

July 21, 1925.

1,546,585

E. JESKE

CARBURETOR

Filed June 26, 1923

2 Sheets-Sheet 1

Fig. 1.

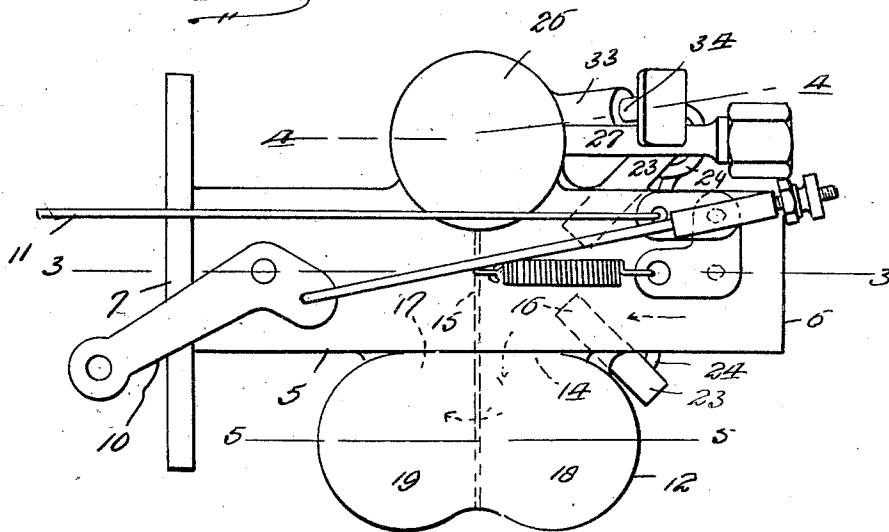
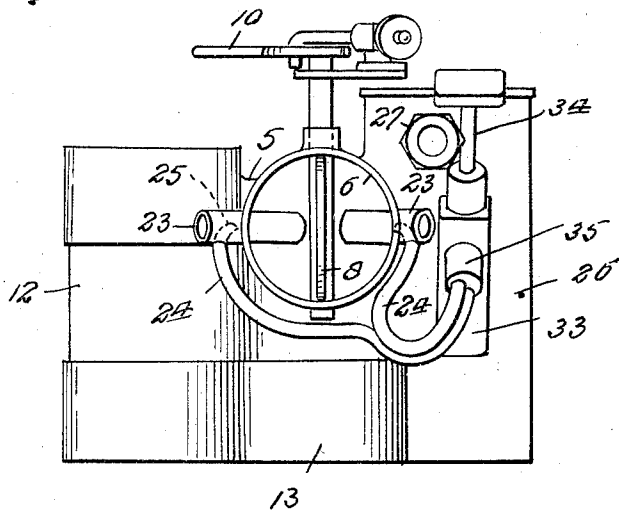


Fig. 2.



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2 Sheets-Sheet 2

Fig. 3.

