

G. BINON.
AUTOMATIC CARBURETER.
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1,065,912.

Patented June 24, 1913.

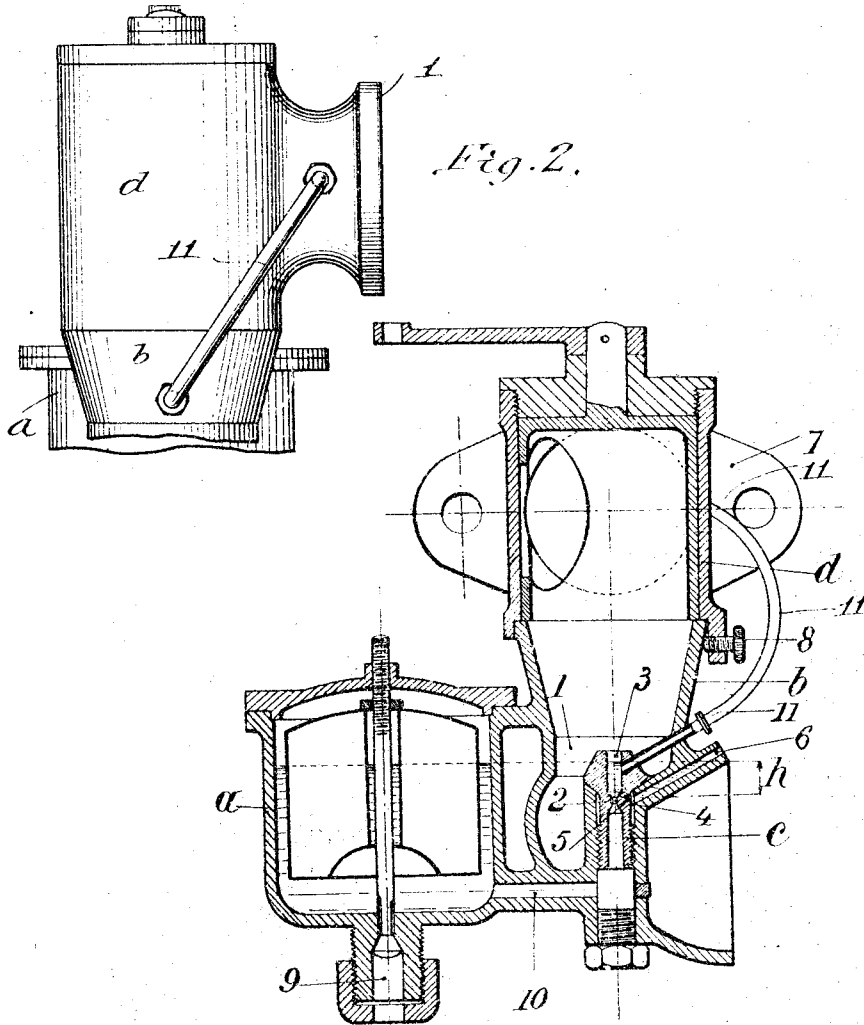


Fig. 1

Witnesses

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AUTOMATIC CARBURETER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGES BINON, a citizen of France, and residing at 16 Place de la République, in the city of Paris, France, having invented a new and useful Automatic Carbureter for Engines with Combustion by Explosions, do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to spraying engine carbureters and is characterized by the fact that it insures steady and uniform carbureting for varying loads on and speeds of the engine.

The invention has for its object to provide an apparatus comprising the combination of devices to serve the following purposes: (1°) A spraying device with air inlet disposed beneath the normal level of the fuel for injection of the liquid into a spraying chamber. (2°) An arrangement of a restricted suction space where the spraying device is disposed, the said restricted suction space having for object to give a strong depression around the spraying device by the suction during the working of the motor. (3°) A small reservoir placed above the jet and communicating at its base with the external air through a circular channel and air admitting pipe open to the ambient air; said reservoir and pipe having their extremities situated at a height above the normal level of the fuel so that no flow will occur when the carbureter is inoperative. (4°) A pipe connecting the reservoir above the spraying device to the suction chamber, between the throttle valve and the motor, facilitates the spraying when reducing the speed or load on the motor.

In the accompanying drawing, Figure 1 is a side elevation of the upper portion of the carbureter, Fig. 2 is a vertical section of the complete carbureter.

a indicates a device whereby a constant level of liquid is kept in the spraying jet independently of the varying quantity necessary for the working of the engine.

b is a suction pipe wherein carbureting takes place through the action of the spraying device *c* placed centrally in the restricted suction space 1. The suction space or chamber may be jacketed so as to be warmed either by water or by hot gases from the engine or by other heating medium adapted to be circulated through said jacket.

The spraying device *c* is placed so that its orifice 2 which regulates the consumption of carburant, is below the normal level.

In order to prevent the flowing of the carburant through the orifice or nozzle 2 when the carbureter is not working, a reservoir 3 is placed above said orifice of the jet, the diameter of the reservoir 3 being greater than the diameter of the orifice of the jet, and its height greater than the level difference *h*, between the orifice of the jet and the normal level. Said reservoir 3 communicates at its base with the air through an opening 5, ring shaped chamber or canal 4, and diagonal canal or passage 6, which extends a little above the constant level of the carburant, so that no flow will occur when the carbureter is inoperative.

d is a device for the admission of the explosive gases for charging the engine, say a valve or cock as represented in the drawing; it may be fixed to the carbureter by screws 8 while the flange 7, serves for fixing and carrying the whole carbureter.

A pipe 11 leading into the suction pipe between the throttle valve and the motor, is put in communication with the reservoir 3, the object of said pipe being to convey the depression actually taking place in the suction pipe and thus facilitate the spraying when the motor slackens. The spraying will occur in the jet through orifice 2. The reservoir 3 and the pipes or canals connected thereto will prevent flooding, help the starting and facilitate suction when the motor slackens.

The working of the apparatus thus constructed is as follows: The carburant coming through opening 9 is kept by the float in *a* at an always constant level, and passes through passage 10 below the sprayer *c*. In the inoperative period, the liquid level will be established in the float chamber *a*, in the space 3 above the orifice of the jet 2, and in the air canal 6, the motor will therefore start easily and immediately owing to the supply of liquid fuel contained in the said canals and which will be sucked at the first turn of the crank. The motor turning normally, the orifice or nozzle 2 of the jet will alone supply the necessary quantity of carburant, but said quantity will be in proportion to the depression produced by the suction in the restricted space; I have therefore placed the orifice 2 below the normal level

so that the liquid fuel will tend to fill the jet and furnish automatically a small quantity of carburant, thereby correcting irregularities occurring in ordinary carbureters.

- 5 During slower working, the depression of the suction above the orifice 2 is facilitated by the pipe 11 connected to reservoir 3.

It is to be understood that the form and details of the apparatus shown in the drawing may be varied within reasonable limits.

10 I claim—

In a carbureter for internal combustion engines the combination with a jet placed below the normal level of the fuel and su-

perposed by a reservoir preventing the 15 flooding of the liquid fuel, the whole located in a restricted space of the suction pipe, of a system of canals communicating with the said reservoir and leading, one to the suction chamber between the throttle 20 valve and the motor and the other to the ambient air for the purposes given in the specification, all substantially as set forth.

Paris, this 14th day of October 1910.

GEORGES BINON.

Witnesses:

PAUL BONNICART,
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