

J. N. YOUNG.
CARBURETER.

APPLICATION FILED NOV. 9, 1908.

915,647.

Patented Mar. 16, 1909.

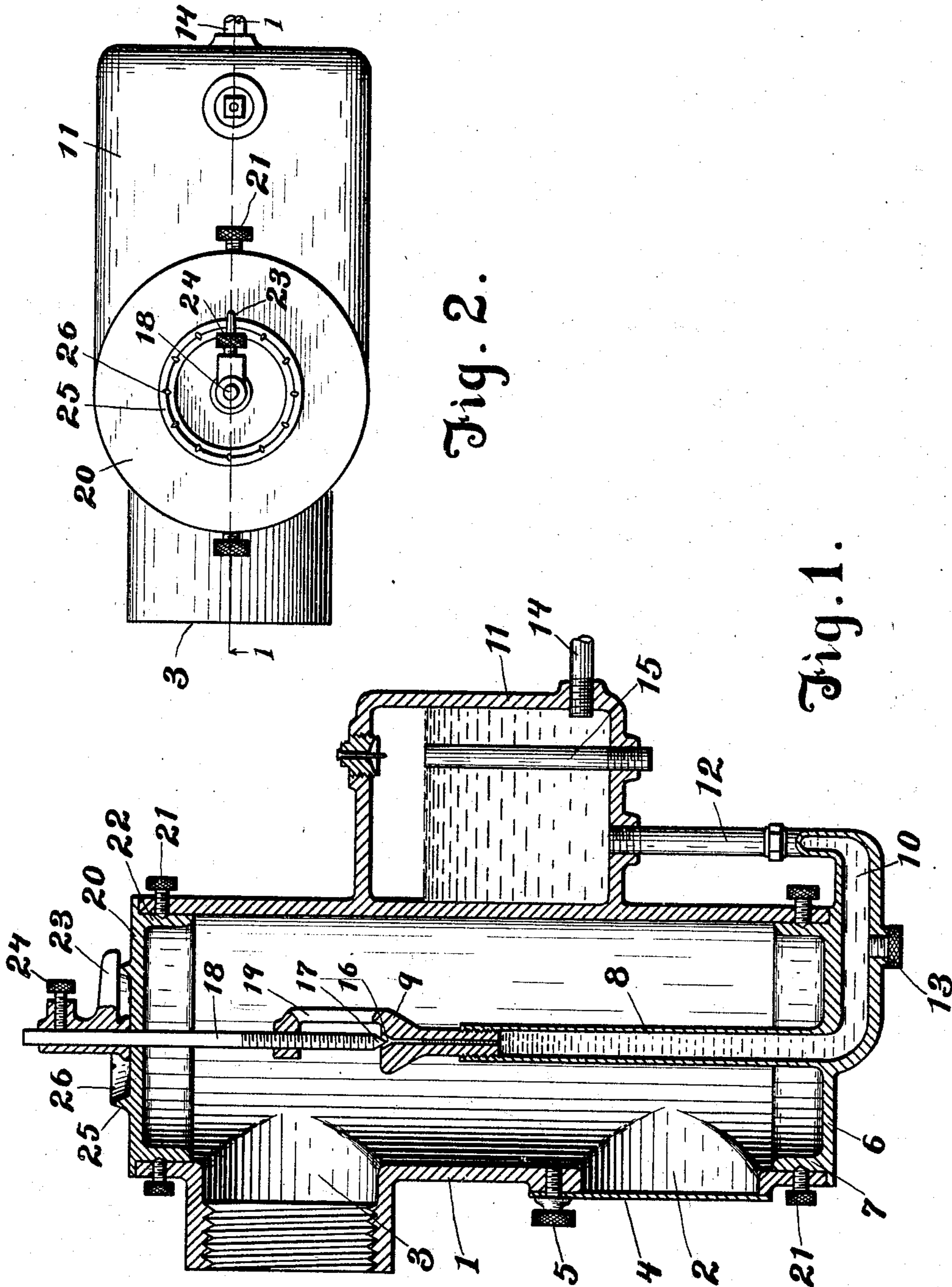


Fig. 2.

