W. H. REED.

Gas-Carbureters.

No. 163,528. Patented May 18, 1875.

Fig. 1

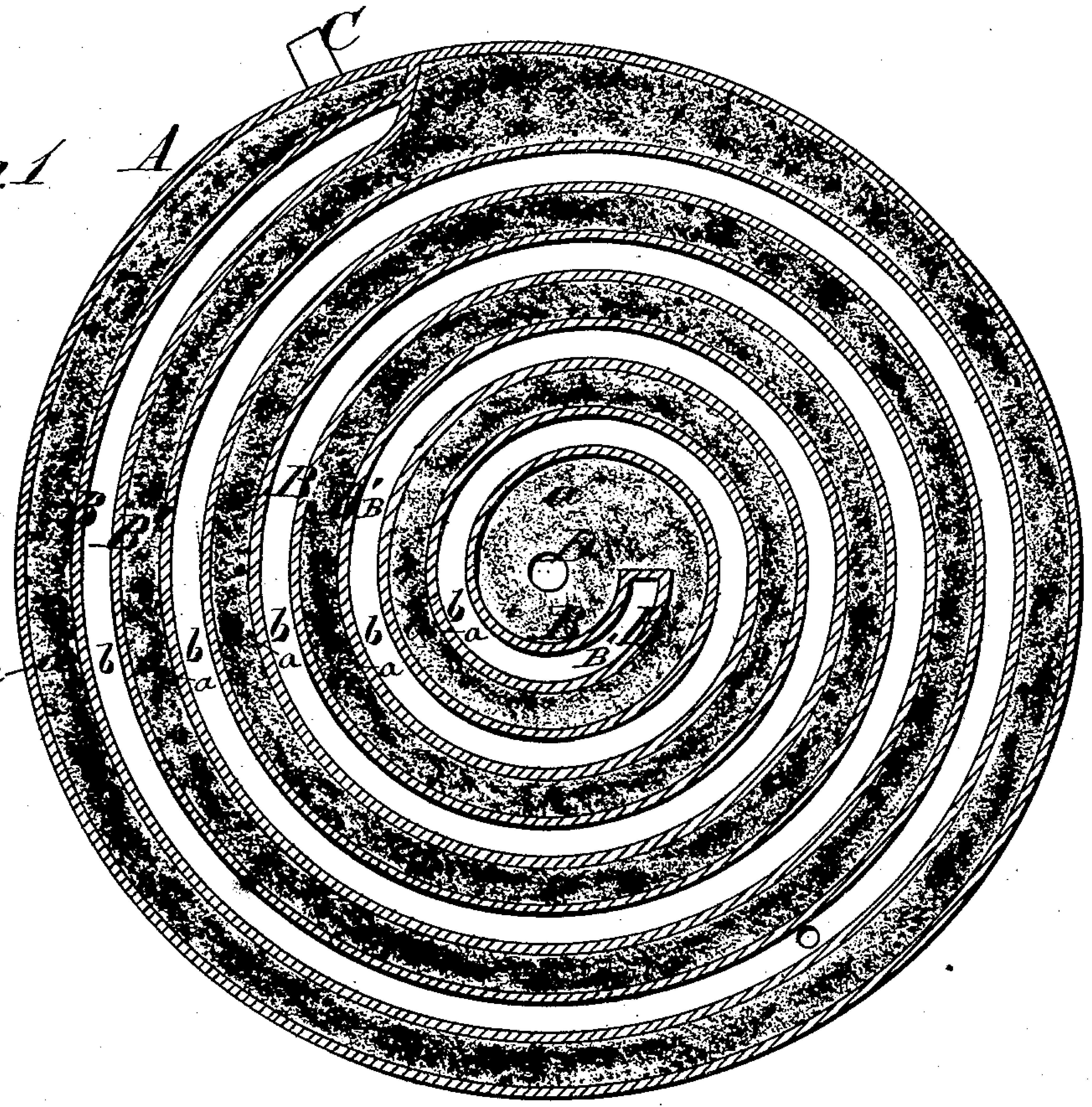
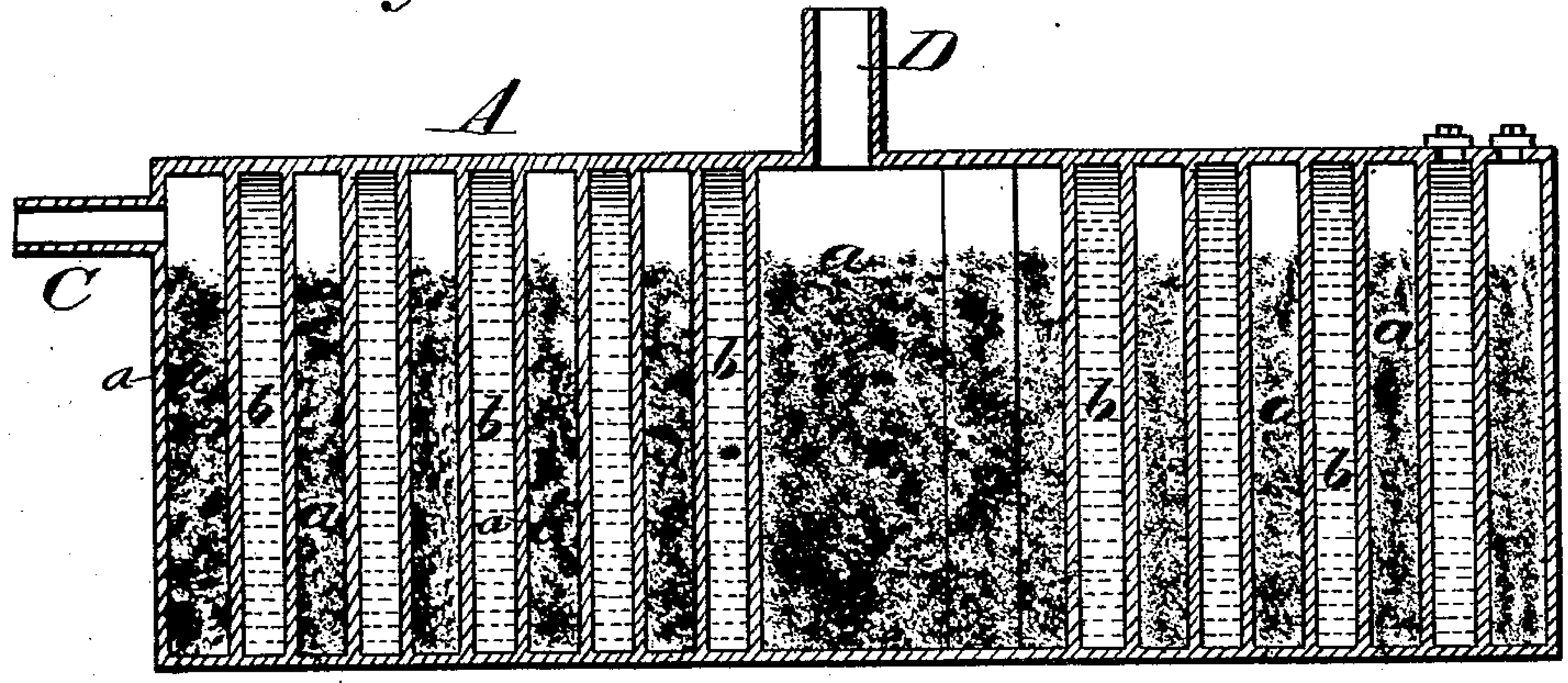


