J. R. HALTERMAN.

GASOLENE MOTOR.

APPLICATION FILED NOV. 15, 1913.

1,106,210.

Patented Aug. 4, 1914.

2 SHEETS—SHEET 1.

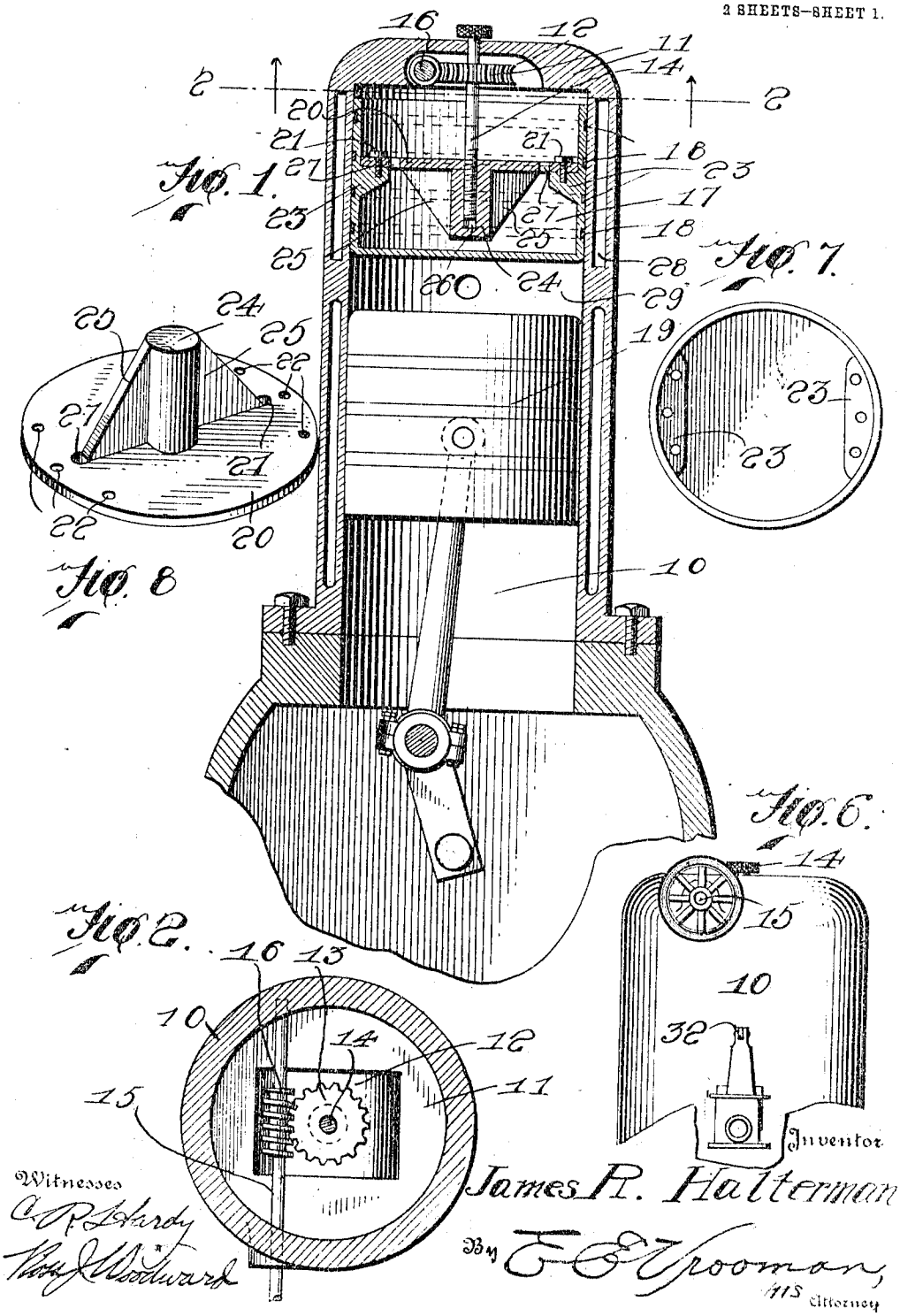


Fig. 1.

Fig. 7.

Fig. 8

Fig. 6.

Fig. 2.

Witnesses

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By E. E. Vrooman,

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2 SHEETS—SHEET 2.

Fig. 5.

