

A. WINTON & H. B. ANDERSON.

CARBURETER.

APPLICATION FILED MAR. 13, 1907.

997,169.

Patented July 4, 1911.

FIG. 1.

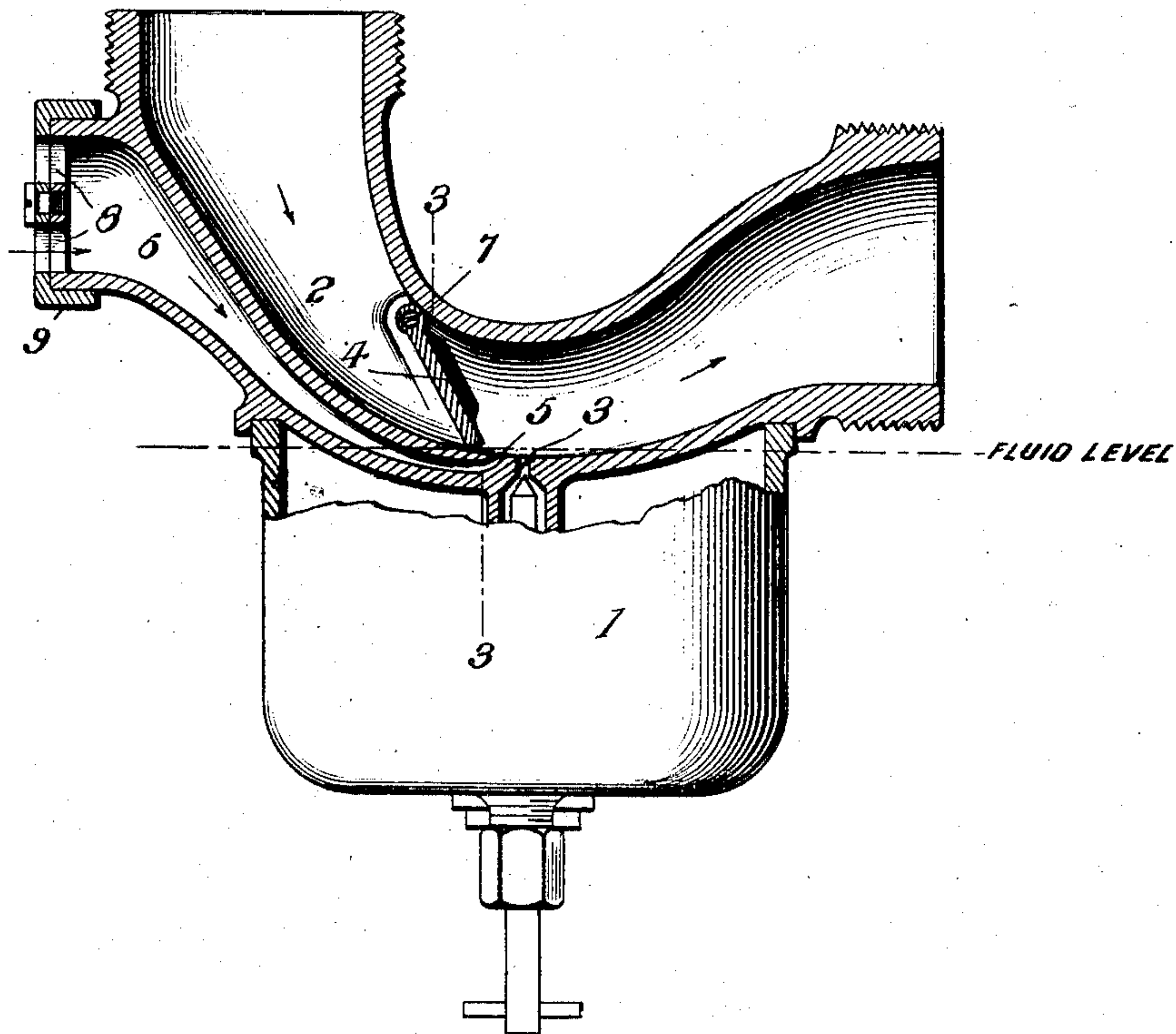


FIG. 2.

