W. H. REED.

Air-Blower for Carbureters.

No. 165,254. Patented July 6, 1875.

Fig. 1.

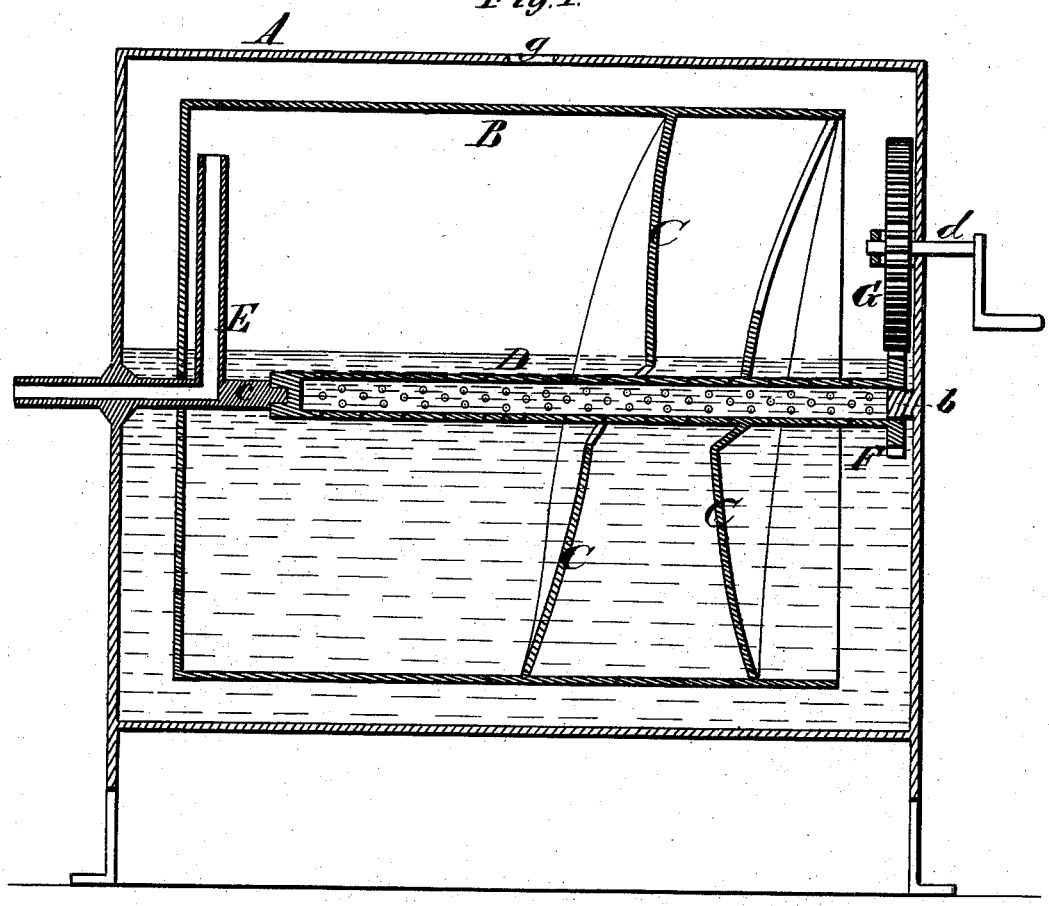


Fig. 2.

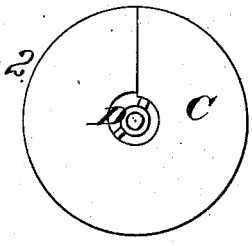
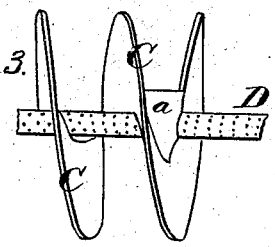


Fig. 3.



WITNESSES

E. H. Bates

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UNITED STATES PATENT OFFICE.

WILLIAM H. REED, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF, WARREN A. WELLS, HENRY C. HAYT, DANIEL J. SMALL, HENRY JONES, AND LYMAN P. CONVERSE, OF SAME PLACE.

IMPROVEMENT IN AIR-BLOWERS FOR CARBURETERS.

Specification forming part of Letters Patent No. **165,254**, dated July 6, 1875; application filed June 4, 1875.

To all whom it may concern:

Be it known that I, WILLIAM H. REED, of Chicago, in the county of Cook and State of Illinois, have invented a new and valuable Improvement applicable to Carbureters; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my device, and Figs. 2 and 3 are detail views of the same.

This invention has relation to means for supplying air to carbureters which are designed for manufacturing gas for illuminating purposes; and the nature of my invention consists in a rotating helical flange, which is inclosed in a drum, and secured to a hollow, perforated shaft, in combination with a casing which is adapted to contain water, or other fluid, and air, whereby a regular or steady current of air can be forced through the carbureting apparatus, and a uniform light obtained without the use of a gas-holder and its appurtenances, as will be fully understood from the following description:

In the annexed drawings, A designates the cylindrical shell or case of the improved apparatus, which is constructed with two heads, and mounted on a suitable base in a horizontal plane. B designates a cylinder, which is open at one end, and which is concentrically inclosed in the case A. Within this cylinder, and rigidly secured to it, is a helical flange, C, the surfaces of which are very smooth. This flange turns two or more times around a central shaft, D, and is secured to this shaft by short arms, as shown in Fig. 2. At the induction end of the cylinder B the first turn of the flange C is closely united to the shaft D by a web, *a*, which web, in connection with flanges C, forms a cup, which will take in air at every revolution of the shaft D. The shaft D is thickly perforated from one end to the other, and it is sustained by means of end bearings *b c*, shown in Fig. 1. E is an angular eduction-pipe, the horizontal portion of which passes freely through the head of the cylinder B, and through the head of the case A, to which it is rigidly secured. The vertical portion of the eduction-pipe E rises nearly to the top of the cylinder B, inside thereof, and at the angle of this pipe E the bearing *c* is rigidly secured. F designates a pinion spur-wheel, which is fast on one end of the perforated shaft D, and which engages with a large spur-wheel, G, on a driving-shaft, *d*. Shaft *d* passes through the head of case A, and is rotated by means of clock-work, or a weight and cord. Case A is water and air tight, and when charged with water or other suitable fluid the shaft D will be submerged. When this shaft D, with its cylinder B and flange C, are rotated, air, which is admitted into the case A through a hole, *g*, will be taken into the space between the coils of the flange C, and impelled forward over the water, and discharged through the pipe E. To prevent the water in the case and cylinder from banking up in consequence of the action of the flange or screw C on it, the perforations above described are made through the pipe or shaft D, which will allow the water impelled forward by the flange C to return, thereby practically maintaining an equilibrium of the fluid in the case. It is obvious that, when the gas generated in the carbureter supplied with air from my improved blower is not burning, the rotation of the shaft D, flange C, and cylinder B will cease.

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

1. In an apparatus for supplying air regularly to gas-carbureters, the helical flange C, provided with web *a*, and case B, combined with the case A, having an induction-passage, *g*, and an eduction-pipe, E, and rotated substantially as described.

2. The helix C, having web *a*, in combination with the perforated shaft D, and case B, open at one end, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM H. REED.

Witnesses:

GEORGE E. UPHAM,

JOHN B. CORLISS.