H. E. MILLS.

OIL NOZZLE OF SPRAY CARBURETERS.

APPLICATION FILED DEC. 8, 1910.

995,981. Patented June 20, 1911.

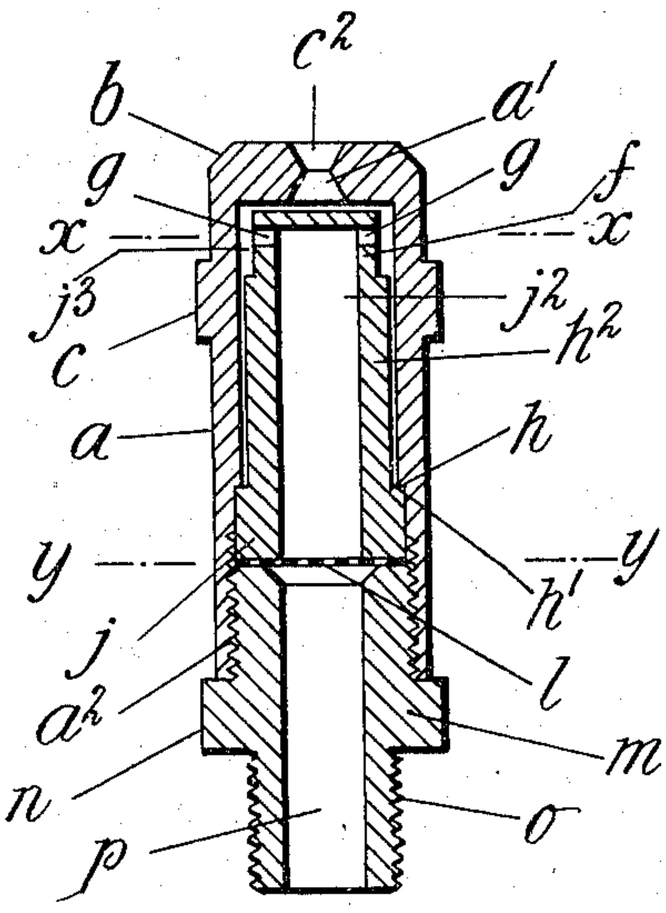

Fig. 1.

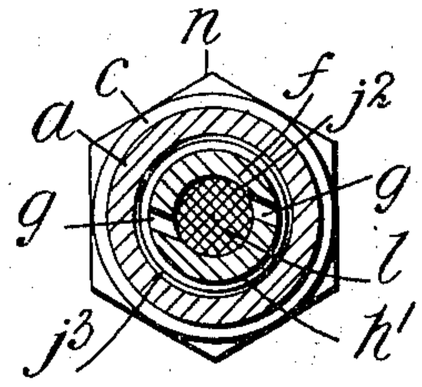

Fig. 2.

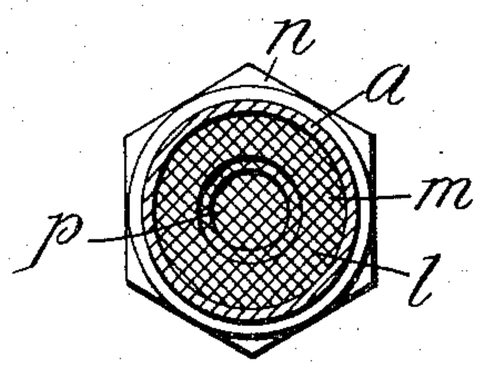

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

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OIL-NOZZLE OF SPRAY-CARBURETERS.

995,981. Specification of Letters Patent. Patented June 20, 1911.

Application filed December 8, 1910. Serial No. 596,350.

To all whom it may concern:

Be it known that I, HERBERT EDWIN MILLS, a subject of the King of Great Britain and Ireland, and resident of South Croydon, county of Surrey, England, have invented certain new and useful Improvements in the Oil-Nozzles of Spray-Carbureters, of which the following is a specification.