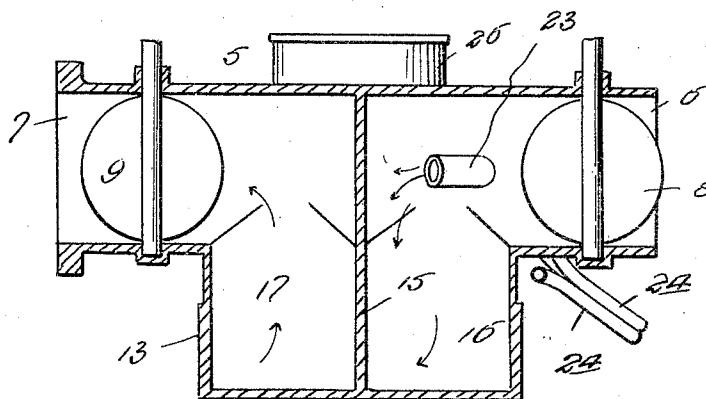
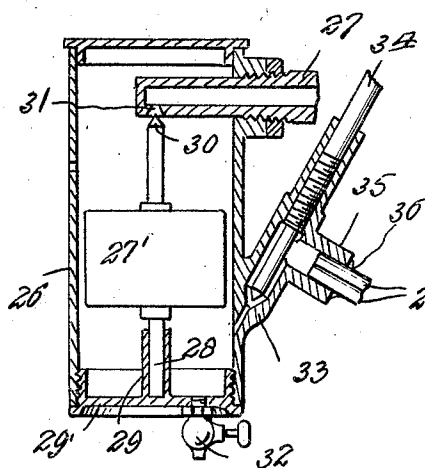
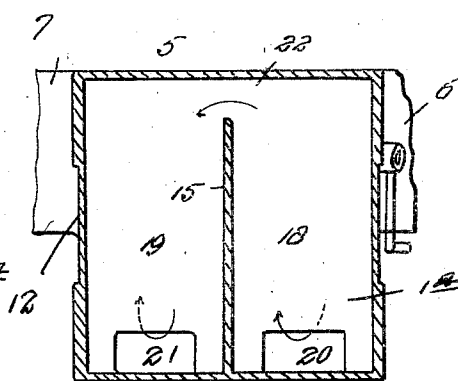


Fig. 4.



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Fig. 5.



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Patented July 21, 1925.

1,546,585

UNITED STATES PATENT OFFICE.

EDWARD JESKE, OF GACKLE, NORTH DAKOTA.

CARBURETOR.

Application filed June 26, 1923. Serial No. 647,790.

To all whom it may concern:

Be it known that EDWARD JESKE, a citizen of the United States, residing at Gackle, North Dakota, has invented certain new and useful Improvements in Carburetors, of which the following is a specification.

This invention relates to certain new and useful improvements in charge forming devices for internal combustion engines, and has particular reference to an improved form of carburetor whereby a finely divided mixture is obtained and the fuel and air are effectively mixed so that the engine may be economically operated and maximum power derived therefrom.

The primary object of the invention is to provide a novel and improved means for the spraying of air and fuel into the intake end of the carburetor whereby a fine spray and initial mixture of air and fuel is obtained.

Another object of the invention is to provide the air and fuel spraying means in advance of a series of partitions arranged in a novel manner, whereby the mixture is subjected to a more effective and finer mixing operation before passing to the outlet of the carburetor.

With the above general objects in view, and others that will become apparent as the nature of the invention is better understood, the same consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings, wherein like reference characters indicate corresponding parts throughout the several views,

Figure 1 is a top plan view of a carburetor constructed in accordance with the present invention,

Figure 2 is an end elevational view looking towards the left of Figure 1,

Figure 3 is a longitudinal sectional view taken on the line 3—3 of Figure 1 and with part removed,

Figure 4 is a sectional view on line 4—4 of Figure 1, and

Figure 5 is a longitudinal sectional view taken on the line 5—5 of Figure 1.

Referring more in detail to the several views, the invention embodies a casing 5 having opposed intake and outlet ports 6 and 7 respectively provided with the usual butterfly control valves 8 and 9 which are provided with the usual control mechanisms

10 and 11 whereby the charge volume and main supply of air are selectively or simultaneously controlled in the well-known manner.

