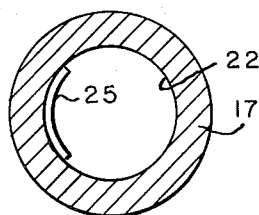
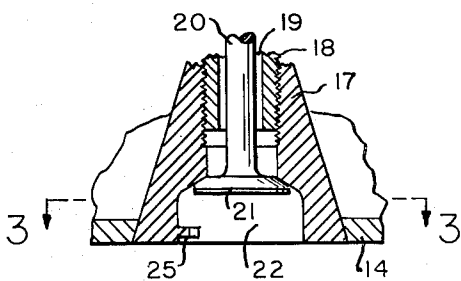
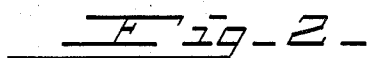


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COMPRESSION STABILIZING VALVE FOR FOUR CYCLE ENGINES

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COMPRESSION STABILIZING VALVE FOR FOUR CYCLE ENGINES

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This invention relates to a compression stabilizing valve of particular usefulness in connection with worn four cycle engines. Engines that have become worn have a tendency to pump oil and give off a smog. With the improved valve located above the cylinder and operating as hereinafter set forth, it will reduce oil pumping and smog.

The object of my invention is to provide an additional valve in the cylinder head beside the usual intake and exhaust valves which is opened at low throttle by the vacuum created in the cylinder by the down stroke of the piston, permitting cold air to be drawn in under the pre-heated gases entering through the intake valve, thus maintaining a low vacuum in the upper portion of the cylinder and preventing oil pumping and smog.

My invention will be further readily understood from the following description and claims, and from the drawings, in which latter:

FIG. 1 is a vertical section of a portion of a four cycle engine with my improvement thereon.

FIG. 2 is a detail section of a modified form of the invention.

FIG. 3 is a detail section, taken in the plane of the line 3—3 of FIG. 2.

The four cycle engine is indicated at 11, having a cylinder 12 in a cylinder block 13 to which a cylinder head 14 is bolted. The engine shown in the drawings is a L head type, with the intake valve 15 sending the fuel mixture to the cylinder through the channel 16. My improvement is located directly above the cylinder and comprises a tapered insert 17 in the head 13 and held in place by a threaded nut 18. This nut has a bore 19 of greater diameter than the diameter of the valve stem 20 of a valve 21, which seats in a recess 22. A light weight spring 23 is interposed between the head of the nut 18 and a collar 24 on the valve stem 20.

In the modification shown in FIGS. 2 and 3, the recess 22 is restricted by a baffle 25 to divert the air entering the cylinder.

When the engine is idling or the vehicle is going down hill with the vehicle proceeding faster than the motor, a worn engine will pump oil and create a smog due to the vacuum created above the piston. When this vacu-

2

um is created the vacuum will cause the valve 21 to open against the pressure of the spring 23, permitting fresh air to enter the cylinder below the pre-heated gases thus reducing oil pumping and smog.

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

1. In combination with a four cycle engine comprising:
 - (a) a cylinder block having a cylinder therein,
 - (b) a cylinder head secured to said cylinder block,
 - (c) a tapered insert in said cylinder head above said cylinder,
 - (d) a nut threaded into said tapered insert for securing said tapered insert in said cylinder head,
 - (e) a recess in the base of said insert,
 - (f) a compression stabilizing valve in said insert above said cylinder with the head of the valve seated in said recess, and
 - (g) a spring means for normally maintaining said valve in closed position and opened by the vacuum created in the cylinder under idling conditions of said engine.
2. In combination with a four cycle engine comprising:
 - (a) a cylinder block having a cylinder therein,
 - (b) a cylinder head secured to said cylinder block,
 - (c) a tapered insert in said cylinder head above said cylinder,
 - (d) a nut threaded in said tapered insert for securing said tapered insert in said cylinder head,
 - (e) a recess in the base of said insert,
 - (f) a compression stabilizing valve in said insert above said cylinder with the head of the valve seated in said recess,
 - (g) an air inlet around the stem of said valve,
 - (h) a baffle in said recess, and
 - (i) spring means for normally maintaining said valve in closed position and opened by the vacuum created in the cylinder under idling conditions of said engine.

References Cited by the Examiner

UNITED STATES PATENTS

1,134,097	4/15	Bissell	123—75
1,342,438	6/20	Gruber.	
1,505,697	8/24	Campbell	123—75
1,750,063	3/30	Sorg	123—75

FOREIGN PATENTS

637,209	5/50	Great Britain.
123,034	10/27	Switzerland.

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