G. C. JENSEN.

LOCKING DEVICE FOR CARBURETERS.

APPLICATION FILED FEB. 12, 1917.

1,243,301.

Patented Oct. 16, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

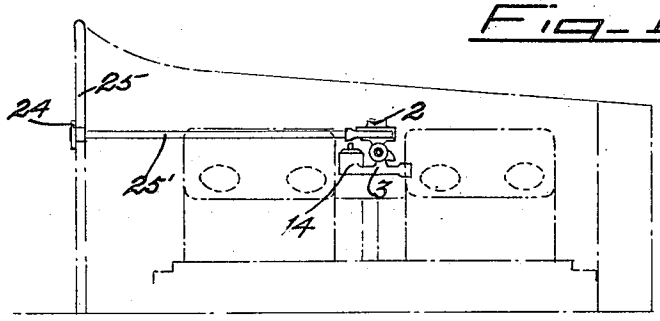
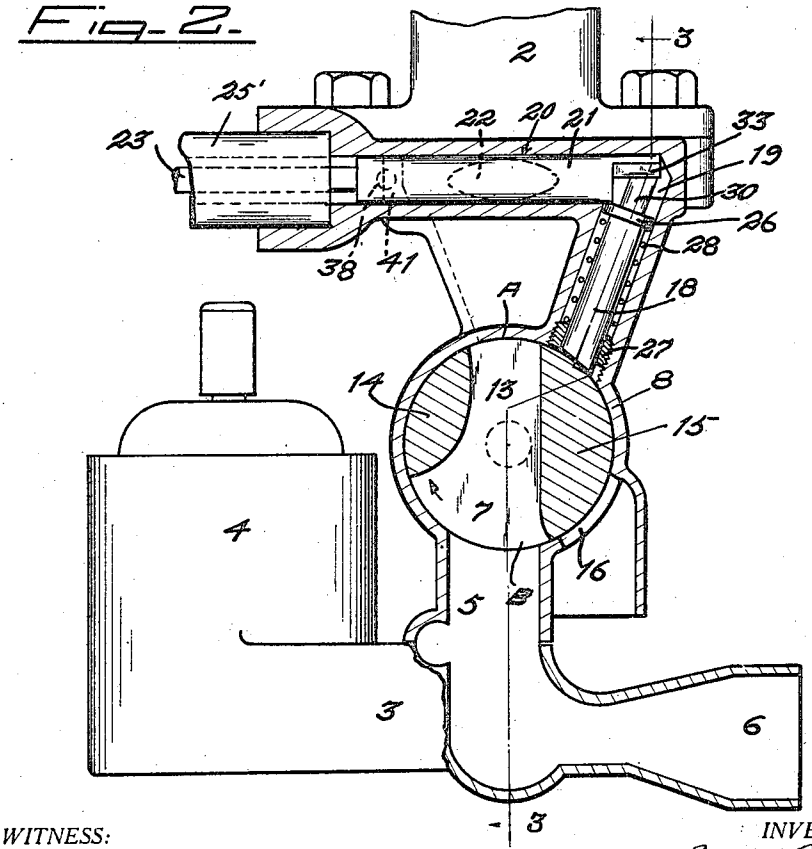



Fig. 2.




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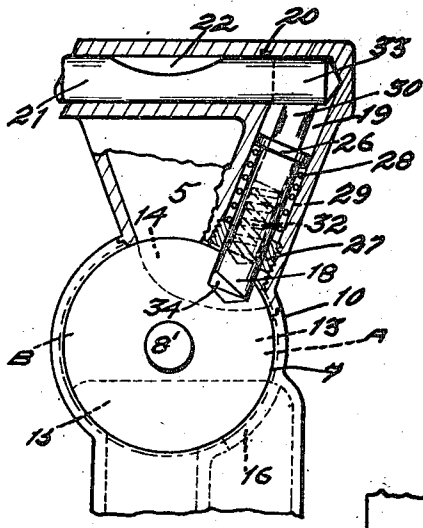



Fig. 4.