The central portion of the casing 5 is provided with a hollow enlargement 12 at one side thereof, and as seen in Figure 3, this central portion is also enlarged at the bottom thereof as at 13. In this manner the central portion of the casing is made relatively large and the space therein is divided into four chambers by means of intersecting longitudinal and transverse partitions 14 and 15 respectively. Thus, the enlarged central portion of the casing in line with the inlet and outlet ports 6 and 7 embody the inlet mixing chambers 16 and outlet mixing chambers 17, while the side enlargement 12 embodies the intermediate mixing chambers 18 and 19 respectively communicating with the compartments 16 and 17 through openings 20 and 21 provided in the lower end of the adjacent portions of the partition 14. It is to be noted that the partition 15 at one side of the partition 14 is impervious, so that no communication is provided directly between the compartments 16 and 17, but the partition 14 at the other side, or within the enlargement 12, is spaced from the top wall of the casing, as indicated in Figure 5, to provide a communicating port 22 between the compartments 18 and 19. A circuitous path is thus provided for the travel of the explosive mixture by means of which the latter is caused to travel first transversely of the casing, then longitudinally thereof, and then finally transversely of the casing in an opposite direction, to the outlet port 7. In following this path of travel the mixture strikes against the top and bottom walls of the compartment, and in being deflected therefrom, is more thoroughly vaporized and mixed.

Means is provided for supplying the mixture initially to the compartment 16 at the top of the latter and inwardly of the butterfly valve 18. This means embodies a pair of tubes 23 which extend through the sides of the casing and converge inwardly so as to terminate in the same horizontal plane and in slightly spaced relation, as will be seen from an inspection of Figures 2 and 3. These tubes are open to the atmosphere and permit the ready flow of air thereto, while separate pipes 24 extend a slight distance

into the tubes 23 and terminate in discharge nozzles 25 opening toward the inner ends of the tubes for supplying fuel, in a manner which will presently become apparent.

5 The side of the casing 5 opposite that occupied by the enlargement 12, is formed to provide a float chamber 26 having a top inlet 27 for the fuel which may be connected with the usual supply tank in the
10 well known manner. Arranged within the chamber 26 is a float 27 having a stem projecting beyond the top and bottom thereof, the lower projecting portion 28 of which is slidably engaged in a guide 29 carried by
15 the removable bottom member 29¹, so that the float is effectively guided in its vertical movement. The upper projecting end of the stem embodies a needle valve 30 which is adapted to cooperate with the orifice 31
20 of the inlet nozzle 27 for the fuel, which nozzle is disposed directly above the valve 30, as shown in Figure 4. It will be seen that when the float moves upwardly to the required level of the fuel within the com-
25 partment or reservoir 26, the valve 30 will be closed for cutting off further supply of the fuel. A suitable draincock 32 may be carried by the removable bottom 29¹ for withdrawing sediment or the like.
30 The chamber 26 is provided with a side outlet 33 controlled by a needle valve 34 which regulates the volume of fuel withdrawn from the chamber 26, and the lateral branch 35 of the outlet 33 is attached to
35 the ends of the pair of tubes 24 as at 36, the other ends of which each terminate in the nozzles 25 entering the tubes 23.

In operation, the engine is started so as to induce suction in the carburetor for draw-

ing air through the tubes 23, and as this 40 air passes the nozzles 25, the fuel is sucked from the chamber 26 through the tubes 24 into said tubes 23, to be discharged together with the air in streams or sprays which intersect each other in the top of the com- 45 partment 16. Air also enters at the intake port 6 and mixes with the air entering the tubes 23 and the fuel drawn through the nozzles 25, after which the mixture follows the circuitous path mentioned above for be- 50 ing effectively mixed and ultimately delivered to the intake manifold of the engine through the outlet port 7.

It has been found by actual practice that a carburetor constructed in accordance with 55 the above will give great satisfaction both as to continued operation and effective mixture of the air and gas for obtaining maximum power through the supply of a readily and highly explosive mixture. 60

Minor changes may be made without departing from the spirit and scope of the invention as claimed.

What I claim is new and desire to secure 65 by Letters Patent is:

A mixing device adjacent to and in the same horizontal plane with a carburetor, 70 having a bottom enlargement and a side enlargement at the intermediate portion thereof, longitudinal and transverse partitions dividing the enlarged portion into an intake 75 chamber, an outlet chamber, and a pair of intermediate side chambers having ports spirally connecting said chambers in staggered relation, for providing a circuitous path for the mixture.

In testimony whereof I affix my signature.

EDWARD JESKE.