A. WINTON.

CARBURETER,

APPLICATION FILED AUG. 19, 1907.

1,011,694.

Patented Dec. 12, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

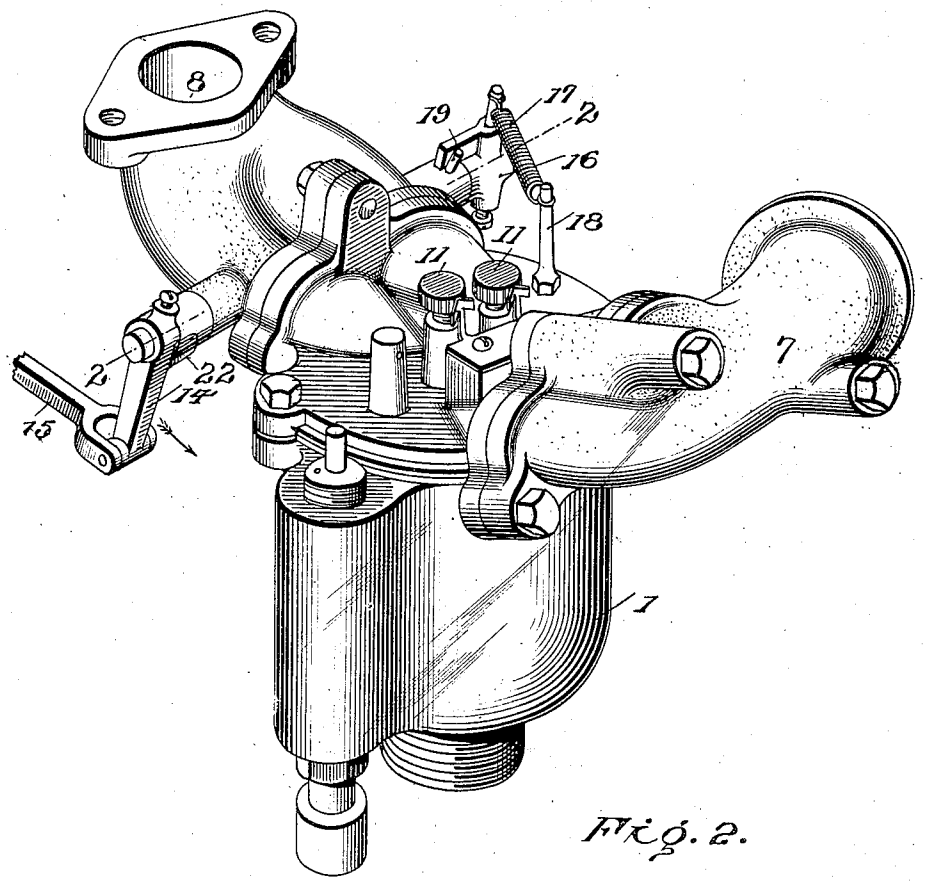
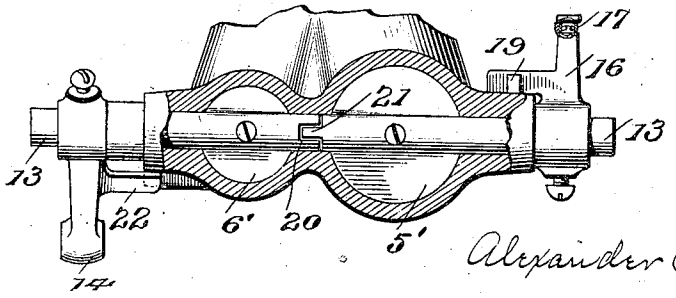