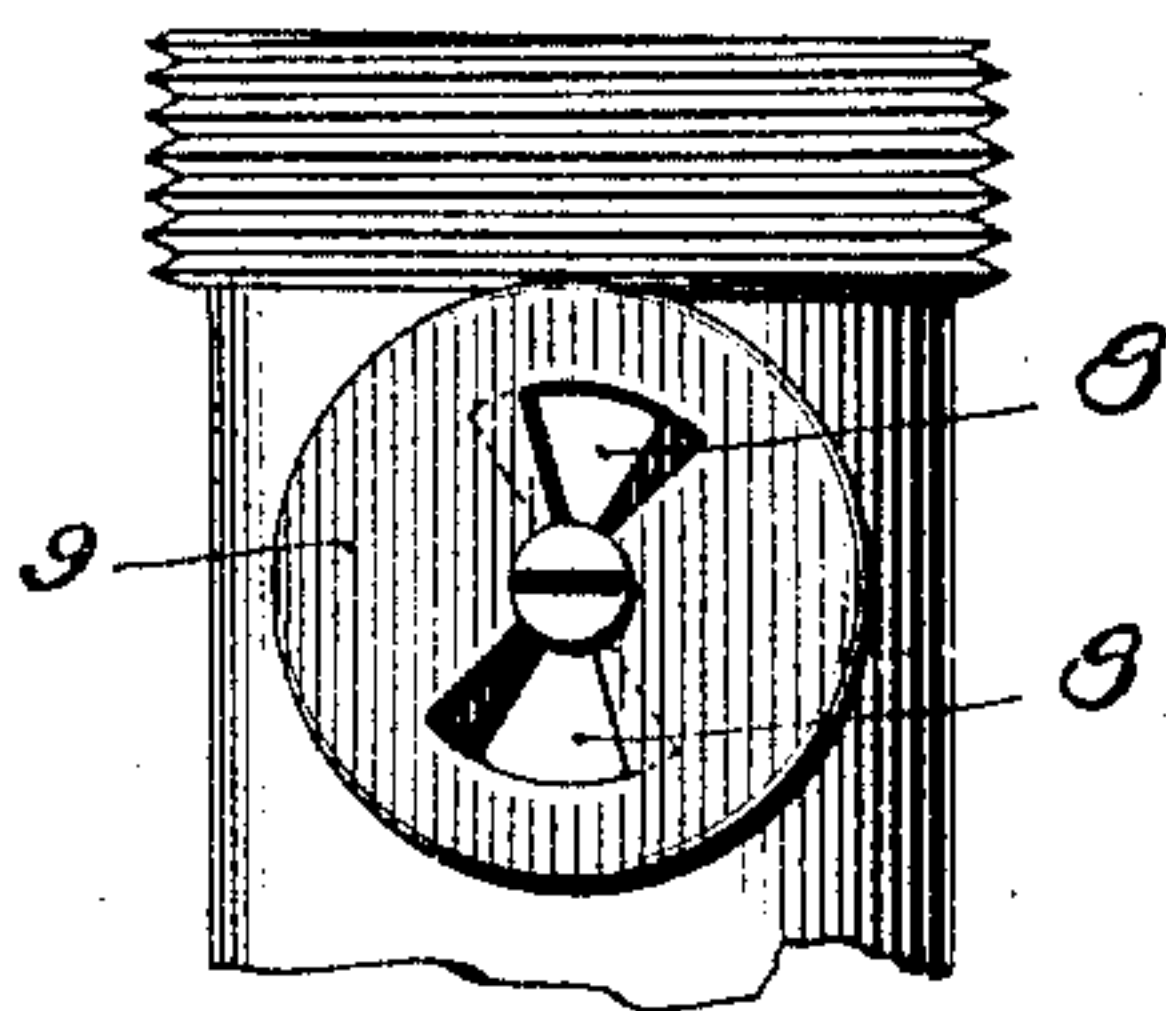
