J. A. BOWDEN.

AIR LOCKING MEANS FOR AUTOMOBILES.

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1,294,328.

Patented Feb. 11, 1919.

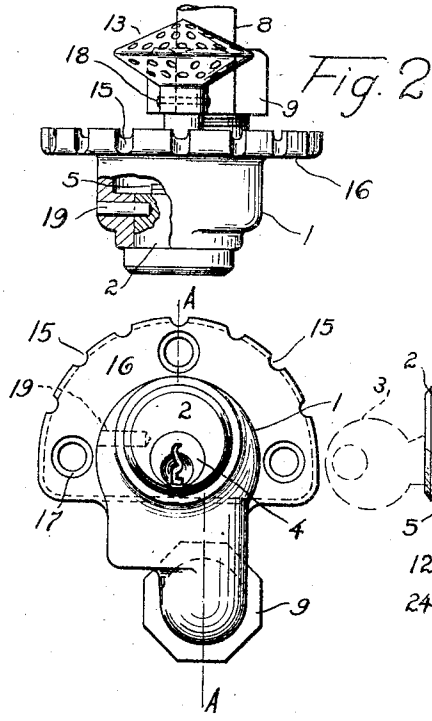


Fig. 1

Fig. 2

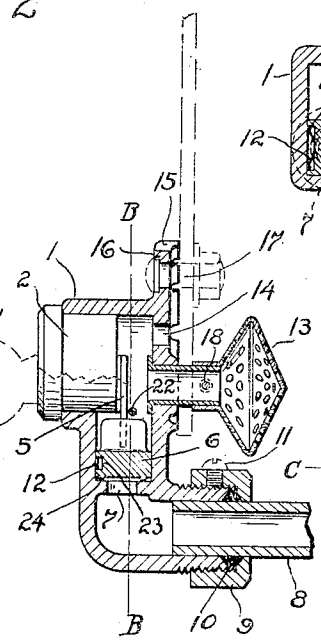


Fig. 3

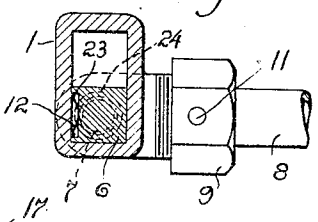


Fig. 5

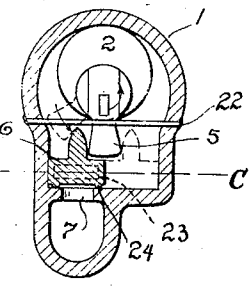


Fig. 4

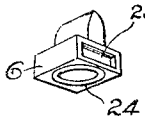


Fig. 7

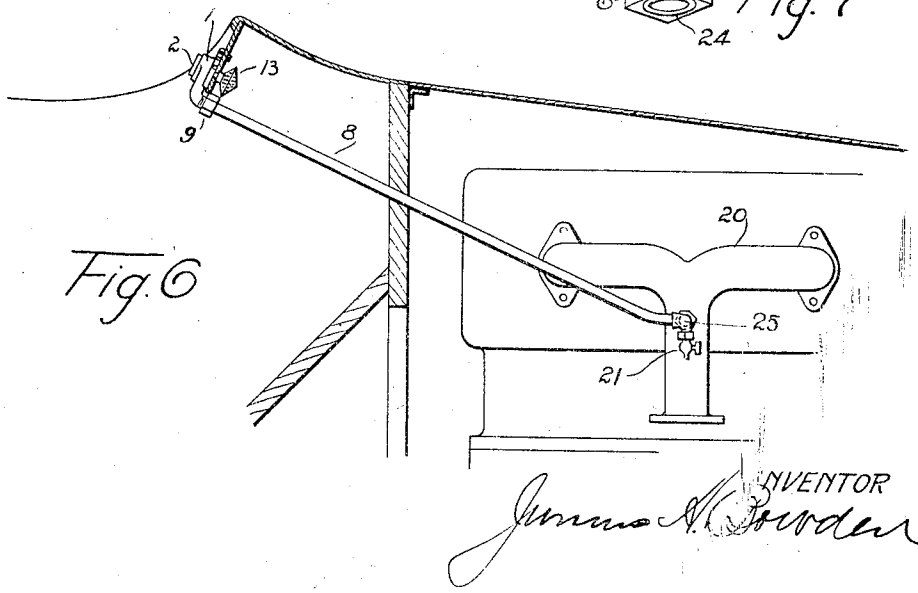


Fig. 6

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AIR-LOCKING MEANS FOR AUTOMOBILES.

1,294,328. Specification of Letters Patent. Patented Feb. 11, 1919.

Application filed November 18, 1916. Serial No. 132,107.

To all whom it may concern:

Be it known that I, JUNIUS A. BOWDEN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Air-Locking Means for Automobiles, of which the following is a specification.

