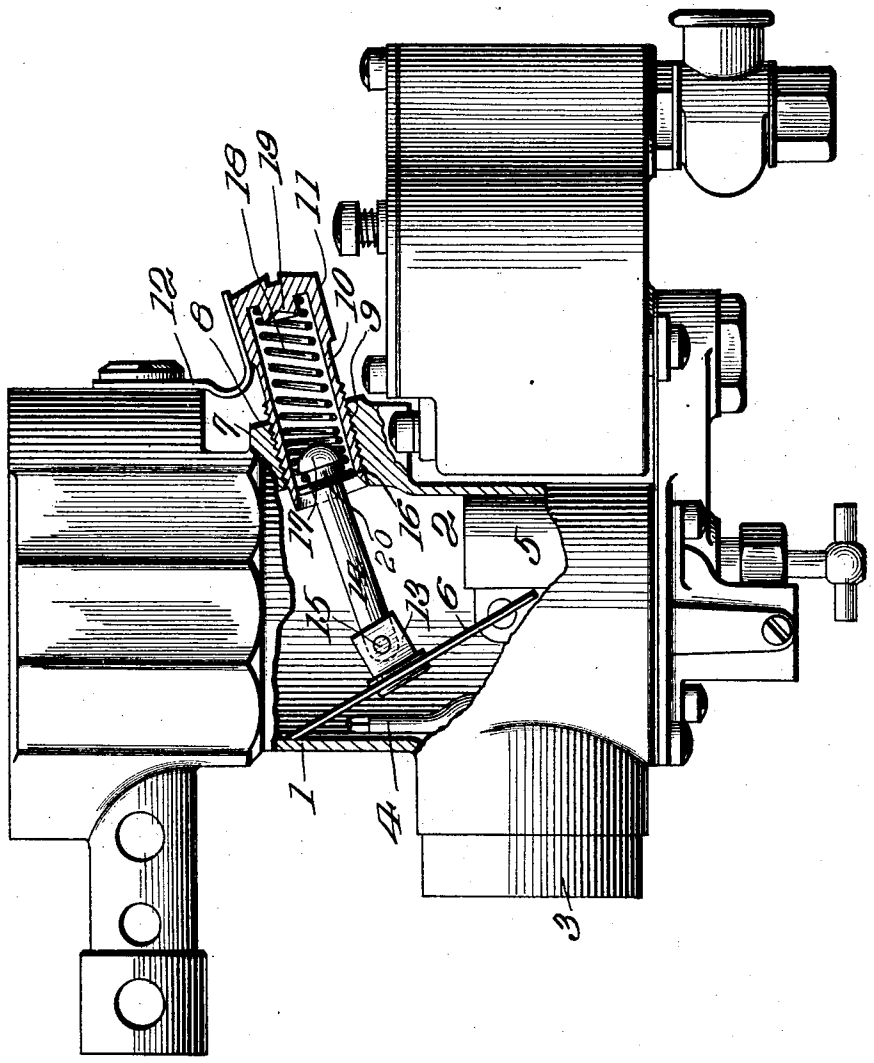
June 9, 1931. J. R. FRANCIS 1,808,843

CARBURETOR

Original Filed June 15, 1921



Inventor
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By

Attorney

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CARBURETOR

Application filed June 15, 1921, Serial No. 477,768. Renewed September 8, 1930.

This invention relates to certain new and useful improvements in carburetors and more particularly to means for retarding the upward movement of the air valve such as used in connection with Marvel carburetors, the object being to provide an arrangement by means of which the spring is enclosed in a tubular adjusting screw in order to protect the same from the back-firing.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined in the appended claims.

In the drawing I have shown a side elevation, partly in section, of a construction of carburetor as shown in patent issued to Pierce No. 1,366,831, January 25, 1921 in which 1 indicates a shell having a mixing chamber 2, air inlet 3, high speed nozzle 4 and an insert 5 in which the low speed nozzle is arranged in the ordinary manner. Pivotally mounted on the insert 5 is an air or suction controlled valve 6 which extends up above the high speed nozzle 4 and is adapted to be normally held against the inner wall of the mixing chamber 2, the above description being given so that the operation of my improved construction of adjusting screw and spring will be readily understood when applied to this type of carburetor.

