Feb. 19, 1924. 1,484,577

M. SKAER

CARBURETOR

Filed Aug. 18, 1921

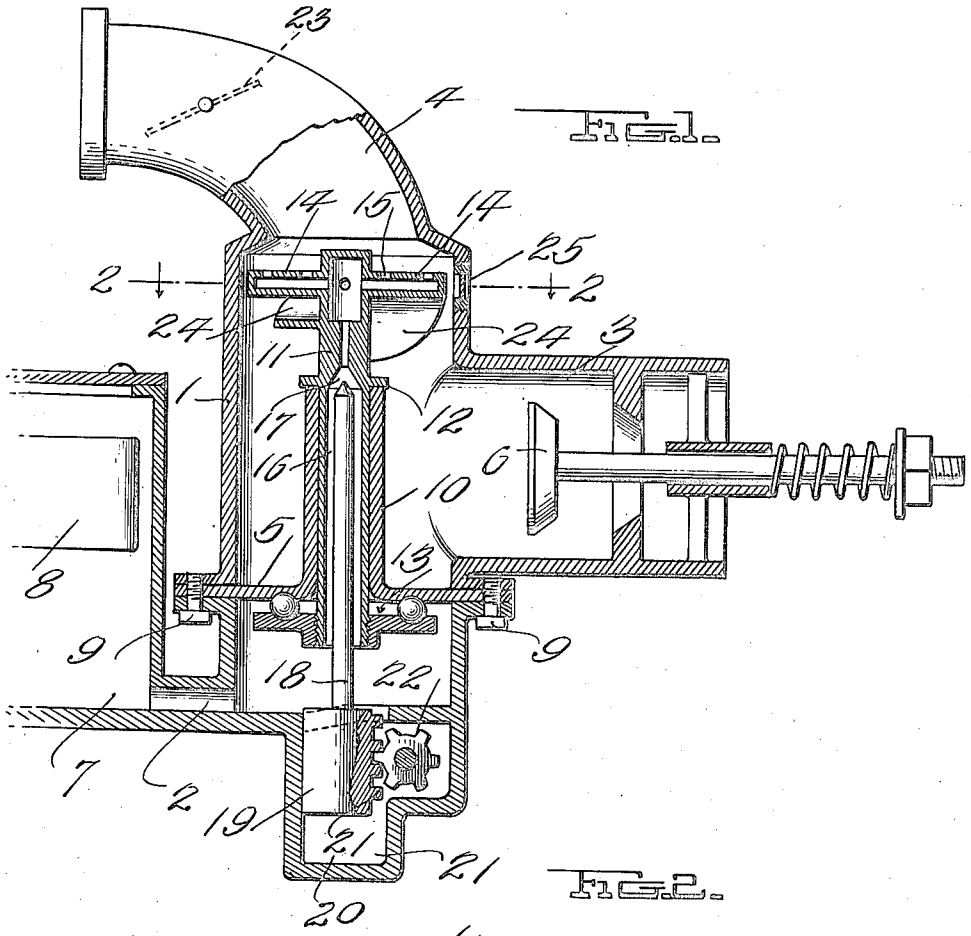


Fig. 1.

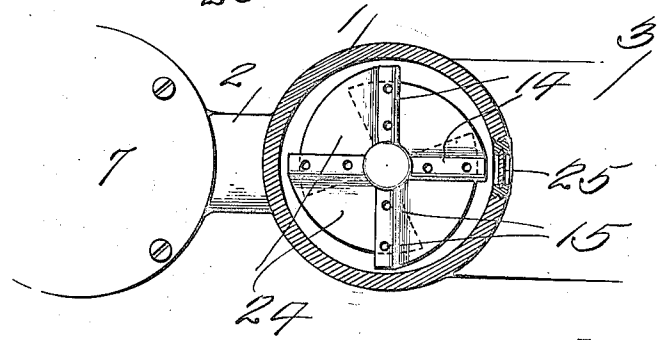


Fig. 2.

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UNITED STATES PATENT OFFICE.

MOYLE SKAER, OF AUGUSTA, KANSAS.

CARBURETOR.

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To all whom it may concern:

Be it known that I, MOYLE SKAER, citizen of the United States, residing at Augusta, in the county of Butler and State of Kansas, have invented certain new and useful Improvements in Carburetors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in carburetors and has for its principal object to provide improved means, operated by the suction through the carburetor casing, for effectively mixing the air and fuel.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the descriptive matter being supplemented by the accompanying drawings.

