

No. 897,259.

PATENTED AUG. 25, 1908.

A. WINTON & H. B. ANDERSON.  
METHOD OF CARBURETING AIR FOR EXPLOSIVE ENGINES.  
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Fig. 1.

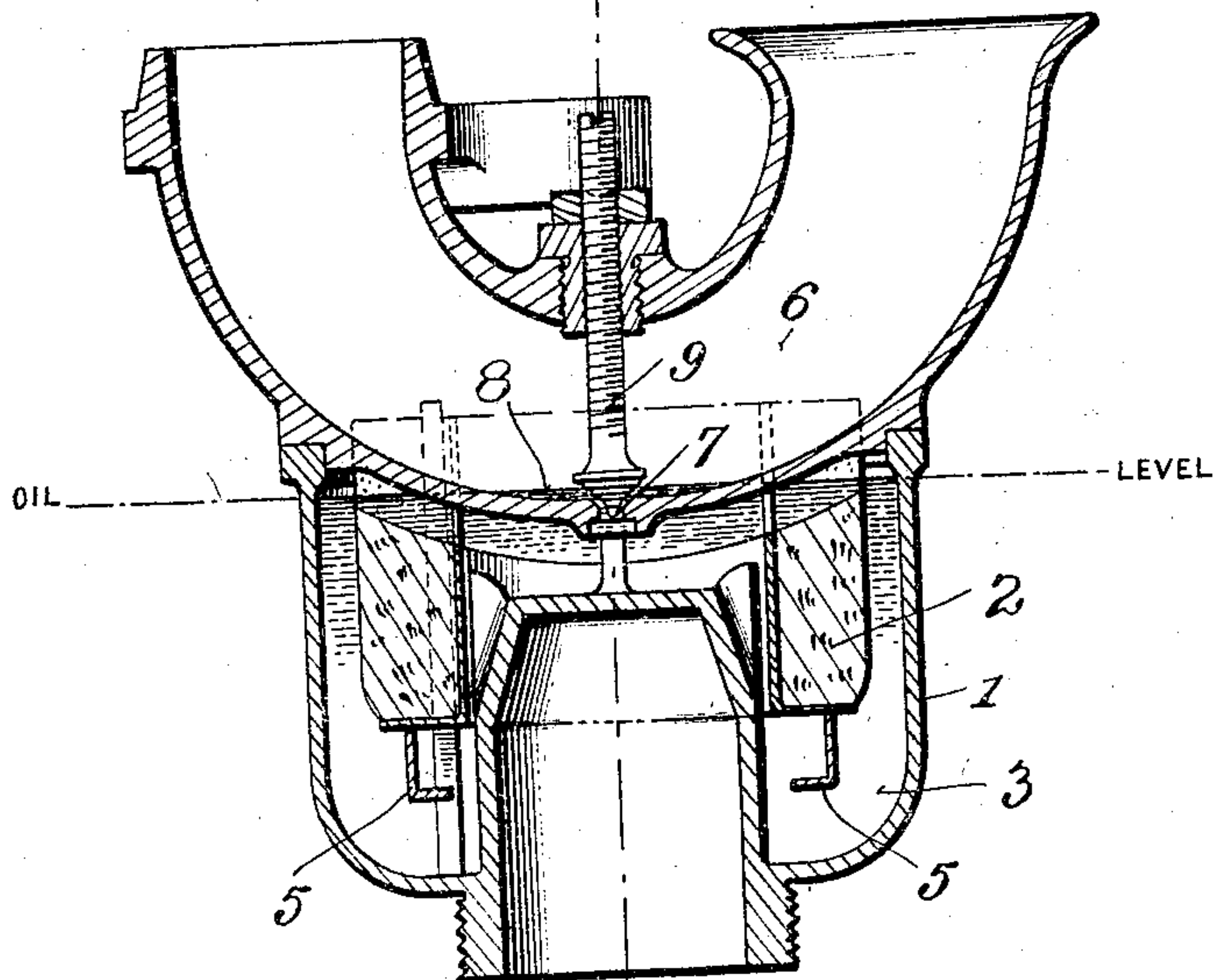
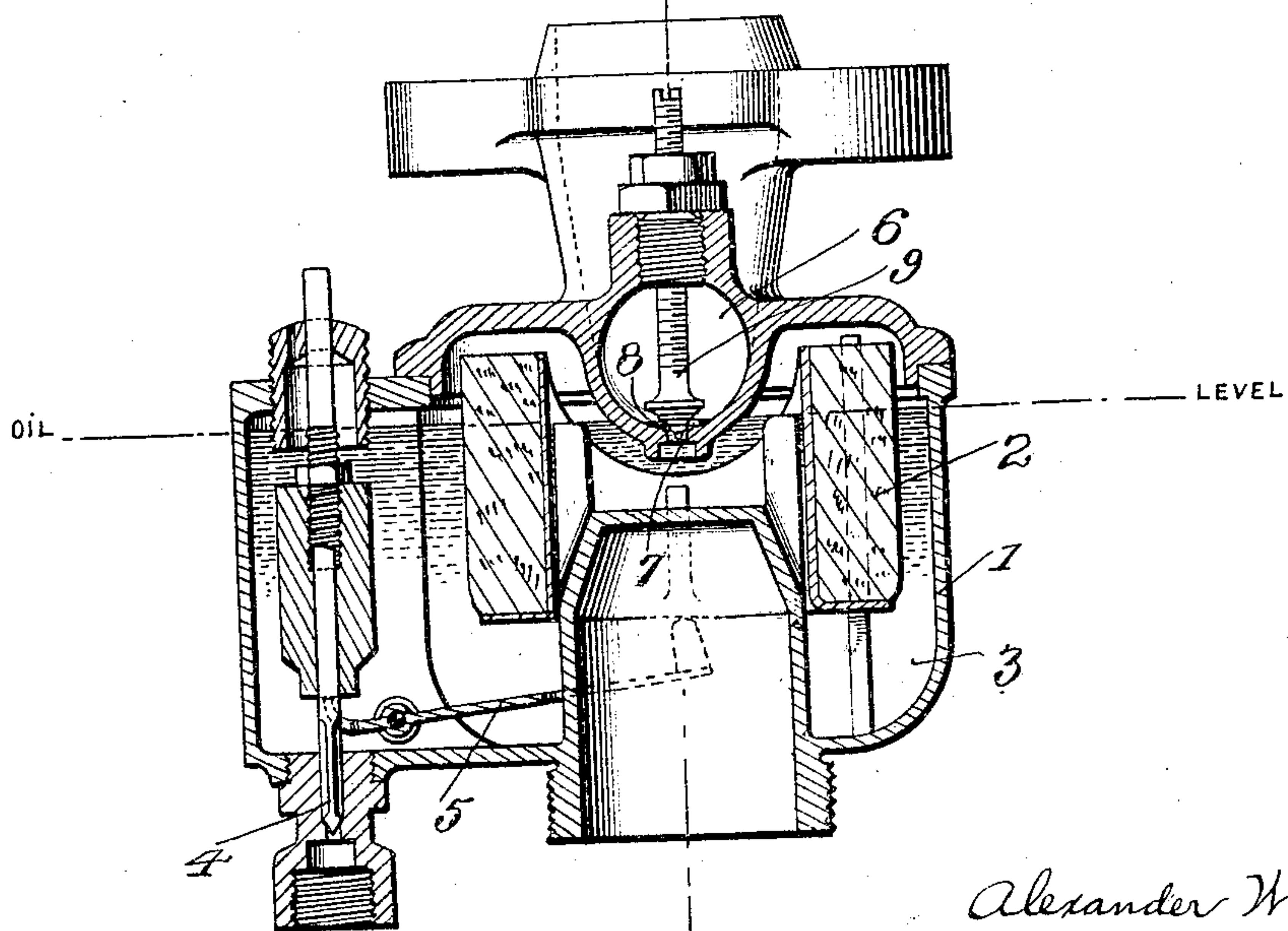


Fig. 2.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## METHOD OF CARBURETING AIR FOR EXPLOSIVE-ENGINES.

