

J. H. IRWIN.

Apparatus for Carbureting Air.

No. 50,250.

Patented Oct. 3, 1865.

Fig. 1.

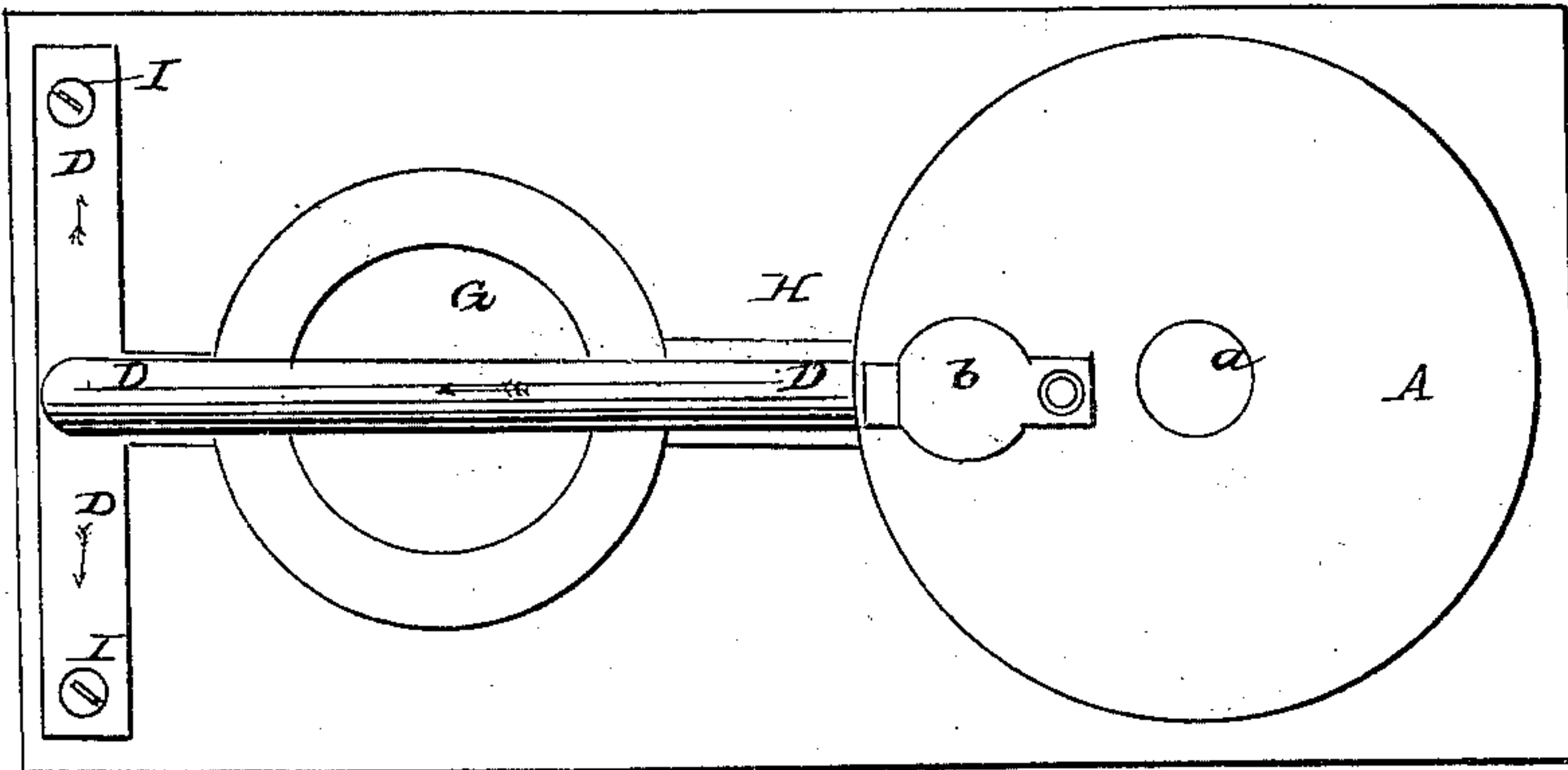


Fig. 3

