

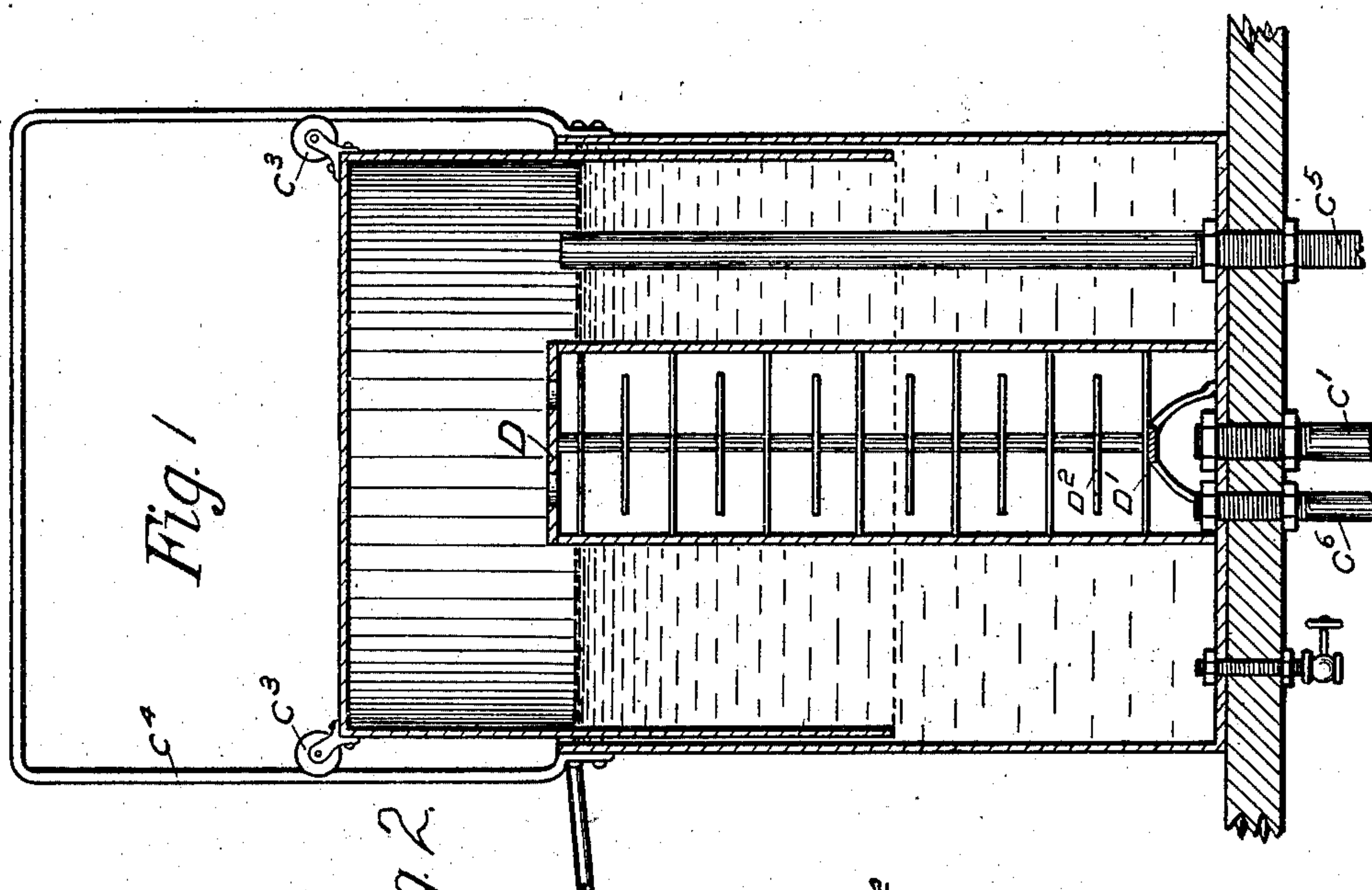
No. 741,809.

