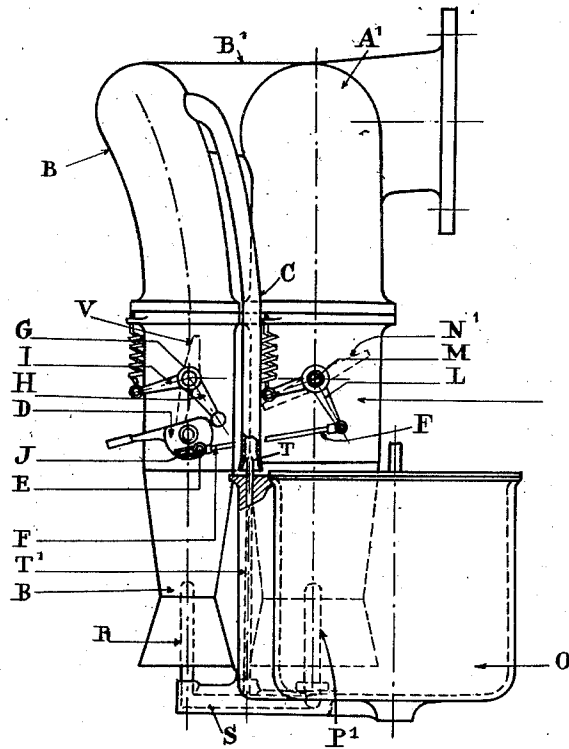


A. MAIRE.
CARBURETER FOR MOTOR CARS.
APPLICATION FILED SEPT. 25, 1917.

1,368,178.

Patented Feb. 8, 1921.
2 SHEETS—SHEET 1.

Fig. 1



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Fig. 2

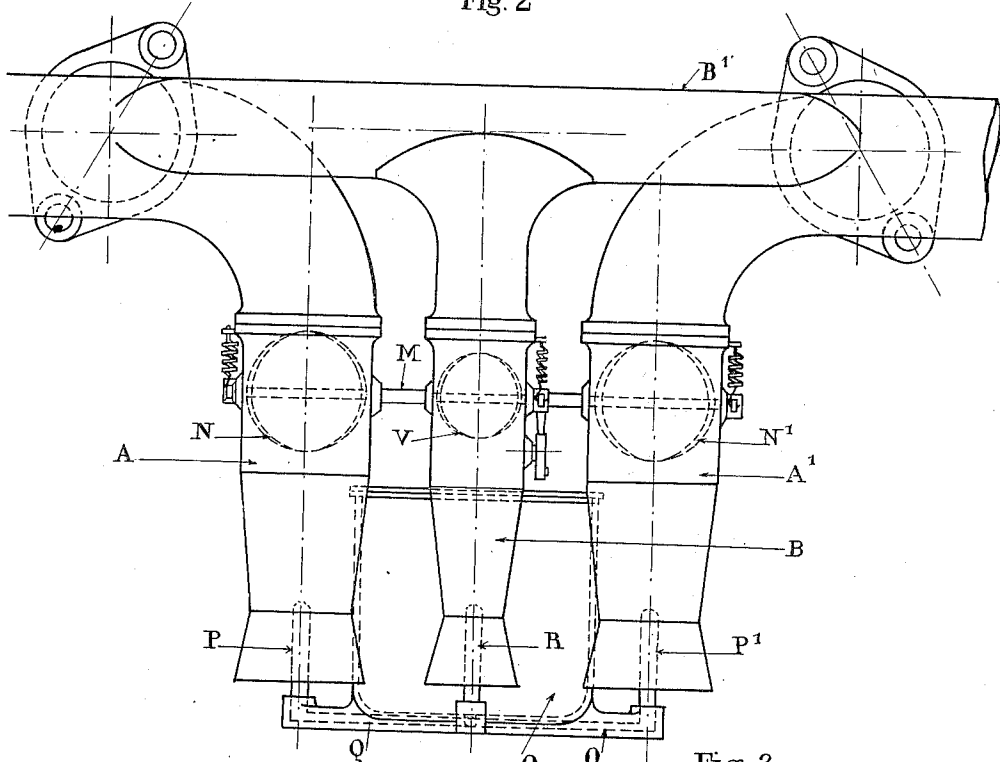
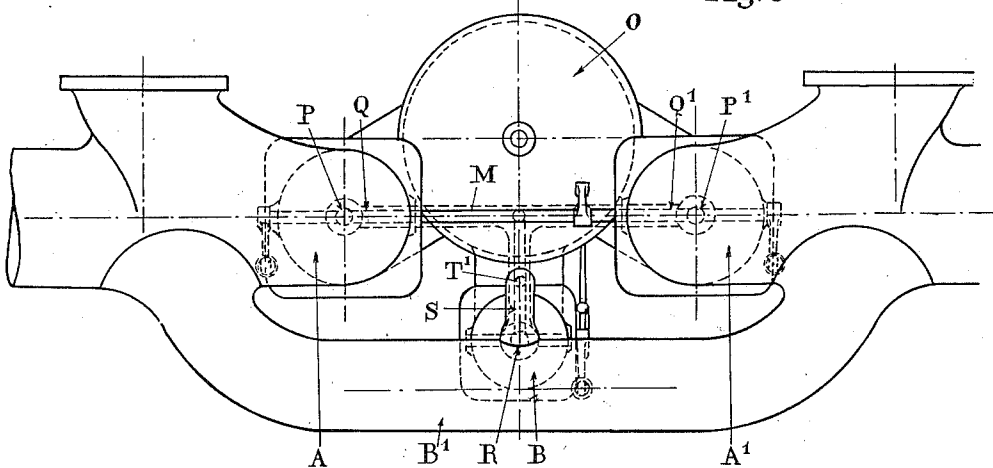