This invention relates to a locking device for a gasolene engine of an automobile, or gasolene motors used for other purposes.

The object is to prevent starting or operating an engine by an unauthorized person, to avoid removal or theft of an automobile.

Further objects and advantages of the invention will be brought out in the specifications.

Referring to the drawings, Figure 1 shows a front elevation of the locking device and casing. Fig. 2 shows a plan view of the device and a perforated air muzzle attached, also a small section of the casing cut away to show means of securing the lock into the casing. Fig. 3 shows a vertical section of the device on line A—A of Fig. 1. Fig. 4 shows a reverse view of section on line B—B of Fig. 3, with front casing cut off to show detail of inner parts. Fig. 5 shows a section on line C—C of Fig. 4 to bring out further details. Fig. 6 shows the device assembled and installed on an automobile, wherein an air pipe connection is run from the device to the gasolene manifold 20 attached to the engine. Fig. 7 is a detail in perspective of the valve 6, shown in Figs. Nos. 3, 4, and 5.

Referring to the parts in detail; this invention provides an effective means adapted to admit air under control of a lock into the gas supply of an engine; its purpose is to prevent the removal of an automobile by an unauthorized person, but the device is further adaptable for admitting variable quantities of air into the gas vapor to reduce its richness for smoother working and economy. The main object of the invention is to provide simple means adapted to prevent the removal of an automobile, which is accomplished by removal of the key 3, from the lock 2. This will move the valve 6 by the lever 5, which is attached to the lock, from its seat and leave a full opening to the valve outlet 7 into tube 8 and into gas manifold 20; the key is then removed and the valve is thereby left open.

When the device is locked with the valve wide open the key is removed and any attempt that may be made to start the engine will cause air to rush into the casing 1 from the many sources provided as shown, through the pipe 8 into the manifold 20 by suction from the engine, when the engine is rotated by the starter. The suction of air into the manifold will reduce the draft that lifts the gas from the carbureter, will also dilute the gas vapor to such an extent, it will lower the strength of the vapor to a point where its explosive power is not sufficient to operate the engine under the slightest load, therefore prevent an unauthorized person driving the automobile or operating any gasolene motor conveyance equipped with this device and locked in the manner described. The valve will remain open until the key is inserted in the lock and the key rotated in an opposite direction to the opening operation. The key may remain in the lock when the valve is closed and while in this position if the key is turned in the reverse direction it will open the valve in proportion to movement of the key, thus by turning the key slowly, to a point that will supply as much air as desired, in this manner the device can be used for supplying air for a lean mixture of gas.

Further reference to the numbers connected with the different figures; 1 is a casing, preferably a die casting. In assembling the device, the valve 6 carrying a spring 12 is placed in recess 23, this valve is placed and seated in casing 1 before lock 2 is installed. The spring 12 is intended to hold the valve steady. 24 designates a rib or it may be a recess to permit of inserting a flexible or other kind of material if desired. 7 is an outlet from the valve. Casing 1, is provided with an air inlet 14, also provided with a perforated muzzled inlet 13. The flange 16 is provided with air spaces around its face and outer edge in the form of grooves 15. Rod 22 is intended to hold valve 6 from displacement. The lock 2 is installed in the casing 1 and held in place by pin 19, on the back of this lock is a member 5, which is secured to cylinder 4 of the lock. When key 3 is inserted and moved either to the right or left, the key will rotate the cylinder 4 accordingly and as member 5 is secured to this cylinder it may be moved in either direction; for instance

to open valve 6 for passage of air, turn key 3 to the right; to close the valve turn key to the left, or to open valve, to admit air for a lean mixture of gas move key 3 part way to the right and the valve will remain where it is moved by the key, as the tension of spring 12 on the valve will hold it steady. When the valve is open and the engine rotating air will rush through the air vents 14 and 15 and perforated muzzle 13 into casing 1 and out through pipe 8 into the manifold 20 and thus prevent the engine operating. The perforated muzzle 13, also air vents 15 and inlet 14 are of much importance and are provided and arranged as shown to make it a difficult matter to stop them up, as in such an event, valve 6 would not signify much since a liberal amount of air is required to effect the desired result. The perforated muzzle 13 may be removed and an air pipe run from the casing 1 to any place where the open end of the pipe could not be easily gotten at, to be plugged. The head of set screw 11 may be cut off after it has been screwed to place, this is done to make it difficult to remove nut 9 and furnish security against an easy matter of disconnecting pipe 8.

There is a variety of known valves and many ways of operating them, and which could be used with some modification in working out a similar improvement to the applicant's device giving substantially the same result and under control of locking means associated with the key of the lock, for instance, a ball valve, a rotary valve, a swing valve, or other style valve under control of a lock, whereby the inner movable parts associated with the lock are arranged and made adaptable for moving the valve to and from the valve seat, any such a combination having locking means and the inner parts associated with and moved by the lock when applied to a gasolene motor for supplying air, comes within the scope of the applicant's invention.