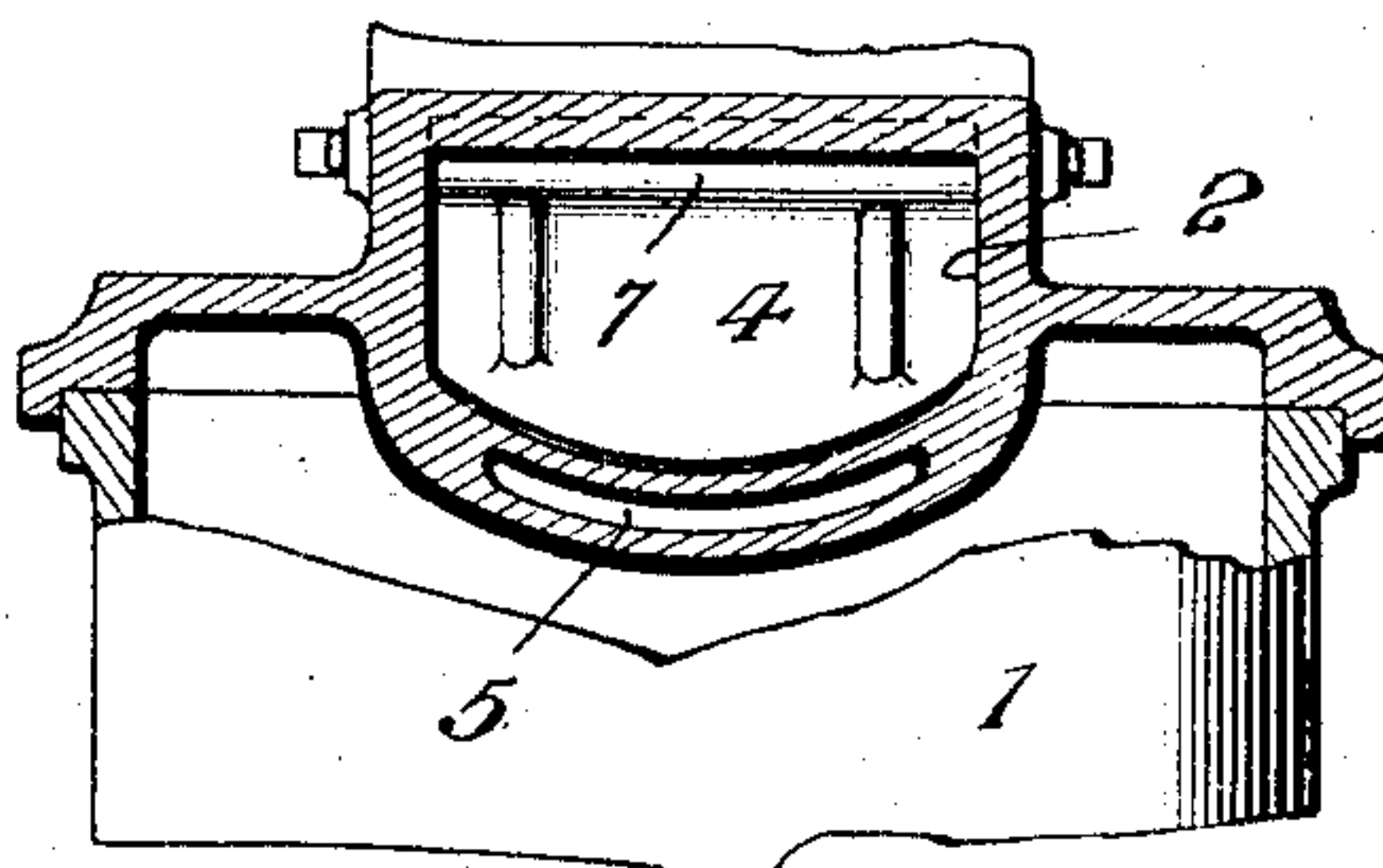


