

F. G. PALMER.
Carbureters.

No. 151,153.

Fig. 1

Patented May 19, 1874.

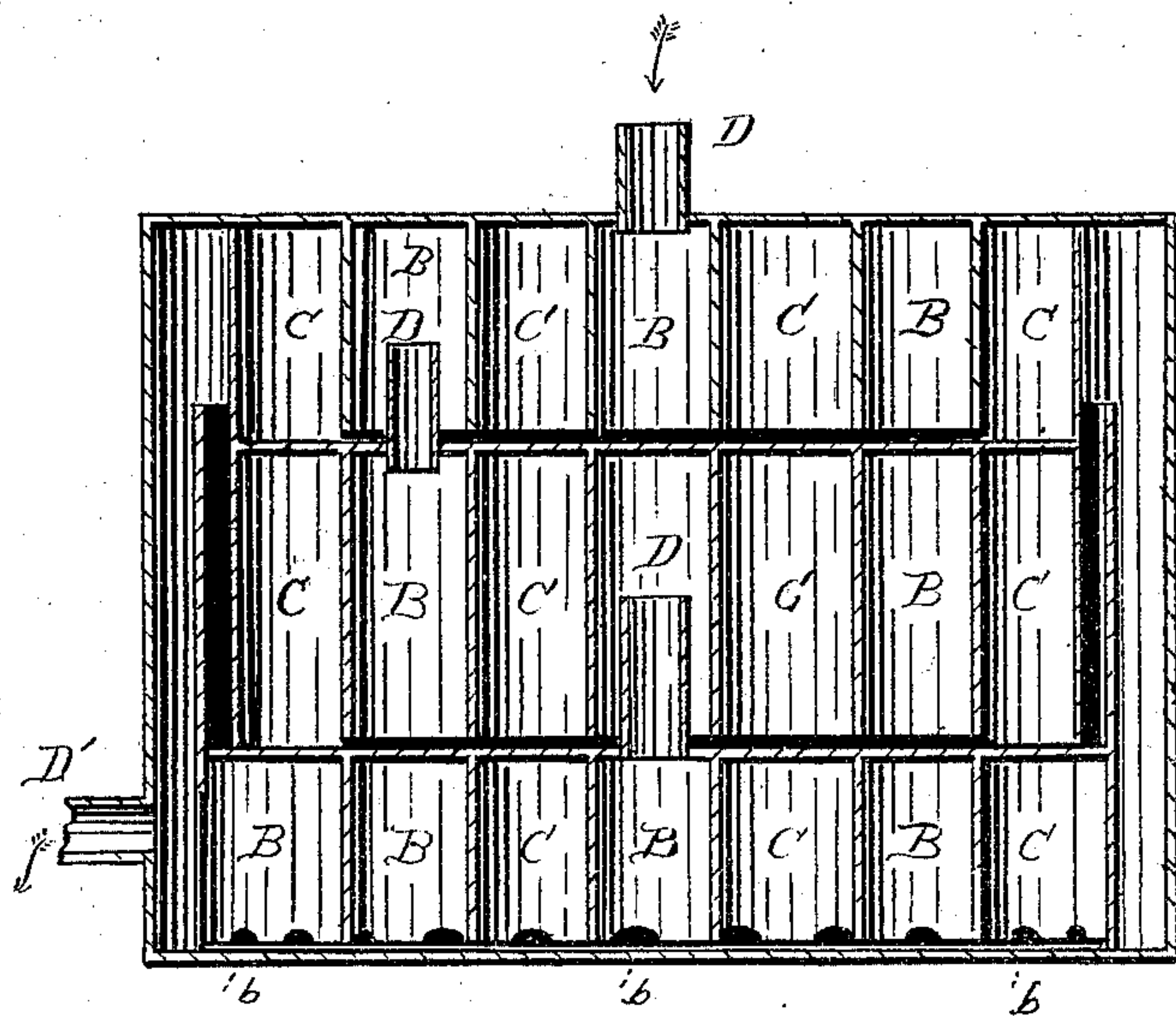
