

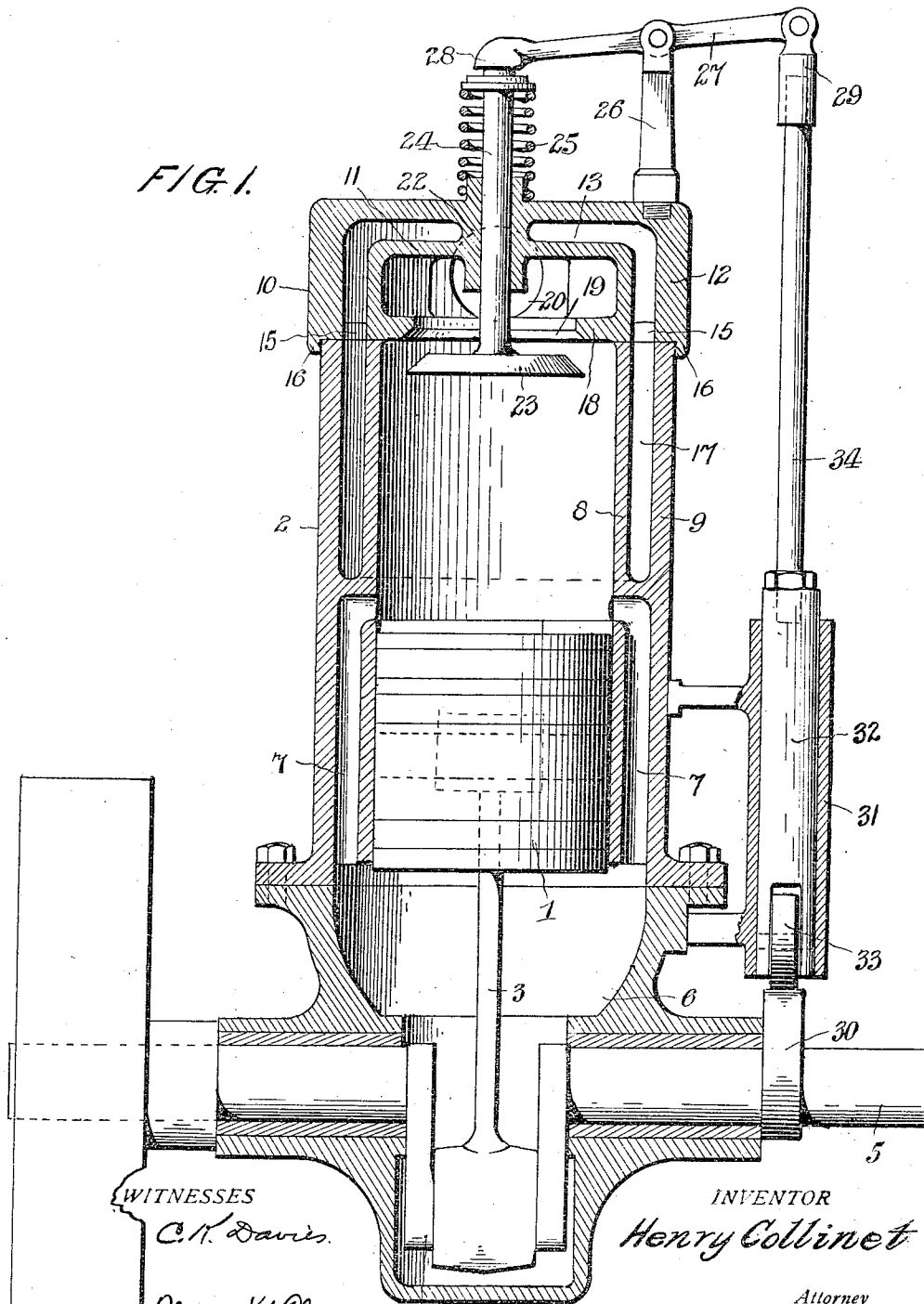
1,033,783.

H. COLLINET.
GASOLENE ENGINE.
APPLICATION FILED AUG. 6, 1909.

Patented July 30, 1912.

2 SHEETS—SHEET 1.

FIG. 1.



