbon, we form vertical divisions W; Fig. 3, in the reservoir C, some of which divisions are perforated, so that the air is made to traverse through a labyrinth before making its exit through the pipe L to the burner. The course of the air through the reservoir C will be understood by the arrows in Fig. 3.

Instead of, or in addition to, the passage Q, for the admission of air, one or more air-inlet orifices may be formed in the case A.

We do not limit ourselves to the position of the fan I shown in the drawings, as it may be placed below the barrel F or other convenient position, the position of the several parts in connection therewith being altered to correspond.

We do not confine ourselves to the employment of a spring-barrel or clock-work to drive the fan, as any other convenient appliances may be adopted, and instead of the fan itself any other convenient method of forcing or exhausting air through the apparatus may be employed.

By making the apparatus before described of larger dimensions, and fitting the pipe L with branches terminating in burners, a number of burners may be supplied with carburated air from one reservoir and one air-forcing apparatus. In such case the apparatus may have the form of a chandelier or of a candelabrum.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination, in a lamp, of the following devices, viz.: the hydrocarbon-reservoir, the gas-burner, the air-forcing mechanism, connecting-pipes, and case, the whole being

combined and operating substantially as hereinbefore set forth.

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