The object of my invention is to produce a device consisting of easily constructed parts which may be speedily assembled and shall not be liable to get out of order.

In carrying the invention into effect, I construct the nozzle of three parts, an outer cover or nozzle, a coupling or union on to which the said outer cover or nozzle screws, and an inner part or jet fitting between the top of the coupling or union (which is covered with gauze) and the underside of the outer cover or nozzle which is provided with a single orifice countersunk top and bottom. The inner jet, which takes the form of a hollow cylinder closed at the top, and which is held stationary, is provided with two passages or orifices in its wall penetrating from the bore of said inner jet to the exterior thereof and which are arranged at right angles to the longitudinal axis of said inner jet, and at a tangent to the inner surface of the jet so that the fuel is delivered to the space between the inner jet and outer cover with a swirling motion and in a plane at right angles to said longitudinal axis.

The arrangement is such that the petrol enters the coupling or union at the lower end, passes up through the bore of said coupling or union and its gauze top, and the inner jet and out through the before mentioned slanting or skew passages or orifices, the effect of said passages or orifices being such as to cause the petrol to be broken up and to swirl, circle and twist around the head of the stationary inner jet and inside wall of the outer case from which it issues through the orifice thereof, which is countersunk on top and bottom, still swirling, circling and twisting in a fine spray in the form of a funnel. By this form of construction the nozzle can be readily taken to pieces, cleaned and put together again, or new parts readily substituted for damaged or worn ones.

The invention is illustrated by the accompanying sheet of drawings.

In said drawings, Figure 1 is a vertical section of the improved nozzle. Fig. 2 is a sectional view taken on line x, x Fig. 1; and Fig. 3 is a sectional view taken on line y, y on said Fig. 1.

Like letters of reference indicate corresponding parts in the several views.

In the drawings, a—Fig. 1—is the outer case or nozzle, b a bevel at the top thereof, c milling for pliers grip and a', c^2 inner and outer countersunk parts of the orifice in the top of said outer case or nozzle and through which the petrol issues in a funnel-shaped spray. h is a shoulder in said outer case a into which takes the shoulder h' of the inner jet h^2, the bottom part j of which rests upon the gauze top l—Figs. 1 and 3—of the coupling or union m which when screwed home therein keeps the inner jet stationary by forcing the shoulder h' of said inner jet into contact with the shoulder h of the outer case or nozzle, and p and j^2 are respectively the bores of the coupling or union and of the inner jet.

The top part f of the inner jet h^2 fits stationary within the outer case so as to leave a space j^3 in which swirls, circles and twists the petrol issuing from the two slanting or skew holes g—Figs. 1 and 2—formed in said stationary top part f and below the closed top thereof, said holes g being arranged so as to extend from the bore of the stationary part to the exterior thereof and in a plane at right angles to the longitudinal axis of the stationary jet to deliver the petrol with a swirling motion to the space between said stationary jet and the outer case or nozzle.

I find that a distinct advantage in starting up is obtained if the apparatus is so adjusted in relation to the level of the petrol in the carbureter that the space between the inner and the outer jet is always full of petrol when the engine is standing still and so that there is a small bead of petrol in the outer countersink c^2.

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

An oil-spraying nozzle for use with carbureters, comprising in combination a coupling to be secured to the carbureter, a gauze top to said coupling, an outer case or nozzle screwed to said coupling, an inner jet resting on said gauze top, a shoulder on said inner jet to engage with a shouldered por-

tion in said outer case or nozzle to hold said inner jet stationary when the coupling is screwed home, slanting holes extending from the bore of the inner jet to the exterior thereof and in a plane at right angles to the longitudinal axis of said inner jet and below the closed top thereof, a space between said stationary jet and outer case or nozzle and an orifice countersunk top and bottom in the head of said outer case or nozzle substantially as herein described.

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

HERBERT EDWIN MILLS.

Witnesses:
BENJ. THOS. KING,
ROBT. HUNTER.