

(Model.)

2 Sheets—Sheet 1.

W. H. K. KING.
ROTARY VALVE AND GEAR.

No. 262,899.

Patented Aug. 15, 1882.

Fig. 1.

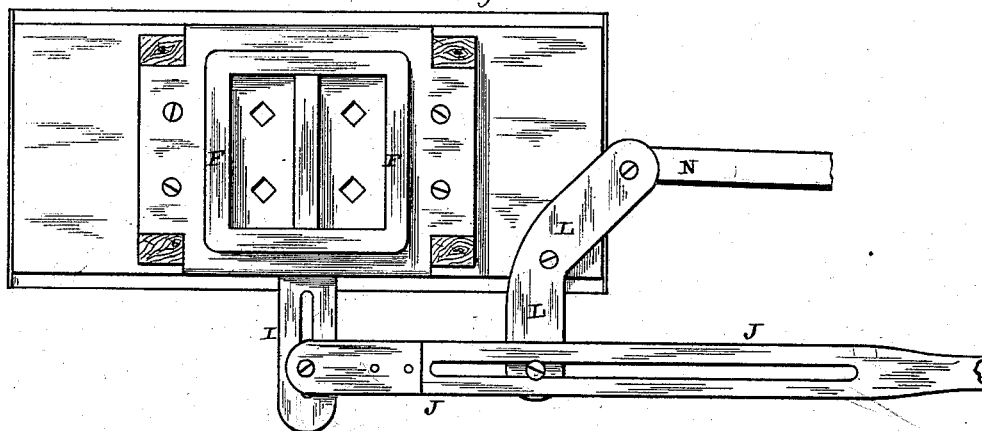
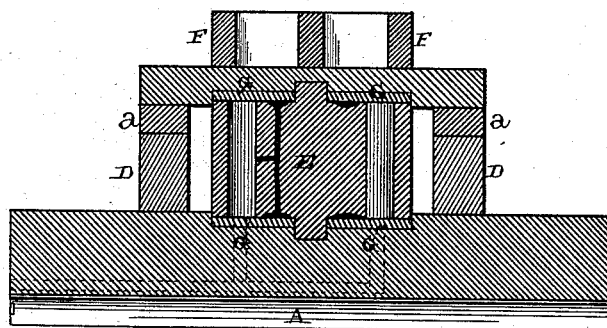


Fig. 2.



WITNESSES

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Fig. 3.

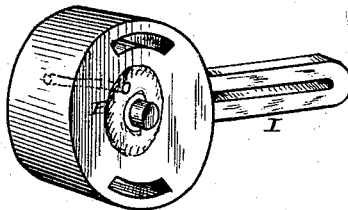


Fig. 5.

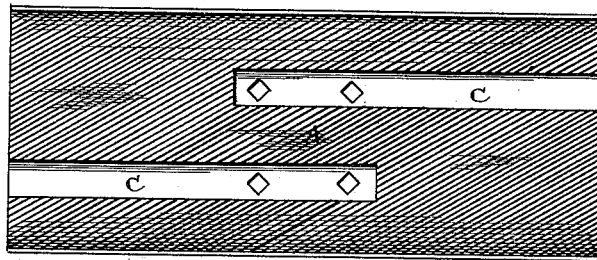
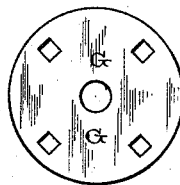


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM HENRY KANE KING, OF MOUNT STERLING, ILLINOIS.

ROTARY VALVE AND GEAR.

SPECIFICATION forming part of Letters Patent No. 262,899, dated August 15, 1882.

Application filed June 3, 1882. (Model.)

To all whom it may concern:

Be it known that I, W. H. KANE KING, of Mount Sterling, in the county of Brown and State of Illinois, have invented certain new and useful Improvements in Rotary Valves and Gears; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in valve and valve-gear; and it consists, first, in the combination of a slotted lever or arm which is attached to the valve, a slotted eccentric-rod, and a pivoted lever which is attached to the slotted rod at one end for the purpose of adjusting the valve; second, in the arrangement and combination of parts which will be more fully described hereinafter.

Figure 1 is a plan view of my invention with the top plate removed. Fig. 2 is a vertical section of the same. Fig. 3 is a detached view of the valve. Fig. 4 is a detached view of one of the plates between which the valve moves. Fig. 5 is a detailed view, showing the passages for the steam.

A represents the cylinder, in the upper portion of which are formed the two ports C, which communicate at one end with the cylinder in the usual manner, and which communicate with two separate and distinct holes at their inner ends. One of these holes forms the inlet for the steam and the other the exhaust. Formed upon the top of this cylinder are the two uprights D, in between which the rotary valve E operates. Upon the tops of these standards or supports is placed the steam-box F, which rests upon the valve and suitable springs, a, interposed between its base-plate and the two uprights D, so that it is made to take up any wear between the moving parts by suitable bolts or screws uniting the two plates between which the valve moves. In the top of the part B and in the bottom of the steam-box are made suitable recesses, and in these recesses are placed the flat plates G, which have holes or ports through them corresponding to the receiving and exhaust ports of the engine. The valve E is made circular, as here shown, and is provided with a stud or projection upon each of its ends, and which

form pivots upon which the valve moves, and which studs or projections pass into or through the plates G. The recesses made to receive these plates allow the ends of the valves to be placed in them, and thus not only form a tight joint, but at the same time assist in preventing any lateral movement of the valve. Each end of the valve may be made recessed, and these recesses connected together and to one of the passages through the valve, so that a steam-pressure can be had upon each end of the valve, and thus balance it. The top of the steam-box is divided vertically into two separate and distinct chambers, so that while one chamber is receiving the steam from the boiler the exhaust-steam is escaping through the other. Through the valve are made two holes or slots, which as the valve is reciprocated communicate with a receiving-port and an exhaust-port in the usual manner. While the steam is passing into the cylinder at one end it makes its escape from the other end.

Projecting out from one side of the valve is a slotted frame or lever, I, and connected to this slotted arm is the slotted valve-rod J, which is connected at its outer end with the eccentric by which the valve-lever is made to shift.

Pivoted upon one end of the part B is the lever L, which has a projection which passes through the slot of the valve-rod at one end, and to its other end is connected the lever N, by which the valve is regulated.

By placing plates under the valve, as here shown, whenever one of the plates becomes worn or injured it can be removed and a new one substituted in its place.

A valve constructed as above described is simple, cheap, always reliable, and moves with much less friction than the ordinary slide-valve.

Having thus described my invention, I claim—

1. The combination of a rotary valve having a slotted arm connected thereto, a slotted rod for operating the valve, and a pivoted lever which is connected to the rod for operating the valve, substantially as shown.

2. The combination of the cylinder having the ports C, which ports connect with both a receiving and an exhaust port, substantially as described.

3. The combination of a rotary valve with

a bearing-plate placed at each end, substantially as set forth.

4. The combination of the cylinder, steam-box, suitable springs placed between the steam-box and the supports, and a rotary valve, substantially as specified.

5. A steam-box divided by a partition into two separate and distinct chambers, one of which chambers connects with the two feed-

ports and the boiler and the other with the two exhaust-ports and the air, substantially as shown and described.

In testimony whereof I affixed my signature in presence of two witnesses.

W. HENRY KANE KING.

Witnesses:

WASH BROCKMAN,

ARTHUR M. TURNER.