The wall of the mixing chamber opposite the high speed nozzle is enlarged as shown at 7 having a threaded bore formed therein in which works the threaded portion 9 of a tubular adjusting screw 10 having a fluted outer end 11 against which the ratchet spring 12 bears for holding the adjusting screw in adjusted position within the threaded bore.

The air or suction controlled valve 6 is provided with a bifurcated stem 13 in which is pivotally mounted the apertured end of a rod 14 as clearly shown at 15, said rod having an annular flange 16 working within the tubular screw 10 and provided with a head 17.

Arranged within the tubular or adjusting screw 10 is a coil spring 18, the outer end of which is arranged around a boss 19 and the inner end is contracted into a groove 20 formed by the flange 16 and head 17 so as to fasten the head in the end convolution of the coil spring so that the head and spring will be fastened together.

It will be seen that as the air valve opens, the spring will be compressed so that when the suction is reduced, it will be forced closed, the operation being substantially the same as with the ordinary spring now in use in Marvel carburetors for holding the air or suction controlled valve.

In the construction shown the rod 14 extends across the mixing chamber of the carburetor and the coil spring is within the adjusting screw so that it is not subjected to heat or the back-firing of the engine, whereby the life of the same is greatly increased and a construction is provided which enables the air valve to be adjusted.

From the foregoing description it will be seen that I have provided novel means for holding the air valve in closed position by a spring through the medium of a connecting rod whereby the spring is enclosed in a housing so as to protect the same from the back-firing of the engine.

It will also be seen that by the particular construction of head and adjusting screw that when the adjusting screw is detached, the flange of the head drops into the threaded bore in such a position that when the screw is inserted, the tapering end of the screw picks up the head and guides the same into its proper position within the adjusting screw. This is accomplished by having the rod of such a length that it cannot drop down within the mixing chamber and by forming the end of the screw tapering to form a knife edge picking up the head of the rod as the same is inserted.

I am aware that various changes can be made in the details of construction shown and therefore I do not wish to limit myself to the exact construction illustrated.

What I claim is:—

1. A carburetor having a mixing chamber provided with a fuel nozzle and a pivoted air valve, a rod pivotally connected to said air valve extending transversely across said mixing chamber and an adjusting screw mounted within the wall of said mixing chamber

carrying a coil spring having a connection with said rod.

2. A carburetor having a mixing chamber provided with a fuel nozzle and a pivoted suction controlled valve having a bifurcated stem, one wall of said mixing chamber being provided with a threaded opening, a tubular screw working in said opening, a rod pivotally mounted in the bifurcated stem of said valve having a head at its opposite end and an annular flange, said flange working within the tubular screw and a coil spring disposed within said tubular screw having its inner end connected to the head of said rod.

3. A carburetor comprising a casing having a mixing chamber provided with a fuel nozzle and a pivoted suction controlled valve arranged over said nozzle, said valve being provided with a bifurcated stem, one wall of said mixing chamber being provided with a threaded opening, a tubular screw working in said opening having a tapering inner end provided with a boss at its other end, a rod pivotally mounted in the bifurcated stem of said valve having a head at its opposite end and an annular flange spaced therefrom to form an annular groove, said flange working within the tubular screw and a coil spring having one end secured within the annular groove of said rod and the other end arranged over the boss of said screw.

4. A carburetor having a mixing chamber provided with a fuel nozzle and a pivoted air valve, a rod pivotally connected to said air valve extending substantially transversely across said mixing chamber above said nozzle terminating in a head and an adjusting screw mounted within the wall of said mixing chamber carrying a coil spring having one of its convolutions encircling said rod below said head.

In testimony whereof I hereunto affix my signature.

JACOB RICHARD FRANCIS.