

J. GRAY.
CARBURETER.

No. 174,073.

Patented Feb. 29, 1876.

Fig. 1.

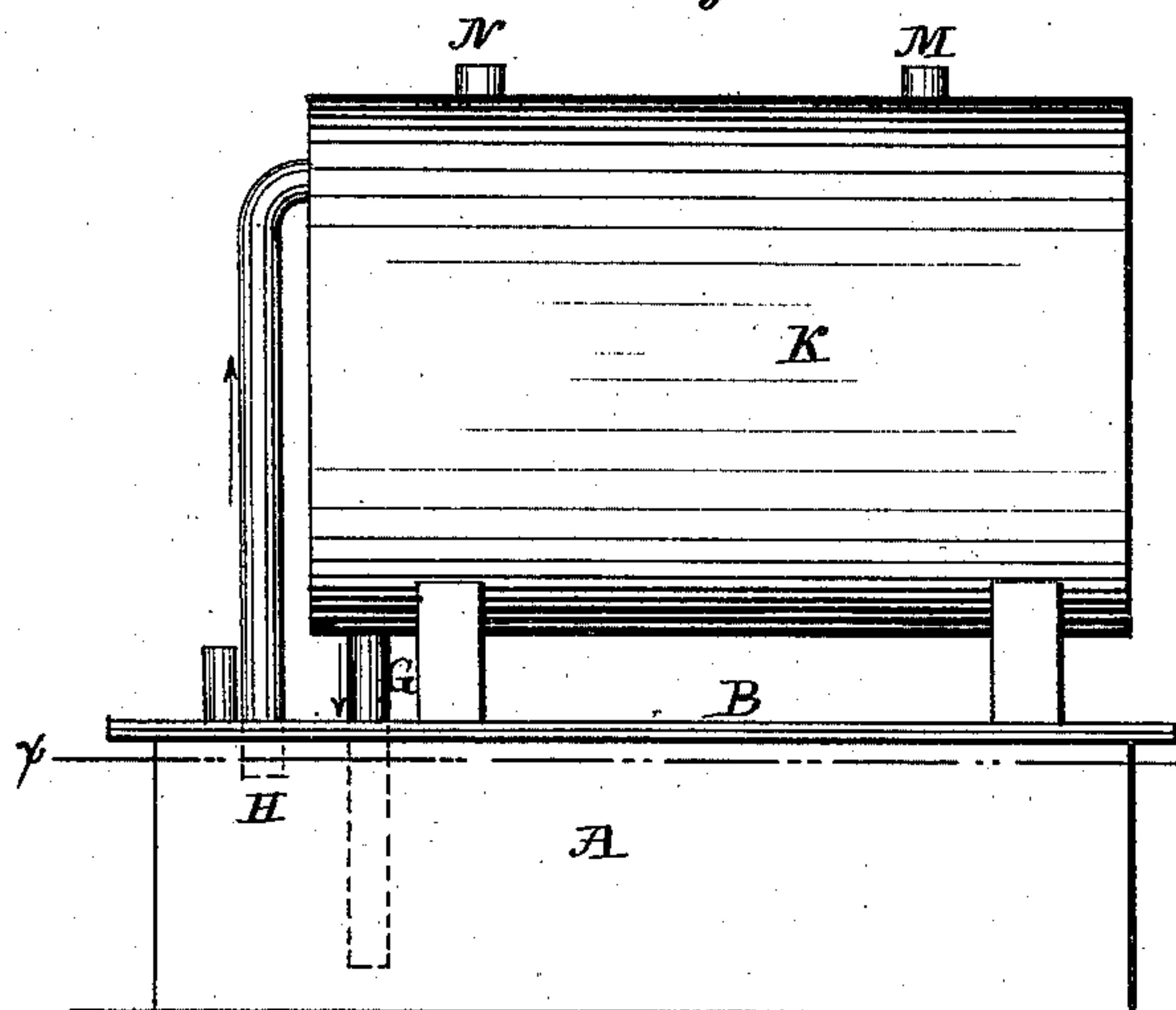


Fig. 2.

