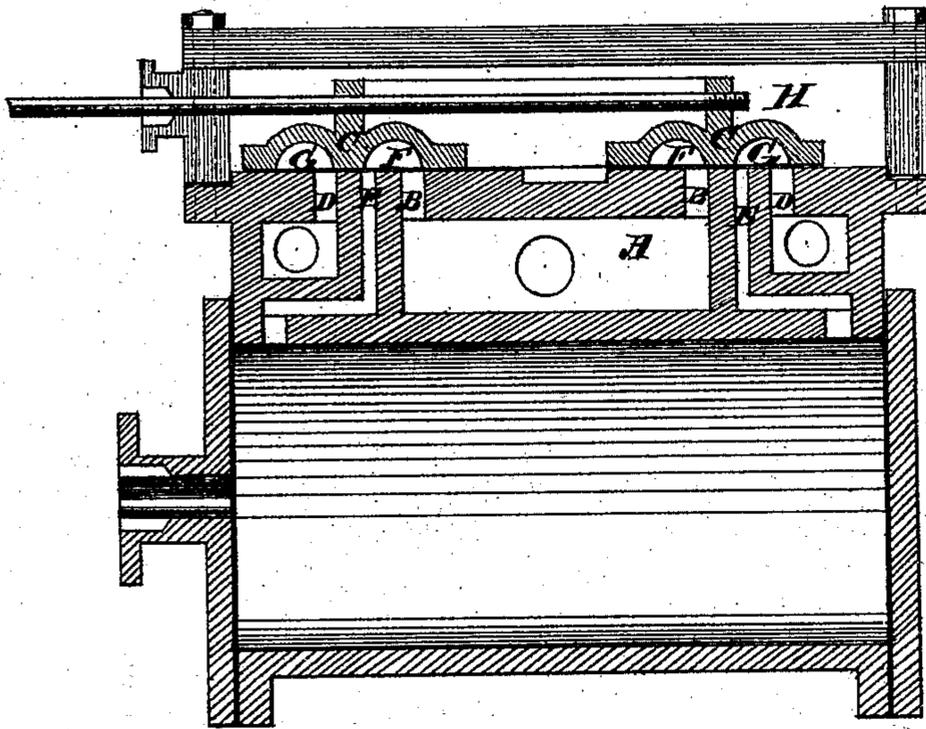


*A. G. Barrett,
Balance Slide Valve.*

No. 113016.

Patented Apr. 11. 1871.



Witnesses:

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UNITED STATES PATENT OFFICE.

ALBERT G. BARRETT, OF BARRETT, KANSAS.

IMPROVEMENT IN BALANCED SLIDE-VALVES.

Specification forming part of Letters Patent No. **113,616**, dated April 11, 1871.

To all whom it may concern:

Be it known that I, ALBERT G. BARRETT, of Barrett, in the county of Marshall and State of Kansas, have invented a new and Improved Balance Slide-Valve; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to slide-valves for steam-engines; and the principle thereof consists in sliding the valve under an equilibrium of steam-pressure on the two opposite sides.

The means which I employ in order to embody my principle and practically exemplify it will now be described, and subsequently specified in the claim.

The drawing exhibits a section showing my improvement.

M represents the piston-cylinder; E E, the steam-channels, and D D the exhaust-ports; A, the steam-chest, and B B the induction-ports to the cylinder; C C, the slide-valves, and F G the steam-domes thereof; and H, a steam-chamber or valve-chest.

When the steam is first admitted through

induction-ports B, and while the pressure from below has no countervailing pressure from above, the valves C will rise and allow a rapid ingress of steam to the valve-chest H. This will continue for a few moments, until an equilibrium of steam-pressure is exerted on both sides of each valve. After this is effected the additional pressure from the weight of the valve will cause it to settle in the desired proximity to the surface over which it is intended to slide, and will retain it in that position until steam is cut off from the engine.

Having thus described all that is necessary to a full understanding of my invention, what I esteem to be new, and desire to protect by Letters Patent, is—

A pair of slide-valves, C, having domes F G, and arranged in a chamber, H, combined, as described, with a steam-chest, A, cylinder induction-ports B B, exhaust-ports D D, and steam-channels E E, all relatively arranged to act on the principle specified.

ALBERT G. BARRETT.

Witnesses:

J. S. PARTHEMER,
B. F. BOLTON.