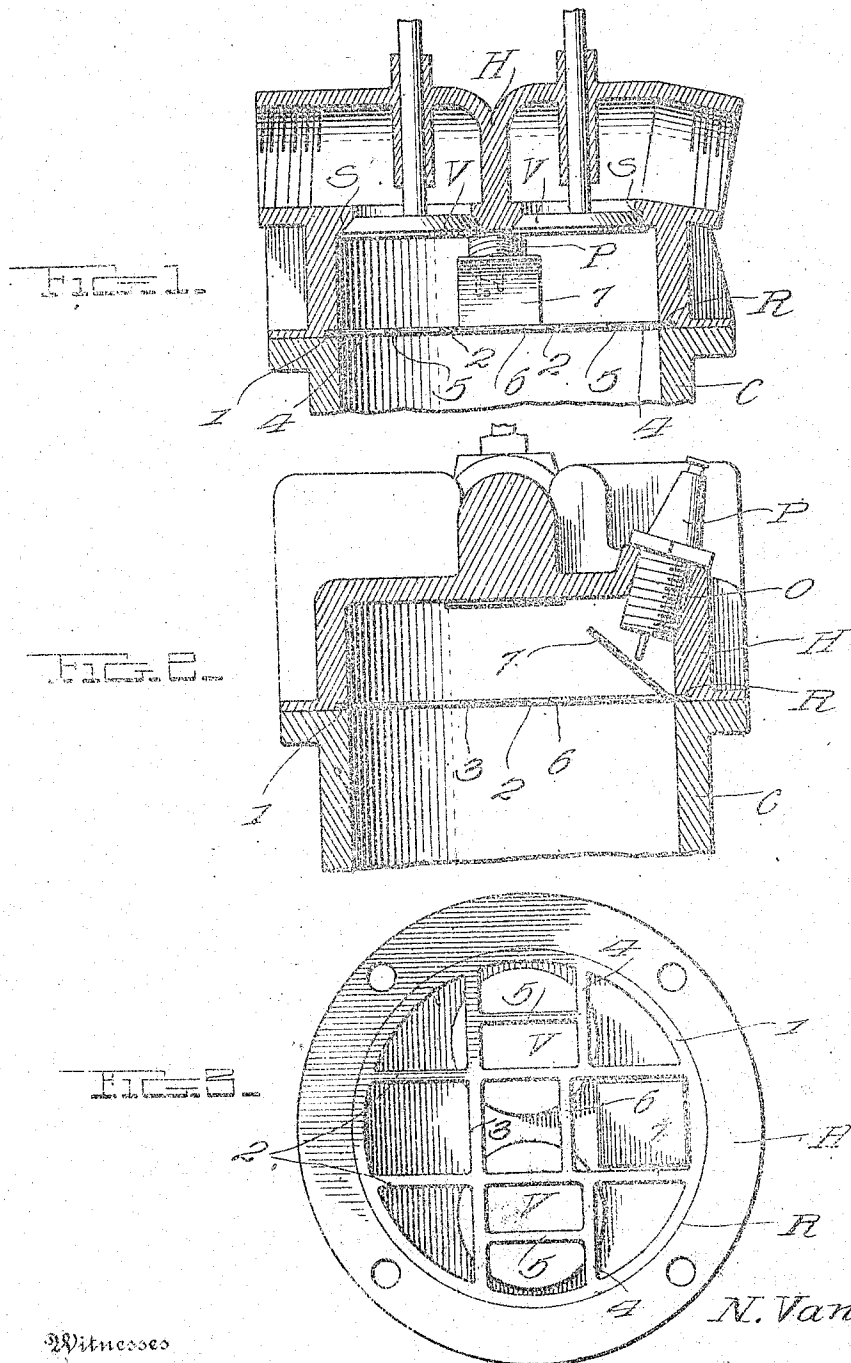


N. VAN DYKE.
 COMBINED PISTON AND SPARK PLUG SHIELD.
 APPLICATION FILED MAY 7, 1914.

Patented Feb. 16, 1915.

1,129,028.