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

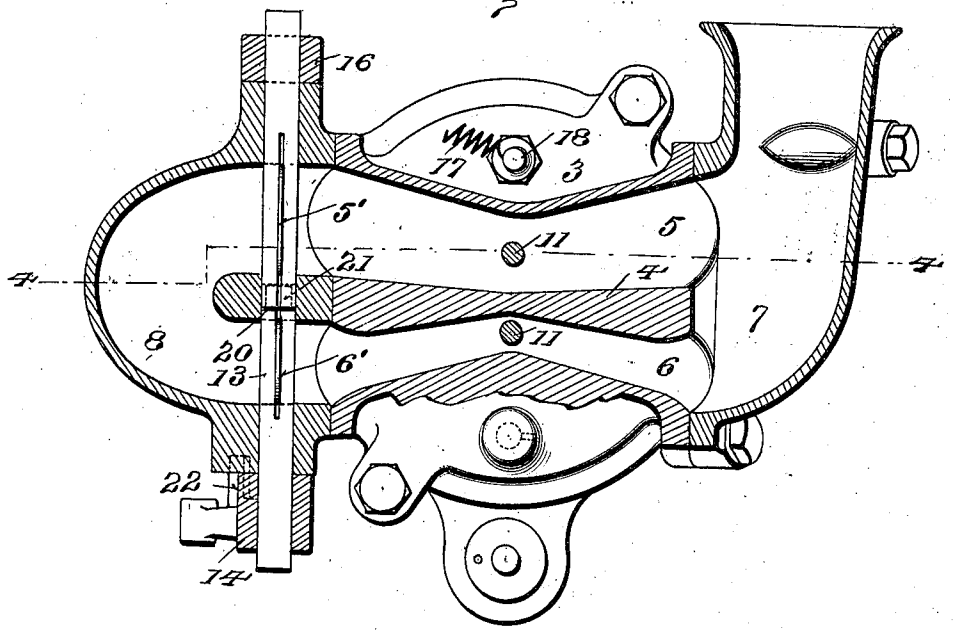
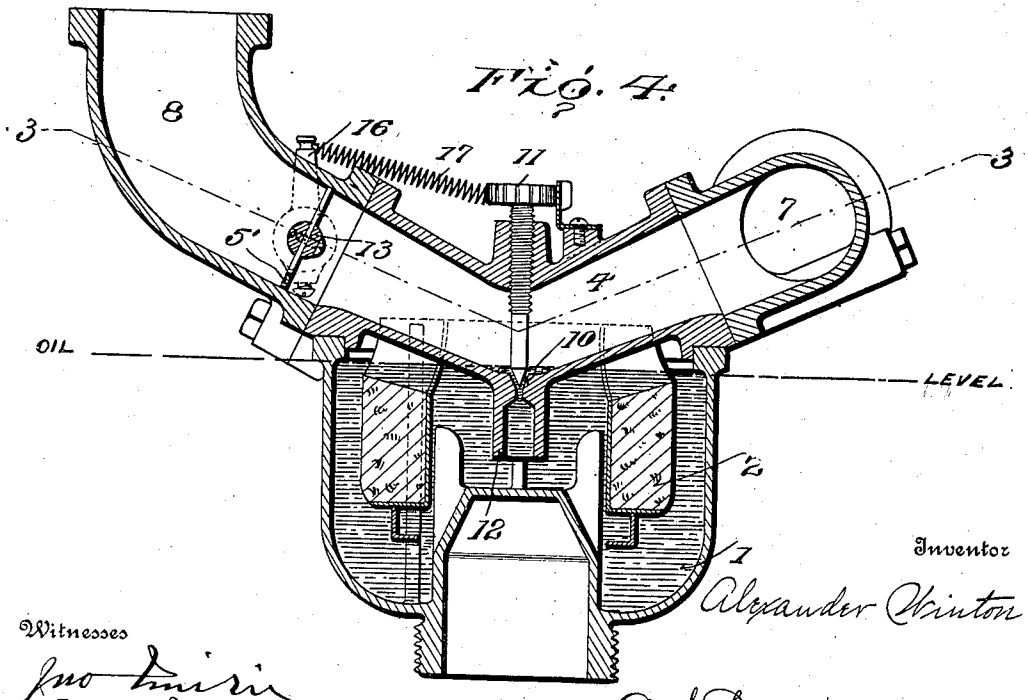


Fig. 4.



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ALEXANDER WINTON, OF CLEVELAND, OHIO.

CARBURETER.

1,011,694. Specification of Letters Patent. Patented Dec. 12, 1911.

Application filed August 19, 1907. Serial No. 389,264.

To all whom it may concern:

Be it known that I, ALEXANDER WINTON, citizen 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 for carbureting the air fed to an explosive engine, and is especially intended for use in connection with explosive engines for driving motor vehicles.

One object of the present invention is to provide a carbureter of an improved construction, whereby proper and uniform mixture is supplied for the very low speeds of the engine, as well as for the various intermediate and maximum speeds.

A further object of this invention is to provide a small carbureting passage for the minimum speed of the engine, and a combined simultaneously acting small and large carbureting passage for intermediate and maximum speeds.

In the accompanying drawings, Figure 1 is a perspective view of a carbureter embodying the present improvements. Fig. 2 is a transverse sectional view on the dotted line 2—2 of Fig. 1. Fig. 3 is a horizontal sectional view on the dotted line 3—3 of Fig. 4. Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 3.

