A. RADOVANOVIC.

TWO STROKE CYCLE COMBUSTION ENGINE.

APPLICATION FILED NOV. 9, 1914.

1,255,462. Patented Feb. 5, 1918.

Fig. 1

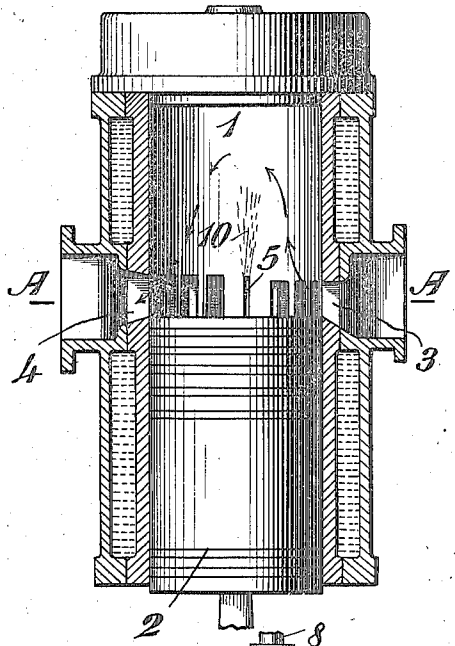


Fig. 2

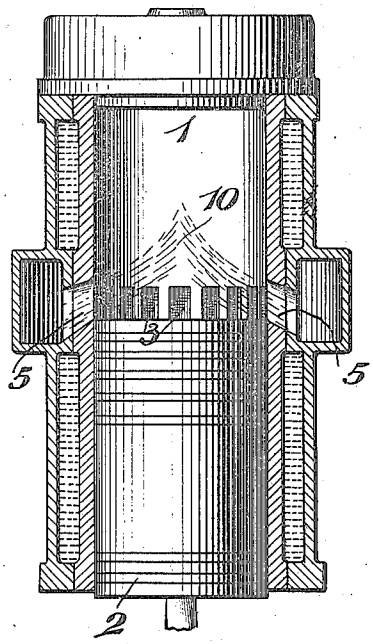


Fig. 3

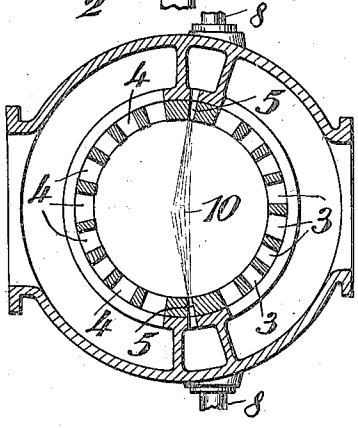
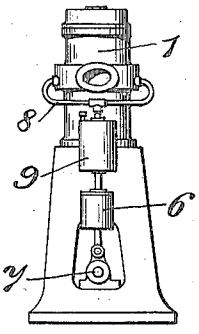


Fig. 4



Witnesses:

C. Sommers

E. Leckert

Inventor:

Andreas Radovanovic

By Henry Orth Jr.

Atty.

UNITED STATES PATENT OFFICE.

ANDREAS RADOVANOVIC, OF ZURICH, SWITZERLAND.

TWO-STROKE-CYCLE COMBUSTION-ENGINE.

1,255,462. Specification of Letters Patent. Patented Feb. 5, 1918.

Application filed November 9, 1914. Serial No. 871,169.

To all whom it may concern:

Be it known that I, ANDREAS RADOVANOVIC, a citizen of the Republic of Switzerland, residing at Zurich, Switzerland, have invented new and useful Improvements in Two-Stroke-Cycle Combustion-Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in two stroke cycle combustion engines with controlling piston and scavenging of the working cylinder across the axle of the cylinder.

The invention consists in the feature that on the circumference of the working cylinder between the openings for the entering scavenging air and the openings for the burned gases suitable means are provided to form an air wall in the cylinder, which turns off the scavenging air toward the cylinder head and thereby makes possible a complete scavenging of the cylinder.

In the accompanying drawing one form of the invention is shown by way of example:

Figures 1 and 2 are two vertical sections displaced at 90° one to the other through the cylinder.

Fig. 3 a horizontal section on the line A—A of Fig. 1, and

Fig. 4 a view of the complete engine on a reduced scale.

1 denotes the working cylinder, 2 the working piston, 3 denotes the openings for the scavenging air and 4 the openings for the burned gases, 5 denotes the particular openings, through which air at a higher pressure is injected in the cylinder. The pressure of this air, hereinafter called the turning off air, must be higher than the pressure in the cylinder at the exhausting and higher than the pressure of the scavenging air. The latter can be furnished by an air-pump 6 driven by the driving shaft 7 of the engine and connected through the supply-pipe 8 with the openings 5 of the cylinder 1. 9 denotes an air-vessel inserted between the pump 6 and the pipe 8.

The working of the engine is the following:

The piston 2 sets free at its forward stroke the openings 4 for the exhaust, the openings 3 for the scavenging air and the openings 5 for the turning off air. The air injected through the openings 5 forms an air wall 10 in the cylinder, which turns off the scavenging air toward the cylinder head and forces it to flow in the direction of the arrows indicated in Fig. 1, thereby scavenging completely the head of the cylinder.

What I claim is:

1. A two cycle combustion engine comprising a cylinder having a set of exhaust apertures for the burned gases and a set of inlet openings for the scavenging air controlled by the working piston and arranged on opposite sides of the cylinder, and openings in the cylinder between said sets for the injection of air under higher pressure than the pressure of the scavenging air into the cylinder forming an air wall therein to deflect the scavenging air toward the cylinder head, for the purpose specified.

2. A two cycle combustion engine comprising a cylinder having a set of exhaust apertures for the burned gases and a set of inlet openings for the scavenging air controlled by the working piston and arranged on opposite sides of the cylinder, and automatically controlled openings in the cylinder between said sets for the injection of air under higher pressure than the pressure of the scavenging air into the cylinder forming an air wall therein to deflect the scavenging air toward the cylinder head, for the purpose specified.

3. A two cycle combustion engine comprising a cylinder having a set of exhaust apertures for the burned gases and a set of inlet openings for the scavenging air controlled by the working piston, and arranged on opposite sides of the cylinder, and openings in the cylinder controlled by the piston for the injection of air under higher pressure than the pressure of the scavenging air forming an air wall in the cylinder to deflect the scavenging air, from its path across the cylinder, toward the cylinder head, for the purpose specified.

4. A two cycle combustion engine having a set of piston-controlled exhaust apertures, a set of piston-controlled openings for scavenging air, additional oppositely arranged piston-controlled air inlet openings upwardly directed and narrower than the aforesaid openings, and means for supplying air to said additional openings under

higher pressure than the scavenging air thereby producing within the cylinder a wall of high pressure air across the cylinder in front of the openings for scavenging air for deflecting said scavenging air to the cylinder head.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

ANDREAS RADOVANOVIC.

Witnesses:
ERNST FISCHER,
CARL GUBLER.