WITNESSES

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INVENTOR

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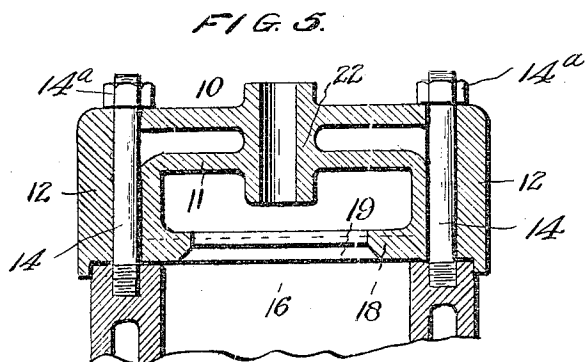
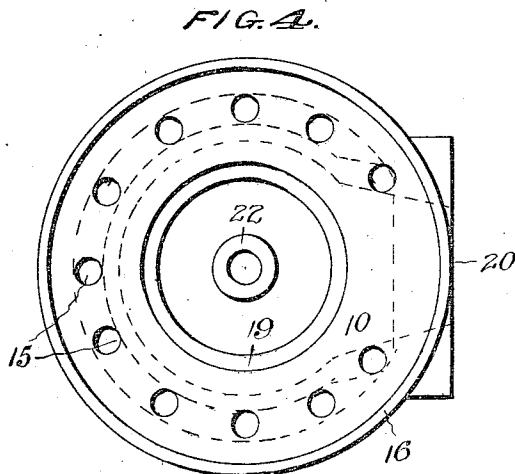
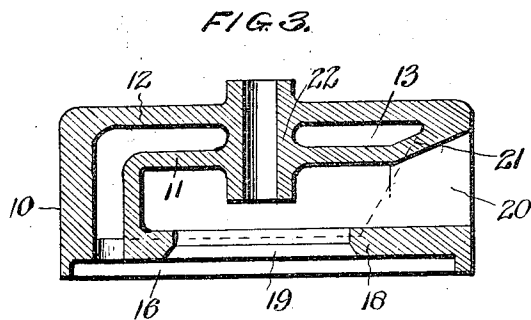
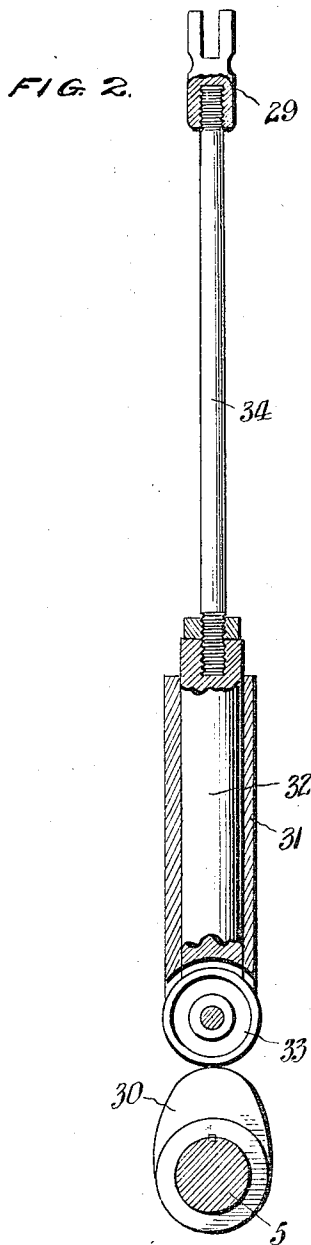
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HENRY COLLINET, OF CHICAGO, ILLINOIS.

GASOLENE-ENGINE.

1,033,783.

specification of Letters Patent.

Patented July 30, 1912.

Application filed August 6, 1909. Serial No. 511,610.

To all whom it may concern:

Be it known that I, HENRY COLLINET, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gasolene-Engines, of which the following is a specification.

My invention relates to that class of two-cycle engines embodying a cylinder and a head superposed thereon, in which is located a mechanically operated exhaust valve, and the object of my invention is to provide a novel, simple and durable construction of cylinder head and valve operating mechanism.

