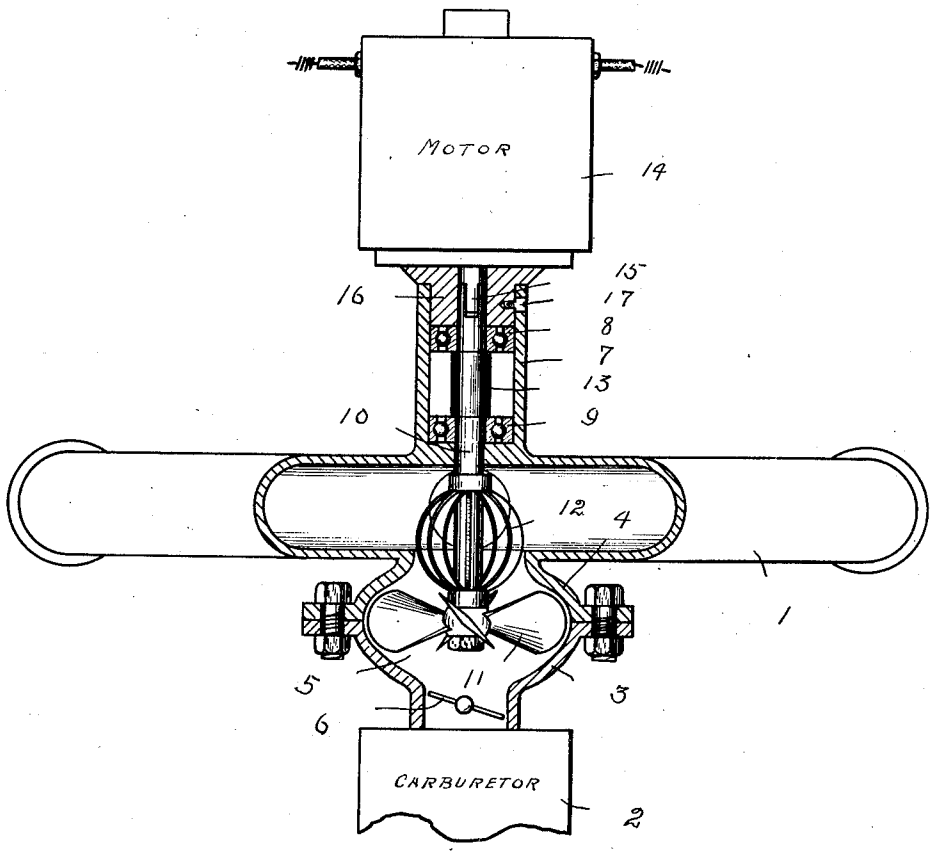
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GAS MIXER

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GAS MIXER

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This invention relates to dry gas feeding devices for internal combustion engines and relates particularly to a novel form of means for thoroughly drying or gasifying the liquid fuel supplied to the engine; the various objects of the invention being obvious from the following description thereof.

The accompanying drawing is an elevation of the intake manifold of an internal combustion engine, portions thereof being shown in section, and in which like reference characters indicate like parts.

Referring now more specificially to the drawing 1 represents the intake manifold of the engine which in the instance illustrated is one of a six cylinder engine. 2 represents the carburetor spaced below the intake and connected thereto by means of a separable connection, the two parts being indicated at 3 and 4 and intermediate of which is formed an helically shaped chamber 5. In this connection I have shown one portion of the connection as being formed integral with the intake and the other portion attached to the carburetor; however these may be separable connections if desired. The opening into the manifold I prefer to form slightly larger than the opening into the carburetor in which latter the ordinary butterfly valve 6 is installed.

Directly above this opening into the manifold is formed integrally therewith an upstanding tubular connection 7 in which are installed in any desired manner the spaced ball bearings 8 and 9. An axial hole is formed through the connection 7 with the manifold and within this hole and the ball bearings is installed the supercharging fan, shaft 10 carrying upon its extreme lower end within the chamber 5 the supercharging and suction fan 11 which is preferably of propeller like construction and designed to forcibly suck wet gas from the carburetor and air through the intake thereof when operated. Just above this suction fan and within the opening into the manifold is a wire squirrel cage like mixing wheel 12 which by rotation prevents any wet gas whatever passing into the manifold without being thoroughly agitated with the air and producing a dry gas. Intermediate of the ball bearings 8 and 9 I have illustrated an enlargement of the shaft 10 as at 13 to act as a thrust bearing for said shaft, and the squirrel cage like agitator 12 and suction fan 11 may be non-rotatably attached to the shaft in any desired manner.

Now the rotation of the shaft 10 is accomplished by means of any desired form of motor indicated at 14, the lower end of the armature shaft of which is splined into the upper end of the shaft as indicated at 15, and the lower end of the motor housing is provided with a cylindrical extension indicated at 16 for snugly fitting within the connection 7 and held therein as by the screw 17.

I have not illustrated the electric connection to the motor as it is obvious that such may be of any desired construction and controlled in any desired manner for example when used in connection with an automobile engine may be automatically operated by the starter switch or controlled independently from the dash board.

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

1. In combination, a chamber installable intermediate of the carburetor and intake manifold of an internal combustion engine, a shaft extending axially of and terminating within said chamber, a suction and charging fan on said terminal of the shaft within the chamber, an open cage-like agitator on said shaft adjacent said fan, a portion of said agitator extending within the chamber and a portion within the manifold, and means for rotating said shaft.

2. In combination, a manifold, having a circular intake the axis of which is at right angles to the longitudinal axis of the manifold, a power shaft extending axially of and terminating within the intake, an enlarged circular chamber below the manifold and surrounding the free end of the shaft, a suction and charging fan mounted upon the free end of the shaft within said chamber, an open cage-like agitator installed upon the shaft above the fan within the intake, part of the agitator being within the chamber and part

within the manifold for the purpose described.

3. In combination, a manifold having a circular intake the axis of which is at right angles to the longitudinal axis of the manifold, a power shaft extending axially of the intake, an enlarged circular chamber below the manifold and surrounding the free end of the shaft, a suction and charging fan mounted upon the free end of the shaft within said chamber, a spherically shaped agitator composed of a plurality of spaced ring like members mounted upon the shaft within the intake, part of the agitator being within the chamber and part within the manifold for the purpose described.

4. In combination, a connection intermediate of the carburetor and manifold of an internal combustion engine, said connection having a chamber therein, a rotatable shaft extending through the manifold with its free end terminating within the chamber, a suction and pressure fan mounted upon the free end of the shaft, and open cage-like agitator carried by the shaft above the fan, a portion thereof being within the chamber and a portion within the manifold for the purpose described.

In testimony whereof I affix my signature.

WILLIAM R. BREWER.