Figure 1 is a vertical sectional view, partly in elevation, showing a carburetor constructed in accordance with my invention and showing the float chamber in part;

Figure 2 is a fragmentary horizontal sectional view as indicated by line 2—2 of Fig. 1.

In the drawings above briefly described, the numeral 1 designates a vertically elongated carburetor casing having a fuel inlet 2 at its lower end, an air inlet 3, a mixture outlet 4 at its upper end and a horizontal partition 5 below the air inlet 3, the latter being preferably controlled by a spring-closed suction-opened valve 6. While any suitable provision could be made for supplying fuel to the lower end of the casing 1, the fuel inlet passage 2 preferably communicates with a chamber 7 having any suitable fuel inlet valve controlled by a float 8.

The casing 1 is here shown as formed of upper and lower sections secured together by cap screws 9 and the partition is shown clamped between said sections, but it is to be understood that any other suitable construction within the scope of the claims could well be employed. At its center, the partition 5 is provided with an opening and a tubular sleeve 10 rises from the wall of said opening to a point above the fuel level in the chamber 7, whereby to prevent any fuel from overflowing into the portion of the casing above the partition 5. Within the sleeve 10, I rotatably mount a vertical shaft 11 which, in the embodiment shown, is provided with a flange 12 resting on the upper end of the sleeve, while a ball thrust bearing 13 is mounted on the lower end of the shaft and runs upon the lower side of the partition 5. The upper end of the shaft 11 is provided with a fuel spray head which preferably consists of a plurality of tubular radiating arms 14, having fuel outlet perforations 15 in their upper sides. A fuel supply passage 16 leads to the arms 14 from the lower end of the casing, said passage being formed in the shaft 11 and being preferably provided with a seat 17 co-operable with a needle valve 18, so as to control the amount of fuel used. The valve 18 is by preference provided at its lower end with a vertically elongated cylindrical head 19 which slides vertically in a socket 20 with which the lower end of the casing 1 is provided, one side of said head being here shown equipped with teeth 21 meshing with a gear wheel 22 which may be adjusted from the exterior of the carburetor by any suitable means. It will thus be seen that the needle valve may be raised or lowered as required, to regulate the passage of fuel to the arms 14.

The suction through the carburetor casing of course varies as the throttle valve 23 is moved to different positions, and this suction not only serves to draw air into the casing through the inlet 3 and to draw fuel through the perforations 16, but it acts to rotate the shaft 11, and thereby it insures proper mixture of the fuel with the air. For effecting the rotation of the shaft, I prefer to equip the latter with helical webs 24 which are joined integrally with said shaft, the upper ends of said webs being similarly connected with the tubular arms 14.

I prefer to provide the casing 1 with a glass-closed opening 25 through which the action of the rotating shaft and spray head may be viewed.

While excellent results may be obtained from the features of construction herein disclosed, they are preferably followed. It is to be understood, however, that the present disclosure is for illustrative purposes only and that within the scope of the invention as claimed, numerous changes may be made.

I claim:

1. A carburetor comprising a vertically disposed casing having a fuel inlet at its lower end and a mixture outlet at its upper end and intermediate its height an air inlet, a partition in said casing beneath the air inlet and provided with an opening, a sleeve

extending upwardly from said partition about the opening therein, a tubular shaft rotatably mounted in said sleeve and open at its lower end and closed at its upper end and intermediate its length internally thickened to provide a valve seat, arms extending in radiating relation from the upper end portion of said shaft and communicating with the interior thereof and having outlet openings, a valve element extending into the hollow shaft through the open lower end thereof and movable vertically into and out of seating engagement with the valve seat within said shaft, and means for imparting rotary motion to said shaft when the carburetor is in operation.

2. A carburetor comprising a vertical casing having a lower fuel inlet, an upper mixture outlet, and an intermediate air inlet, a partition in said casing beneath the air inlet and provided with a centrally disposed opening, a sleeve extending upwardly from said partition axially of said casing and open at its upper and lower ends, a hollow shaft rotatably mounted in said sleeve and open at its lower end and closed at its upper end, arms extending in radiating relation from the upper end portion of said shaft and communicating with the interior thereof, and provided with outlet openings for permitting fuel to pass upwardly through said shaft and through the arms out through the openings thereof, and vanes formed integral with the arms and shaft and each extending spirally of the shaft with one end connected with one side of one of said arms and its other end portion connected with the shaft beneath an adjacent arm.

In testimony whereof I have hereunto set my hand.

MOYLE SKAER.