In the accompanying drawings which illustrate my invention, and form a part of this specification, Figure 1 is a central, vertical, sectional view through an engine embodying my present invention. Fig. 2 is an elevation partly in section of a portion of the valve-operating mechanism. Fig. 3 is a cross-section through the cylinder head removed. Fig. 4 is a bottom plan view thereof, and, Fig. 5 is a cross-section through the cylinder head and the upper portion of the cylinder, showing the connections therebetween.

Referring to the drawings, 1 represents a piston, arranged within the cylinder 2, and having its rod 3 connected at its lower end to crank 4 of the shaft 5 journaled through the crank case 6.

The cylinder 2 is provided with ports 7, communicating between the crank case 6 at a point above the piston 1 when the latter is in lowermost position. Above its center, said cylinder is pivoted into inner and outer walls 8 and 9 respectively, forming a water-space therebetween. Superposed upon the cylinder 2 is the cylinder head 10, which comprises inner and outer walls, 11 and 12 respectively, forming a water-space 13 therebetween, the wall 12 being provided, at the lower edge, with a depending flange 16 to fit about the upper edge of cylinder 2. The lower edge of the head 10 has a circular series of openings 15, communicating, when said head is in position upon cylinder 2, between the water-space 13 of said head and the water-space 17 between walls 8 and 9 of the cylinder, certain of said openings 15 being adapted to receive the inner ends of the studs 14. Threaded upon both ends, the said inner ends being screwed in conformably threaded bores in the upper

edge of cylinder 2, and the outer ends projecting exteriorly through openings in the upper wall of the head for the reception of nuts 14^a whereby to rigidly and securely lock the head upon the cylinder. The inner wall 11 of the cylinder head has at its lower edge, an internal circular flange 18 provided with a central opening forming a valve seat 19, and said inner wall also has a port 20 above said flange, walled at 21 across the water-space 13, and communicating exteriorly through the outer wall 12 as clearly shown in Fig. 3. A vertical tubular valve stem guide 22, centrally connects the inner and outer walls 11 and 12 of said cylinder head, and is arranged in a line above the center of the opening forming the valve seat 19.

The valve 23 is seated upwardly against the valve seat 19 and has its stem 24 projecting exteriorly through the tubular guide 22, and a spring 25 coiled about the said valve stem is compressed between the surface of the cylinder head and its outer end whereby to close said valve against its said seat. Mounted upon the upper surface of the cylinder head is a supporting base 26 upon the upper end of which is intermediately pivoted a rocker arm 27, having its headed end 28 bearing upon the upper end of valve stem 24 and provided with a yoke 29 pivoted to its opposite end.

The crank shaft 5 is provided with a metal cam 30 secured thereon outside of the crank case 6, and the cylinder 2 is provided with a vertical guide tube 31 within which is mounted to slide a push-rod 32 having a roller 33 journaled upon its lower end and in contact with cam 30. Connecting rod 34 is adjustably connected at its lower end to the upper end of the push-rod 32, and is similarly connected at its upper end to the yoke 29.

By the means herein described, I am enabled to provide a strong and durable construction of cylinder head and valve operating mechanism, which will rarely get out of order, and which may be quickly and easily removed to reseal the exhaust valve, clean out the cylinder and for other purposes.

Having fully described my invention, I claim:

In an explosion engine of the character described, a cylinder comprising spaced inner and outer cylinder walls forming therebetween a cylinder water space, a removable cylinder head including spaced inner and

outer head walls providing a head water space, a horizontal annular plate connecting the lower ends of the head inner and outer walls and provided with a series of spaced openings for establishing direct and free communication between the cylinder water space and the head water space, said annular plate extending inwardly beyond the inner head wall forming a flange-valve seat partially closing the lower end of said inner head wall, the outer head wall being provided with a depending holding annular flange fitting snugly about the exterior of the upper end of the outer cylinder wall to make a steam-tight union between the cylinder and head and to permit of said direct and free communication between the cylinder and head water spaces, a central depending apertured boss connecting the inner and outer head walls, a stem operating through the apertured boss, a valve connected with the stem, and means to move the stem.

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

HENRY COLLINET.

Witnesses:

RAYMOND F. KRUMSIEG,
GEORGE KLEIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."