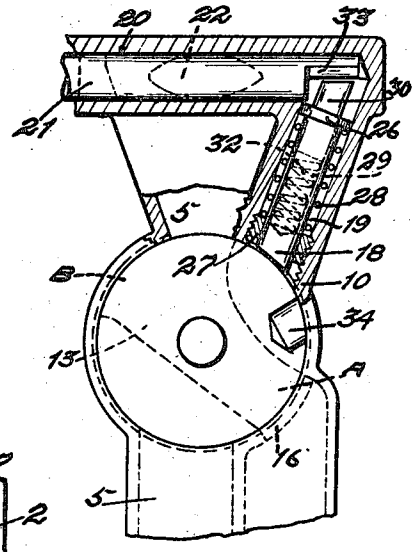



Fig. 5.

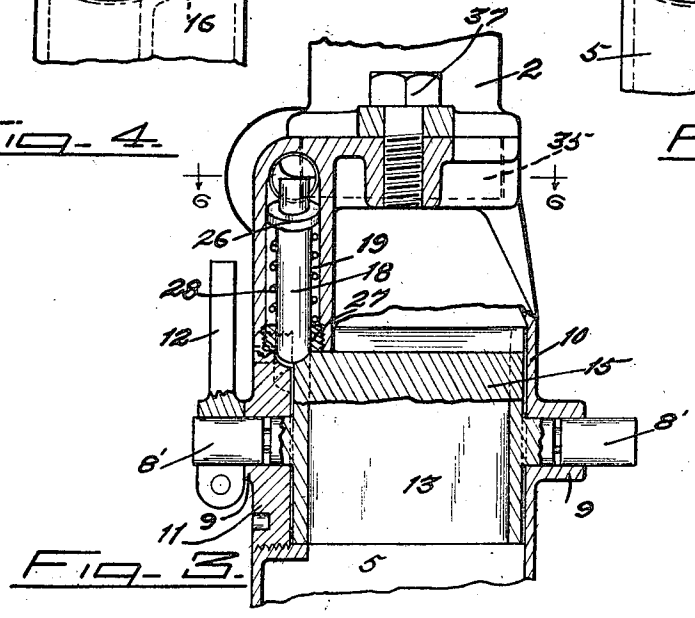



Fig. 3.

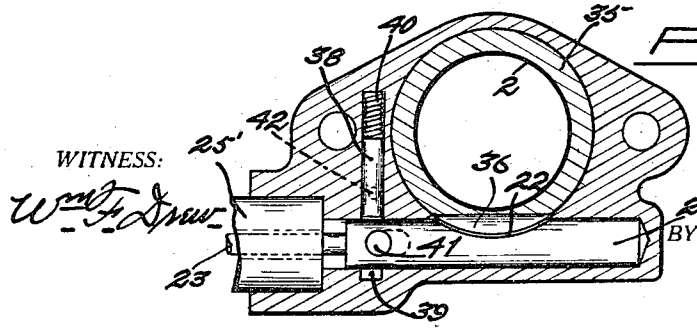



Fig. 6.

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# UNITED STATES PATENT OFFICE.

GEORGE C. JENSEN, OF OAKLAND, CALIFORNIA.

## LOCKING DEVICE FOR CARBURETERS.

1,243,301. Specification of Letters Patent. Patented Oct. 16, 1917.

Application filed February 12, 1917. Serial No. 148,090.

*To all whom it may concern:*

Be it known that I, GEORGE C. JENSEN, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Locking Devices for Carbureters, of which the following is a specification.

The present invention relates to a locking device for motors, particularly that type of internal combustion engine motor employed for propelling vehicles, and consists broadly in providing a carbureter which has a suitable throttle valve which is capable of positioning to cut off the flow of the fuel mixture into the motor and when in such position is capable of being locked from movement by unauthorized persons thereby preventing the operation of the motor under its own power.