What I claim is:

1. The combination with an internal combustion engine having a carbureter and an intake passage communicating with said carbureter and engine, an air supply passage communicating with said intake passage between the carbureter and engine, said air supply passage being of sufficient capacity so that when it is open it shall prevent the formation of an explosive mixture in said intake passage, and lockable valve means adapted to lock said valve in an open position, for the purpose described.

2. The combination with an internal combustion engine having a carbureter and an intake passage communicating with said carbureter and engine, an air supply passage communicating with said intake passage between the carbureter and engine, said air supply passage being of sufficient capacity so that when it is open it shall prevent the formation of an explosive mixture in said intake passage, and means for opening and closing said air supply passage, and locking means for securing said opening and closing means in its position in which said air supply passage is open for the purpose described.

3. In a device of the character described, in combination with a gas inlet to an engine, a casing having an air inlet and an air outlet, an air valve in said casing, said casing adapted to receive a lock, said lock having means adapted to coöperate with said valve whereby said valve is adapted to open and close said outlet, said lock adapted to lock said valve in an open position whereby a sufficient passage of air may be drawn through said inlet and outlet into said engine adapted to prevent operating said engine.

4. As an article of manufacture, a casing, a lock installed in said casing, an air valve in said casing, an air outlet from said casing, an air inlet in said casing, said lock having a member attached to its inner end, said member adapted to operate said valve and open and close said outlet, said lock adapted to lock said valve in an open position whereby a sufficient passage of air may be drawn through said inlet and outlet into said engine adapted to prevent operating said engine, for the purpose described.

5. In a device of the character set forth, air means adapted to prevent internal combustion in a gasolene engine for an automobile, said air means adapted to be controlled by locking means and the air means adapted to be locked in an open position whereby said engine may be rendered powerless to propel said automobile, for the purpose described.

6. In a device of the character set forth, means adapted to prevent operating a gasolene engine of an automobile comprising a casing, a valve in said casing, an air inlet and an air outlet to said casing, a rigid metal tube, one end of said tube attached to said outlet and the other end attached to the engine manifold, a lock in said casing, said lock adapted to lock said valve in an open position whereby said engine may be rendered powerless to propel said automobile for the purpose described.

7. In a device of the character set forth, means adapted to prevent operating a gas engine of an automobile, comprising a casing, a lock in said casing, a valve in said casing, an air inlet and an air outlet to said casing, said valve fitted loosely in said casing whereby the suction from the engine when the engine is running is adapted to draw the valve tightly against its seat and close said outlet, said valve being adapted to

be easily moved and open said outlet by means of a key to said lock when the engine is not running, said lock adapted to lock said valve in an open position whereby said engine may be rendered powerless to propel said automobile, for the purpose described.

8. In a device of the character described, in combination with a gas inlet to an engine, a casing having an inlet adapted to supply air continuously thereto, said casing having an air outlet, a valve in said casing, a lock in said casing, said lock adapted to lock the valve in an open position so that such a quantity of air may be supplied as will prevent operating said engine, for the purpose described.

9. In a device of the character set forth, means adapted to prevent operating a gasolene engine, said means comprising a casing, numerous air openings adapted to communicate with said casing and to furnish a constant air supply thereto, an air outlet in said casing, a valve in said casing, said valve adapted to open and close said outlet, a metal tube attached at one end to said outlet and at its other end to the engine, a lock in said casing, said lock adapted to lock said valve in an open position whereby a supply of air is admitted through said outlet to prevent the formation of an explosive mixture in said engine, for the purpose described.

10. In a device of the character set forth, means adapted to prevent operating a gasolene engine, said means comprising a casing, a muzzle having numerous perforations, said muzzle adapted to connect with said casing and furnishing a constant supply of air to said casing through said perforations, an air outlet in said casing, a valve in said casing, said valve adapted to open and close said outlet, a metal tube attached at one end to said outlet and at its other end to the engine, a lock in said casing, said lock adapted to lock said valve in an open position whereby a supply of air is admitted through said outlet to prevent the formation of an explosive mixture in said engine, for the purpose described.

11. A gas-operated engine having openable means to supply an excess of air to the fuel mixture and a lock for such means to secure the same in an open position.

12. A gas-operated engine having a carbureter and air inlet situated between the carbureter and the engine cylinder for supplying an excess of air at such point, means to open and close said inlet, and a lock to secure said means in open position whereby an excess supply of air may pass through the inlet.

In testimony whereof I have hereunto set my hand, at Detroit, Michigan, this 15th day of November, 1916.

JUNIUS A. BOWDEN.