Fig. 3



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UNITED STATES PATENT OFFICE.

AUGUSTE MAIRE, OF ARGENTEUIL, FRANCE, ASSIGNOR TO SOCIETE LORRAINE DES ANCIENS ETABLISSEMENTS DE DIETRICH & CIE. DE LUNEVILLE, OF PARIS, FRANCE.

CARBURETER FOR MOTOR-CARS.

1,368,178.

Specification of Letters Patent.

Patented Feb. 8, 1921.

Application filed September 25, 1917. Serial No. 194,159.

To all whom it may concern:

Be it known that I, AUGUSTE MAIRE, citizen of the Republic of France, residing at Route de Bezons, Argenteuil, Seine-et-Oise, in the Republic of France, have invented new and useful Improvements in Carbureters for Motor-Cars, of which the following is a specification.

In designing a carbureter for a motor car, if it is desired to maintain the maximum turning moment of the engine at a high speed of revolution, it is necessary to make the various cross sections of the carbureter (nozzle, piping) of large dimensions. In such a case however it is difficult to assure a suitable working of the engine at low speeds, especially such as those which must not be exceeded when traveling through towns.

The present invention has for its object to provide an improved construction of carbureter that will satisfy the above stated requirement.

This invention consists essentially in providing a suitable number of carbureting units for use when the motor is running at a high speed, and a smaller auxiliary carbureting unit for use when the engine is running at a low speed. The main carbureting units each supply a given number of cylinders, and their number will vary with the number of cylinders of the engine. In all cases, the carbureting units are arranged in such a manner as to form one piece and they are fed from a common tank. The sprayer for use when the engine is running dead slow, is connected to the pipe of the auxiliary carbureting unit, and the devices for shutting off the explosive mixture may be operated by any suitable means, such as for example, a single pedal or a number of independent pedals.

In the annexed drawings given by way of example:

Figure 1 is an end view of an installation in accordance with the invention.

Fig. 2 is a corresponding side view.

Fig. 3 is a corresponding plan view.

According to the present invention, assuming the case of an engine having six cylinders, one group of three cylinders would be fed by an admission pipe A and the other group by an admission pipe A¹. In the admission pipes A, A¹ which are

open at their lower ends, are respectively arranged the fuel nozzles P, P¹, which are both connected to a common constant level tank O by conduits Q, Q¹ provided in lateral extensions of the fuel tank. Throttle valves N, N¹ are respectively mounted in the admission pipes A, A¹ upon a common shaft M. The admission pipe A and fuel nozzle P form one carbureting unit, both units being in operation in normal running. To these two carbureting units, is added a third auxiliary carbureting unit of smaller dimensions which has for its purpose to feed the six cylinders when the engine should work at a moderate speed, for instance in traveling through towns. Said auxiliary carbureting unit comprises an admission pipe B in communication with a branch conduit B¹ which is connected at its ends with the admission pipes A and A¹ respectively. In said admission pipe B, is mounted an auxiliary fuel nozzle R having smaller dimensions than the main sprayers P, P¹ and connected to the fuel tank O by a branch conduit S provided in another lateral extension of the fuel tank. In the admission pipe B¹, is arranged a throttle valve V. In communication with the conduit S, is a vertical conduit T¹ of reduced cross section which is connected at the top with a small sprayer T intended for use in dead slow running; said sprayer T opens into the dead slow admission pipe C which is connected at the top with the auxiliary admission pipe B.