FIG. 3.



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# UNITED STATES PATENT OFFICE.

ALEXANDER WINTON AND HAROLD B. ANDERSON, OF CLEVELAND, OHIO, ASSIGNORS  
TO THE WINTON MOTOR CARRIAGE COMPANY, OF CLEVELAND, OHIO.

## CARBURETER.

997,169.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed March 13, 1907. Serial No. 362,159.

*To all whom it may concern:*

Be it known that we, ALEXANDER WINTON and HAROLD B. ANDERSON, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Carbureters, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in carbureters, and is for use in connection with explosive engines for supplying thereto a uniform explosive mixture for the various speeds of the motor, and involves the principle of providing and maintaining a body of exposed volatile fluid within the air passage for surface carburation of the volumes of air which are moving at low velocities (as when the motor is throttled down) and to carburate the rapidly moving volumes of air by causing the fluid to be sprayed therein.

The object of the present invention is to provide means for causing the slowly moving volumes of air to pass in direct contact with and close to the exposed fluid to insure the proper carburation thereof, but which will carburate the rapidly moving volumes of air by spraying the liquid therein.

A further object of the present invention is to provide means for regulating the quantity of slowly moving volumes of air which are permitted to pass through the air passage-way for the lowest speeds of the motor, whereby the device is adjustable, and thereby made adapted for use with motors of various sizes.

In the accompanying drawings, Figure 1, is a view of our improved carbureter, the air passage being shown in longitudinal section. Fig. 2, is an end view of the means for controlling the amount of slowly moving volumes of air permitted to pass to the motor for its slowest speeds. Fig. 3, is a face view of the deflector for the main air passage.

In carrying out the present invention, as herein illustrated, a fluid chamber 1 is provided in which the fluid is maintained at a predetermined level, which is illustrated in Fig. 1 by dotted line, and the words "Fluid level." Any of the well known forms of devices for maintaining a predetermined fluid level may be used, and therefore any further

description of this mechanism is unnecessary.

A main or primary air passage 2 extends across the top of the chamber 1 and is in communication therewith through a fluid passage-way 3. The fluid flows by gravity through this passage-way, and maintains a fluid level within the passage which furnishes a body of fluid within the said passage for the surface carburation of the very slowly moving volumes of air. The rapidly moving volumes of air take up the fluid faster than it is fed to the passage 2 by gravity, and it is then drawn into the passage-way by jet action and sprayed into the rapidly moving volumes of air.

A deflector 4 is located in the passage 2, and placed with its lower end in front of but adjacent to the outlet end 5 of an auxiliary air passage-way 6, and also in front of but adjacent to the fluid outlet 3. This deflector is pivoted at its upper end against the upper wall of the passage 2, as shown at 7, and freely swings upon its pivot. The passage-way 2 is provided with rectangular walls to permit the swinging of the rectangular-shaped deflector 4, and the deflector fits within the passage sufficiently tight to prevent the passage thereby of any appreciable amount of air.

The air inlet end of the auxiliary air passage 6 is provided with a slot or slots 8, and placed over this slotted end is a rotatable slotted cap 9, whereby it can be rotated to more or less register with the slots 8, and thereby regulate the amount of air which is adapted to pass through the auxiliary passage.

The deflector 4 is made of a weight sufficient to maintain the position shown in Fig. 1, when the motor is throttled down and the slowest volumes of air are required for its operation, and in this position the deflector closes the air passage 2 against any passage of air therethrough.

