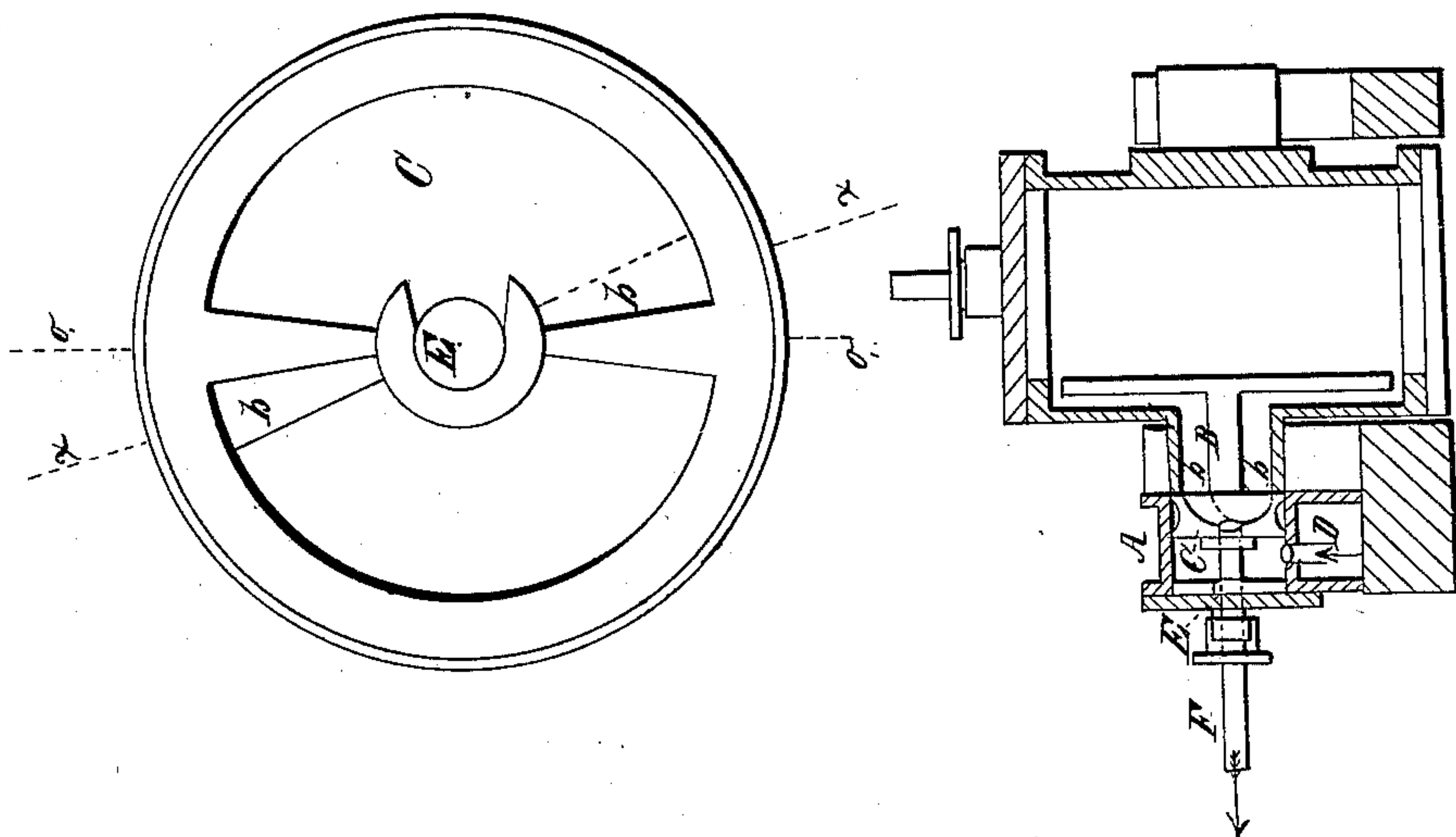
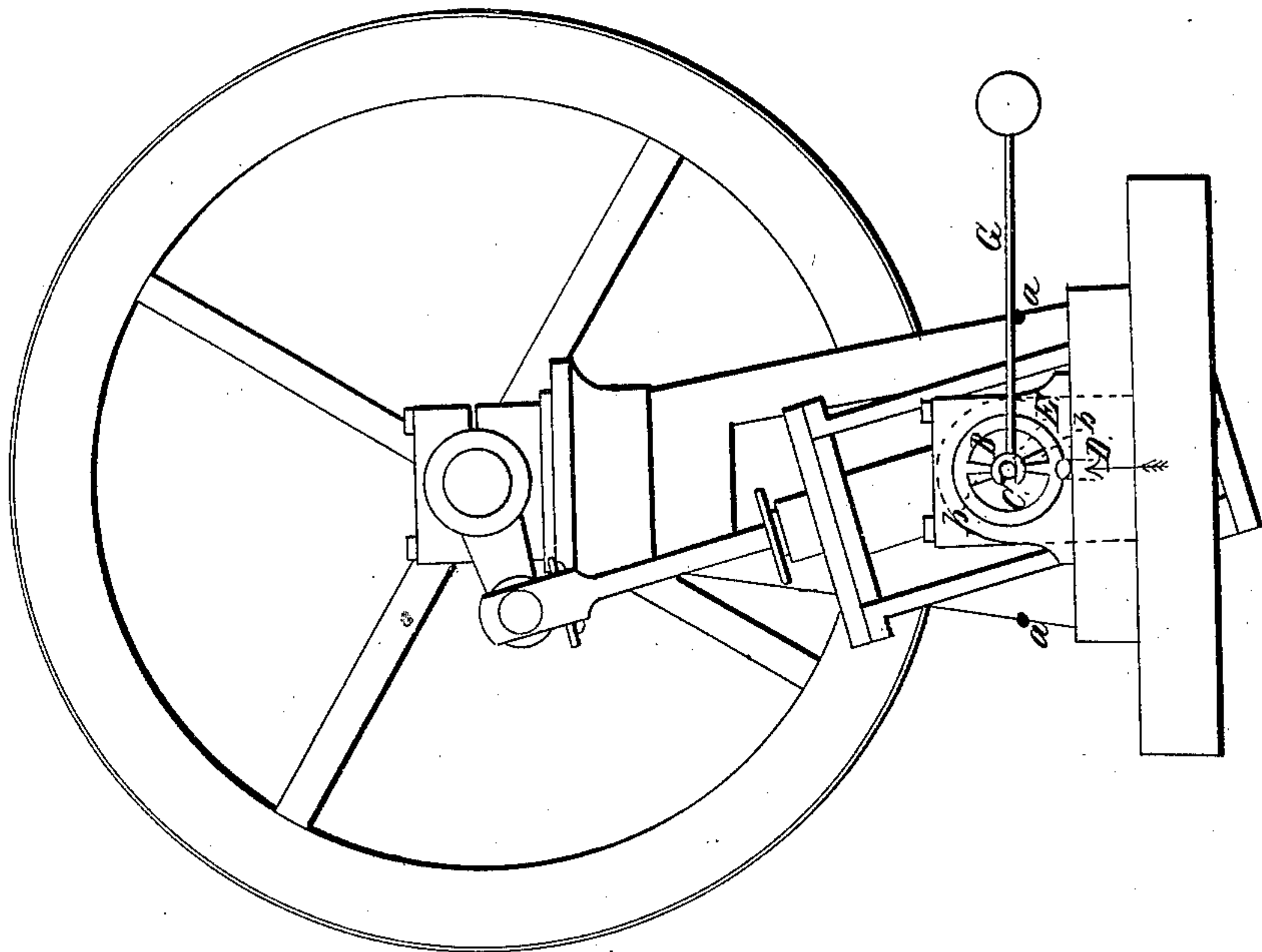