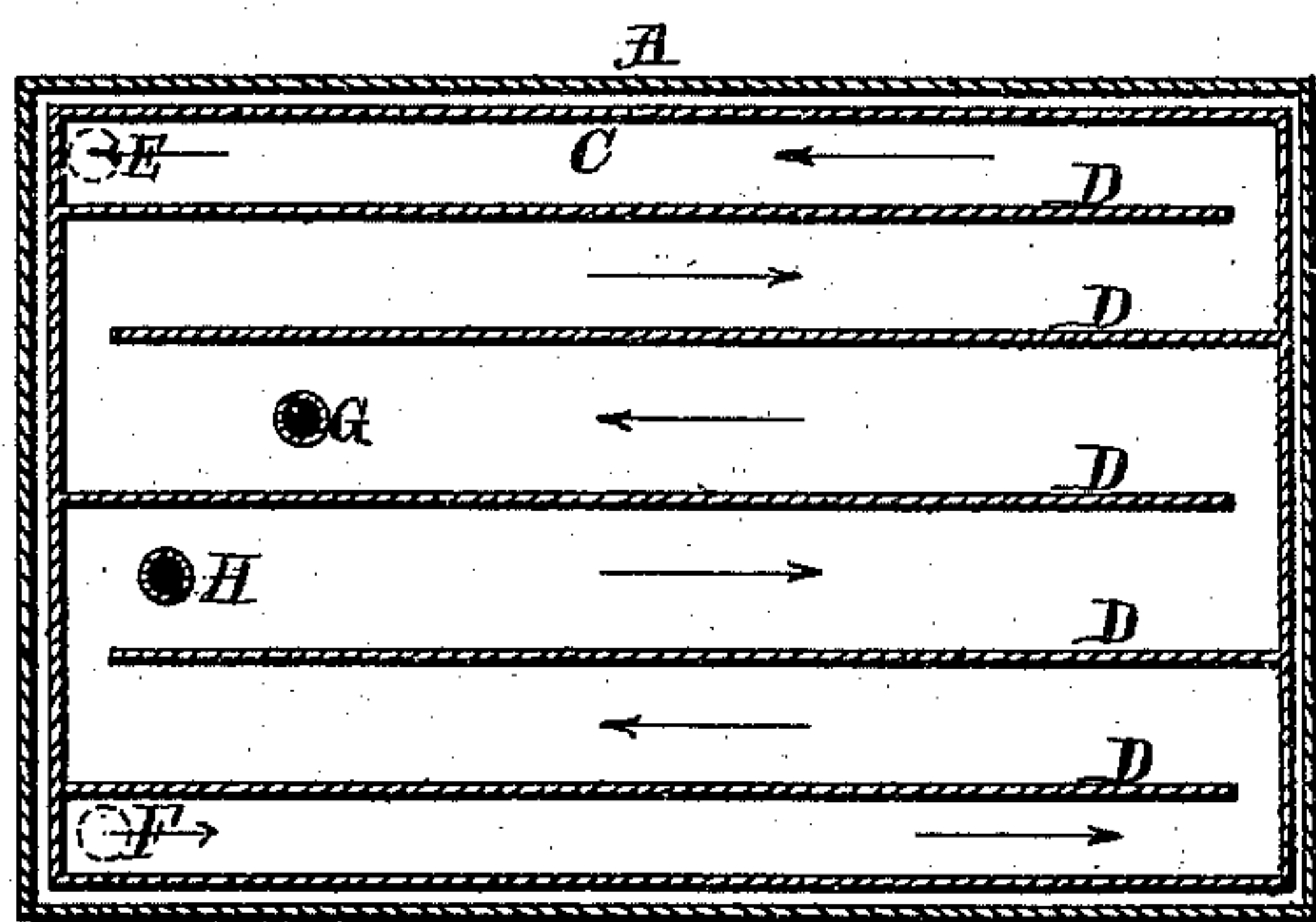
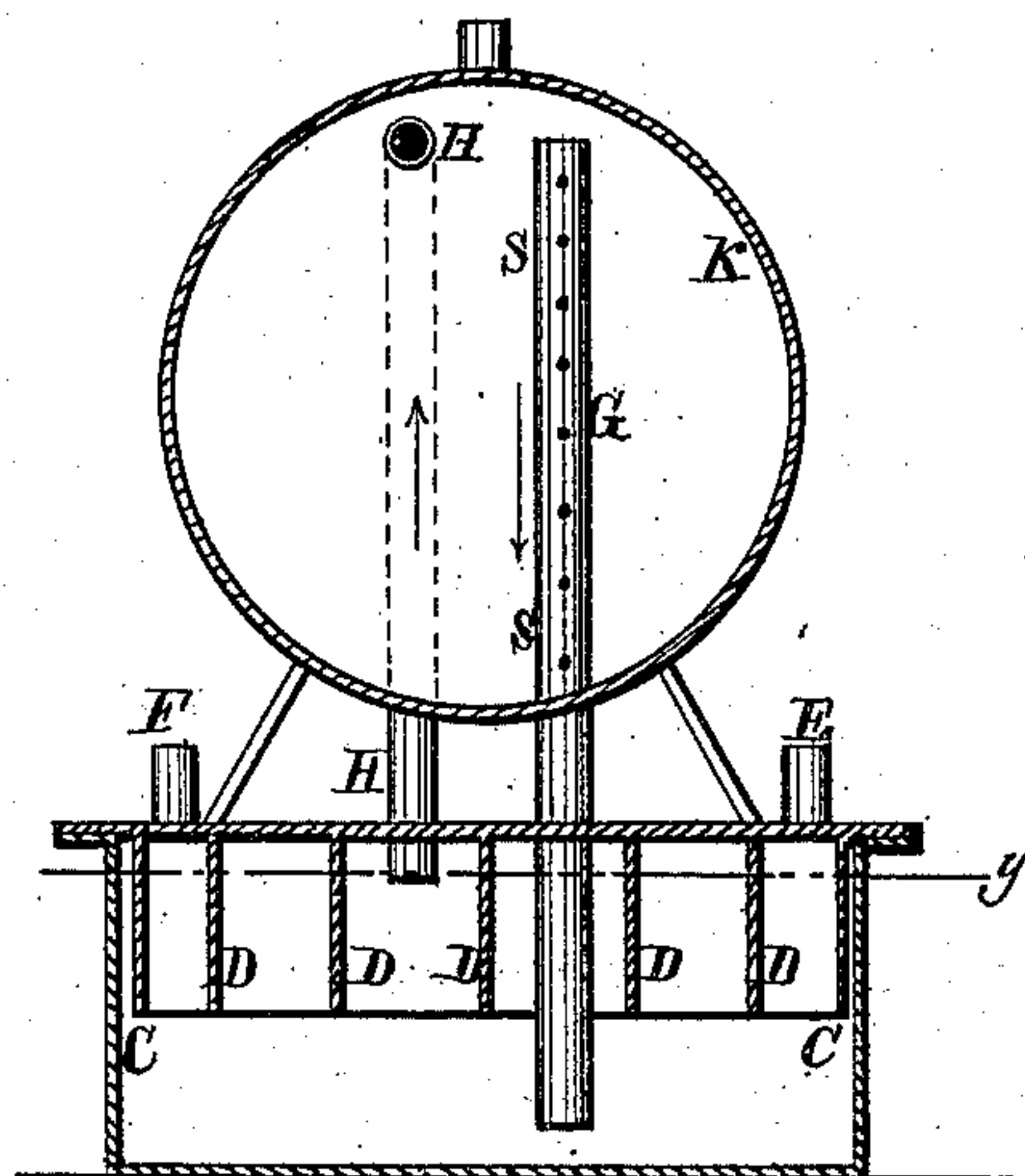


