To all whom it may concern:

Be it known that I, EUGENE C. RICHARD, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Carbureters, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to carbureters, and has more particular reference to a construction intended for use in explosion-engines.

The invention consists in the peculiar construction, arrangement, and combination of parts, as hereinafter set forth.

In the drawings, Figure 1 is a longitudinal section, partly in elevation. Fig. 2 is a cross-section, and Fig. 3 is a plan.

A is a receptacle for the oil, provided with an inlet-conduit B, which is controlled by a valve C, attached to a float D within the receptacle, the arrangement being designed to maintain substantially constant level of oil within the receptacle.

E is an outlet-conduit from the receptacle, which connects with a vertical nozzle F, having a controlling needle-valve G.

H is a plug-valve in the nozzle above the needle-valve G and adapted to variably restrict the passage in the nozzle.

I is an air-conduit into which the end of the nozzle F is directed, said conduit leading to the inner-valve of the explosion-engine. The lower end of this conduit I is connected with a horizontally-extending casing J, having the inlet-tube K, through which air may be admitted into the casing and thence into the conduit I.

L is a funnel-shaped tube arranged within the tube K, connected at its lower end with an oil conduit or chamber M, leading to the valve H and communicating with a port a in said valve. This port a connects with a port b, which forms the connecting-passage in the nozzle F.

N is a valve-stem for the valve H, which passes out through the casing and is connected with a gear-segment O. This segment meshes with a complementary segment P, formed on a controlling-lever Q. The lever Q is fulcrumed on the conduit I and is connected to the stem R of a butterfly-valve S within the conduit I.

The construction being as shown and described, the operation is as follows: The level of oil maintained in the receptacle A by the float D is normally below the upper end of the nozzle F, but is above the conduit M and the valve H. As a consequence the oil will normally fill the passages b and a within the valve H and also the space within the conduit M. The suction of the engine will cause the drawing in of a current of air through the tube K and casing J into the tube I. A portion of this air-current will strike against the funnel L and will be directed down into the conduit M, striking an air-pressure on the liquid therein, which will cause it to be forced outward through the nozzle F into the air-current in the conduit I. The ejection of the oil will also be assisted by the suction resulting from the movement of the air-current past the nozzle. The quantity of air carbureted will be regulated by an adjustment of the lever Q, which will shift the position of the butterfly-valve S so as to variably restrict the conduit I. The movement of the lever will through the connection of the gear-segments P and Q impart a corresponding rotation to the stem N of the valve H, thereby variably restricting the oil-passage b of said valve and controlling the amount of oil ejected from the nozzle.

What I claim as my invention is:

1. A carbureter comprising an air-suction conduit, an oil-nozzle directed therein and means within said air-conduit for deflecting a portion of the air-current therein upon the oil to produce a propelling pressure thereof.

2. A carbureter comprising an air-suction conduit, an oil-nozzle directed therein and connected with an oil-chamber and an open-ended conduit within said air-conduit leading to said oil-chamber, whereby a portion of the air-current is directed against the oil in said chamber to create a propelling pressure therefor.
3. A carbureter comprising an air-suction conduit, an oil-nozzle directed therein and connected with an oil-chamber, a funnel-shaped conduit within said air-conduit and having its contracted end connecting with the oil-chamber whereby a propelling pressure for the oil is created.

4. A carbureter comprising an air-suction conduit having a return-bend therein, a funnel-shaped conduit within said air-casing on the inlet side of said return-bend, an oil-chamber with which said funnel-shaped conduit is connected, an oil-nozzle leading from said chamber and directed into said air-conduit on the opposite side of said return-bend.

5. A carbureter comprising an air-suction conduit having a return-bend therein, an oil-nozzle discharge within said conduit in the direction of the inducted air-current, and beyond the return-bend, a butterfly-valve within said conduit in the path of the discharge from said nozzle, a plug-valve in said nozzle, intermeshing gears connecting said butterfly-valve and plug-valve, and means to actuate one of said valves whereby the other is automatically operated to proportionately vary the air and oil.

6. A carbureter comprising an oil-casing, a float-controlled oil-inlet valve therefor, an air-suction conduit having a return-bend arranged adjacent to said oil-casing, an oil-discharge nozzle in said conduit on one side of said return-bend and directed in the direction of the travel of air, a conduit connecting said nozzle with said oil-tank, a plug-valve in said conduit, a butterfly-valve in said air-conduit, a common actuating connection for said valves, and a funnel-shaped deflector in said air-conduit having a lateral connection with said oil-discharge nozzle whereby a propelling air-pressure is placed on said oil and whereby the discharge of oil is proportioned to the flow of air in said conduit.

In testimony whereof I affix my signature in presence of two witnesses.

EUGENE C. RICHARD.

Witnesses:
JAS. P. BARRY,
EMMA I. BARNES.