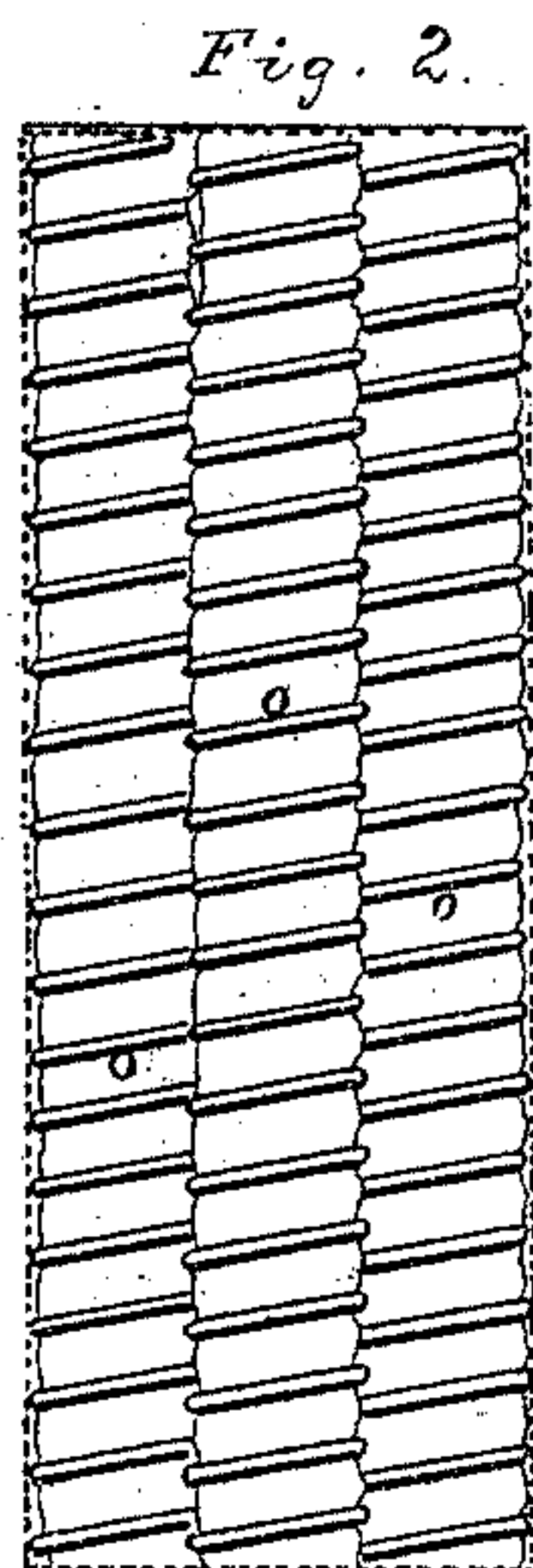
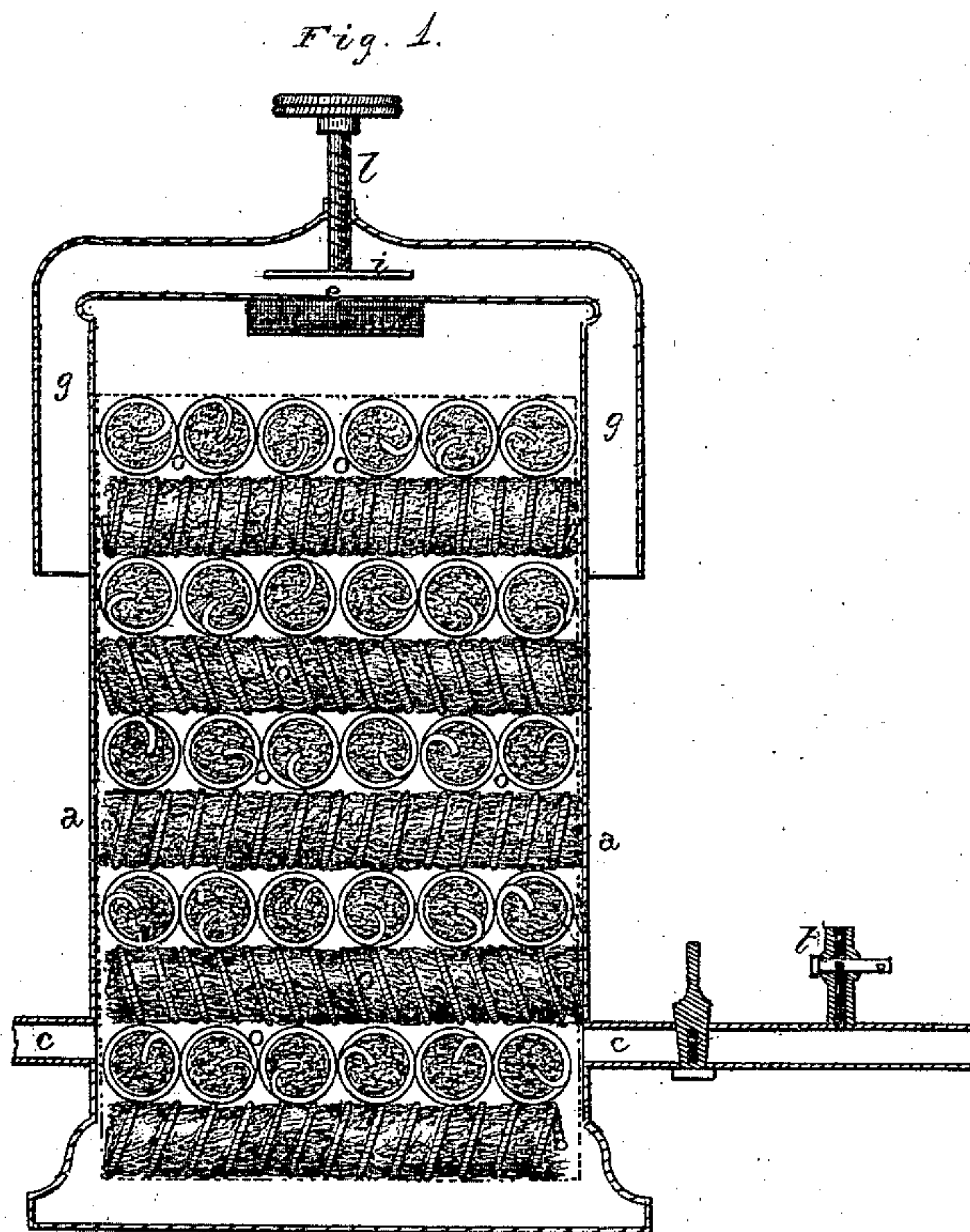