Fig. 3.

Witnesses:

Chas. A. Gray
Sydney Walker

Inventor:

Joshua Gray.

UNITED STATES PATENT OFFICE.

JOSHUA GRAY, OF MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **174,073**, dated February 29, 1876; application filed September 27, 1875.

To all whom it may concern:

Be it known that I, JOSHUA GRAY, of Medford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Gas-Carbureters, of which the following is a specification:

Figure 1 is a side elevation of my invention. Fig. 2 is a vertical section of the same. Fig. 3 is a longitudinal section at the point indicated by dotted lines *x y*.

A represents a tank for holding the oil. In the top of this tank A is secured the carbureter B, which is constructed with downward-projecting flanges C, which sit down into the tank upon all sides, its lower edge reaching nearly one-half the depth of the tank A; and to the under side of the top of the carbureter B are secured several partitions, D, which are connected alternately to the opposite sides of the downward-projecting flanges C, while at one end is secured a gas-inlet pipe, E, and a gas-delivery pipe, F, also an oil-feed pipe, G, and an air-pipe, H. The lower end of feed-pipe G extends to near the bottom of the tank A, while the end of the air-pipe is extended only about one-third, or less, or about one-half, the distance to the lower edge of partitions D. The feed-pipe G and air-pipe H connect with an elevated reservoir or fountain, K, the air-pipe H being connected at the top of the fountain or reservoir K, and the feed-pipe G near the bottom of the same, the latter extending upward in the interior of the reservoir, and provided with a series of small holes, S, which are formed at short intervals from a point near its entrance into the reservoir K to its top, which reaches to near the top of the reservoir. These holes will allow the oil, with which the reservoir is filled, to enter such feed-pipe at various points from the bottom of the oil to its upper surface, instead of receiving all from the bottom of the fountain or reservoir K, so

that the lighter and denser or heavier portions of the oil are equally fed into the carbureter B at the same time. M is an opening in the top of the reservoir, through which it is filled with light or carbon oil. N is an opening, to admit air to pass out as the reservoir is filled, when both pipes are to be closed up air-tight. Now the oil will run through the feed-pipe G into the tank A, until it is filled up level with the bottom of the air-pipe H, thus shutting off the supply of air through the same, or the escape of the air from the tank A into the reservoir K, thus checking the flow of oil. Now, if common coal-gas or air be supplied to the inlet-pipe E under pressure, it has to pass over the upper surface of the oil in the tank A several times back and forth around the ends of the several partitions D, in the direction shown by the arrows in Fig. 3, thus taking up the lighter or gaseous portions of the oil, and enriching the gas by increasing its light-giving qualities before it passes out at the pipe F, whence it is conducted to the gasometer or to the burners for illumination.

It will be seen that, as fast as the oil is taken up from the tank A, small quantities of air will pass continually from the tank A up into the reservoir K, and thus cause the oil to feed down into the tank automatically.

Having thus described my invention, what I claim is—

The carbureter B, provided with the flanges C and partitions D, in combination with the tank A, reservoir K, perforated feed-pipe G, air-pipe H, and inlet and delivery pipes E F, all constructed, arranged, and operating in the manner and for the purpose set forth.

JOSHUA GRAY.

Witnesses:

CHAS. A. GRAY,
SYLVENUS WALKER.