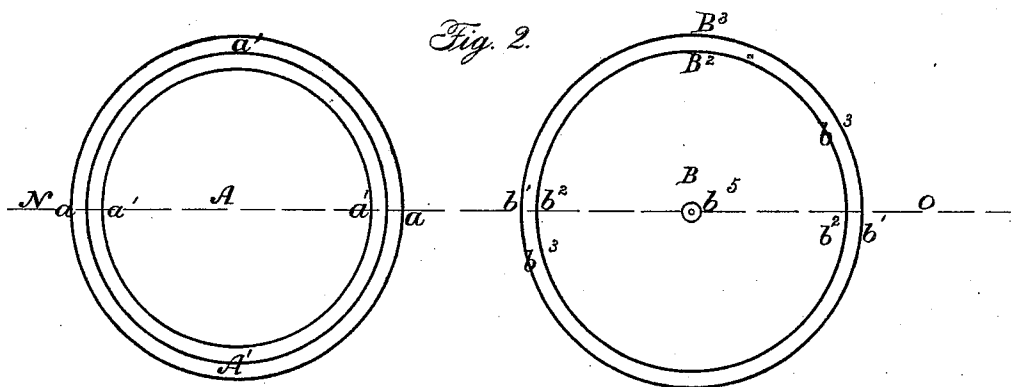
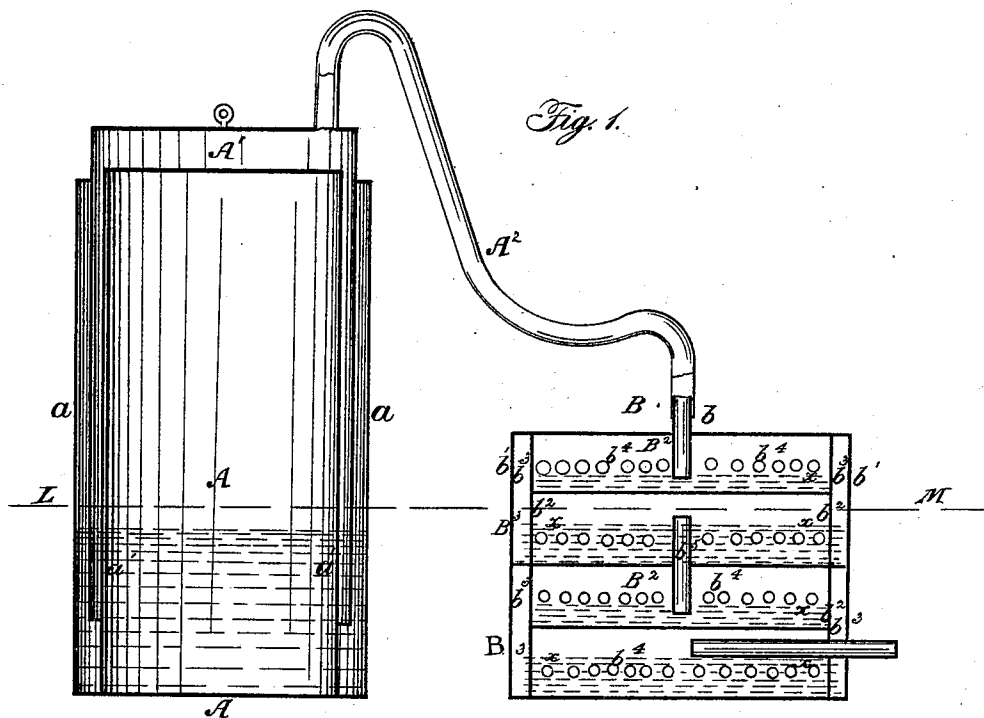


COZZENS & JONES.

Carbureter.

No. 70,809.

Patented Nov. 12, 1867.



Witnesses:

Geo. H. H. Phelps
J. E. White

Inventor:

Wm. Cozzens & H. Jones
by McRandolph & Co attys

United States Patent Office.