The control of the carbureter may be arranged in various ways, for instance the accelerator pedal may operate through a cam D the throttle V controlling the low speed carbureter B, said throttle being mounted upon an axis G carrying an arm H which is acted upon by the cam D and a spring controlled arm I. The throttles for the two large carbureters A are at this moment completely closed. They are opened later on by a stud E provided on the cam D and extending into an elongated slot J formed in a rod F which is connected to an arm L mounted upon the shaft M which carries the throttle valves N, N¹ of the main carbureter units A, A¹. By means of said arrangement, the throttles N, N¹ of the main carbureters are opened later than the throttle V of the auxiliary unit and closed sooner,

The throttle of the small carbureter may be allowed to close, or left open when the large ones are opened.

Another way is to control the small carbureter by means of a pedal that is independent of the pedal controlling the throttles on the large nozzles.

The pipe B¹ may be connected to the pipes A, A¹ either directly at the exit from the throttles or quite close to the flanges of the cylinders, as shown.

This arrangement of an auxiliary carbureter which will considerably improve the running of the car when an additional air valve is used, is still more advantageous in the case of carbureters the automatic regulation of which is effected by regulating the flow of petrol.

In the case of a carbureter for a twelve-cylinder engine, the hereinbefore described arrangement would comprise four carbureting units for high speeds situated together in the same piece, and a carbureting unit for low speeds. As already above mentioned, the devices for use when the engine is running dead slow would be situated on the low speed carbureter.

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

1. A carbureter for motor cars comprising in combination main admission pipes adapted to be connected to separate explosion cylinders, throttle valves in said admission pipes, a common actuating means for said throttle valves, a constant level fuel tank, fuel nozzles opening into said admission pipes, respectively, and in communication with said fuel tank, an auxiliary carbureter adapted to feed the engine for moderate speeds said auxiliary carbureter comprising a mixing chamber connected to the main admission pipe at a point between the throttles and the explosion cylinders, a throttle in said mixing chamber, means for operating said throttle, a fuel nozzle opening into said mixing chamber and in communication with the said fuel tank, and a carbureter for dead slow running comprising a mixing pipe in communication with the explosion cylinders and a fuel nozzle opening into said mixing pipe and in communication with the said fuel tank.

2. A carbureter for motor cars comprising in combination main admission pipes

adapted to be connected to separate explosion cylinders, throttle valves in said admission pipes, a common actuating means for said throttle valves, a constant level fuel tank, fuel nozzles opening into said admission pipes, respectively, and in communication with said fuel tank, an auxiliary carbureter adapted to feed the engine for moderate speeds, said auxiliary carbureter comprising a mixing chamber connected to the main admission pipes at a point between the throttles and the explosion cylinders, a throttle in said mixing chamber, means for operating said throttle, a fuel nozzle opening into said mixing chamber and in communication with the said fuel tank, and a carbureter for dead slow running comprising a mixing pipe in communication with the said mixing chamber at a point between the throttle of the same and its point of connection with the main admission pipes and a fuel nozzle opening into said mixing pipe and in communication with the said fuel tank.

3. A carbureter for motor cars comprising in combination main admission pipes adapted to be connected to separate explosion cylinders, throttle valves in said admission pipes, a constant level fuel tank, fuel nozzles opening into said admission pipes respectively and in communication with said fuel tank, an auxiliary carbureter adapted to feed the engine for moderate speeds, said auxiliary carbureter comprising a mixing chamber connected to the main admission pipes at a point between the throttle and the explosion cylinders, a throttle in said mixing chamber, means for operating in sequence the throttle in said mixing chamber and simultaneously the throttles in the main admission pipes, a fuel nozzle opening into said mixing chamber and in communication with the said fuel tank and a carbureter for dead slow running, comprising a mixing pipe in communication with the explosion cylinders and a fuel nozzle opening into said mixing pipe and in communication with the said fuel tank.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AUGUSTE MAIRE.

Witnesses:

LOUIS MOSÉ,
CHAS. P. PRESSLY.