The invention has for its principal objects, to provide a structure which is capable of locked positioning to prevent the operation of the motor under its own power, one wherein there is provided a means for preventing the unauthorized release of the structure when in locked position, one wherein the throttle valve is capable of movement to a position to cut off the supply of carbureted air to the motor and to admit non-carbureted or fresh air to be drawn into the motor when it is desired to employ the motor as a brake; to provide a construction wherein the carbureter is locked from detachment from the manifold or motor on the locking of the throttle valve in closed position, and one wherein the parts are permanently locked should an unauthorized person, or in fact any person endeavor to release the locking means through the severing of its connection with the lock controlled mechanism.

With the above mentioned and other objects in view, the invention consists in the novel construction and combination of parts hereinafter described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

To more fully comprehend the invention, reference is directed to the accompanying drawings, wherein,

Figure 1 is a diagrammatic view of my improved carbureter mounted on the motor of a vehicle.

Fig. 2 is a vertical sectional view taken through the throttle valve illustrating the same in full open position and disclosing the locking means therefor.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2, viewed in the direction of the arrows.

Fig. 4 is a broken longitudinal sectional view illustrating the valve locked in closed position.

Fig. 5 is a broken longitudinal sectional view illustrating the valve rotated to a position to admit uncarbureted or fresh air to be drawn into the motor.

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 3.

Referring more particularly to the several views of the drawings, wherein like characters of reference designate corresponding parts, 1, indicates a suitable motor of the internal combustion type, and connected with which, preferably through the manifold 2, is my improved carbureter 3. The carbureter, which is of the usual construction, is illustrated as including the usual float chamber 4, channel 5 and normal air inlet 6. Fuel to intermix with the air passing from the inlet 6 into the channel is fed from the fluid chamber 4 into the channel 5 in any suitable manner. The supply of carbureted air through the channel 5 into the motor is controlled by a suitable cylindrical throttle valve 7, rotatably mounted in a suitable chamber or housing within the channel 5. The valve is circular in cross section and is provided at opposite ends with the trunnions 8′ which extend through bearings 9, one in the side wall of the casing 10 and the other in a removable plug or member 11 threaded into and closing the valve inserting opening in the casing wall 10. A valve controlling lever is secured to one of the trunnions 8′ to facilitate in the operation of the valve, and from said lever extends a suitable connection, not shown, preferably to a point on the steering wheel of the vehicle.

The throttle valve is provided with a passage or port 13 extending transversely therethrough and having the solid side wall portions 14 and 15 at the opposite sides thereof, said passage when the valve is in its full open position as in Fig. 2, admitting car-

bureted air to be drawn into the motor. From its full open position as in Fig. 2, the throttle valve is capable of rotating in the direction of the arrow to closed position, and when in closed position as in Fig. 4, with the passage 13 disposed horizontally, all supply of air to the motor is cut off. A further rotation of the valve in the direction of the arrow Fig. 2, disposes the passage 13 at an incline as in Fig. 5 and with the narrow end A thereof in register with an air inlet 16 of the carbureter wall 10 and with the opposite flanged end thereof in register with the upper end of the channel 5 communicating with the interior of the manifold. In this position the wall portion 15 of the valve closes the lower end of channel 5 shutting off the passage of carbureted air into the motor and the connection of the air inlet 16 with the upper end of channel 5 admits of uncarbureted or fresh air to be drawn into the motor. This latter position of the throttle valve is desirable when the carbureter is employed in connection with motor vehicles, and it is desired to shut off the flow of carbureted air to the motor and to admit thereinto uncarbureted or fresh air, thereby enabling the motor to be utilized as a brake in reducing the speed of the vehicle when the vehicle is traveling down grade.

