

E. CRÉMIEU-JAVAL.

HYDROCARBON NOZZLE OF SPRAY CARBURETERS AND SPRAY BURNERS.

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1,132,539.

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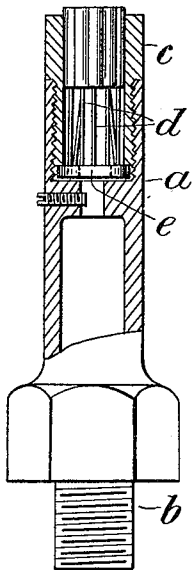


Fig. 1.

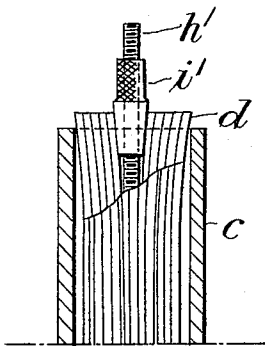


Fig. 4.

Fig. 2.

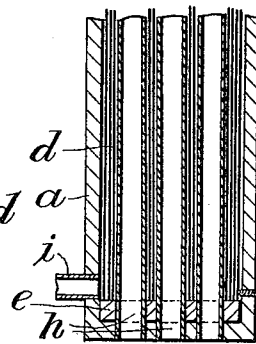
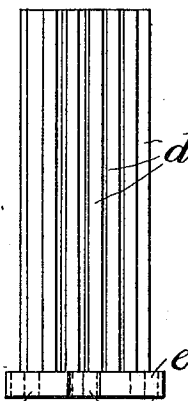


Fig. 5.

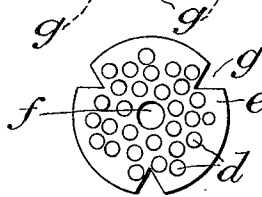


Fig. 3.

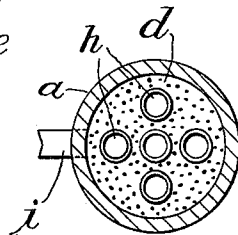


Fig. 6.

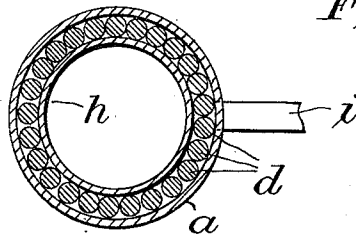


Fig. 7.

Witnesses:-

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UNITED STATES PATENT OFFICE.

EDGARD CRÉMIEU-JAVAL, OF LONDON, ENGLAND.

HYDROCARBON-NOZZLE OF SPRAY-CARBURETERS AND SPRAY-BURNERS.

1,132,539.

Specification of Letters Patent.

Patented Mar. 16, 1915.

Application filed May 14, 1913. Serial No. 767,629.

To all whom it may concern:

Be it known that I, EDGARD CRÉMIEU-JAVAL, a subject of the King of Great Britain and Ireland, and resident of London, England, have invented certain new and useful Improvements in the Hydrocarbon-Nozzles of Spray-Carbureters and Spray-Burners, of which the following is a specification.

My invention primarily relates to the hydrocarbon nozzles employed in spray carbureters; it may also be applied to other usages as, for instance, spray jets of liquid fuel burners.

In accordance with my invention the hydrocarbon before issuing from the nozzle is passed through a passage in which lie a number of parallel wires or other filaments filling or partially filling the passage or the orifice thereof save for the interstices between the wires or filaments. The wires are attached at one end to a base plate by means of which they may be removed from the passage for cleaning or other purposes and re-inserted. The wires may be constructed with enlarged ends so as to diminish the total area of the interstices at or near the issuing orifice and I have found such construction useful in applying my invention to a jet for use in a carbureter for petrol.

In the accompanying drawings:—Figure 1 represents a vertical partial section of a petrol jet constructed in accordance with my invention. Fig. 2 is an enlarged view in elevation of a bundle of plain wires on another form of base. Fig. 3 is a transverse sectional plan thereof. Figs. 4, 5, 6 and 7 are modifications hereinafter referred to.

In the views—Figs. 1, 2 and 3—the nozzle is constructed of a body *a* provided with a threaded union *b* and a tube *c* which is screwed into the body *a*. A bundle of wires *d* is attached to a base plate *e* which may be provided with a central passage *f* and notches *g* as in Figs. 2 and 3 to allow of the free passage of the petrol past the base plate. The bundle of wires is inserted into the passage *c*. The wires may be of various forms and may be plain or notched, or may have one extremity or other part of a greater diameter than the other. A desirable form of the wires is shown in Fig. 1 wherein they are provided with enlarged ends *d'* thus diminishing the total area of the interstices for the liquid to issue from.

The passage in which the wires or filaments lie is not necessarily of a complete circular cross section, it being in some cases desirable (as where a heavy hydrocarbon is employed) to use steam or air passages in conjunction with the hydrocarbon passage. Accordingly Figs. 5 and 6 show vertical section and plan respectively of a construction in which air or steam passages *h* are employed, the base plate *e* being provided with holes to drop over the said passages; *i* is the hydrocarbon inlet.

In Fig. 7 the hydrocarbon passage is annular in shape, the central space being occupied by an air or steam passage. In this case the base plate for attaching the wires is annular. In these cases the bases *e* are retained against suction or other forces by suitable means.

To regulate the egress of hydrocarbon and adjust the spray, a spreader device may be employed—see Fig. 4—which illustrates one construction to an enlarged scale. For instance, a central spindle or strand *h'* may be secured to the base *e* holding the bristles and may carry a conical or splayed head *i'* adjustably mounted to close on to or recede from the bristles; or the head *i'* may be a fixture and the central spindle *h'* adjustable with relation to the base, *i. e.* either in or through said base; or, as modifications, the spreader device may be adjustably attached to the tube containing the bristles or to any part of the jet body.

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

1. An atomizing and spraying nozzle including a nozzle body having a single central longitudinal opening, a base plate provided with a central opening and a plurality of peripheral notches, said base plate removably held within the longitudinal opening of the nozzle body, and a plurality of flexible strands carried by said base plate and grouped within the mouth of the opening in the nozzle body so as to produce interstices therebetween.

2. An atomizing and spraying device including a hollow body having an open mouth, a removable base provided with openings secured within said body in the path of the liquid to be atomized and sprayed, a bundle of approximately parallel flexible stem elements fixed on the removable

base and having enlarged heads grouped within the open mouth of the body and leaving interstices therebetween.

3. An atomizing and spraying device including a hollow cylindrical jet body having a thread and nut union at one end and an open mouth at the other, an interior shoulder in said cylindrical body, a detachable tube fitted into said open mouth, a removable base plate provided with openings clamped between the end of said tube and said shoulder and arranged in the path

of the liquid to be sprayed, a plurality of flexible strands fixed on the removable base plate, enlarged heads on said strands grouped within the open mouth of the body and leaving interstices therebetween. 15

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

EDGARD CRÉMIEU-JAVAL.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."