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CARBURETOR AND CARBURETOR BURNER FOR OIL GAS

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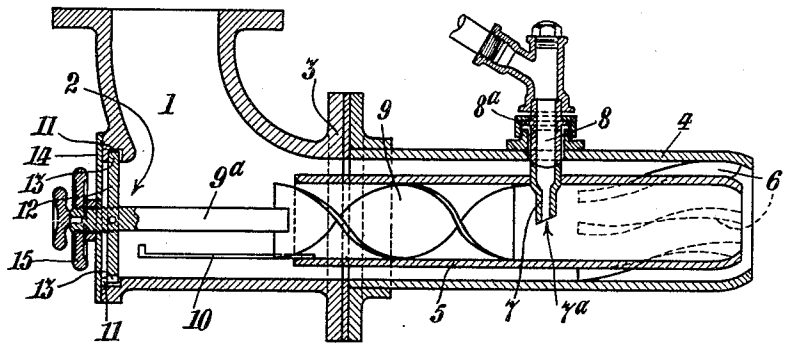

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CARBURETOR AND CARBURETOR BURNER FOR OIL GAS

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This invention relates to oil gas carburetors of the type having inner and outer tubes for the passage of air and a fuel nozzle or nozzles for injecting fuel therein, in which term "oil gas carburetors" I also include what are termed oil gas "carburetor-burners" which are of the same construction as the said carburetors but are distinct therefrom in that they act not only to atomize oil and mix it with air but also serve as burners for the mixture they produce.

According to the present invention, I provide an oil gas carburetor of the type stated in which the fuel nozzle is made in parts, an inner part projecting through the inner tube of the carburetor and a complementary outer part which is separable from the said inner part but is adapted to communicate and constitute therewith the complete nozzle, the outer part of the nozzle being carried by the outer tube, and the inner tube with the inner part of the nozzle being capable of ready removal and replacement for cleaning and other purposes.

More specifically, my improved carburetor comprises, in combination, an elbow-shaped casing, a transversely apertured outer tube constituting a fixed continuation of the said casing, a transversely apertured inner tube removably and concentrically supported in the said outer tube, an inner fuel nozzle portion seated in the transverse aperture of the said inner tube, a complementary outer nozzle portion adjustably seated in the transverse aperture of the said outer tube, and a removable door in the said casing through which the inner tube and inner nozzle portion can be readily withdrawn and inserted.

Preferably, the outer part of the fuel nozzle is held in place by a screw coupling, so that the said outer part can be drawn outwards to permit or facilitate the removal of the inner tube by slackening or easing the said coupling outwards.

The removable door, cover or equivalent may be locked in position by means comprising lugs or the like adapted to engage, and be secured in, bayonet slots. If desired, the movable door may be associated with a rod or other support carrying in known manner a helical retarder. The said tube, also, may be provided with a handle to facilitate its withdrawal.

An embodiment of the invention as applied to an oil gas carburetor will now be described, by way of example, with reference to the annexed drawing, which is a view of the carburetor in longitudinal section.

The carburetor comprises an elbow casting 1 having an opening 2 coaxial with its flanged end 3. An outer tube 4 is rigidly secured to the flanged end 3 of the casting 1 so as to project forwardly coaxial with the opening 2.

Within the outer tube 4, a coaxial inner tube 5 is arranged, the tube 5 being provided with helical retarders 6 on the outside of its forward end and being also adapted to carry the inner part 7 of a two-part fuel nozzle, of which the outer part 8 is held in place in the outer tube 4 by a screw-coupling 8^a.

The interior of the inner tube 5 is provided at the rear end with a helical retarder 9 which is secured to a rod 9^a and is adapted to be slid a greater or shorter distance up the tube 5. The rear end of the tube 5 has fixed to it a handle 10 which projects rearwardly towards the opening 2 of the casting 1.

As will be seen, the fuel nozzle 7, 8 projects into the inner tube 5 at right angles, or substantially at right angles, to the axis thereof, the nozzle being arranged so that its obliquely-shaped end 7^a is disposed as shown. When the parts 7, 8 are in place and coupling 8^a is screwed down, the outer part 8 bears with a close fit against the inner part 7, the tube 5 being supported by the retarders 6 and 9 so as to resist the pressure of the part 8 on the part 7.

The edge of the casting 1 adjacent to the

opening 2 is formed with a pair of diametrically opposed bayonet slots 11, and the supporting rod 9ª of the retarder 9 has secured to it a plate 12 formed with projecting lugs 13 adapted to be thrust, and given a partial turn into, the bayonet slots 11. The opening 2 is closed by a plate 14 which is adapted to be pressed against the outer edge of the opening 2 by a wheel nut 15 working on the screwed end of the rod 9, the lugs 13 being thereby drawn outwards, as shown, against the return face of the bayonet slots 11.

As will be apparent, the construction described in the foregoing enables the helical retarder 9 and the inner tube 5 to be readily withdrawn from the carburetor whenever desired, and, with equal readiness, the said parts 9 and 5 can be replaced in position. For example, in order to clean the said parts, the plates 12 and 14 are removed and the retarder 9 is withdrawn, after which the screw-coupling 8ª of the fuel nozzle is slackened to permit the outer part 8 thereof to be drawn back, whereupon, by gripping the handle 10, the inner tube 5 can be easily withdrawn through the opening 2.

I claim:

1. An oil gas carburetor comprising the combination of an outer containing element, a tubular inner element arranged within said containing element, air inlet means for said containing element and inner element, an inner fuel nozzle element projecting at right angles into said inner tubular element and having an obliquely-shaped end facing in the direction of the inlet air stream, an outer fuel nozzle adapted to communicate with said inner fuel nozzle element, interlocking abutment means on said outer and inner fuel nozzle elements for holding said fuel nozzle elements in non-rotative position, and removable door means in said containing element.

2. An oil gas carburetor comprising the combination of a casing, an outer tube secured on said casing, an inner tube arranged co-axially within said outer tube, air inlet means in said casing, an inner fuel nozzle element seated in said inner tube and having an obliquely-shaped mouth projecting at right angles into the inlet air stream, a separate outer fuel nozzle element situated in said outer tube and adapted to communicate with said inner fuel nozzle element, a screw coupling for holding said outer nozzle element seated in said outer tube, and a removable door in said casing for ready insertion and removal of said inner tube and inner fuel nozzle element.

3. An oil gas carburetor comprising the combination of a casing, an outer tube seco-axially with said outer tube, air inlet cured on said casing, an inner tube arranged means in said casing, an inner fuel nozzle element projecting at right angles into said inner tube and formed with an obliquely-shaped end, a separate outer fuel nozzle element seated in said outer tube and adapted to communicate with said inner fuel nozzle element, a screw coupling for holding said outer fuel nozzle element situated in said outer tube, interlocking means between said inner and outer fuel nozzle elements to hold said inner element in non-rotative position, and removable door means in said casing.

In testimony whereof I affix my signature.

WILLIAM HAY HOWDEN.