

H. L. TUMY.

CIRCULAR VALVES FOR STEAM ENGINES.

No. 189,400.

Patented April 10, 1877.

Fig. 1.

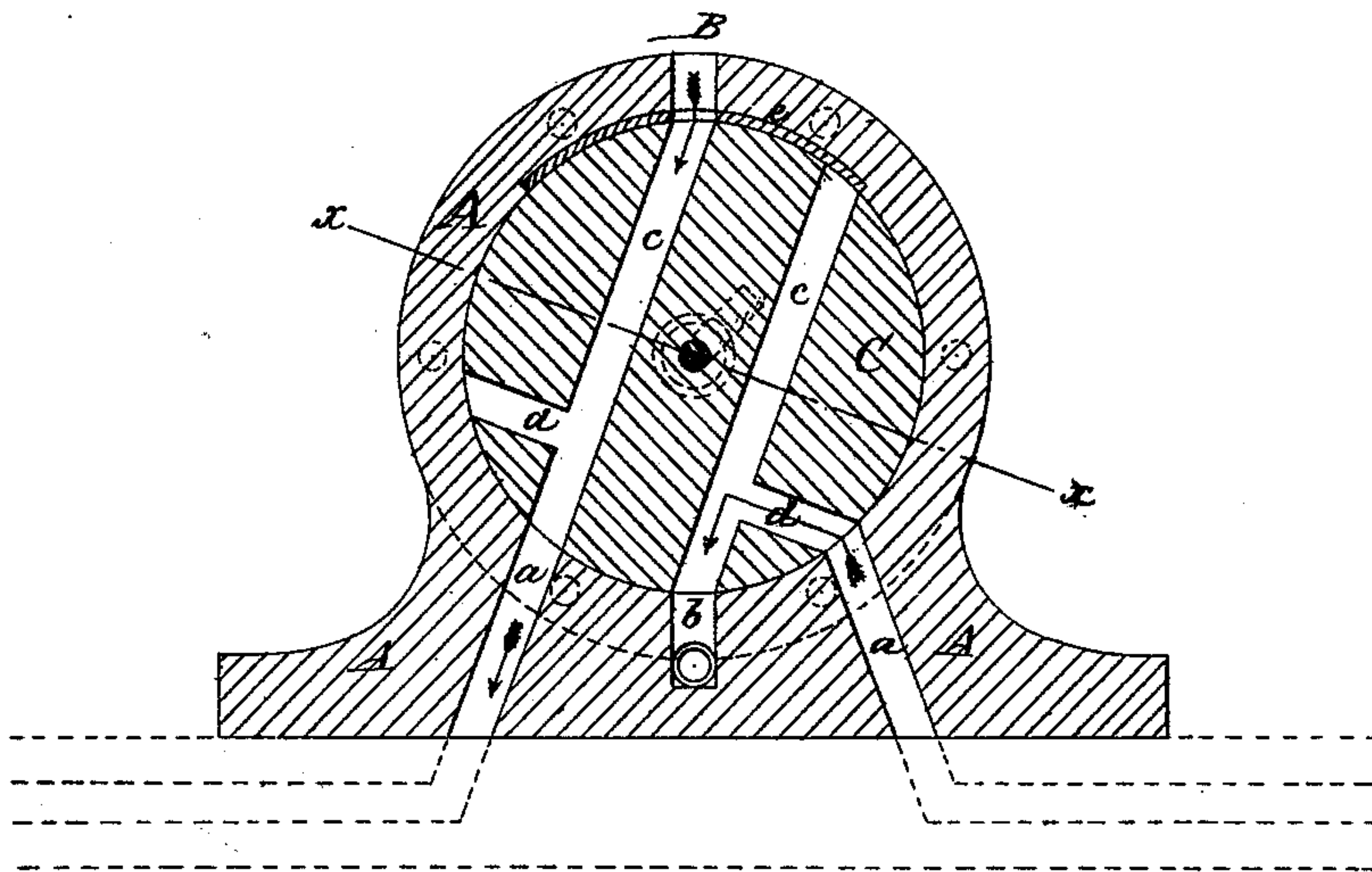
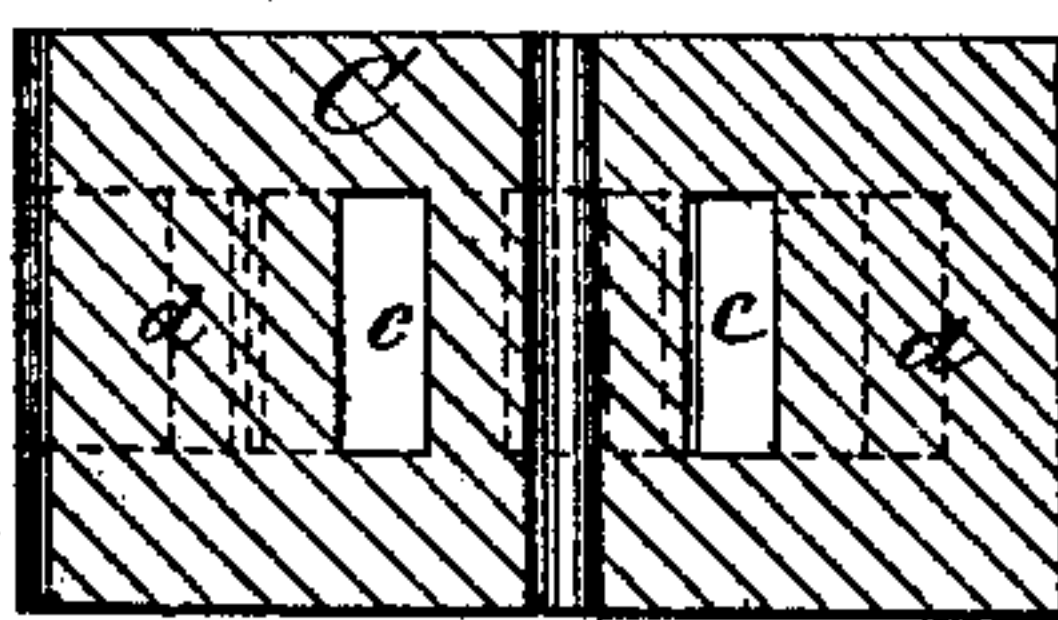


