

J. J. PAQUETTE.

CARBURETER.

No. 189,490.

Patented April 10, 1877.

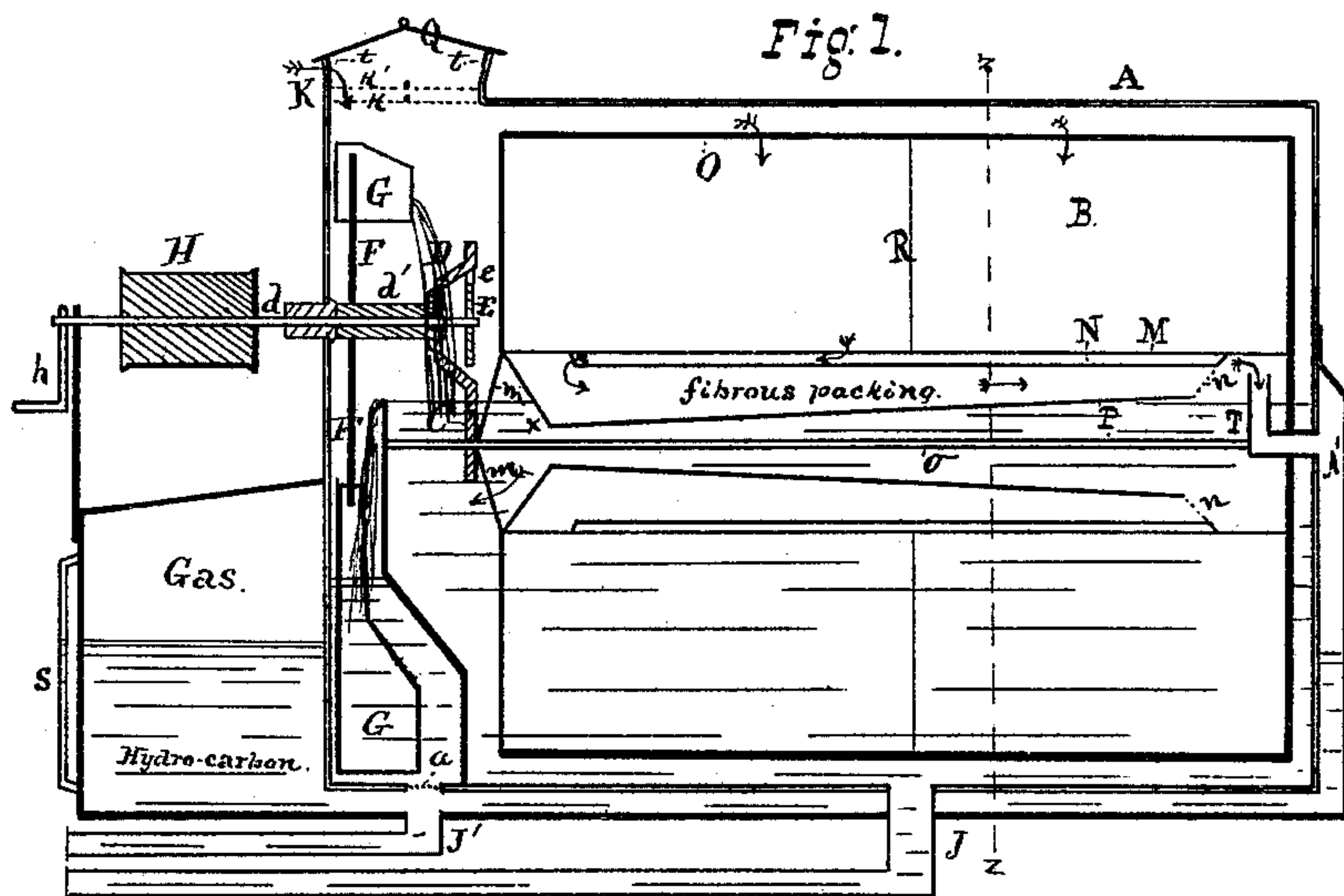
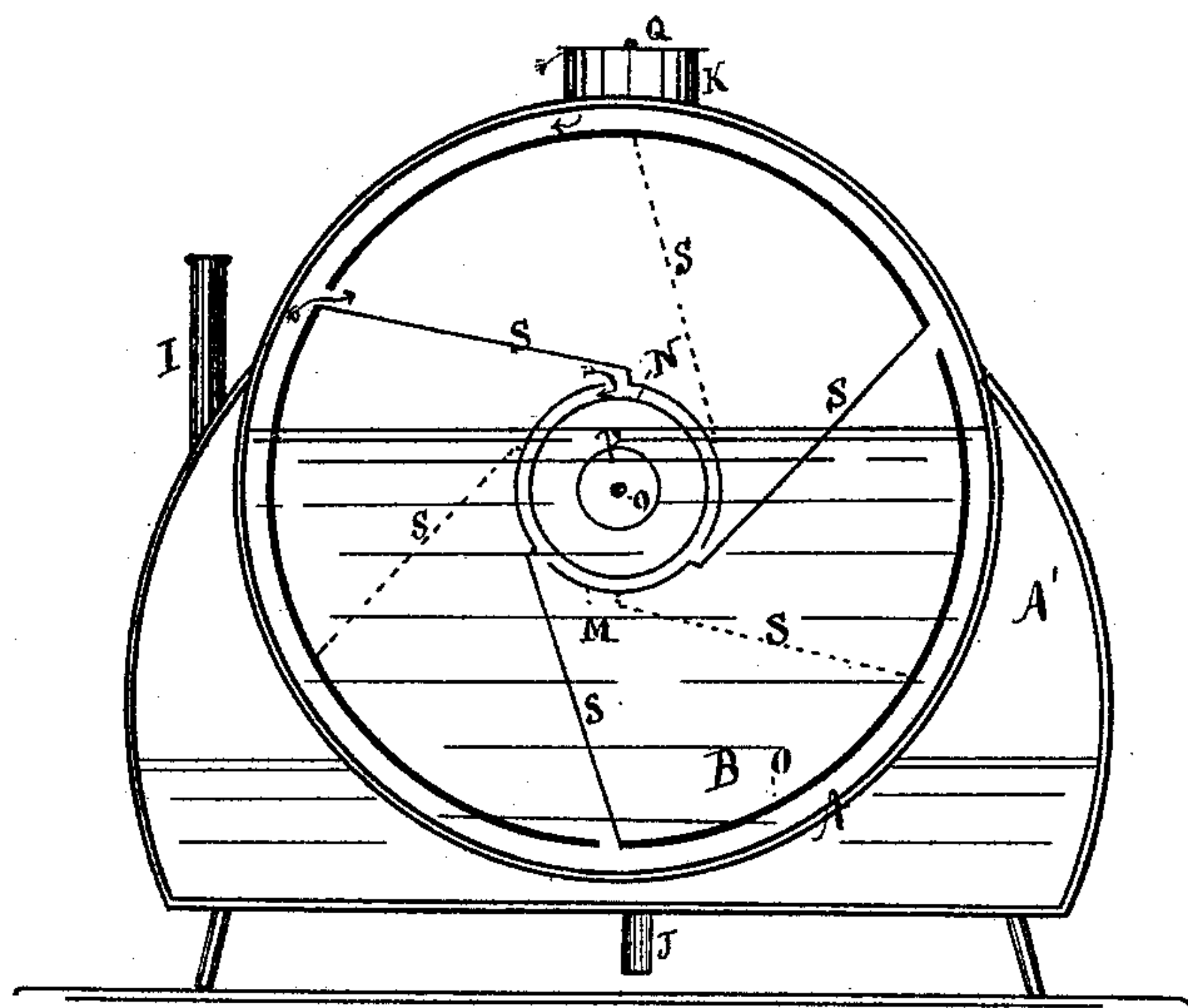


