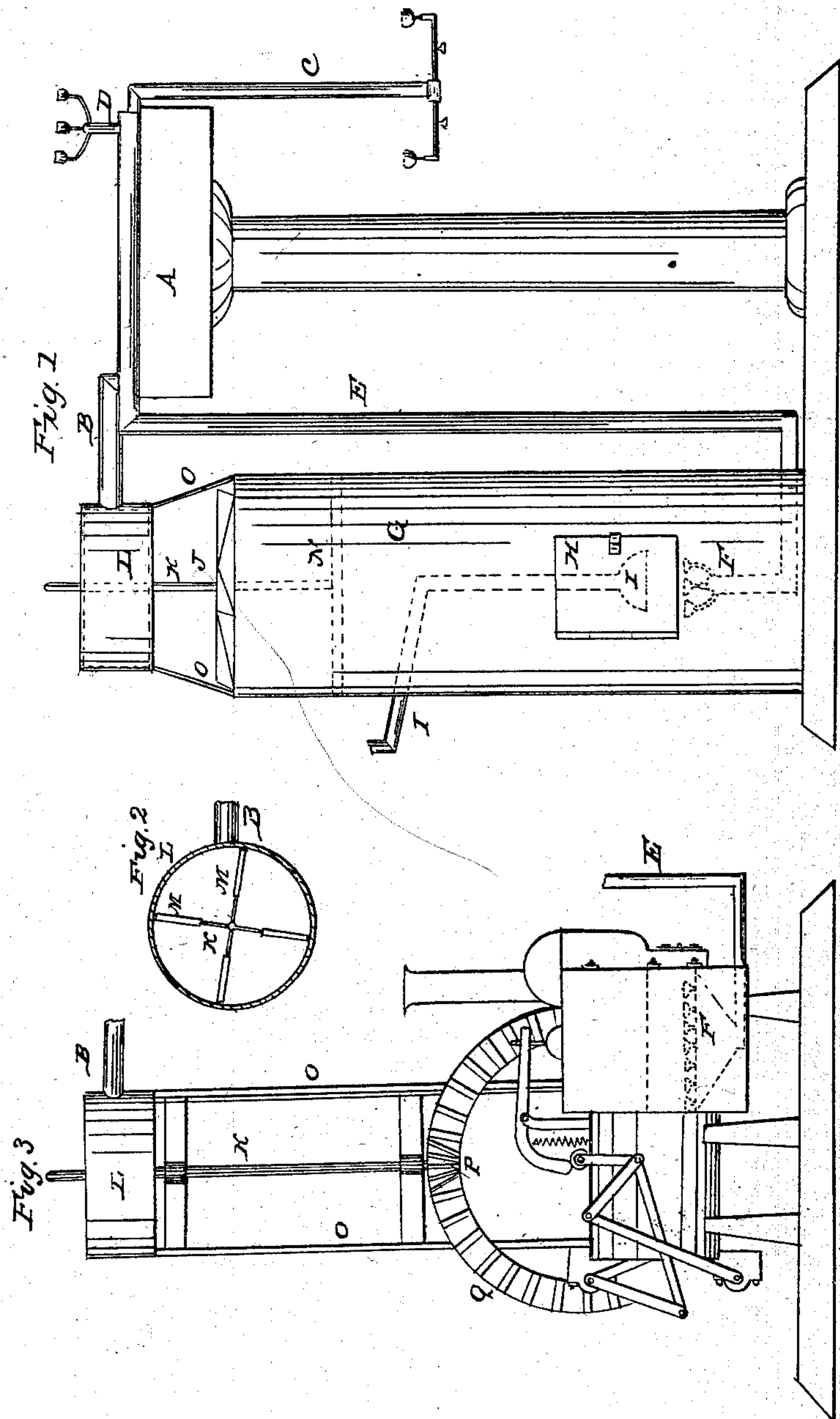


J. H. IRWIN.

Carburetor.

No. 49,526.

Patented Aug. 22, 1865.



WITNESSES
W. E. Mares
Geo. B. Nichols

INVENTOR
John H. Irwin

UNITED STATES PATENT OFFICE.

JOHN H. IRWIN, OF CHICAGO, ILLINOIS.

IMPROVED APPARATUS FOR CARBURETING AIR.

Specification forming part of Letters Patent No. 49,526, dated August 22, 1865.

To all whom it may concern:

Be it known that I, JOHN H. IRWIN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Apparatus for Carbureting Air; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and the letters and figures marked thereon, which form part of this specification.

The nature of my invention consists in the application of heated air as a motor for propelling a fan or other suitable device to produce a current of air through the carburetor and a pressure at the burners. As the specific gravity of the carbureted air or gas is greater than that of the common air, when the burners are all arranged below the apparatus containing the hydrocarbon fluid the requisite current through the apparatus and the proper pressure at the burners are produced automatically, although the same may be increased by the application of an artificial force, if desired; but when all or even part of the burners are arranged above the carburetor, then the employment of artificial force becomes absolutely essential to the operation of the apparatus.

To enable those skilled in the art to understand how to practice and use my invention, I will proceed to describe the same with particularity, reference being made in so doing to the aforesaid drawings, in which—

Figure 1 represents a side elevation of my invention; Fig. 2, a horizontal section of the same at the line *x* in Fig. 1; and Fig. 3, a side view, showing the application of a caloric engine as the propelling agent in producing the desired current of air.

Similar letters of reference in the different figures denote corresponding parts of my invention.

A represents the carbureting apparatus, containing naphtha or its equivalent; B, the inlet-pipe, through which the current of air enters the same, and C D E are the pipes through which the carbureted air or gas passes from the apparatus to the burners.

G represents a vertical cylindrical chamber, beneath which the gas-pipe E enters, terminating in the burner F.

H represents a small door in G, which may be opened to light the burner F.

J represents a horizontal fan-wheel fixed

upon the vertical shaft K, whose lower end rests upon the cross-bar N and whose upper end is provided with suitable bearings in the ends of the cylindrical casing L, which is supported upon the standards *o o* above the top of the cylinder. The said fan-wheel J is so constructed and arranged that the heated air rising in the cylinder G will revolve the same, and thereby the shaft K. Upon the said shaft K, within the chamber L, is arranged a fan-wheel with vertical wings, (marked M,) whose revolution blows a current of air through the pipe B into the carburetor A and forces the carbureted air therein produced through the pipes C D E to the burners, where it may be ignited.

The air in the chamber G may be heated by other fuel than gas when desired. When, however, any fuel is used which produces smoke, the funnel and pipe marked I should be arranged, as shown, over the burning fuel to carry off the smoke.

In Fig. 3 is shown the application of a caloric engine, in which the hot air may be generated by the combustion of gas from the carburetor, and which, by means of the drive-wheel Q and the beveled gearing upon the lower end of the shaft K, operates the fan-wheel M and produces the current and pressure through the carburetor and at the burners, as before. Instead of gas, coal may be used for fuel in said caloric engine.

Having described my invention, I will now proceed to specify what I claim and desire to secure by Letters Patent.

I claim—

1. The arrangement of an engine or machine operated by heated air with an air-pump or other device for producing a current of air, and a carbureting apparatus, arranged and operating substantially as and for the purposes specified and shown.

2. In combination with a carburetor, the employment of an engine or machine operated by heated air produced by the combustion of carbureted air, and a suitable device for producing a current of air through the carburetor, arranged and operating substantially as shown and described.

JOHN H. IRWIN.

Witnesses:

W. E. MARRS,

GEO. B. NICHOLS.