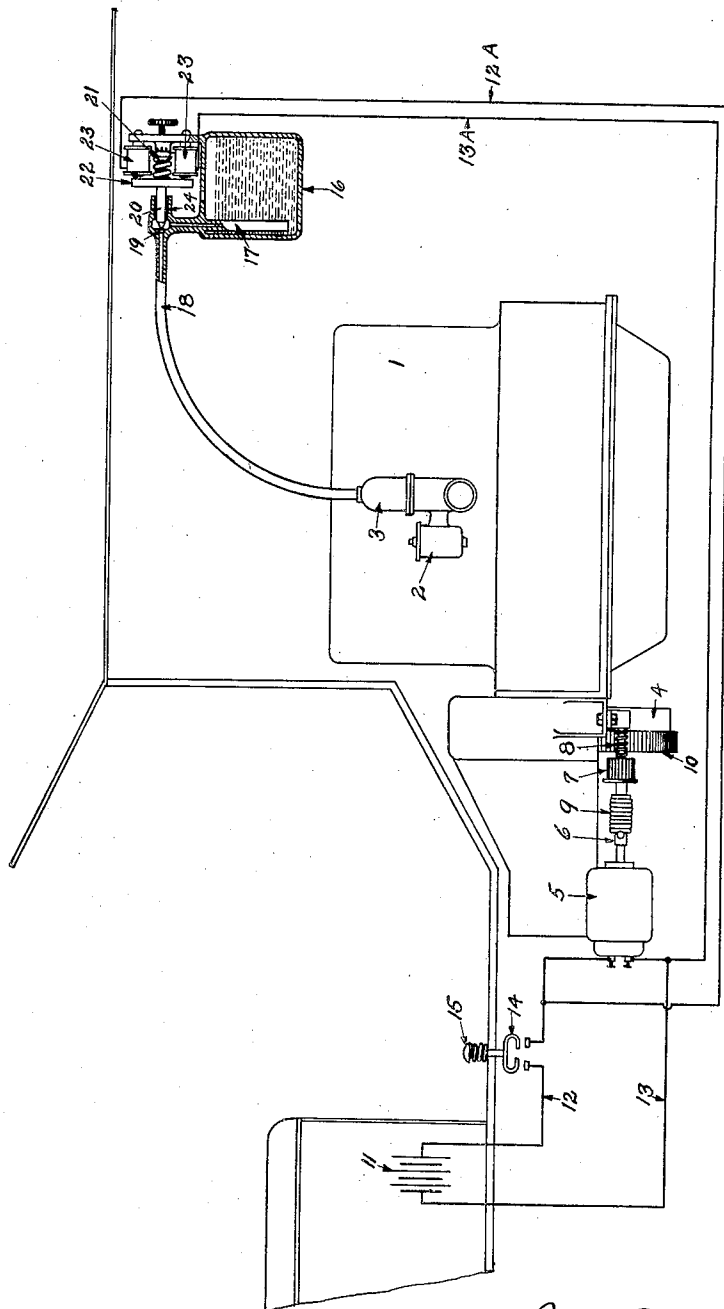


J. J. HOGAN.
PRIMING DEVICE.
APPLICATION FILED DEC. 29, 1917.

1,337,772.

Patented Apr. 20, 1920.



By

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UNITED STATES PATENT OFFICE.

JAY J. HOGAN, OF ERIE, PENNSYLVANIA.

PRIMING DEVICE.

1,337,772.

Specification of Letters Patent.

Patented Apr. 20, 1920.

Application filed December 29, 1917. Serial No. 209,414.

To all whom it may concern:

Be it known that I, JAY J. HOGAN, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Priming Devices, of which the following is a specification.

This invention relates to priming devices and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

The priming device is particularly designed for use with explosive engines as commonly used in automobiles.

The invention is illustrated in the accompanying drawing wherein 1 marks the engine, 2 the carbureter for the engine, 3 the intake manifold, 4 a fly wheel of the engine, 5 an electric starting motor, 6 the motor shaft, 7 a pinion driven from the motor, 8 a screw on the motor shaft 6 carrying the pinion into and out of engagement, 9 a spring connection between the motor shaft and pinion 7, and 10 a gear on the fly wheel 4 with which the pinion 7 is moved into and out of connection through the action of starting and stopping the motor 5. This driving connection between the engine and the motor is one in common use. The details of such connection form no part of my invention.

The usual storage battery 11 is provided from which the wires 12 and 13 lead to the motor 5. A switch 14 is arranged in the circuit formed by the wires 12 and 13 and is controlled by a button 15 ordinarily arranged so as to be readily accessible to the driver of the automobile.

A receptacle 16 is provided for a priming fluid. A connection 17 leads from the top of the receptacle downwardly toward the bottom of the same and communicates with a connection 18 leading to the intake manifold 3. At the junction of the two connections 17 and 18 there is arranged a valve seat 19 on which the needle valve 20 operates to control the fluid connection between the receptacle and the intake manifold. The valve 20 is kept normally closed through the action of a spring 21. The armature 22 of an electric magnet is carried by the stem of the valve 20. The coils 23 of the magnet are so positioned with relation to the armature that when the magnet is energized the valve 20 is opened. Wires 13^a and 12^a lead

to the coils 23 from the wires 12 and 13 so that the coils 13 are in the starting motor circuit.

The operation of the priming device is automatic. When the switch 14 is closed to operate the starting motor the current from the same connection energizes the electric magnet controlling the valve 20 and opens this valve. The connections 17 and 18 are subjected to the suction impulses or effort to which the manifold is subjected through the ordinary action of the internal combustion engine. The result is that priming fluid is drawn through the connection to the intake manifold and the engine is thus primed. Fluid is delivered in this way so long as the starting motor is operated or so long as the circuit through the electric connection leading to the starting motor is closed.

In order to provide against a constant feeding of priming fluid through any leakage of the valve, I prefer to provide a small leak passage 24 around the valve stem so that if there is any leakage past the valve seat there is sufficient communication with the outer air to prevent the drawing in of any fluid from the priming receptacle 16. On the other hand this passage 24 is not of sufficient size to interfere with the proper functioning of the device in drawing fuel from the receptacle through the connections to the intake when the valve 20 is open.

What I claim as new is:—

1. In a priming device, the combination of an internal combustion engine; an electric battery; an electric starting motor; an electric connection between the motor and the battery; a driving connection between the motor and the engine; a switch for the electric connection; a primer; and electrical means acting independently of the starting motor for actuating the primer as the switch is actuated.

2. In a priming device, the combination of an internal combustion engine; an electric battery; an electric starting motor; an electric connection between the motor and the battery; a driving connection between the motor and the engine; a switch for the electric connection; a priming fluid receptacle; a connection between the receptacle and engine through which a priming flow of fluid is induced by the suction effort of the engine; and electrical means actuated by said switch for controlling said connection.

3. In a priming device, the combination of an internal combustion engine; a receptacle for priming fluid; a connection between the receptacle and engine through
5 which a priming flow of fluid is induced by the suction effort of the engine; and means for controlling said connection comprising a valve above the fluid level in said recep-
tacle, said connection having an atmospheric connection at the valve to prevent a flow 10 of fluid from the receptacle through the connection except with an open position of the valve.

In testimony whereof I have hereunto set my hand.

JAY J. HOGAN.