

No. 756,879.

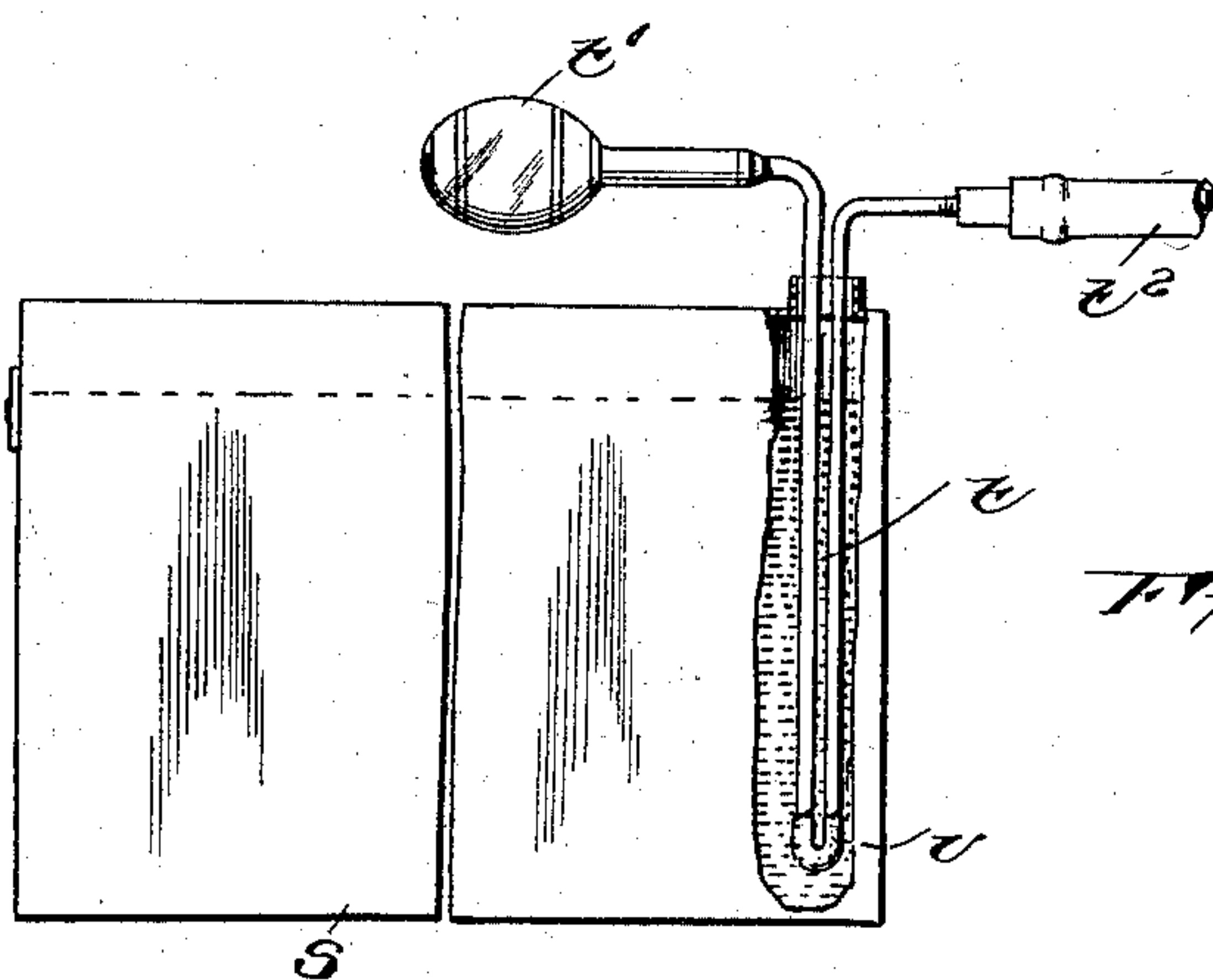
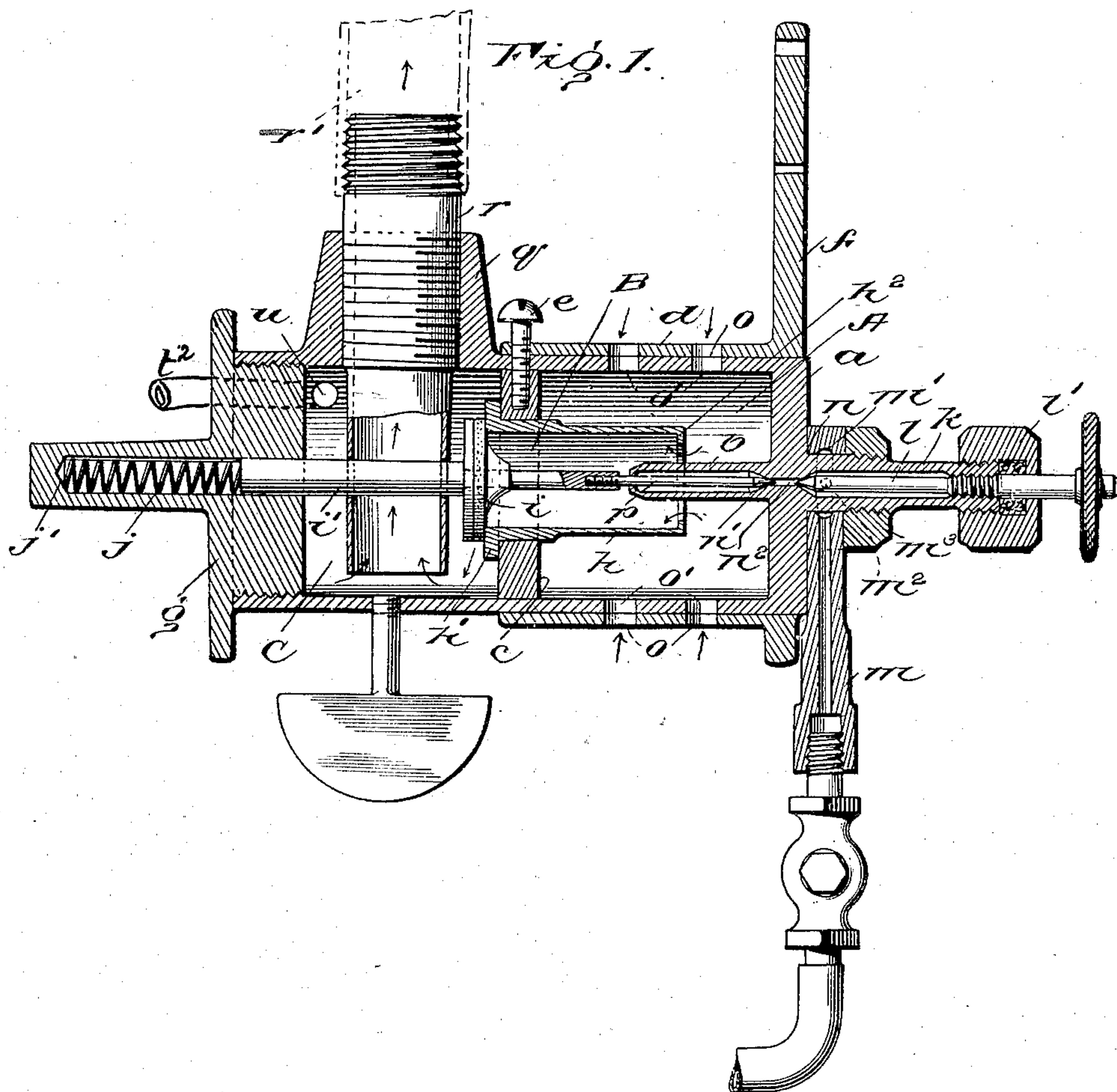
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G. McCADDEN.