Referring now to the drawings, 1 is a chamber for gasolene or other volatile fluid, and in which the fluid is maintained at a predetermined level in any well known way by means of a float 2. Extending across the top of this chamber is a U-shaped passageway 3, which dips into the chamber below its top, and preferably with its bottom below the maintained oil-level in Fig. 4. This passageway 3 is narrowed or restricted at its lowest point as shown in Fig. 3, and is provided with a longitudinally extending partition which is located at one side of its center to form relatively large and small carbureting passages 5 and 6, which have their inlet ends communicating with an air inlet passage 7, common to both passages, and their outlet ends are in communication with and common to a passage 8, and the latter passage is in communication with the engine.

The passages 5 and 6 are each provided with a gasolene inlet 10 controlled by the valves 11, and these inlets preferably have depending flanges 12. Placed at the outlet ends of the passages 5 and 6 are the throttle valves 5′ and 6′, for controlling the passage of the air through them. These throttles are so arranged, that in the operation thereof, the throttle 6′ for the small passage is opened a small distance for supplying carbureted air, (explosive mixture) for the minimum speed of the engine, after which the throttle 5′ for the large passage begins to open, and from that point they move together, but the small throttle in advance of the large throttle.

The foregoing is preferably accomplished in the following manner:—Each throttle consists of a disk (as shown in Fig. 2) and they are controlled by a transversely arranged oscillating two-part shaft 13, carrying at one end an arm 14 to which is connected an operating rod 15 to be attached to any desired throttle controlling mechanism. Attached to the opposite end of the two-part shaft is an arm 16, to which one end of a contracting coil spring 17 is attached, the opposite end of the spring being connected with a stationary stud 18. This spring serves to hold the arm normally against a stop pin or shoulder 19. The large throttle 5′ is carried by that part of the shaft to which the spring 17 is attached so that said large throttle is normally held closed by the spring.

The two parts of the shaft are loosely connected as shown in Fig. 2, so that the part carrying the small throttle 6′ has a movement independent of the other part. This loose connection is here shown as consisting of a groove 20 in the end of one part of the shaft, and a tongue in the end of the other part of the shaft loosely fitting the groove. It will be understood that the amount of independent movement may vary according to requirements by changing the relative sizes of the tongue and groove.

From the foregoing it will be observed that a movement of the arm 14 in the direction indicated by arrow, will first partially open the throttle 6′, after which the two throttles are opened together with the throttle 6′ in advance. By this arrangement one carbureting passage is used for minimum speed of the engine, and both passages for intermediate and maximum speeds. By using the small passage for minimum

speeds, and largely for immediately following intermediate speeds, there is found to be an economy in the consumption of gasolene over the single passage carbureter and a more perfect mixture for the minimum and low speeds.

Preferably the inlet and outlet passages 7 and 8 are made of pieces separate from the cover of the chamber 1, and attached thereto by screw bolts. Also the throttles are preferably carried by the detachable outlet portion 8, for convenience in assembling and repair.

A stop 22 serves to limit the closing movement of the small throttle 6'.

Having thus described the invention, what is claimed and desired to secure by Letters Patent is:—

1. A carbureter comprising a fluid supply chamber, an air passage having at one end a single inlet opening and at its opposite end a single outlet opening, the passage having a vertical longitudinal division wall at a point intermediate its ends constituting two separate intermediate passages side by side with their inlet and outlet ends merging into the first-mentioned single inlet and outlet openings, and a separate fluid communication between the supply chamber and each of the intermediate passages.

2. A carbureter, comprising a plurality of carbureting passages, means for supplying oil to each passage, a throttle for each passage, means for holding one throttle normally closed, the other throttle loosely connected with said throttle to have a partial independent movement after which said connection moves the throttles together.

3. A carbureter, having a small and a large carbureting passage, means for supplying oil to each passage, a throttle for each passage, and means for opening said throttles constructed and arranged to partially open the small throttle in advance of the large one and then open both throttles together.

4. A carbureter, comprising a plurality of carbureting passages, means for supplying oil to each passage, a two-part oscillating throttle operating shaft the two parts having a partial independent oscillation, a throttle for one passage connected to one part of the shaft and a throttle for the other passage secured to the other part of the shaft a spring for holding one shaft part in position for closing its throttle, and an operating means connected with the other shaft part.

5. A carbureter having a plurality of carbureting passages, a separate throttle for each passage, one throttle having a limited movement independent of the other throttle, and means for operating said throttles.

In testimony whereof I do affix my signature in presence of two witnesses.

ALEXANDER WINTON.

Witnesses:
W. J. WARD,
A. S. NEWTON.