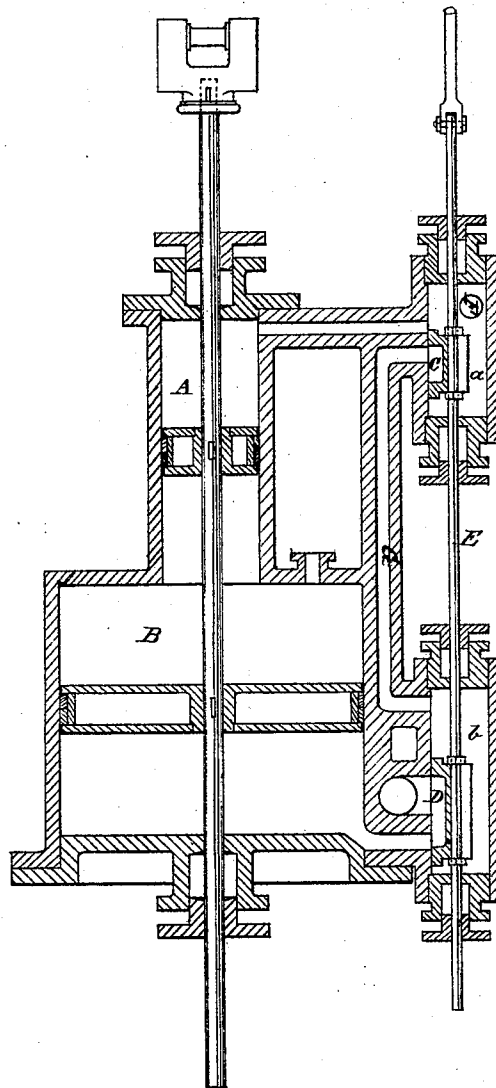


H. BERTIEAUX.

Improvement in Compound Reciprocating Engines.

No. 123,857.

Patented Feb. 20, 1872.



Witnesses:

A. Moore
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Inventor:

Henri Bertieaux.
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Atty.

UNITED STATES PATENT OFFICE.

HENRI BERTIEAUX, OF ANTWERP, BELGIUM.

IMPROVEMENT IN COMPOUND RECIPROCATING ENGINES.

Specification forming part of Letters Patent No. 123,857, dated February 20, 1872.

SPECIFICATION.

I, HENRI BERTIEAUX, of the city of Antwerp, in the Kingdom of Belgium, have invented a certain Improvement in Steam Cylinders for Compound Engines, of which the following is a specification:

My invention consists in the construction and arrangement of a compound engine, by which the high and low-pressure cylinders are cast in one piece with the valve-seats.

The drawing represents a longitudinal section of my improved steam-cylinders for compound engines.

In the drawing, A represents a high and B a low-pressure cylinder, cast together, and each provided with a separate valve-seat. Onto the valve-seats are securely fastened or bolted the steam-chests *a* and *b*, in which are placed the valves C and D, connected by a common valve-stem, E, by which the ports entering the respective cylinders are opened and closed. Suitable stuffing-boxes are arranged in the cylinder-heads and at each end of the steam-chest.

The high-pressure steam enters at F in the steam-chest *a*, and as it opens the steam-port therein steam enters the high-pressure cylin-

der A, and as it is exhausted it passes along the side-pipe G and enters the steam-chest *b* with its valve, which admits it to the low-pressure cylinder B, from which it may be exhausted into the air or the condenser, as described.

The great advantage of my improvement consists in its simplicity and moderate cost, as the separate inner cylinder-heads are done away with entirely, saving the extra expense of turning, fitting, and bolting; and, also, the two cylinders can be more accurately bored, and the valve-seats better finished.

Having thus described my invention, what I claim is—

1. The cylinders A and B, with their valve-seats cast in one piece, when arranged substantially as set forth.

2. The arrangement of the cylinders A and B, cast together, the steam-chests *a* and *b*, and valves C D, united by one valve-stem, E, when all are constructed substantially as shown, and for the purpose set forth.

HENRI BERTIEAUX.

Witnesses:

LOUIS VAN DE WALLI,
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