I. W. SHALER.
Carbureters.

No. 143,534.

Patented Oct. 7, 1873.



WITNESSES.

W. H. Duhamel
Alex. S. Davidson

INVENTOR.

Ira W. Shaler
Per H. S. Abbott
attorney.

UNITED STATES PATENT OFFICE.

IRA W. SHALER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. 143,534, dated October 7, 1873; application filed March 29, 1873.

To all whom it may concern:

Be it known that I, I. W. SHALER, of Brooklyn, county of Kings and State of New York, have invented certain new and useful Improvements in Apparatus for Surcharging Atmosphere with Hydrocarbon, of which the following is a specification:

The nature of my invention relates to an improvement in carbureting air; and consists in, first, regulating the flame by controlling the amount of air admitted to the carbureting-chamber; second, placing the cotton, wool, or other absorbent material within a coil of wire, and then placing a number of these coils within a suitably-shaped wire-gauze frame in the carbureting-chamber; third, in the arrangement and combination of parts, which will be more fully described hereafter.

Figure 1 is a vertical section of my invention. Fig. 2 is a detail view of a modification.

a represents the frame of my carbureter, which may be of any desired shape or size, and which is provided with any suitable number of pipes, *c*, which conduct the carbureted air away to the burners. Passing up the sides and over the top, so as to conduct the air into the top of the carbureting-chamber through the opening *e*, are the flues or air-passages *g*.

The admission of the air into the chamber is regulated by a valve, *i*, having a screw-stem, *l*, for adjusting it, so that the air can be admitted in any desired quantity or shut off altogether. As fast as the air admitted becomes charged with the hydrocarbon vapor it at once sinks to the bottom of the chamber, and from thence through the pipes *c* to the burners. By regulating the quantity of air admitted, the amount of vapor or gas generated is kept under the most perfect control, and by closing the valve entirely the burners are at once extinguished.

The cotton, wool, or other absorbent material is inclosed in wire-coils *o*, made in the same manner as coiled springs, and then placed in a box or other shaped receptacle, made of fine wire cloth or gauze, in the carbureting-chamber. Heretofore this material has been placed in perforated tin cylinders, but these cylinders are not only costly to make, but in stamping the holes through them the metal is

exposed to the corroding effects of the hydrocarbon fluid. Another defect is, the cylinders prevent the air from coming in contact at once with the saturated material contained within them, and, as a consequence, it takes the air a long time to become carbonized and to give a flame that will not flicker in burning.

The wire coils not only answer all the purposes of the cylinders, but are cheaper and allow the air to come in contact at once with the material, so that a steady flame is produced from the very first.

Instead of the coils being packed in a wire-cloth box, as shown in Fig. 1, they may be stood upon their ends either in one large cylinder that will completely fill the chamber, or there may be a number of them placed side by side.

The hydrocarbon fluid is poured in through the top of the cylinder until it begins to run out of a small stop-cock placed in the side some little distance above the bottom when the chamber is charged.

I do not wish to claim broadly the use of fibrous material inclosed in wire-gauze, for I am aware that such is not now new—witness patent issued to me November 16, 1869; nor do I wish to claim as my invention the manufacture of an illuminating gas from the vapor of gasoline, when the apparatus used is placed above the point of combustion and so arranged that the gas is distributed to the burners by its own gravity, for I am aware that such is not now new; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The regulating-valve *i* in combination with flues *g*, substantially as shown and described.

2. The wire-coil *o*, for holding the absorbent material, substantially as described.

3. The flues or passages *g* applied to a carbureter, as specified.

In testimony that I claim the foregoing as my invention, I hereunto affix my signature this 27th day of March, 1873.

IRA W. SHALER.

Witnesses:

W. K. DUHAMEL,
ALEX. DAVIDSON.