

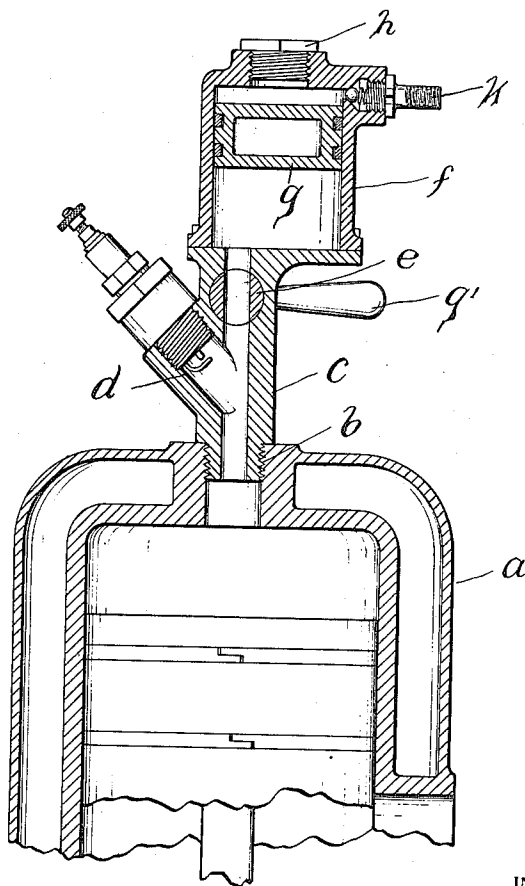
J. J. McINTYRE.

PUMP.

APPLICATION FILED NOV. 7, 1911.

1,060,109.

Patented Apr. 29, 1913.



WITNESSES

Louis Lucia

M. A. Shuckersaw

INVENTOR

John J. McIntyre

BY

N. E. Hart

his ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN J. McINTYRE, OF HARTFORD, CONNECTICUT.

PUMP.

1,060,109.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed November 7, 1911. Serial No. 658,967.

To all whom it may concern:

Be it known that I, JOHN J. McINTYRE, a citizen of the United States, and a resident of Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

It is the object of this invention to produce a pump adapted to be attached to and made a part of the cylinder of an explosion engine for various uses such as cranking the engine, inflating tubes, etc.

The novel features of construction embodied in a device made in accordance with my invention will be described in connection with the drawings in which the figure shows a cylinder, with pump attached, in central vertical section.

Referring to the drawing *a* denotes a cylinder, *b* the threaded aperture in which the spark plug is usually secured. In accordance with my invention I secure in this opening an apertured stem *c* having in one side a spark plug recess *d* and above this recess a valve *e*. To the top of this stem above the valve is secured the small cylinder *f* containing the piston *g*, the intake port *h* and the outlet port *k* from which the compressed air may be taken to be used in any way desired. The valve *e* is closed when the air pump is not wanted and may be controlled as by the handle *g'*, or preferably, directly from the dash of the car. Upon opening the valve *e* the compression in the cylinder operates the piston in one direction and the vacuum in the cylinder operates it in the return direction, producing a simple and effective pump.

It is, of course, apparent that the pump will operate in any position. If the spark

plug openings happen to be in the side of the cylinder then the pump can be inserted there, and if necessary, the core of the pump cylinder can be arranged at any angle to the aperture in the stem.

From this description of the device it will be seen that it can be utilized as a fixed part of the cylinder, without requiring any change in the construction of the cylinder and that the pump can be cut out whenever desired without in any way disturbing the normal operation of the cylinder.

The device is simple in construction, inexpensive, and is always ready for use.

I claim as my invention:

1. The combination with a cylinder of an explosion engine provided with an opening, of a stem secured in said opening, a spark plug recess in said stem, a spark plug secured in said recess and an air pump secured to said stem above said recess and in communication with said cylinder, a cut-off valve between said pump and recess.

2. The combination with a cylinder of an explosion engine having a threaded opening in a wall, of a tubular stem secured in said opening, an aperture through the wall of said stem, a spark plug secured in said aperture, a cylinder mounted on said stem above the spark plug and provided with inlet and outlet ports, the said cylinder being in communication with the engine cylinder through the tubular stem, a piston in said cylinder and a shut-off valve located in said tubular stem between the cylinder and spark plug.

JOHN J. McINTYRE.

Witnesses:

M. E. O'NEILL,
H. E. HART.