W. M. Smith,
Oscillating Steam Engine.
N^o 8,551. Patented Nov. 25, 1851.



UNITED STATES PATENT OFFICE.

WILLIAM M. SMITH, OF GEORGETOWN, DISTRICT OF COLUMBIA.

VALVE FOR OSCILLATING ENGINES.

Specification of Letters Patent No. 8,551, dated November 25, 1851.

To all whom it may concern:

Be it known that I, WM. M. SMITH, of Georgetown, in the county of Washington, District of Columbia, have invented a new and improved method of arranging the valve for changing the current of steam alternately to the top and bottom of the cylinder of an oscillating engine, whereby the action of the engine may be reversed and a great amount of friction in the trunnion and the necessity of packing the steam-trunnion and plumber-block are obviated; 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 providing the trunnion B, in which the steam passages are formed and on which the cylinder oscillates, with a cylindrical steam chest as A, in which is a circular piston valve C, one half of which is concave provided with an outlet in the center of the circle, and a pipe therefrom passing through a stuffing box E, in the center of the cover of the steam chest to carry off the exhaust steam the other half of the valve having one or more apertures therein for the passage of the steam to the ports in the face of the trunnion, the valve is fitted in the steam chest with metallic or other packing thus

forming a steam tight chamber and allows the valve to adjust itself to the end of the trunnion which faces are ground together, the steam chest is bolted to the lower half of the plumber block H, and the steam is admitted into the steam chest as at D. The valve being stationary, the steam passes alternately through the passages *b, b*, to the top and bottom of the cylinder by the action of the trunnion oscillating against the valve and the valve being turned half around in the steam chest by means of the lever G, on the exhaust pipe outside the stuffing box E, to a rest or catch as at *a*, the revolution of the engine is immediately reversed.

I do not claim the circular valve nor the manner of reversing the engine by turning the valve, but

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

The arrangement of the piston valve with a ground face in a cylindrical steam chest as described above by which the necessity of packing about the trunnion and plumber block is avoided, consequently varying much friction in the trunnion.

WM. M. SMITH.

Witnesses:

JOHN CFR. SALOMON,
JOHN F. PRUKNER,