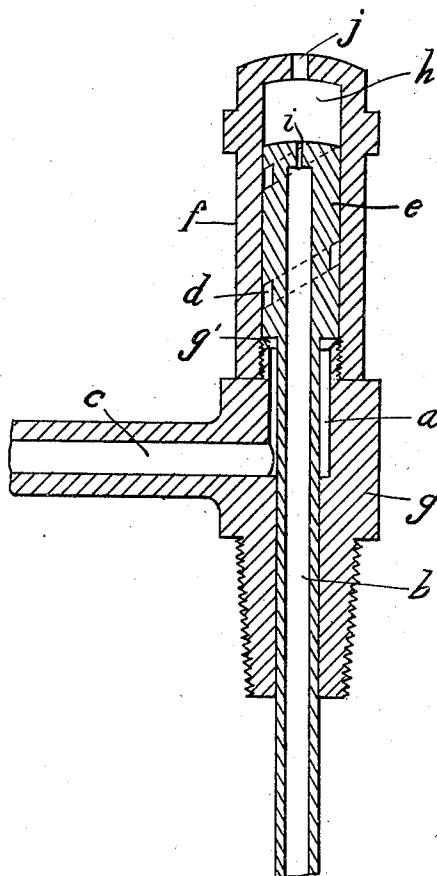


T. H. PARKER.
 NOZZLE FOR CARBURETERS.
 APPLICATION FILED AUG. 11, 1910.

1,003,291.

Patented Sept. 12, 1911.



Witnesses

Emil Larson

H. M. Brooks

Inventor
 T. H. Parker

By Deeler & Robb

Attorneys

UNITED STATES PATENT OFFICE.

THOMAS HUGH PARKER, OF KEW GARDENS, ENGLAND.

NOZZLE FOR CARBURETERS.

1,003,291.

Specification of Letters Patent. Patented Sept. 12, 1911.

Application filed August 11, 1910. Serial No. 576,705.

To all whom it may concern:

Be it known that I, THOMAS HUGH PARKER, a subject of the King of Great Britain, residing at 44 Mortlake road, Kew Gardens, in the county of Surrey, England, have invented a new and useful Improvement in or Relating to Nozzles for Carbureters, of which the following is a specification.

Hitherto hydro-carbons and air, more or less atomized and mixed, used for explosive charges of internal combustion engines, have been supplied to the cylinders generally by the suction of indrawing action of the piston during their cycle of operations; but in drawing in sufficient petrol (for example) to carburet the air, the inlet pipe, or aperture leading to a cylinder had to be throttled or its area restricted. The said throttling to a great extent interferes with proper carburation and in other ways the principle adopted does not lend itself to efficiency even in the case of such a highly volatile spirit as petrol. But in using the heavier petroleum with its higher flash point, the difficulties are so greatly increased that it is only adopted for special reasons, and then provision is made for employing petrol in case of failure with the heavy hydro-carbon.

By my invention I am enabled to use either light or heavy hydro-carbons, or both, with great efficiency and it relates more particularly to that type of combined carbureting and vaporizing apparatus in which the mixture of air and volatile liquid issues from the atomizing nozzle in a thoroughly commingled state.

The object of my invention is to provide an improved apparatus of the foregoing type which is characterized by the fact that the carbureted and vaporized mixture feed is effected by the action of air under pressure passing into a clearance space below the atomizing nozzle where it becomes thoroughly mixed with the hydrocarbon.

The accompanying drawing is in illustration of my invention, the figure being a central vertical section of my improved form of jet supply nozzle for internal combustion engine carbureters.

According to my invention it is essential,

first, that the hydro-carbon employed shall be effectually sprayed and thoroughly mixed with the air entering the mixing chamber, and in order to attain this end I combine an annular air passage *a* with a hydro-carbon central supply pipe *b*. This air passage *a* is so constructed that when air from a suitable pump or compressor enters through the supply pipe *c* it traverses the helically formed passages *d* formed in an enlarged portion *e* at the top of the center supply pipe *b* aforesaid and issues into the clearance space *h* where it draws up a supply of the hydro-carbon through the supply pipe *b*, the latter being immediately broken up and thoroughly mixed with the issuing air before passing through the jet orifice *j*. *f* is an internally threaded cap or nozzle conveniently fitted on the top of the main jet or neck portion *g* and it is provided with a clearance space *h* for mixing and atomizing the jet of hydrocarbon issuing from the pipe *b* through the pin-hole *i*. The head *e* is adapted to rest on the end of the threaded neck and to effect communication between the annular passage *a* and the spiral passage *d* the plug portion *g* is dished at its upper part at *g'*.

What I claim as my invention and desire to secure by Letters Patent, is:—

In a spraying device of the class set forth, a jet body provided with an air passage therein, an externally threaded neck formed on said body about the mouth of said passage, a nozzle threaded on said neck, a supply pipe carried by said body and passing through said passage, an enlarged head formed on said pipe and having spiral grooves on its periphery, said head being adapted to rest on the end of said neck, the latter being dished at the mouth of said conduit to effect communication between said passage and spiral grooves, said head being retained on said body and prevented from dislodgement by said nozzle, as set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

THOMAS HUGH PARKER.

Witnesses:

J. O. FARRER,
D. K. BOYLE.