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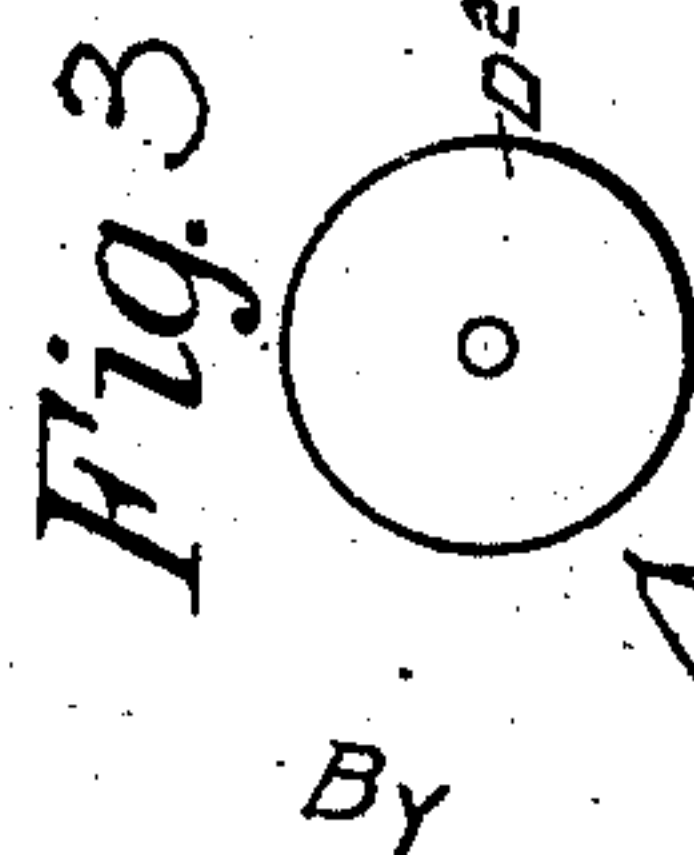
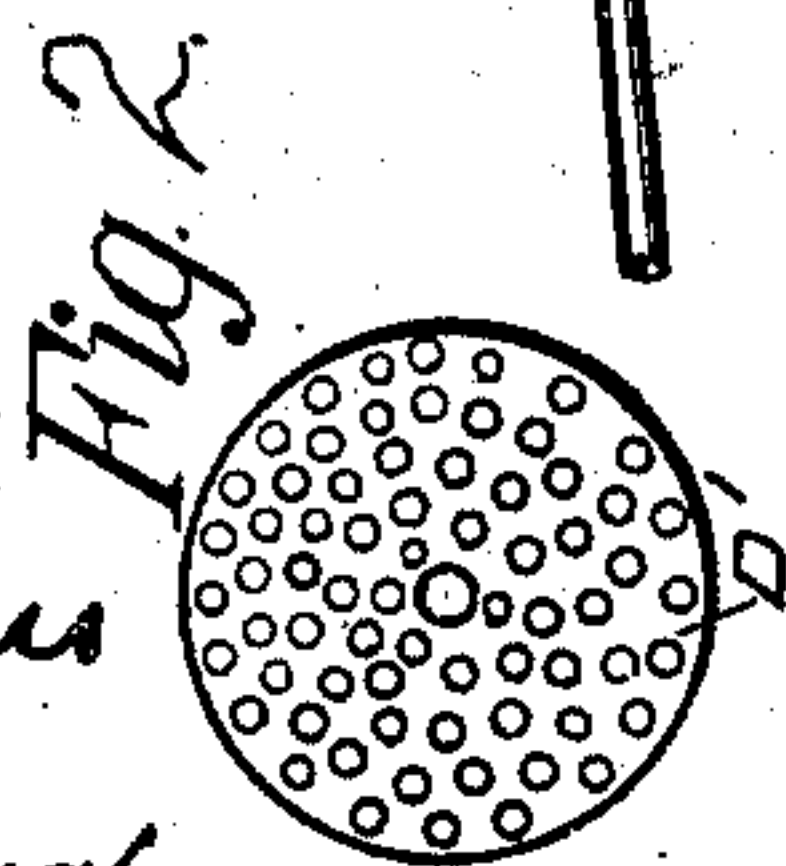
F. J. MOEHN.  
AIR AND GAS MIXER.

APPLICATION FILED DEC. 12, 1902.

NO MODEL.



Witnesses  
Mattie E. Timmies  
Sadie J. Erbaugh



By

Inventor  
Frank J. Moehn  
Sadie J. Erbaugh  
Attorney



## UNITED STATES PATENT OFFICE.

FRANK J. MOEHN, OF COLORADO SPRINGS, COLORADO.

## AIR AND GAS MIXER.

SPECIFICATION forming part of Letters Patent No. 741,809, dated October 20, 1903.