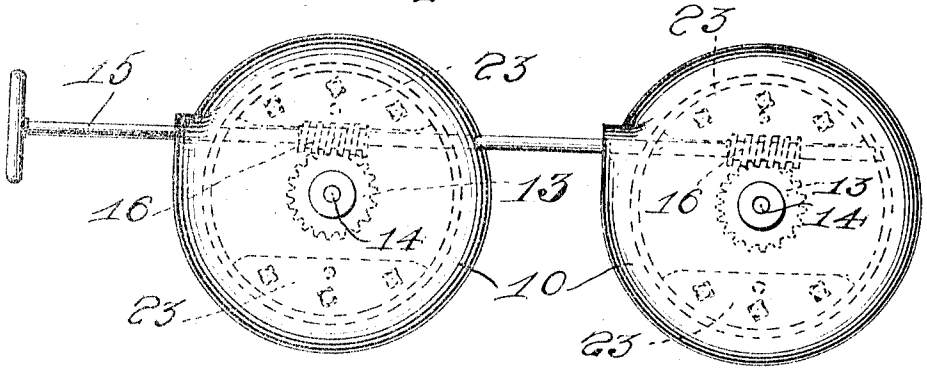


Fig. 4.

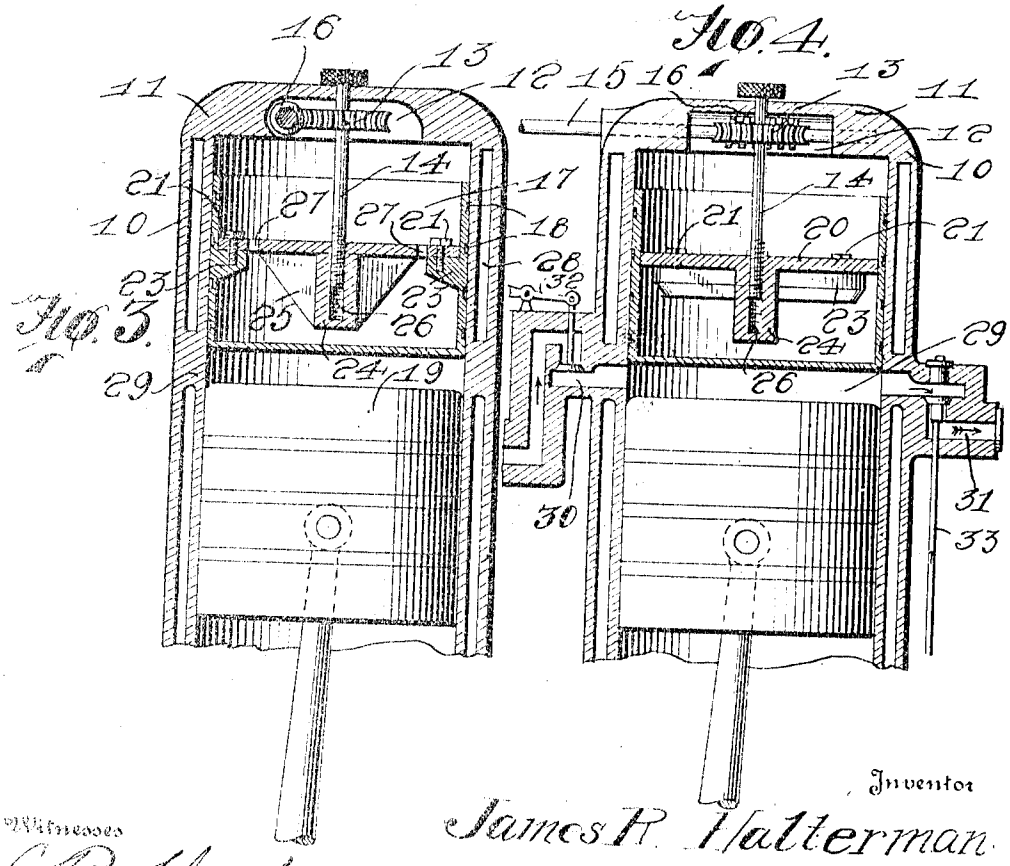


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES R. HALTERMAN, OF ANNA, ILLINOIS.

GASOLENE-MOTOR.

1,106,210. Specification of Letters Patent. Patented Aug. 4, 1914.

Application filed November 15, 1913. Serial No. 801,179.

To all whom it may concern:

Be it known that I, JAMES R. HALTERMAN, a citizen of the United States of America, residing at the city of Anna, in the county of Union and State of Illinois, have invented certain new and useful Improvements in Gasolene-Motors, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an internal combustion engine and the principal object of the invention is to provide an attachment for the cylinder so that different kinds of fuel may be used.

Another object of the invention is to so construct the attachment and so mount the same that the size of the combustion chamber may be regulated according to the type of fuel used.

Another object of the invention is to so construct the attachment that it may be readily adjusted, thus permitting the attachment to be adjusted according to the atmospheric pressure. This will make the engine especially adapted for use upon flying machines and other types of machines that are used where the atmospheric pressure is constantly changing.

This invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a vertical sectional view through an engine provided with the improved attachment. Fig. 2 is a sectional view taken along the line 2—2 in Fig. 1. Fig. 3 is a view similar to the upper portion of Fig. 1 with the attachment in a lowered position. Fig. 4 is a view similar to Fig. 3 but taken at right angles thereto. Fig. 5 is a top plan view of an engine provided with the improved attachment. Fig. 6 is a side elevation of the upper portion of one of the cylinders shown in Fig. 5. Fig. 7 is a plan view of the attachment with its attaching plate removed. Fig. 8 is a perspective view of the attaching plate.

The cylinder 10 is provided with a head 11 in which there is formed a chamber 12. This chamber 12 is provided so that a gear wheel 13 carried by a pin 14 may be out of the way and thus prevented from interfering with the operation of the engine.

An adjusting rod 15 extends from the head 11 and carries a worm screw 16 which is positioned in the chamber 12 and meshes with the gear wheel 13. This adjusting rod 15 may extend through two or more cylinders as shown in Fig. 5, thus permitting all of the cylinders of an engine to be adjusted at the same time and the same amount. A head 17 which is provided with packing means 18 is slidably mounted in the cylinder between the cylinder head 11 and piston 19. The space between the head 17 and piston 19 forms the combustion chamber and it will thus be seen that when the head 17 is moved, the size of the combustion chamber will be changed as much as desired.

A plate 20 is secured in the head 17 by machine bolts 21 passing through the opening 22 in the plate into ledges 23 carried by the heads 17. A sleeve 24 which is braced by webs 25 extends from the plate 20 and is provided with a threaded opening 26 so that the stem 14 can be screwed into this threaded opening, and thus the stem connected with the plate. It will thus be seen that when the stem 14 is rotated, the head 17 will be caused to move vertically in the sleeve since the turning of the stem will cause the head to be moved along the threaded portion of the stem. This plate is provided with openings 27 so that water from the cooling jacket 28 can flow through the plate, and thus completely fill the head 17. This water in the head 17 will assist in keeping the engine cool and will also add more weight and strength to the head, and thus prevent it from being shaken and worked loose by the explosions in the cylinder.

The fuel from the carbureter enters the combustion chamber 29 through the inlet port 30 and leaves the combustion chamber through the outlet port 31. These ports are controlled by the valves 32 and 33 which are operated by any suitable means in timed relation to the action of the piston.

It is a well known fact that different fuels need different compression and that the same fuel needs different compression under different atmospheric conditions. With the ordinary type of engine, it is necessary to use the fuel for which the engine was built and it is necessary to especially construct the cylinder according to the locality in which it is to be used. With this construction, any fuel desired may be used and the engine may be used in any locality since the adjustment of the heads 17 will cause the combustion chamber to be regulated, thus permitting the engine to accommodate itself to the requirements.

What is claimed is:—

1. An internal combustion engine including a cylinder, a head for said cylinder provided with a cut-out portion forming a chamber, a piston in said cylinder, a head slidably mounted in said cylinder, a plate carried by said head and provided with an internally-threaded sleeve, a stem extending through the head of said cylinder and having its inner end threaded and screwed into the internally-threaded sleeve of said plate, a gear wheel carried by said stem and positioned within the chamber of the head of said cylinder, an adjusting rod extending through said chamber, and a worm screw carried by said adjusting rod and engaging the teeth of said gear wheel whereby said stem may be rotated to meet said head in said cylinder.

2. An internal combustion engine including a cylinder, a piston in said cylinder, a head provided with packing rings slidably mounted in said cylinder between said piston and the head of said cylinder, the space between said head and said piston forming the compression chamber of said cylinder, a plate mounted in said head and provided with openings through which water may pass to permit the interior of said head to be completely filled with water, an internally-threaded sleeve carried by said plate, a stem rotatably mounted and provided with a threaded end portion screwed into the threaded sleeve of said plate, and means for rotating said stem whereby said head may be moved in said cylinder to regulate the size of said compression chamber.

3. In an internal combustion engine, a cylinder, a piston slidably mounted therein, a hollow head slidably mounted in said cylinder between said piston and the head of said cylinder, ledges extending from the inner faces of the walls of said head, a plate in said head resting upon said ledges, securing means passing through said plate into said ledges, an internally-threaded sleeve extending from said plate, bracing webs extending from the sides of said sleeve to said plate to brace said sleeve, a stem rotatably supported in the head of said cylinder and having its inner end threaded and screwed into said sleeve, and means for rotating said stem whereby said head may be moved longitudinally in said cylinder.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JAMES R. HALTERMAN.

Witnesses:
R. L. McAULLY,
J. W. SYMES.