Fig. 2.



WITNESSES:

H. Rydquist.
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HIRAM L. TUMY, OF CINCINNATI, OHIO.

IMPROVEMENT IN CIRCULAR VALVES FOR STEAM-ENGINES.

Specification forming part of Letters Patent No. **189,400**, dated April 10, 1877; application filed August 14, 1876.

To all whom it may concern:

Be it known that I, HIRAM L. TUMY, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved Circular Valve for Steam-Engines, of which the following is a specification:

Figure 1 is a vertical section of a valve and valve-casing. Fig. 2 is a section of a valve, taken on line *x x* in Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention consists in the arrangement of steam-passages in a circular valve by which the steam is taken directly through the passages in the valve; the object being to dispense with the steam-room of the ordinary steam-chest, and furnish a balanced valve.

A is a valve-casing, having the ports *a a* leading to the ends of the cylinder, and the exhaust-port *b*. B is a supply-port at the top of the valve-casing. C is a circular valve, accurately fitting the casing A, and having the direct passages *c c*, and the side or exhaust passages *d d*, which connect with the passages *c c*.

The space between the passages *c c* in the valve is exactly equivalent to the distance between one of the ports *a* and the exhaust-port *b*. The distance between the side passages *d* and the passages *c* is the same. This distance, however, may be varied to change the point of cut-off or exhaust.

Plates *e e* are placed in the upper part of the casing, for taking the wear and packing the joint between the casing and wheel proper.

Steam is taken in at the port B, and, through one of the passages C, into the port *a*, and into the cylinder, and at the same time the upper

end of the other passage C is closed by the casing, while its lower end is over the exhaust-port *b*, and the side passage connecting with it connects also with the port *a* at the exhaust end of the cylinder.

The valve is worked by an eccentric and rocking arm in the ordinary way, and shifts the steam from one end of the cylinder to the other, as one or the other of the passages *c* comes under the port B.

The advantages claimed for my invention are that it does away with the disadvantage of having a volume of steam in the steam-chest. The valve is also balanced, and therefore requiring less force to drive it than valves of ordinary construction.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The valve C, constructed in a circular form, placed in and accurately fitting the cylindrical case A, and having the inlet-ports *c c* passing directly through it, intersected by the exhaust-ports *a a*, so arranged that they can be put in connection or communication with the outlet *b* alternately, said inlet-ports *c c* being put in communication with *d d* alternately by a reciprocating movement of the valve C, substantially as set forth and described.

2. The combination of the bearing-plate *e*, casing A, and valve C, and the inlet and exhaust ports, substantially as shown and described.

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Witnesses:

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