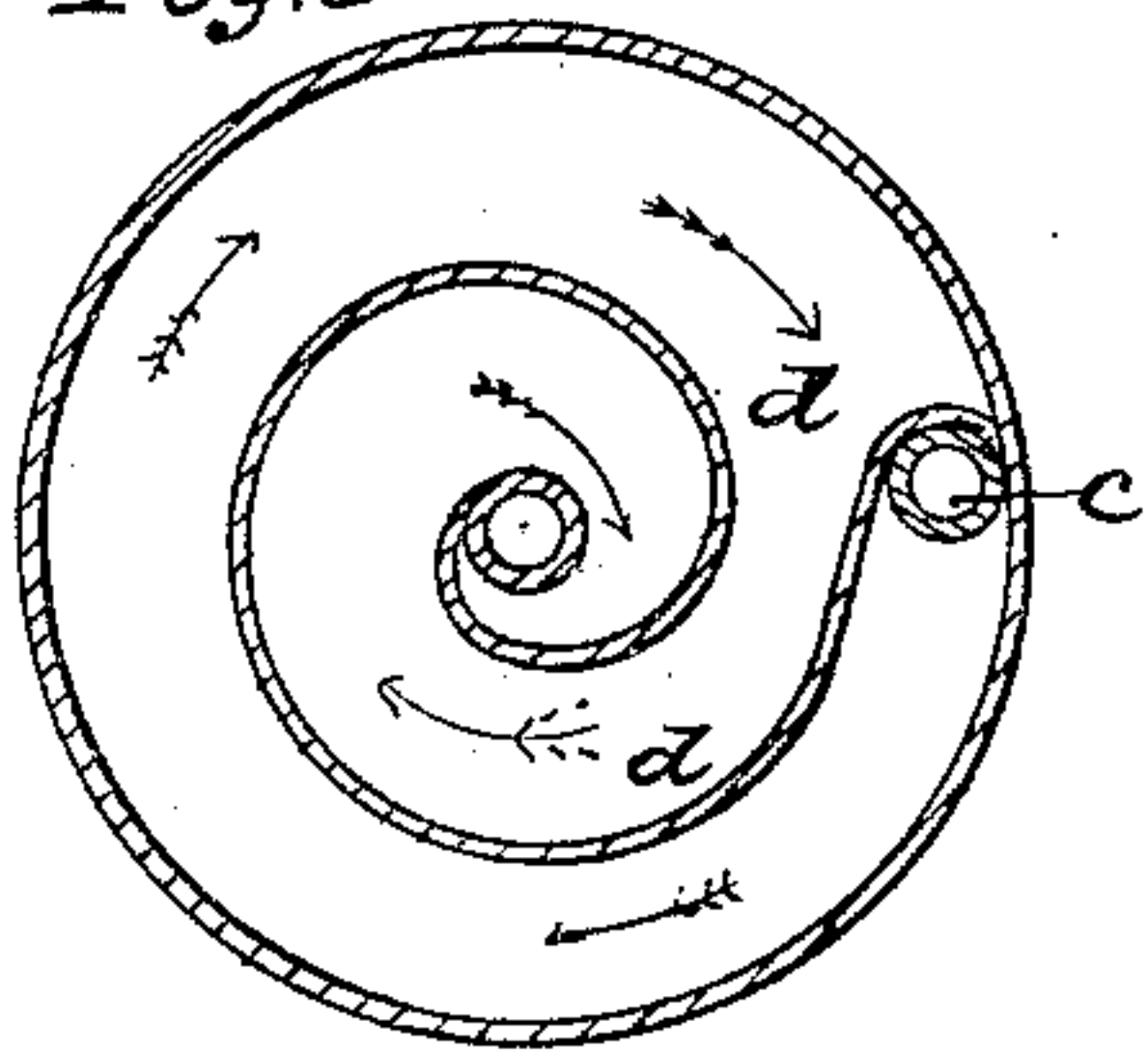
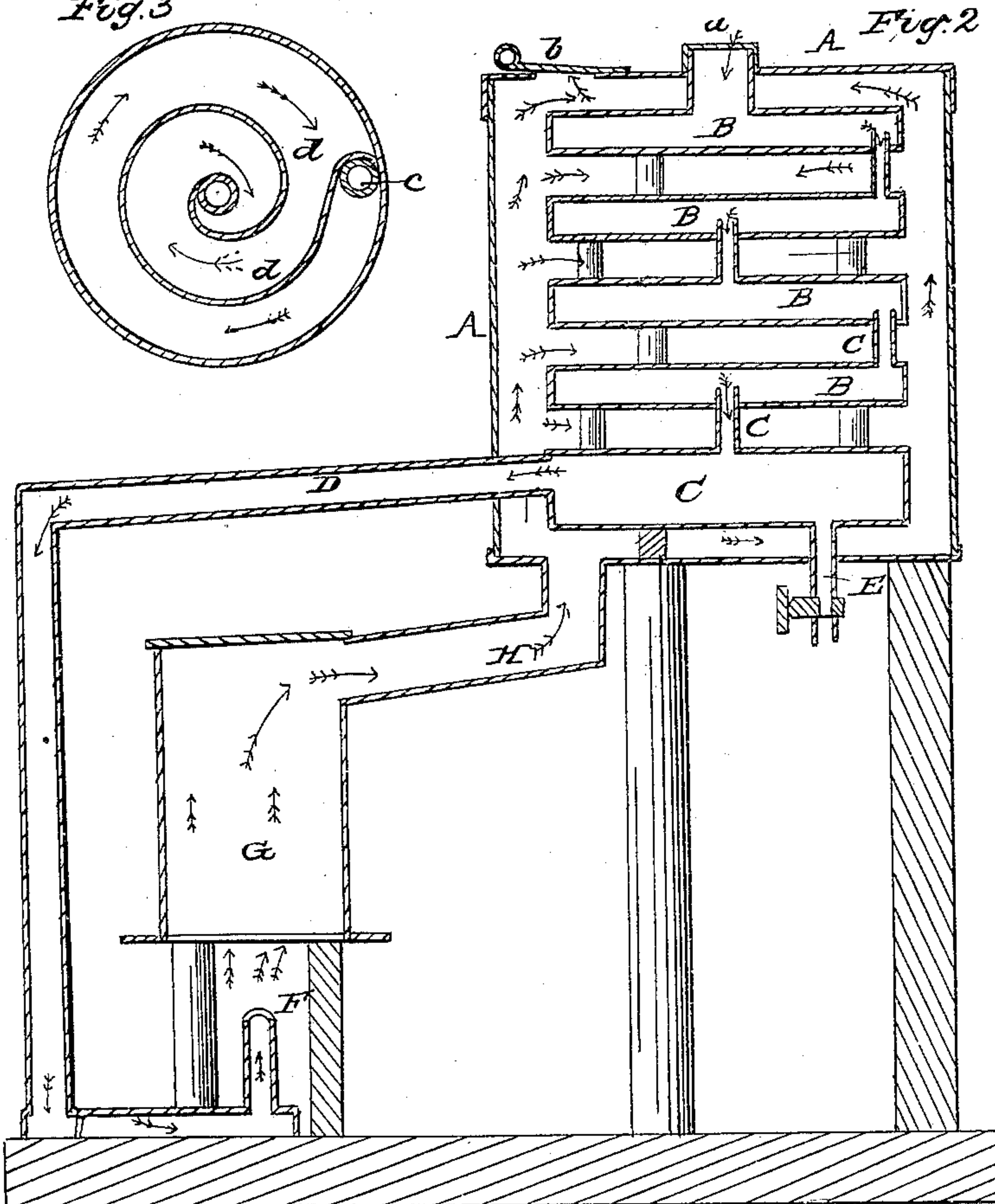