Fig. 1.

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JAMES N. YOUNG, OF ALBION, MICHIGAN.

CARBURETER.

No. 915,647.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed November 9, 1908. Serial No. 461,795.

To all whom it may concern:

Be it known that I, JAMES N. YOUNG, a citizen of the United States, residing at Albion, Calhoun county, Michigan, have invented certain new and useful Improvements in Carbureters, of which the following is a specification.

This invention relates to improvements in carbureters.

10 The main object of this invention is to provide an improved carbureter which is very effective, and one which is very effective in starting an engine in low temperatures.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

20 The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which,—

25 Figure 1 is a detail vertical section of my improved carbureter, taken on a line corresponding to line 1—1 of Fig. 2, looking in the direction of the little arrows at the ends of the section lines. Fig. 2 is a plan of my improved carbureter.

In the drawing, similar numerals of reference refer to similar parts throughout the several views.

35 Referring to the drawing, the body 1 of my improved carbureter is preferably cylindrical in form and is provided with an air inlet 2 and an air outlet 3, the outlet being adapted to be connected to the engine cylinder. The connection is not here illustrated as it will be readily understood. The air inlet 2 is provided with a valve 4, which is pivoted on the set screw 5, which may be loosened to permit the adjustment of the valve and tightened to secure the valve in its adjusted positions.

40 The bottom 6 of the carbureter is provided with a receptacle 7 adapted to receive liquid hydrocarbon which may be ignited and burned therein to heat the fuel in the nozzle pipe 8, and also to heat the nozzle 9 and the carbureter walls in starting the engine. The pipe 8 is preferably formed integrally with the bottom 6, which is also provided with an inlet passage 10, which is, in turn, connected to the oil feed reservoir 11

by means of the pipe 12. The supply passage 10 is preferably provided with a drain plug 13, through which any sediment which may collect in the feed pipe may be drawn off.

The feed reservoir 11 is connected to the supply reservoir by means of a suitable supply pipe, as 14, and is provided with an overflow 15, which maintains the level of the liquid in the reservoir 11 and in the nozzle 9. The nozzle 9 is preferably flared upwardly, thereby choking the carbureter to increase the suction at the nozzle, and also so that it may be more effectively heated for the starting of the engine.

The nozzle 9 is provided with a seat 16 for the valve 17, which is preferably of the needle type. The stem 18 of the valve 17 is threaded into an upwardly-projecting arm 19 on the nozzle tip so that the valve is carried by the nozzle, independently of the top 20, which may be removed to convert the carbureter body into a chimney, when the fuel in the liquid reservoir 7 is ignited to heat the nozzle and the liquid in the nozzle tubes 8.

The top 20 is preferably secured by means of the set screws 21, which engage the inwardly-projecting flange 22 on the top. The bottom is also preferably secured by set screws, as 21, so that it can be removed, if desired, and further it is convenient in the forming and assembling of the parts.

On the top 20 is an upwardly-projecting annular rib 25 having notches 26 therein adapted to engage the lever 23 on the valve stem 18. This lever is preferably secured as by means of a set screw 24, so that when it is desired to remove the top 20, the set screw 24 is released; also the set screws 21 are released, thereby permitting the removal of the top and the valve lever.

In operating the device, when the temperature is such that the gasoline does not readily vaporize to produce the proper explosive mixture, it is desirable to warm the carbureter, as I thereby secure an effective explosive mixture. To accomplish this the top 20 is removed after closing the valve 18 and a supply of liquid hydrocarbon placed in the receptacle 7. The valve 4 is preferably opened, or partially opened, and the fuel or liquid hydrocarbon in the receptacle 7 ignited. The burning of the fuel heats the liquid nozzle in the pipe 8, also the carbureter nozzle 9 and the walls of the car-

bureter chamber, so that, after replacing the top 20, the engine may be quickly and easily started in the usual manner, and the proper explosive mixture is secured from the start.