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

NICKOLAAS VAN DYKE, OF BAKERSFIELD, CALIFORNIA.

COMBINED PISTON AND SPARK-PLUG SHIELD.

1,129,028.

Specification of Letters Patent.

Patented Feb. 16, 1915.

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To all whom it may concern:

Be it known that I, NICKOLAAS VAN DYKE, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented certain new and useful Improvements in Combined Piston and Spark-Plug Shields; and I do 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.

My invention relates broadly to improvements in internal combustion engines and more particularly to those having valves in the heads of their cylinders. It is a well-known fact that with many types of engines of this character, the valve stems or the valves themselves, are prone to break under high pressure within the cylinder, or rough usage. The result is that the valve drops within the cylinder and upon the ascent of the piston, the cylinder head, the cylinder, and the piston, are often injured. It is to overcome this most objectionable feature that I have designed my invention.

A further object of the invention is to provide means whereby oil, thrown upwardly by the rising pistons, may be deflected against the valves and whereby the spark plug will be shielded and will, therefore, be protected against said oil.

A still further object of the invention is to design structure for carrying out the objects of the invention, which may be formed of a single metal plate.

With the above objects in view, the invention resides in certain novel features of construction and combination herein described and claimed and shown in the drawings wherein:

Figure 1 is a vertical section through a cylinder head equipped with overhead valves and a portion of its cylinder, showing the application of my invention thereto; Fig. 2 is a vertical section taken at right angles to Fig. 1; and Fig. 3 is a bottom plan view of the cylinder head detached, showing more particularly the specific construction of the shield.

In the accompanying drawings, I have illustrated the upper portion of a cylinder C which is provided with a head H, the latter having the usual internal valve seats S and inwardly opening valves V, which latter are designed to automatically control the inlet and exhaust gases to and from the

cylinder. The head is further provided with a threaded opening O for the reception of a spark plug P which may be of any suitable construction.

Coming now more particularly to the details of the present invention and its application, I have shown my improved shield as including a ring 1 which is adapted to be positioned in an annular recess R which is formed on the lower side of the cylinder head. Extending transversely across the ring 1 and integrally united at their opposite ends thereto, is a pair of parallel bars 2, a third transverse bar 3 extending at right angles to said bars 2 and being integrally united therewith and with the ring 1, while spaced from said bar 3 and secured at their opposite ends to the bars 2 and to the ring 1, are transverse bars 4, the latter being connected to the bar 3 by means of integral bars 5 which are located in parallel relation to the bars 2. A final cross bar 6, lying parallel to the bar 3, and united at its opposite ends to the bars 2, completes the means for preventing the valves V from dropping into the cylinder in case of breakage. As, most clearly shown in Fig. 3, the bar 6 is positioned nearer the center of the ring than the bars 4, this positioning being found most expedient in order that an upwardly and inwardly inclining deflecting plate 7, formed integrally with the ring 1, may be struck from the same piece of metal as the framework above described. Said deflecting plate 7, as clearly shown in Fig. 2, underlies the terminals of the spark plug P and, therefore, prevents oil, thrown upwardly by the ascent of the piston, from collecting on said terminals. This location of the deflecting plates 7, also tends to deflect this oil into contact with the valve seats S, thereby thoroughly lubricating the same.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that I have produced a device for carrying out the objects of the invention which may be simply and inexpensively constructed.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with an engine cylinder having a valve and gas igniting means in its head, of a grating across said cylinder between its head and its piston, and an oil deflecting plate carried by the grating and

lying between the igniting means and the piston.

2. The combination with an engine cylinder having a valve and gas igniting means in its head; of a grating across the cylinder including a surrounding ring, and a number of intersecting bars, and an angularly disposed deflecting plate carried by the ring and the piston.

3. The combination with an engine cylinder having a valve and gas igniting means

in its head, of a grating between its head and its piston, and an angularly disposed oil deflecting plate between said piston and the igniting means and formed integrally with the grating.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

NICKOLAAS VAN DYKE.

Witnesses:

O. H. SHAFTER,
RUTH HENRY.