

T. Rodda,

Rotary Valve.

No. 105,129.

Patented July 5, 1870.

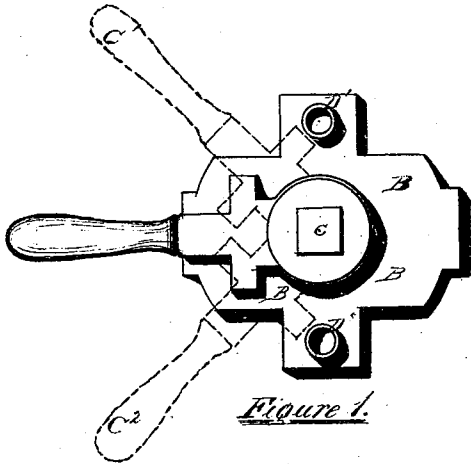


Figure 1.

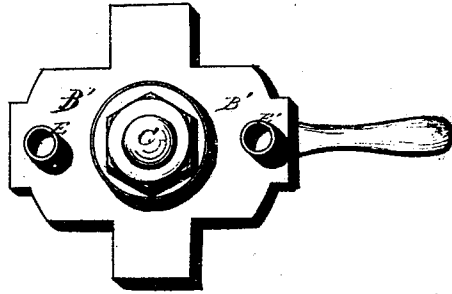


Figure 2.

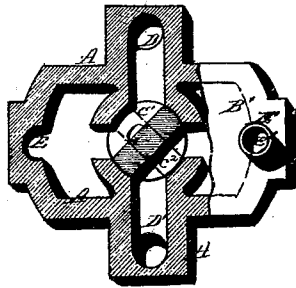


Figure 4.

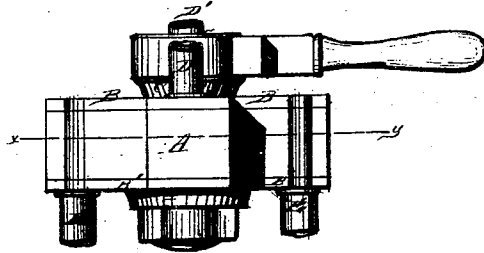


Figure 3.

Witnesses:

William W. Herchel

Robert Burns

Inventor:

Thomas Rodda
By his Atty
Herchel & Co

United States Patent Office.

THOMAS RODDA, OF ST. LOUIS, MISSOURI.

Letters Patent No. 105,129, dated July 5, 1870.

REVERSING-VALVE FOR STEAM-ENGINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS RODDA, of St. Louis, in the county of St. Louis and State of Missouri, have made certain new and useful Improvements in Valves for Steam-Engines; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention relates to the use of a valve-cock, of suitable form, which may be operated to reverse the direction of the steam passing to and from the valve-chest of a steam-engine. My said device, therefore, avoids the use of a reversing-gear, and the Stevenson link-movement on locomotives.

To enable those herein skilled to make and use my said invention, I will now more fully describe the same, referring herein to the accompanying—

Figure 1 as a top plan; to

Figure 2 as a bottom plan; to

Figure 3 as a side elevation; and, to

Figure 4 as a sectional plan at line *x y*, all said figures representing my said reversing-valve or cock, in one of its usual forms.

The same is made of metal, of a body-piece, A, to which are bolted, in a steam-tight manner, the covers B and B'.

Centrally, in the cruciform body, I arrange the cone-plug C, with the usual ground joint. Said plug is operated by the handle c. The plug has the incisions *c' c''*, which, when in line with the openings and passages in the body A, determine the steam course.

The steam and exhaust-pipes will be arranged as follows:

The live steam from the boiler will be received at the pipe D, the exhaust-pipe D' connecting with the air or the heater-drum, or the condenser will connect therewith these parts, this being, preferably, connected with the upper part of the valve-box A B B'.

The pipe E then connects with the steam-chest like the ordinary steam feed-pipe. The pipe E', standing opposite, connects with the exhaust-opening in the steam-chest, like the ordinary exhaust-pipe.

Supposing, now, the valve-plug C to hold the position indicated in fig. 4. Steam enters at D, passes, in the body of the valve-box, toward the exit E, and from this to the usual steam-chest, in the manner usual. Exhaust steam goes to the pipe E', and thence to the exit-pipe D'.

If, now, the position of the valve-plug C is changed from C¹ to C², (see fig. 4,) then live steam will enter from D, and pass to the pipe E', and, through the exhaust-opening of the steam-chest, into the end of the cylinder, which the moment before was exhausting steam, while the pipe E will then receive the exhaust steam, and, communicating with the pipe D', will discharge the same. A reverse motion of the engine will therefore take place, as intended.

It is plain that, as the feed of live steam is at times made through the exhaust-port in the steam-chest, in the application of my said invention, there are, therefore, necessary valves, which, like the D-slide valve, will permit steam so to enter and operate.

Having thus fully described my said invention,

What I claim is—

The valve A B B' C, arranged with its pipes D D' and E E', and operating in connection with the valve of a steam-engine, substantially as and for the purpose set forth.

In testimony of said invention I have hereunto set my hand this 22d day of December, A. D. 1869, in the presence of two witnesses.

THOMAS RODDA.

Witnesses:

WILLIAM W. HERTHEL,
ROBERT BURNS.