No. 897,259.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Original application filed June 23 1906, Serial No. 323,117. Divided and this application filed April 15, 1908.  
Serial No. 427,197.

*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 the Method of Carbureting Air for Explosive-Engines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in the method of carbureting air for explosive engines, and this application is a division of our pending application filed in the United States Patent Office June 23rd, 1906, bearing Serial Number 323,117.

It is well known to those skilled in this art that the explosive mixture for explosion engines is formed by causing the engine to suck air through a carbureting device, thereby forming an explosive mixture, and that the velocity of the air passing through the carbureter varies according to the speed of the engine. By reason of this variation in the air velocity through the carbureter, much difficulty has been encountered in properly carbureting the slowly-moving volumes of air for low speeds of the motor, and to prevent an over-rich mixture for the rapidly-moving volumes of air.

Our method consists in carbureting the slowly-moving volumes of air by surface carburization, and the rapidly-moving volumes of air by spray carburization, which in practice is found to furnish the proper mixture for the various air velocities through the carbureting device for the various speeds of the engine.

One of the simplest forms of apparatus for carrying out our improved method is illustrated in the accompanying drawings, in which Figure 1, is a vertical, central, sectional view. Fig. 2, is a cross-sectional view at right angles to Fig. 1.

The form of apparatus here shown for practicing our method comprises a casing 1 in which the gasoline is maintained at a predetermined level by means of a float 2 within

the chamber 3, and a supply - controlling valve 4 which is operated by the float 50 through the medium of an intermediately-pivoted lever 5. When the liquid or gasoline rises in the chamber 3 to the predetermined level, the controlling valve 4 closes the supply inlet, and the valve is opened before the level of the gasoline appreciably lowers. In this way the gasoline is maintained at a predetermined level within the chamber 3.

Passing across the chamber 3 is an air passage-way 6 which is here shown as U-shaped in vertical section and with its bottom wall in a plane slightly below the predetermined gasoline level. A gasoline inlet 7 is formed in the bottom wall of the passage-way 6, at its lowest part, and this inlet communicates with the chamber 3. By this construction a body or puddle of gasoline 8 is maintained by gravity flow in the bottom of the air passage 6. A regulating valve 9 coöperates with the inlet 7 and limits or regulates the rapidity of the flow through this inlet.

This apparatus carries out our method by providing a puddle or body of volatile liquid within the air passage, and the gravity flow of the liquid within the air passage is regulated to maintain this body or puddle of gasoline for slowly-moving volumes of air, thereby furnishing surface carburization, but the flow by gravity is not sufficient to supply the amount of gasoline necessary for rapidly-moving volumes of air, so that the rapidly-moving volumes of air suck or draw the gasoline through the inlet, causing it to spray, thus providing spray carburization for the rapidly-moving volumes of air.

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

1. The method of uniformly carbureting volumes of air moving alternately at different velocities, consisting in subjecting the slowly-moving volumes of air to surface contact with a body of volatile liquid, and the rapidly-moving volumes of air to sprayed volatile liquid.

2. The method of uniformly carbureting  
volumes of air moving alternately at differ-  
ent velocities, consisting in feeding volatile  
liquid by gravity in the path of slowly-mov-  
5 ing volumes of air, and feeding volatile liquid  
by spray action in the path of the rapidly-  
moving volumes of air.

In testimony whereof we affix our signa-  
tures in presence of two witnesses.

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HAROLD B. ANDERSON.

Witnesses:

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EDITH GIDEON.