In operation the main air passage-way 2 is closed against the passage of the slowly moving volumes of air, and these pass through the auxiliary passage-way 6 and issue from the outer end 5 thereof in direct contact with the exposed body of fluid. When the speed of the motor is increased, and more volumes of air are required, which cause them to move faster, and when these volumes of air have reached a sufficient



rapidity to overcome the tendency of the deflector to maintain its closed position, it is lifted thereby more or less, according to the requirement of the motor, and thus  
 5 furnishes, or rather, permits the proper amount of air to pass to the motor. Owing to the location of the deflector it causes the air to be depressed, or directed toward and upon the exposed body of fluid, and toward  
 10 the fluid outlet 3. When the volumes of air are sufficiently rapid and of a quantity which requires more gasoline for proper carburation than passes to the passage-way 2 by gravity, the exposed fluid is exhausted  
 15 and ceases to be maintained within the passage 2, and the rapidly moving volumes of air then suck the gasoline through the opening 3 on the jet principle, which causes it to be sprayed into the passing rapidly-moving  
 20 volumes of air, and to effect a spray carburation thereof.

For motors of a given bore and stroke the amount of air allowed to pass through the auxiliary passage-way is a fixed quantity,  
 25 and in such case any adjustment thereof is unnecessary. However, to adapt this present improvement for motors of different sizes, and to thereby make the carbureter to a large extent capable of universal appli-  
 30 cation, the auxiliary air passage is provided with the means heretofore described for regulating the size of the inlet thereto, and thus control the amount of air which is permitted to pass through the auxiliary  
 35 passage-way before any is permitted to pass through the main passage-way. It will be understood that this regulating device will control, to a large extent, the action of the deflector, for the reason that the air being  
 40 drawn by the motor will seek the course of the least resistance, and when more is required by the motor than is permitted to pass through the auxiliary passage-way, then the deflector will move and permit the  
 45 additional required amount to pass through the main air passage, and in this way the adjustable feature of the auxiliary passage is a controlling means determining the action of the deflector.

50 We do not limit ourselves to the details herein shown for carrying out the principle of operation disclosed, for with these teachings and disclosures at hand other constructions adapted to effect the results herein set  
 55 forth may be devised without departing from the scope and spirit of our present invention.

Having thus described our invention, what we claim and desire to secure by Letters  
 60 Patent, is:—

1. A carbureter comprising an air pas-

sage provided with a fluid inlet, means for maintaining a body of oil in a plane above the said inlet by gravity flow therethrough  
 65 for slowly moving volumes of air, said inlet so restricted as to require suction of fluid therethrough for rapidly moving volumes of air, and a movable deflector adjacent the body of oil and normally closing the air  
 70 passage but opened by the passage of air through the said passage for the purpose described.

2. A carbureter comprising a main air passage provided with a fluid inlet, means  
 75 for maintaining a body of oil in a plane above the inlet by gravity flow therethrough for slowly moving volumes of air, said inlet so restricted as to require suction of fluid therethrough for rapidly moving volumes  
 80 of air, means for closing the main air passage against the flow of very slowly moving volumes of air, and an auxiliary air passage feeding air to the fluid independently of the said air controlling means for  
 85 the main air passage.

3. A carbureter provided with a carbureting air-passage having a substantially horizontal portion, the bottom of the horizontal portion having a fluid inlet, a swing-  
 90 ing deflector located in the passage in rear of the fluid inlet and adapted to close the passage against slowly moving volumes of air, and an auxiliary air-passage having communication with the said horizontal  
 95 portion of the carbureting air-passage at a point between the deflector and said fluid inlet.

4. A carbureter having a main air-passage-way provided with a fluid inlet, means for  
 100 maintaining a body of oil in a plane above the said inlet by gravity flow therethrough for slowly moving volumes of air, said inlet so restricted as to require suction of fluid therethrough for rapidly moving volumes of air, in combination with a movable deflector  
 105 located at the rear portion of the maintained body of fluid and adapted to close the main passage against the flow of slowly moving volumes of air but actuated to open position by the rapidly moving volumes of  
 110 air, and an auxiliary passage-way having an opening into the main passage at a point beyond the deflector and adjacent the said fluid inlet, and means for regulating the flow of air through the auxiliary passage.  
 115

In testimony whereof we affix our signatures in presence of two witnesses.

ALEXANDER WINTON.  
 HAROLD B. ANDERSON.

Witnesses:

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 W. J. WARD.