To lock the throttle valve from rotation when in its closed position I employ a locking pin 18 lineally movable in a bore 19 of the carbureter wall 10 and which opens at its lower end into the valve chamber 5. The lower end of the pin, when the same is in its retracted position, normally lies slightly above the peripheral surface of the end of the valve 8 as in Fig. 5. The upper end of the bore 19 connects with the closed end of a suitable transverse bore 20 and in the latter bore is rotatably mounted a suitable pin controlling bolt 21 provided with a grooved depression 22 in its wall surface, the bolt being connected by an operating rod 25 with a suitable key controlled lock 24, positioned at any suitable point on the vehicle body, preferably on the dash or cowl 25 thereof. A suitable protecting tube 25′ surrounds the rod 23 and is permanently received at its opposite ends in the carbureter casing 10 and in the casing of the lock 24, this tube prevents the engagement of the rod 23 and precludes the rotation thereof by means other than through the lock 24. The pin 18 carries a flange 26 at its upper end and coiled around the pin and interposed between said flange and a suitable tubular collar 27 through which the pin slides and which is threaded into the lower end of the bore 19 is a spring 28 for normally retaining the pin in its retracted or inoperative position; the upper end of the pin is lineally chambered as at 29 and in the same is positioned a suitable floating plunger 30 supported by a spring 32 within the bore 29, said spring being slightly stronger than the spring 28. The plunger 30 is actuated to compress the spring 32, which in turn, forces the pin 18 into contact with the surface of the valve 7 by a suitable cam projection 33 on the end of the controlling bolt 21, and the rotation of the cam to a position as in Fig. 4 compresses the spring 32 to overcome the tension of the spring 28 and to place a tension on the spring 18 enabling the pin to automatically drop into the recess 34 in the exterior of the wall surface 14 of the valve 7 when said valve is rotated to position the recess in alinement with the pin 18 as in Fig. 4. This construction permits the operation of the locking means prior to the rotating of the valve to a position as in Fig. 4, and when the valve is rotated to the position illustrated, the pin 18 will automatically seat in the recess and lock the valve from movement. When the cam 33 lies in a position as in Fig. 5, the tension of the spring 28 is sufficient to overcome that of the spring 32 and to maintain the pin 18 in its unlocked or retracted position.

To prevent the removal of the carbureter from the manifold or other member to which it is attached by bolts 37, at such time as the valve is in locked position, a flange or sleeve 35 is formed on the lower end of the manifold and the same is seated or received in a groove in the upper end of the carbureter surrounding the upper end of the channel 5 with one portion of the flange or collar channeled as at 36 and extending into the transverse bore 20 as in Fig. 6. The bolt 21, when in its inoperative position as in Fig. 2 lies with its recess 22 in register with the channel 36 thereby permitting the separation of the carbureter from the manifold by the release of the bolts 37. On the rotation of the bolt to a position as in Fig. 4, in which position the pin 18 is adapted to automatically move to lock the valve, the solid portion of the bolt adjacent the recess 22 passes into the chamber 36 thereby locking the carbureter and manifold together.

To prevent the rotation of the bolt 21 to unlocked position by unauthorized persons who may sever the connecting tube 25′ for this purpose, I provide a permanent locking means illustrated in the form of a slidable locking member 38 mounted in the bore 39 intersecting the bore 20 and with one end thereof maintained in frictional contact with the surface of the bolt 21 by a spring 40. A receiving bore 41 extends transversely through the bolt 20 and when the bolt is rotated to locked position as in Fig. 4, said bore lies parallel with the locking member 38 but slightly offset therefrom and when in this position should any outward hori-

zontal movement of the bolt take place relative to the bore 20 the locking member 38 will pass through the bore 41 and permanently lock the members in their adjusted position until such time as the carbureter casing is cut by permitting the release of the locking member 38 from the bore 47. A set screw 42 coöperates with the locking member 38 to maintain the same in its inoperative or retracted position during the installing of the carbureter on an engine, said screw being withdrawn and the seat thereof being filled or plugged after such installation is completed.