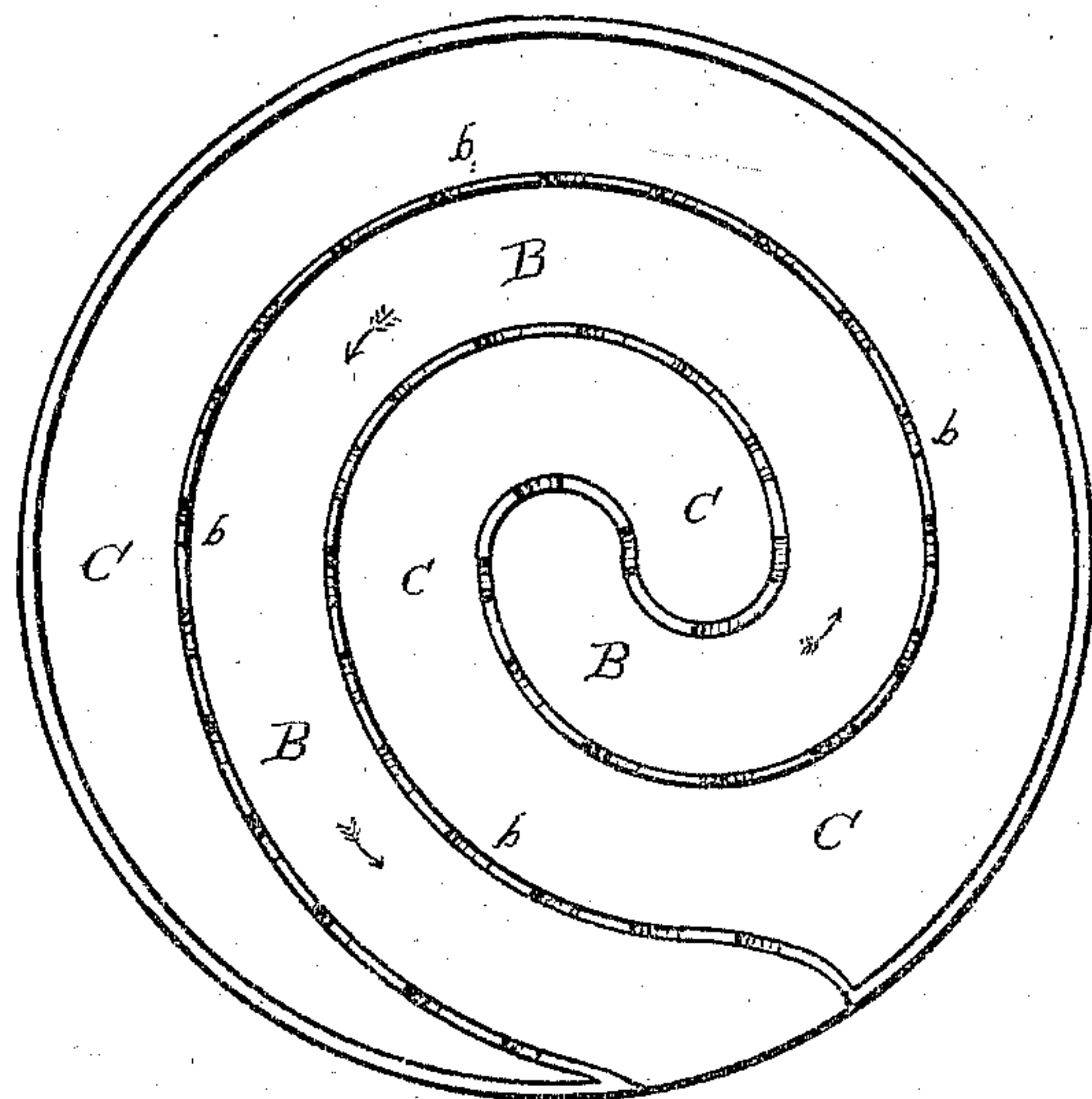


Fig. 2



Witnesses

Chas. L. Coombs.