CARBURETER FOR INTERNAL COMBUSTION ENGINES.

APPLICATION FILED JUNE 15, 1903.

NO MODEL.



Inventor

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Witnesses

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GEORGE McCADDEN, OF ST. CLOUD, MINNESOTA.

CARBURETER FOR INTERNAL-COMBUSTION ENGINES.

SPECIFICATION forming part of Letters Patent No. 756,879, dated April 12, 1904.

Application filed June 15, 1903. Serial No. 161,521. (No model.)

To all whom it may concern:

Be it known that I, GEORGE McCADDEN, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented certain new and useful Improvements in Carbureters, of which the following a specification.

My invention relates to carbureters for internal-combustion engines.

The objects, generally stated, are to provide a carbureter which will operate in a horizontal position, to provide a suction-feed for the carbureter whereby to obtain a more thorough mixing of the air and vapor and to meet the requirement of the board of underwriters in respect of locating the fuel-supply below the carbureter, and to provide an instantaneous primer.

Other objects and advantages will be presently discussed.

The invention consists in certain novel constructions, arrangements, and combinations of parts hereinafter described, and defined in the claims hereto appended.

The nature, characteristic features, and scope of the invention will be more readily understood from the following detailed description, taken in connection with the accompanying drawings, forming a part hereof, wherein—

Figure 1 is a view, principally in section, of a carbureter constructed in accordance with my present invention; and Fig. 2 is an elevational view of the fuel-tank partly broken away to disclose the primer.