5 The valve 4 is preferably closed for the first explosion after the parts are heated up as described and is then opened.

My improved carbureter is very simple and economical to produce and easily operated. I have illustrated and described the same in the form preferred by me on account of its structural simplicity and economy. I am, however, aware that it is capable of very considerable variation in structural details without departing from my invention, but, as these variations will readily appear to those skilled in the art to which this invention relates, I have not attempted to point them out in detail herein.

20 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a carbureter, the combination of a carbureting chamber comprising the body 25 having air inlet and outlet openings in the side walls thereof; a detachable bottom for said body having a receptacle therein adapted to receive the liquid hydrocarbon; a liquid nozzle projecting upwardly from said 30 bottom, said nozzle having a valve seat therein; a needle valve; an arm on said nozzle into which said needle valve is threaded; a detachable top for said body through which the stem of said needle valve is arranged; 35 and a detachable arm for said valve stem arranged on the outside of said cap, said cap being provided with an annular notched rib with which said arm is adapted to engage whereby said valve is adjustably retained in 40 position.

2. In a carbureter, the combination of a carbureting chamber comprising the body having air inlet and outlet openings in the side walls thereof; a detachable bottom for 45 said body having a receptacle therein adapted to receive liquid hydrocarbon; a liquid nozzle projecting upwardly from said bottom, said nozzle having a valve seat therein; a needle valve; an arm on said nozzle into which said needle valve is threaded; and a 50 detachable top for said body through which the stem of said needle valve is arranged.

3. In a carbureter, the combination of a carbureting chamber comprising the body 55 having air inlet and outlet openings, and a receptacle therein adapted to receive liquid hydrocarbon; a liquid nozzle having a valve seat therein; a valve; an arm on said nozzle into which said valve is threaded; a detach- 60 able top for said body through which the stem of said valve is arranged; and a detach-

able arm for said valve stem arranged on the outside of said cap, said cap being provided with an annular notched rib with which said arm is adapted to engage whereby said valve 65 is adjustably retained in position.

4. In a carbureter, the combination of a carbureting chamber comprising the body having air inlet and outlet openings and a re- 70 ceptacle therein adapted to receive liquid hydrocarbon; a liquid nozzle having a valve seat therein; a valve; an arm on said nozzle into which said valve is threaded; and a detachable top for said body through which the stem of said valve is arranged. 75

5. In a carbureter, the combination of a carbureting chamber comprising a body hav- ing air inlet and outlet openings and a recep- 80 tacle therein adapted to receive liquid hydrocarbon; a valve for said air inlet opening; a liquid nozzle provided with an outwardly-flared tip; a valve for said nozzle; and means for opening the upper end of said body there- by transforming the same into a chimney to permit the burning of liquid hydrocarbon in 85 said receptacle.

6. In a carbureter, the combination of a carbureting chamber comprising a body hav- ing air inlet and outlet openings and a recep- 90 tacle therein adapted to receive liquid hydrocarbon; a liquid nozzle provided with an out- wardly-flared tip; a valve for said nozzle; and means for opening the upper end of said body thereby transforming the same into a chim- 95 ney to permit the burning of liquid hydrocarbon in said receptacle.

7. In a carbureter, the combination of a carbureting chamber comprising a body hav- ing air inlet and outlet openings and a recep- 100 tacle therein adapted to receive liquid hydrocarbon; a valve for said air inlet opening; a liquid nozzle; a valve for said nozzle; and means for opening the upper end of said body thereby transforming the same into a chim- 105 ney to permit the burning of liquid hydrocarbon in said receptacle.

8. In a carbureter, the combination of a carbureting chamber comprising a body hav- ing air inlet and outlet openings and a recep- 110 tacle therein adapted to receive liquid hydrocarbon; a liquid nozzle; a valve for said nozzle; and means for opening the upper end of said body thereby transforming the same into a chimney to permit the burning of liq- 115 uid hydrocarbon in said receptacle.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

JAMES N. YOUNG. [L. s.]

Witnesses:

A. F. COOPER,
O. L. DAVIS.