Fig 2.



Attest.
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IMPROVEMENT IN CARBURETERS.

Specification forming part of Letters Patent No. 189,490, dated April 10, 1877; application filed February 20, 1877.

To all whom it may concern:

Be it known that I, JOHN J. PAQUETTE, of the city of New Orleans, State of Louisiana, have invented certain new and useful Improvements in Carbureters; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal sectional view of my device, and Fig. 2 a transverse sectional view of the same.

This invention relates to devices for impregnating atmospheric air with vapors of volatile hydrocarbons, such as gasoline, benzine, or naphtha, such devices being commonly known as carbureters; and it consists in certain details of construction and combination of parts, as hereinafter fully described and claimed.

In the accompanying drawings, A represents the outer case of the carbureter, within which revolves the drum B. The latter is mounted upon suitable bearings, and is provided with a cog-wheel, C, upon its shaft, which wheel meshes with another and larger wheel, D, upon the shaft *d*. The wheel D has a pawl, *e*, upon its face, which engages with a ratchet-wheel, E, upon the same shaft, the wheel D being loose upon the shaft.

Attached to the sleeve *d'* of the wheel D are a number of arms, F, carrying buckets G. The ends of the arms F are curved, as shown, in order to invert the buckets during their revolution.

Upon the shaft *d*, exterior to the main case A, is mounted the drum H, upon which a cord is wound, having a weight attached, the descent of the weight causing the revolution of the drum B.

A' is the oil-reservoir, which communicates with the interior of the case A by means of the wire-gauze covered opening *a*. The oil-reservoir A' extends completely around the case A, its upper portion, above the level of the contained oil, being the reservoir for the carbureted air, and having a suitable outlet-pipe, I. This case may be packed with a fibrous material.

Underneath the device are the pipes J J', communicating, respectively, with the tanks A and A'. These pipes serve the purpose of

draw-off pipes, when it is desired to clean the apparatus.

K is the inlet-tube, for the admission of air to be carbureted, and also for supplying the tanks with oil.