Referring to Fig. 1, *a* represents the horizontally-disposed cylindrical body of the carbureter, provided endwise with an inwardly-directed nozzle *b* and about midway of its length with an internal annular flange or shoulder *c*. The exterior of the body *a* is turned down to accommodate a sleeve *d*, having openings *o*, which when the sleeve is properly adjusted register with cylindrical openings *o'* in the walls of the body *a*. *e* represents a limit pin or screw which passes through a slot in the sleeve *d* and is received in a threaded socket in the body *a*. *f* represents a lever which coöperates with the sleeve *d* to position the sleeve to admit more or less air

to the interior of body *a*, via the openings *o o'*, by turning the lever *f* one way or the other. The opposite or open end of the body *a* is internally threaded to receive a cap *g*.

Seated in the annular flange or bridge *c* is a sleeve *h*, arranged concentrically in respect of the body *a* and provided at one end with an external shoulder *h'*, which abuts against the bridge or flange *c*, and provided at the opposite end with an inwardly-directed shoulder *h²*. The shoulder *h'* constitutes a seat for a check-valve *i*, sustained by a stem *i'*, which is yieldingly supported by a coiled spring *j*, accommodated in an elongated socket *j'* of the cap *g*. The shoulder *h²* of sleeve *h* encircles the nozzle *b*, there being a space between it and said nozzle, so that said sleeve constitutes an aspirator for creating a suction of air when the nozzle is open, thereby dispensing with an oil-pump.

The nozzle end of the shell or body *a* is provided with a straight projection *k*, which constitutes the casing of a controller-valve *l*, provided with a packing-gland *l'*. The projection *K* also accommodates a swiveled fuel connection *m*, served with an annular way *m'*, whereby it is always in communication with the interior of part *k* through the medium of aperture *m²*. The swivel connection *m* is held in proper position relatively to the body *a* by a nut *m³*. The nozzle end of the body *a* is provided on opposite sides with conical seats *n n'*, separated by a passage *n²* and accommodating, respectively, the controller-valve *l* and a needle-valve *p*, which penetrates the nozzle and is borne upon the valve *i*. Referring now to the other end of the body or shell *a*, *q* represents an internally-threaded boss, which receives a long nipple *r*, extending into the interior of the body *a* and provided with a connection *r'*, which passes to the cylinder of the engine. The function of the nipple *r* is to convey the combustible mixture and also the fuel that condenses in the carbureter to the engine-cylinder.

Referring now to Fig. 2 of the drawings, *s* represents a fuel-tank. By the provision of the novel suction-feed above explained I am enabled to locate the tank below the carbureter, and thus comply with the requirements

of the underwriters. Associated with the tank I have illustrated a primer for use in starting the engine. Same consists of a U-shaped tubular member *t*, provided at one end with a bulb *t'* and at the other end with a flexible connection *t*², which communicates with the carbureter via the opening *u*, Fig. 1. The lower bend of the U-shaped member is perforated and represented at *v*.

10 Referring once more to Fig 1, the nipple *r* is provided with openings *r*² to accommodate the stem of the check-valve.

It is manifest, of course, that in the operation of the device the chamber A is an air-supply chamber or compartment, B an aspirating or air-suction chamber, and C a mixing-chamber.

It will be obvious to those skilled in the art to which the invention appertains that modifications may be made in details without departing from the spirit and scope of same. Hence I do not limit myself to the precise construction and arrangement of parts hereinbefore described; but,

25 Having described the nature and objects of the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A carbureter comprising a cylindrical shell *a* forming at one end an air-supply chamber A, having perforations in its walls and a sleeve fitting around it, an air-mixing chamber C in the opposite end having an opening *u* in its walls to receive priming-oil, a partition *c* between said chambers, a sleeve *h* secured within said partition to direct aspirated

35 air, a check-valve pressing against one end of said sleeve, a nozzle to discharge fuel into the sleeve *h* a fuel-regulating valve *l* and a swiveled fuel connection *m*, substantially as described. 40

2. A carbureter comprising a shell having at one end an air-supply compartment A and at the other end an air-mixing compartment C provided with an outlet or nipple *r*, a sleeve *h* and a check-valve interposed between said 45 compartments, a nozzle arranged to discharge fuel into said sleeve, the discharge-nipple *r* penetrating the mixing-chamber and having perforations transversely thereof to accommodate the stem of the check-valve, substantially as described. 50

3. The combination of a carbureter, a fuel-supply, and a priming device consisting of a U-shaped member whereof one end is provided with a bulb and the other end with a 55 connection adapted for communication with the mixing-chamber of the carbureter, and whereof the lower end of the submerged part of said member is perforated and covered with gauze material, substantially as described. 60

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

GEORGE McCADDEN.

Witnesses:

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