WILLIAM F. COZZENS AND J. H. JONES, OF ST. LOUIS, MISSOURI, ASSIGNORS
TO THEMSELVES AND LEOPOLD BOUVIER, OF THE SAME PLACE.

Letters Patent No. 70,809, dated November 12, 1867.

IMPROVED APPARATUS FOR CARBURETTING AIR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, WILLIAM F. COZZENS and J. H. JONES, both of the city and county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Carbonizing Apparatus; and we do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to take atmospheric air and charge it with the vapor of hydrocarbon to such an extent as to render it applicable to the purposes of heating and illumination. In this respect the object aimed at and the material employed are the same as in many devices of the kind now in use, but the means employed to produce the result are essentially new, and form the chief features of the invention.

The apparatus for producing the carbonization consists of a series of circular shallow trays, placed one above another, and so arranged that the air received from the induction pipe will be discharged from it under the liquid contained in one of the trays, and then rise through the liquid and escape into the next tray of the series, where it will again be subjected to the bath, and thus pass through the whole apparatus. Any of the lighter and more volatile oils of petroleum may be used for filling the trays and acting as the carbonizer. A condensing apparatus is united with the carbonizer to produce the proper pressure upon the atmosphere in forcing it into the carbonizer.

To enable those skilled in the art to make and use our improved apparatus, we will proceed to describe its construction and operation.

The tank A is formed of an outer wall, a , and an inner wall, a' , between which there is a narrow annular chamber, into which is placed the open-bottomed pressure-cylinder A^1 . The said cylinder is to be raised up by some mechanical means, and the interior of it filled with atmospheric air by the opening of a stop-cock or otherwise, but, if a stop-cock be used, it must be closed when the cylinder is up and ready to descend. The annular chamber between a and a' should be filled with some non-freezing liquid. A flexible tube, A^2 , connects the cylinder A^1 with the pipe b on top of the carbonizer B. Within the carbonizer B there is a series of shallow pans or trays, B^2 B^3 , arranged one above the other, and precisely similar in construction, with the exception of the diameter of the tray, B^2 being less than that of the tray B^3 , which extends to the outer wall b^1 , while the inner vertical wall b^2 diminishes the area of the tray B^2 , and forms an annular chamber, b^3 , around the outer side of it. The oil, or other fluid which is to be placed in the trays B^2 B^3 , will extend in each up as high as the line $x x$. The cylindrical wall b^2 will be perforated with numerous small apertures, b^4 , quite around its periphery, the said perforations being arranged in straight lines parallel with the bottoms of the trays. Those for the trays B^2 will be above the fluid-line $x x$, and those for the trays B^3 will be below the line $x x$. There may be as many of the trays B^2 B^3 as are desired, but the arrangement of them will be in pairs, substantially in the manner above described. A pipe, b^5 , having its upper end above the fluid-line in B^3 , will conduct the air or gas from the lower tray of one series to the upper tray of the next one below it, the lower end of the said pipe b^5 being arranged to discharge its contents below the fluid-line in B^2 , the same as pipe b does. An induction pipe, B^6 , having its inner end placed above the fluid-line in the lowest tray, will conduct the prepared gas to the place where it is to be consumed. The atmospheric air entering the topmost tray, below the fluid contained therein, will force its way up through the fluid in the direction of the arrows, and find its exit through the apertures b^4 into the annular chamber b^3 , thence down again into the fluid in tray B^2 , through the apertures b^4 back into the interior of the tray, where it again rises above the surface, and escapes downward again through the pipe b^5 , and so on through the whole apparatus in the direction of the arrows.

The object of passing the air through the substance of the fluid is to obtain a more thorough mechanical mixture, and the gas so generated and formed is of the very highest photometrical quality, and is equally well adapted to heating purposes.

Having described our invention, what we claim, is—

1. The combination of the condensing or forcing apparatus A with the carburetter B, substantially as set forth.
2. The combination of the trays B^2 and B^3 and the injection pipes b^5 and apertures b^4 , when arranged as and for the purposes set forth.

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Witnesses:

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