Fig. 2



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UNITED STATES PATENT OFFICE.

JOHN H. IRWIN, OF CHICAGO, ILLINOIS.

IMPROVED APPARATUS FOR CARBURETING AIR.

Specification forming part of Letters Patent No. 50,250, dated October 3, 1865.

To all whom it may concern:

Be it known that I, JOHN H. IRWIN, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Carbureting Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents a side view with the pipes running to the various parts of the building. Fig. 2 represents a side view with the casing of the clock-work removed. Fig. 3 represents a sectional view of the fan.

My said invention relates to that class of gas-generating apparatus in which the illuminating-gas is produced by passing currents of atmospheric air over and in contact with naphtha or other similar hydrocarbon oils, whereby the said air becomes surcharged with the volatile portions of the naphtha, or carbureted, and can then be used for illuminating purposes, substantially as ordinary gas is used.

My invention consists, not in producing a pressure downward, broadly, but in increasing the pressure produced by the gravity or weight of the gas or carbureted air by means of a current of air forced into the carburetor, so that the sensitiveness of the carbureting apparatus heretofore is removed and a uniform and continuous pressure to the burners is produced, as hereinafter described. I do not desire to use sufficient power to force a heavy column of gas above the carbureting apparatus, but simply to increase the pressure at the burners below the carburetor. It is readily understood that all the pressure that is created by forcing air into a carbureting apparatus arranged above the burners is simply expended in increasing the pressure already created at the burner by the specific gravity of the gas. Therefore a very slight power applied to force the air into a carburetor arranged above the burner will very materially affect the pressure at the burners; but where there are burners arranged above the carburetor the power applied to force air into the carburetor not only must be sufficient to produce all the pressure required at the burner, but must also be sufficient to sustain a column of gas in the pipe; also, in all other power-carburetors the arrangement of

the different parts of the machinery and valves is such that where the machinery which produces the pressure is not in operation the carburetor is so closed that there can be no gas generated, even to supply burners located below the carburetor.

In my invention the gas-pipes are so connected to the carbureting apparatus and the blowing machinery so arranged in connection therewith that the carburetor will generate gas if supplied with naphtha, and the lights can be lighted throughout the house the same whether the blowing machinery is in operation or not.

It will be observed that the air is admitted to the fan at its center and is forced through the pipes E and I into the carburetor. The air can pass through the case C and pipes E and I into the carburetor whenever the lights are lighted, however, if the fan is not in operation.

To enable those skilled in the art to manufacture and use my invention, I will proceed to describe the same with particularity.

The same letters of reference denote corresponding parts in the different figures.

A represents the carbureting apparatus, constructed in any known form.

B is the case, inclosing machinery which forces a current of air through the pipe E. There are two pipes connected with the pipe E—one marked I, which conveys the current of air into the carburetor, and one marked J, which conveys a current of air into the gas-pipe H. The currents of air in these pipes are regulated by the stop-cocks *a* and *b*.

C is a case inclosing a fan, a section of which with the inclosed fan is shown in Fig. 3. This fan is driven by the weight *k* and the gearing, as shown. The air is admitted into the case C at the axle *h* of the fan, and is expelled therefrom through the pipe E, as indicated by the arrows in Fig. 3. I place the barrel or can D, containing the naphtha, in any part of the building, and have a pipe, F, leading therefrom to the carbureting apparatus. At any convenient point for operating the same I connect to the pipe F a small force-pump, L, to pump the naphtha into the carburetor A, and I also have a pipe, G, connecting said carbureting apparatus with the can D in such a manner

that when the carburetor is full the naphtha will run down the pipe G into the can again, instead of running into the pipe H. The pipe G can also be used for drawing the naphtha out of the carburetor whenever it is desired so to do.

H is the gas-pipe extending through the house in any ordinary style. At the lowest points in said pipe I make a small reservoir, K, to which I attach a cock for the purpose of drawing out any fluid that may in any manner chance to get into said pipe.

Having thus fully described my improved carbureting apparatus, what I claim, and desire to secure by Letters Patent, is—

1. In combination with a carbureting ap-

paratus arranged with respect to the burners which it supplies with gas substantially as herein described, any mechanical device so arranged as to force a current of air into said carburetor, substantially in the manner set forth.

2. A carbureting apparatus and a mechanical device for forcing a current of air into the same, when so constructed and combined that the carbureting apparatus will generate gas and supply the burners when the mechanical device is not in operation.

JOHN H. IRWIN.

Witnesses:

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