Fig. 2



WITNESSES
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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN GAS-CARBURETERS.

Specification forming part of Letters Patent No. **163,528**, dated May 18, 1875; application filed May 10, 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 in Gas-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 drawing is a representation of a horizontal section of my carbureter, and Fig. 2 is a longitudinal central vertical sectional view of the same.

This invention has relation to means for carbureting air for illuminating purposes; and the nature of my invention consists in a carbureter having a double-spiral wall, forming two separate and independent spiral chambers, in one of which the fluid hydrocarbon is contained, and in the other a fluid or solid is put which is a poor conductor of heat, as will be hereinafter explained.

My object is to obtain in a comparatively small space a large vaporizing-surface for the hydrocarbon, in which air is caused to circulate freely, and become highly charged with the vapor of this fluid, and wherein the vapor is prevented from congealing by reason of a non-conductor which incloses the vaporizing space.

In the annexed drawings, A designates a cylindrical case, which is made of sheet metal, and which may be of any suitable capacity. Inside of this case A is a double convolute, B B′, which springs from the circumference of the case A, and terminates near the center of this case, as shown in Fig. 1. These convolute walls form two chambers, *a b*, in one of which cotton-wicking, or any other good absorbent, is applied, leaving above it a space, in which air is free to circulate. In the convolute space *b* I pack charcoal, or any other solid substance which is a poor conductor of heat; or, if desired, water or any fluid may be substituted for the solid.

When the apparatus is charged, as described, air is forced into the chamber *a* through the pipe C, and passes over the wicking, which is saturated with a fluid hydrocarbon, and, after becoming thoroughly enriched with the vapor of this fluid, it escapes from the center of the case A through a pipe, D.

It will be observed that the two walls forming the chambers *a b* may be made of a single piece of sheet metal, and that any desired number of convolutions may be made, according to the size required of the chambers *a b*.

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

An air-carbureter having a double convolute wall, forming two separate and independent convolute chambers, *a b*, inside of a case, A, in one of which chambers is an absorbent, and in the other a substance which is a poor conductor of heat, substantially as described.

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,

JNO. B. CORLISS.