Application filed December 12, 1902. Serial No. 135,025. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK J. MOEHN, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Carbureters; and I do declare the following to be a full, clear, and exact description of my invention, such as appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

My invention relates to a gas-generating apparatus of the air-carbureter type.

The object of my invention is to provide a mixing-chamber for carbureters that will thoroughly mix atmospheric air with hydrocarbon vapor to make illuminating-gas.

The foregoing object is attained by the construction illustrated in the drawings, in which—

Figure 1 is a vertical central cross-section of the gas-mixer and gas-tank, and Figs. 2 and 3 are detail views of the two styles of disks employed in the mixing-chamber.

C represents a gas-storage tank, which is preferably placed within the building or adjacent thereto. It is connected with a suitable carbureter by means of the gas-pipe, (represented by C'.) The gas-pipe forming a conductor for the gas-vapor from the carbureter to the gas-tank C is passed upward through the bottom of the said tank and secured by means of proper threads and nuts in an airtight manner. It has its outlet into the mixer-drum, (indicated by D.) This mixer is composed of the drum and a series of disks, (indicated by D' and D<sup>2</sup>,) each alternate disk being perforated and extending the entire diameter of the mixer-drum D. The perforated disks D' are represented fully by Fig. 5. The other disks, D<sup>2</sup>, are of smaller diameter and void of perforations, as shown in Fig. 6 of the drawings. All the disks are mounted upon a suitable rod secured within the said mixer-drum D, the rod passing through central apertures provided in the said disks. The storage-tank C is constructed in the ordinary telescopic manner of two parts, the upper part being in the form of a drum and

kept in the proper plane by means of the roller-bearings (indicated by C<sup>3</sup>) operating against a suitable loop contrivance constructed of an iron rod and represented by C<sup>4</sup> in different figures of the drawings. The lower section of the telescopic tank is filled with water to the desired height. The outlet gas-pipe is represented by C<sup>5</sup> and provides means for conducting the luminous gas from the gas-tank C to the gas-pipe leading to the burners or desired place of consumption.

The operation of my invention will be understood to be as follows: Air is forced through a suitable carbureter and takes up the vapor from hydrocarbon contained therein, thus becoming a gas heavily charged with hydrocarbon vapor. The gas is then forced through the gas-pipe C' into the mixer-drum D, which is provided within the gas-tank C. A sufficient quantity of dry air is forced into the said mixer-drum D through the pipe C<sup>6</sup>, leading from a suitable air-pump. (Not shown.) The mixing is done within the drum D and facilitated by means of the disks D' and D<sup>2</sup>. The now-highly-hydrocarbonated gas passes upward through apertures provided in the top of the mixer-drum D and remains within the storage-tank C above the line of the water which is contained in the lower part of the tank until it is conveyed outward for consumption through the gas-pipe C<sup>5</sup>, which passes upward through the water contained in the lower part of the tank. The gas passes inward through the check-valve C<sup>2</sup>, and the air passes outward through the check-valve B<sup>3</sup>. These valves are provided, as hereinbefore referred to, to prevent the gas from being forced backward and to prevent a backward current of air, which might prove dangerous in the case of fire or in the event that either of the pipes should become broken or injured in any manner.

Having thus described the nature and objects of my invention, with the manner of constructing and applying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An air and gas mixer comprising a chamber with outlets at its top, a vertical rod mounted in said chamber, and disks secured to said rod, each alternate disk fitting the inside of the chamber and provided with a num-



ber of perforations, and the other disks being imperforate and smaller than said alternate disks, substantially as shown and described.

2. An air and gas mixer comprising a cylindrical drum with outlets at its top, a vertical rod mounted in said chamber, and circular disks secured to and spaced apart on said rod, each alternate disk fitting the inside of the drum and provided with a number of perforations, and the other disks being imperforate and smaller in diameter than said alternate disks, substantially as shown and described.

3. A chamber for mixing air and hydrocarbon vapor and storing it consisting of a telescoping tank, a cylindrical drum contained in said chamber having outlets at its top, a rod

contained in said drum, disks mounted on said rod, each alternate disk being the same diameter as the interior of said drum and perforated, the other disks being imperforate and smaller in diameter than the perforated disks, and means to feed hydrocarbon vapor and air to said drum, substantially as shown and described.

In testimony that I claim the foregoing as my own I hereunto subscribe my name in the presence of two witnesses.

FRANK J. MOEHN.

Witnesses:

J. ELTON ROCKEY,  
JOSEPH T. JONES.