John B. Ross.

Inventor

Franklin G. Palmer

By his Atty H. Clay Smith

UNITED STATES PATENT OFFICE.

FRANKLIN G. PALMER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. **151,153**, dated May 19, 1874; application filed April 13, 1874.

To all whom it may concern:

Be it known that I, FRANKLIN G. PALMER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Carbureting-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention relates to a new and improved apparatus for carbureting air, wherein a series of pans, provided with convolute carbureting passages are employed; and it consists in surrounding said convolute passages with a reservoir, which also extends through each pan in a convolute form, parallel with the convolute air-passages, as will be more fully hereinafter set forth.

Much difficulty has been experienced in the use of the ordinary carbureting apparatus, where the bulk of the oil is contained in the carbureting-chambers, owing to the rapid reduction of temperature occasioned by the evaporation of the gasoline or other hydrocarbon fluid, which increases the density of said fluid to such an extent after the apparatus has been in operation for a short time as to impair the brilliancy of the light.

The object of my invention is to remedy this defect, and this I do by subjecting only a small portion of the fluid at a time to the action of the air to be carbureted, the greater portion of the same being held in bulk in the pans, but away from the action of the air, as will be set forth.

In the drawing, Figure 1 represents a sectional view of my apparatus; and Fig. 2 a view of the under side of the lower pan, showing the convolute air-passages and the reservoir.

A represents a casing of proper size and shape, provided with a closely-fitting top, having attached to the lower side convolute strips, which form the convolute air-passages B and the convolute portion of the reservoir

C. The casing contains a series of pans—I have shown two—which are provided with convolute strips on the lower sides, as shown, forming convolute passages for the air and the reservoir, as before. The lower edges of these convolute strips may be made so as to reach nearly to the bottom of the pans, leaving a small space for the passage of the oil from the reservoir C to the air-passages B, or they may be made to reach quite to the bottom of the pans, in which case their lower edges are provided with apertures *b*, as shown, in the lower pan, Fig. 1, and in Fig. 2. The convolute strips are so arranged in each pan, that the outer convolute-chamber formed by the same, will form the outer portion of the reservoir C, which will surround the convolute air-passages B, as shown. D are the pipes, through which air passes into and through the apparatus, and D' the pipe, by means of which it makes its exit. The outer end of the convolute air-passage of the lower pan communicates with the casing *a*, as shown in Fig. 2.

The operation of my apparatus is as follows: The hydrocarbon liquid is filled into the machine through a suitable aperture in the top, (not shown,) and collects in the first pan, until it overflows the tube D, collecting in the reservoir C and air-passages B. It then flows into the next pan until it overflows the tube D therein, collecting in the next pan, and so on throughout the series, until the apparatus is charged. The air is then forced in through the pipe D in the top of the casing, and takes its course through the convolute passages B, as shown by the arrows in Fig. 2, and finally passes out at the tube D', and may be carried to the burners. As the hydrocarbon fluid in the passages C is exhausted, more is supplied from the reservoir B, until the whole charge is used up.

As the air cannot enter the convolute passages of the reservoir B, it will be seen that the liquid contained therein can only be evaporated except by entering the carbureting passages B, and in this manner only a small portion at a time is submitted to the action of the air, and very little will be subjected to

the decreased temperature, and as the oil is constantly supplied in fresh quantities from the reservoir the reduction of temperature will be in a great measure avoided.

What I claim is—

In a carbureter, provided with convolute air-passages B, the reservoir C surrounding the same, and extending throughout the pans, substantially as herein described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

FRANKLIN G. PALMER.

Witnesses:

J. G. BACKOFEN,
MAX KRAUSSER.