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SUPPLEMENTARY CARBURETER FOR FACILITATING THE STARTING OF INTERNAL COMBUSTION ENGINES.

APPLICATION FILED SEPT. 21, 1918.

1,298,445. Patented Mar. 25, 1919.

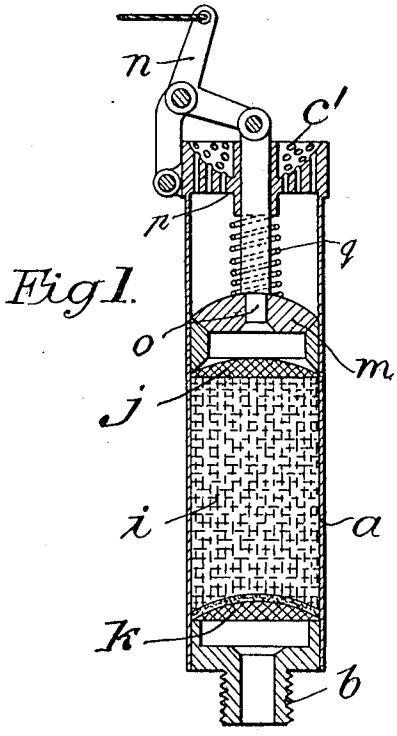

Fig. 1.

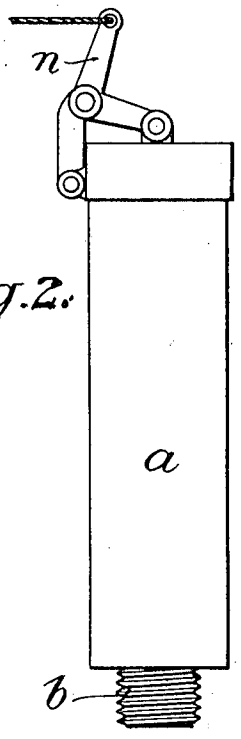

Fig. 2.

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SUPPLEMENTARY CARBURETER FOR FACILITATING THE STARTING OF INTERNAL-COMBUSTION ENGINES.

1,298,445. Specification of Letters Patent. Patented Mar. 25, 1919.

Application filed September 21, 1918. Serial No. 255,173.

To all whom it may concern:

Be it known that WALTER JAMES BOUGHTON, engineer, a subject of the King of Great Britain and Ireland, whose post-office address is Thetford, Norfolk, England, has invented certain new and useful Improvements in Supplementary Carbureters for Facilitating the Starting of Internal-Combustion Engines, of which the following is a specification.

This invention has for its object to provide a carbureting apparatus of very simple construction which can be easily fitted to the induction or intake pipe of the engine for supplying a primary or priming charge of petrol or other motive agent and air to facilitate the starting of the engine especially when it is cold, and consists of a small receptacle containing material such as cotton waste, asbestos, wool, cotton wool, or other surface vaporizing material; this receptacle having a nozzle formed on one end and adapted to be fixed directly to the induction pipe, and an air and petrol inlet formed in the upper end which is fitted with a cap or a valve which can be easily opened and closed or partly closed to admit air.

Supplementary carbureters for starting engines have been previously proposed wherein the starting charge of petrol was drawn or forced through a receptacle containing wire gauze, cotton waste or other similar material, and my invention is distinguished from these known devices in the following respects:—

1. It is applied direct to the induction pipe without the intervention of lengths of tubing.

2. The air and petrol enter at the same inlet, and no adjuncts such as pumps or compressed air cylinders are employed.

3. The whole device is much simpler to construct, and apply than the devices previously proposed.

The invention is hereinafter described with reference to the accompanying drawings in which—

Figure 1 is a vertical section of a carbureting apparatus or starter constructed according to this invention.

Fig. 2 is an elevation of the same.

The present invention comprises a hollow body *a* having an apertured bottom *b* adapted for attachment to an intake or induction pipe of a gas engine, the top of this hollow body having a bearing *p* extending axially therethrough and also having inlet apertures *c'* extending therethrough, the upper surface of the top being downwardly and inwardly inclined so as to conduct liquid fuel into the hollow body *a* through the apertures *c'*. A valve *m* is mounted to move longitudinally of the body *a*, and a valve stem *o* is connected to the valve and extends through the bearing *p* and is slidable therein so as to seat and unseat the valve *m*. A spring *q* is coiled around said valve stem and presses against said bearing and valve so as to yieldingly hold the valve in its closed or seated position, and a bell crank *n* is pivotally mounted on the body *a* and is pivotally connected to the upper end of the valve stem *o*. It will be seen, therefore, that the valve *m* may be operated by swinging the bell crank *n* on its pivot.

Within the body *a* between its threaded end *b* and the valve *m*, a mass of absorbent material *i* is disposed, this mass being sufficient to entirely fill the space between two pervious members *j* and *k*. The member *j* is formed of wire gauze, and the member *k* is preferably formed of wire gauze and cotton wick, and the pervious members *j* and *k* extend entirely across the body *a* so as to prevent any of the material *i* from passing outward beyond these pervious members. It will be seen, therefore, that when the valve *m* is open and liquid fuel is introduced through the apertures *c'*, such liquid fuel passes by gravity and capillary attraction into all parts of the absorbent material *i*, air, drawn by the suction of the engine through the apertures *c'*, valve *m*, absorbent material and pervious elements *j* and *k*, and in thus passing therethrough, it mixes with the vapors from the liquid fuel so as to form a rich combustible gas, and this gas then passes through the open end *b* into the intake of the engine manifold. It will be seen, therefore, that the threaded end *b* is considerably smaller in cross section than the remainder of the body *a*, and that it may be screwed into an appropriate opening which may be made in the manifold for this purpose.

Although I have described this embodiment of my invention very specifically, it is not intended to limit this invention to these

exact details of construction and arrangement of parts.

What I claim as my invention is:—

The combination of a hollow body having an apertured bottom adapted for attachment to an induction pipe of a gas-engine, the top of said hollow body having a bearing extending axially therethrough and also having inlet apertures extending therethrough, the upper surface of said top being downwardly and inwardly inclined so as to conduct liquid fuel into said hollow body through said inlet apertures, a valve in said hollow body, a valve stem connected to the valve and extending through said bearing, a spring around said valve stem and pressing against said bearing and valve, absorbent material in said hollow body between said bottom and valve, and means to open said valve to admit the liquid to said absorbent material after it has entered the hollow body, also to permit air to pass through the absorbent material so as to carburet the liquid fuel.

In testimony whereof he hath affixed his signature, in presence of two witnesses.

WALTER JAMES BOUGHTON.

Witnesses:

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