In construction this tube is as follows: Resting upon lugs in its bottom is a wire-gauze disk, *k*, having a suitable handle for facility in withdrawing it, and above this is another similar disk, *k'*. The object of these disks is twofold—they serve to filter the oil as it is introduced, and serve also to effectually obviate all danger of fire being communicated to the interior of the tank, operating, in this respect, analogously to the wire-gauze of a Davy lamp.

Inside of the case A, and between it and the end of the drum B, is the partition L, extending up nearly to the shaft *d*. This partition, together with the sides and opposite end of the tank A, constitutes the carbureting-reservoir.

The internal construction of the drum B is as follows: It consists of the three concentric cylinders O, M, and N, and conical tube P. The drum is divided transversely by the partition R, which extends over the space between the cylinders O and M. This space is further divided longitudinally by blades S S, the outer cylinder O being perforated just beyond the point of junction of the blades, the openings being intended for the admission of air and hydrocarbon.

The inner cylinder N is somewhat shorter than the others, leaving an open space for the air-pipe T, and is attached to the cylinder M and conical tube P. The attachment to the latter is by a wire-gauze partition, *n*, and to the former by short pieces cut from the pipe itself, bent back, and soldered to the cylinder M. The tube P is open at both ends, as shown, to afford a free duct for the oil, and the space between it and the cylinder N is filled with some fibrous absorbent material, such as fine shavings or asbestos.

The drum B is attached to its bearings as follows: At the front end arms *m m* connect it with the wheel C, and at the rear end it rests upon the pipe T. The wheel C turns loosely upon the shaft *o*, which serves as a brace for the pipe T and partition I. The res-

ervoir A' is furnished with a gage-glass, *s*, to admit of the level of the oil being ascertained.

The top Q of the inlet-tube K is preferably a simple lid, having a flange, *t*, which is ground into the end of the tube K to form a perfectly air-tight joint. When the machine is in operation this lid is slightly raised, so as to admit air to the interior of the device.

The operation of the machine is as follows: Hydrocarbon is supplied through the opening K until it has reached about the level shown in the drawings in the chamber A'. Upon opening the supply-pipe to the main, the drum B commences to revolve, being actuated by the descent of a weight attached to a cord wound upon the drum H, which, of course, is previously wound up by means of the crank *h*. In the revolution of the drum B, air and hydrocarbon enter it through the openings, and traverse the apparatus in the direction indicated by the arrows. In passing through the space between the cylinder N and tube P, the air is brought into most intimate mixture with the hydrocarbon which saturates the fibrous filling of this space, and finally passes into the pipe T, which communicates with the main gas-reservoir.

The course of the hydrocarbon is likewise through the fibrous packing, but it flows freely back through the pipe P to be used again.

The buckets G G as they revolve keep the space within the partition L completely full of hydrocarbon, so that the hydrostatic, or rather hydrocarbon, pressure upon the gas to drive it through the mains is measured by the perpendicular distance from the edge of the partition L to the point *x* of the orifice of the pipe P.

The pressure of the gas in the chamber A' maintains, of course, a similar difference of level between the hydrocarbon in the same chamber and that in the space adjacent, as shown. This difference of level is maintained, the oil flowing up through the wire gauze *a* to feed the inner chamber, until the oil in A' is completely exhausted, which may be seen by the gage *s*.

Some of the advantages of my apparatus may be briefly mentioned. The pipe P, furnishing a free duct for the hydrocarbon, there

is no possibility of the fibrous material becoming clogged.

But one stuffing-box is necessary in the entire machine, viz., where the shaft *d* passes through the main case A, as the peculiar construction of the bearing on the pipe T, having a fluid seal, obviates the necessity for stuffing. Further, the construction of the opening K prevents all danger from fire, and the gas, being under a constant head, flows perfectly uniformly through the pipes. This last result is also conduced to by the construction of the drum B, having the central partition R, which construction effectually prevents any flickering of the light.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a carbureter, a revolving drum, having a central passage and an adjacent annular compartment, filled with a suitable fibrous material, and an exterior annular compartment, the latter being divided longitudinally by straight blades and transversely by a partition, substantially as described.
2. The inlet-tube K, having the ground lid Q and two wire-gauze partitions, substantially as described.
3. In combination with the drum B, partition L, the wheels C and D, the latter carrying the buckets G, substantially as described.
4. In combination with the case A, the chamber A', serving the double purpose of oil and gas distributing reservoir, and automatically feeding into the case A by the pressure of the gas, substantially as described.
5. The drum B, having cylinders O, M, and N, and central tube P, as set forth.
6. In combination with the pipe T and partition L, the stationary shaft *o*, as described.
7. In combination with the sleeve *d'* of the wheel D, the arms F, having curved ends, and the swinging buckets G G, substantially as described.

Witness my hand this 19th day of February, 1877.

J. J. PAQUETTE.

Attest:

R. D. WILLIAMS,
DE LANCEY H. BARCLAY.