(No Model.)

L. B. CARRICABURU.

RELIEF VALVE FOR STEAM ENGINE CYLINDERS.

No. 307,177. Patented Oct. 28, 1884.

Fig. 2.

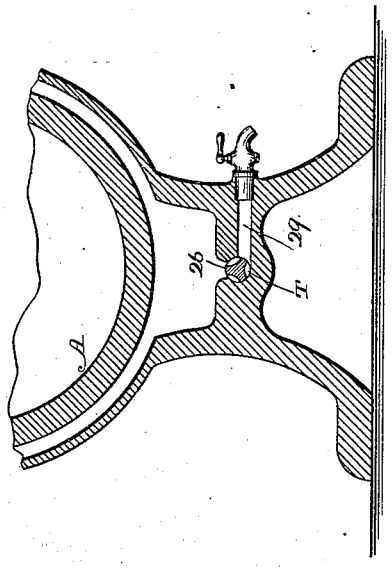
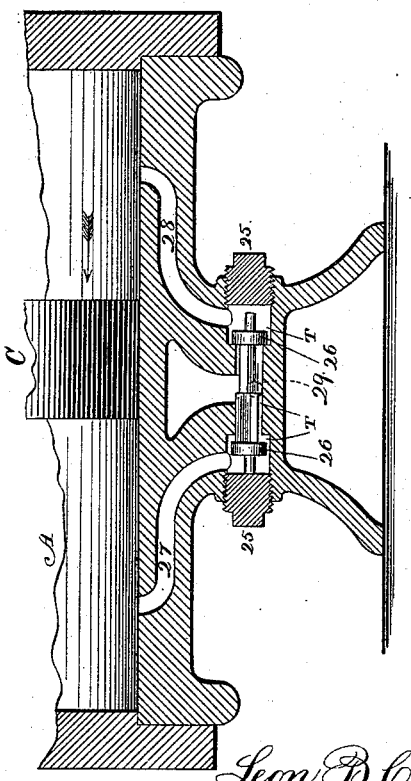


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

LEON B. CARRICABURU, OF NEW YORK, N. Y.

RELIEF-VALVE FOR STEAM-ENGINE CYLINDERS.

SPECIFICATION forming part of Letters Patent No. 307,177, dated October 28, 1884.

Application filed June 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, LEON B. CARRICABURU, of the city and State of New York, have invented an Improvement in Steam-Engines, of which the following is a specification.

It often happens that water of condensation accumulates in the cylinder, especially of a pumping-engine, when first started. I provide for removing this in the manner hereinafter described.

In the drawings, Figure 1 is a longitudinal section of the lower part of a steam-cylinder with my improved discharge-water valves, and Fig. 2 is a cross-section of the same.

Beneath the cylinder A is a small valve-chamber, T, which is tubular, and provided with caps 25 at the ends, and valves 26 with triangular guide-stems in the smaller inner portion of the tubular chamber T. The combined length of the two valve-stems is greater than the distance between the seats for the valves; and there are ports 28 27 from the ends of the chamber T to the steam-cylinder, and a lateral discharge-pipe, 29, between the valve-seats, which may be provided with a cock. When steam acts on one side of the piston C, the pressure closes the valve 26, upon which it acts, opening at the same time the other valve, so that water of condensation can run off at the exhaust side from the cylinder A. These operations are automatic, the valves 26 closing and opening in opposite directions at each admission of steam to the cylinder; hence water of condensation will always be taken away.

I do not claim, broadly, self-acting valves to discharge the water of condensation, as these have been heretofore shown; but they are difficult to construct and cannot easily be removed for cleaning or repairs.

I claim as my invention—

The steam-cylinder D, having in the metal at the lower part thereof the ports 27 and 28, and the cylinder T, with valve-seats, in combination with the screw-caps at the ends of the cylinder T and the separate valves 26, the guide-stems of which are within the center part, and are longer than the distance between the valve-seats, in order that the valve at the exhaust side may be opened by the pressure upon the steam side, substantially as specified.

Signed by me this 2d day of June, A. D. 1884.

L. B. CARRICABURU.

Witnesses:
GEO. T. PINCKNEY,
WILLIAM G. MOTT.