When the throttle valve is locked in closed position to prevent the admittance to the engine of a carbureted mixture the carbureter is also locked to the manifold or other support to which it is attached or connected, thereby preventing the removal of the locked carbureter and the substitution of another carbureter for the same. The plug or member 11 is also locked from removal from the casing or body 10 by the pin 18, the lower end of which passes into a groove 42′ in the inner face of the member 11 on entering the recess 34.

Having thus described my invention, what I claim is:

1. In combination with a carbureter for attachment to a motor and provided with a channel for the passage of carbureted air therethrough into the motor, a throttle valve controlling the passage of carbureted air through said channel, lock controlled mechanism for locking said valve from rotation and for locking said carbureter to the motor.

2. In combination with a carbureter for attachment to a motor and provided with a channel for the passage of carbureted air therethrough into the motor, a throttle valve for controlling the passage of carbureted air through said channel and capable of movement to shut off the passage of carbureted air through said channel, and lock controlled mechanism for locking said valve in its closed position and for locking said carbureter to the motor.

3. In combination with a carbureter for attachment to a motor and provided with a channel for the passage of carbureted air therethrough into the motor, a throttle valve for controlling the passage of carbureted air through said channel and capable of movement to shut off the flow of air therethrough, means for engaging and locking said valve in a position to close said channel, and lock controlled devices for actuating said locking means, said lock controlled devices adapted for locking said carbureter from detachment from the motor.

4. In combination with a carbureter for attachment to a motor and provided with a channel for the passage of carbureted air therethrough into the motor, a ported throttle valve mounted in said channel and capable of positioning to cut off the flow of carbureted air therethrough to the motor, means for locking said valve in position to close said channel, said means including a locking pin, means for normally maintaining the same in retracted position, a plunger yieldably connected with said locking pin; a bolt coöperating with said plunger and capable of operation to overcome the tension of said lock pin retaining spring and for forcing said pin into engagement with said valve, and locking devices associated with said bolt.

5. In combination with a carbureter provided with a channel for the passage of carbureted air therethrough, a throttle valve for controlling said channel and capable of positioning to close the same, lock controlled mechanism capable of operation prior to the movement of said valve to close said channel and adapted for automatically locking said valve from movement when the same is positioned to close said channel.

6. In combination with a carbureter provided with a channel for the passage of carbureted air therethrough, a throttle valve for controlling said channel and capable of positioning to close the same, lock controlled means for locking said valve in closed position when moved thereinto, said lock controlled means capable of operation to locked position prior to the movement of said valve into closed position.

7. In combination with a carbureter provided with a channel for the passage of carbureted air therethrough, a throttle valve for controlling the passage of air through said channel and capable of positioning to close the same, a locking pin for engaging and locking said valve from movement when in closed position, lock controlled mechanism capable of operation to throw said pin into locking relation with said valve, said mechanism capable of operation prior to the movement of said valve into closed position, and a yieldable connection between said locking pin and said lock controlled mechanism.

8. In combination with a carbureter provided with a channel for the passage of carbureted air therethrough, a throttle valve for controlling the passage of carbureted air through said channel and capable of positioning to close the same, releasable lock controlled means capable of operative movement for locking said valve in closed position, and means for permanently locking said valve in closed position on the movement of said releasable locking means in a direction other than its direction of operative movement.

9. In combination with a carbureter for attachment to a motor and provided with a channel for the passage of carbureted air

therethrough, a throttle valve for controlling the passage of carbureted air through said channel and capable of operation to close the same, releasable lock controlled means capable of operative movement in two directions for locking said valve in closed position and for locking said carbureter from removal from the motor, and means for permanently locking said releasable lock controlled means in locked position on the movement of said releasable lock controlled means in a direction other than its direction of operative movement.

In testimony whereof I have signed my name to this specification in the presence of a subscribing witness.

GEORGE C. JENSEN.

Witness:
D. B. RICHARDS.