

United States Patent Office.

A. F. REEDER, OF NORMAL, ILLINOIS.

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IMPROVEMENT IN PISTON-VALVES.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, A. F. REEDER, of the town of Normal, McLean county, and State of Illinois, have invented an Improved Piston-Valve for engines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction of a steam-cylinder with an inside lining or cylinder adjustable by a screw in the outer cylinder and cylinder-head, for the purpose of shifting the lining, and holding it in position; also, in the construction of a piston-valve, which is adjustable by a right-and-left screw upon the valve-stem, receiving the steam between the two valves or piston-heads, and secured and held in position in the inner cylinder by certain devices hereinafter to be set forth.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my valve-cylinder with an inside lining, so as to make, in fact, two cylinders, one within the other, as represented by Figure 1, in accompanying drawing, I and D representing the respective cylinders.

I construct my outer cylinder with enlarged ports, said cylinder being provided with a screw in each end, so as to receive the heads.

The inner cylinder I construct so that it will both fit close to and move easily within the outer cylinder, and enough shorter to allow the cylinder-heads to screw up close against the inner cylinder, so as to hold it in its required position, and that the same, also, may be adjusted by said screw-heads to the valve, thus enabling the engineer to put his engine into perfect beat without stopping his engine.

I construct my valve, represented by Figure 3, (a vertical section of the same,) of two separate piston-heads, adjustable by the right-and-left thread upon the valve-stem, represented by R and L, and held in position by the two arms J J.

Each piston-head is provided with a packing-ring, H H.

G G, in said fig. 3, represents the two concavities of the two piston-heads.

Figure 2 represents a sectional view of the valve-cylinder, with lining and valve in position.

Figure 4 represents a sectional view of the lining, or inside valve-cylinder, with ports.

Figure 5 represents a vertical section of the screw-head of the valve-cylinder.

The letters in the four figures represent as follows.

The same letters in the different figures represent corresponding parts.

A A represent the exhaust-ports.

B represents the induct on or receiving-port.

C C, the ports leading from the valve-cylinder to engine-cylinder.

D represents the lining or inside cylinder of the valve-cylinder.

E, the valve-stem.

F F, the heads of the valve-piston.

G G, the concavity of the piston-heads.

H H represent the packing-rings.

I I, the outer cylinder.

J J, the arms holding the valve in position in the valve-cylinder.

X X, the screw in the ends of the outer cylinder, for the purpose of receiving the cylinder-heads, and adjusting and holding in position the inside lining, or inside valve-cylinders.

R and L represent the right-and-left thread of the valve-stem.

What I claim as my invention, and desire to secure by Letters Patent, is—

A valve, of the form and construction described, adjustable, by a right-and-left screw, upon the valve-stem, receiving the stem between the two valve or piston-heads, and secured, and held in position in the inner cylinder, by the arms J J, as described.

Also, the adjustable lining, or inner cylinder, adjustable by the screw in the outer cylinder and cylinder-head, for the purpose of shifting the lining, and holding it in position, as described.

A. F. REEDER.

Witnesses:

THOS. SLADE,
W. M. HATCH,
T. U. FIELD.