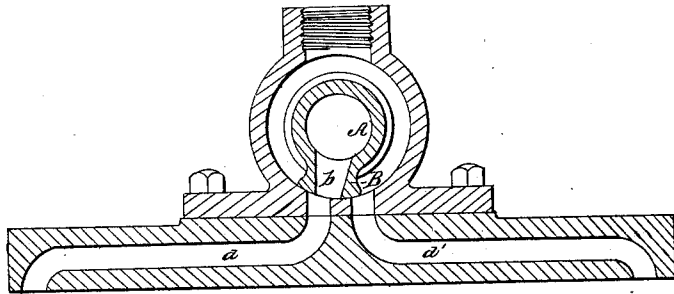


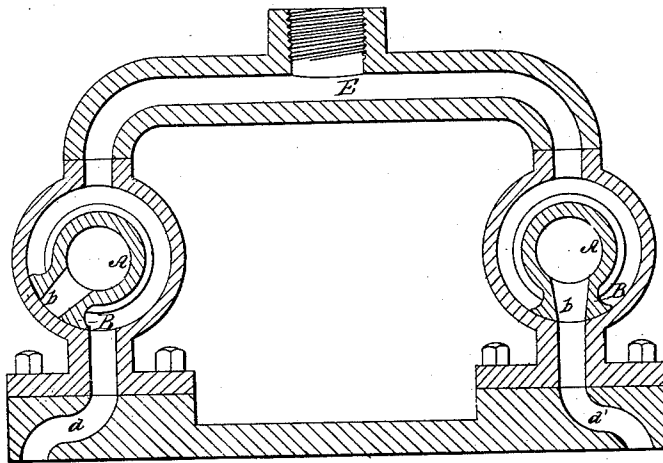
*G. W. Van Doren,*  
*Rotary Steam Valve.*

*No 30,365.*

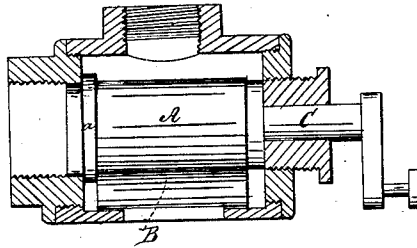
*Patented Oct. 9, 1860.*  
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses;*  
*Holcomb*  
*C. S. Spencer*

*Inventor;*  
*G. W. Van Doren*  
*per Mum & Co*  
*Attys.*

# UNITED STATES PATENT OFFICE.

GEO. W. VAN DEREN, OF BIGFLATS, NEW YORK.

## VALVE FOR STEAM-ENGINES.

Specification of Letters Patent No. 30,365, dated October 9, 1860.

*To all whom it may concern:*

Be it known that I, GEO. W. VAN DEREN, of Bigflats, in the county of Chemung and State of New York, have invented a new and Improved Valve for Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a transverse vertical section of my valve in its application to a steam cylinder. Fig. 2 shows a similar section of the same applied to a steam cylinder in a different manner from Fig. 1. Fig. 3 is a side elevation of my valve.

Similar letters of reference in the three views indicate corresponding parts.

The object of this invention is to construct an oscillating steam valve in which the pressure of the steam has little or no effect to increase the friction of the valve so that the same works with equal facility when under pressure as it does before the steam is let on.

To enable those skilled in the art to fully understand and use my invention, I will proceed to describe its construction and operation with reference to the drawing.

My valve consists of a hollow tube A, with a projection B, from one side, which is turned off so as to form a portion of a circle described from the center of the tube which at the same time forms the center of oscillation of the valve. One end of the tube A, is open and it is turned down and fitted steam tight into a nipple secured into the side of the case which incloses the valve as clearly shown in red outlines in Fig. 3. A square shoulder *a*, on this end assists in making the joint perfectly tight. The other end of the tube A, is closed and turned down to form a stem C, which passes through a stuffing box in the side of the case and to which the crank is attached, through which motion, is imparted to the valve.

The projection, B, forms, the seat of the valve and it is made to fit steam tight into

the interior of the case which surrounds the valve. A passage *b*, leading through this seat B, communicates with the interior of the tube A, and through the same with the open atmosphere.

This valve may be applied to a steam cylinder as shown in Fig. 1, where the upper side of the cylinder is represented in red outlines. The channels *d*, *d'*, lead to both ends of the cylinder and the steam is admitted to the outside of the valve. In the position in which the valve is shown in Fig. 1, the steam passes into the cylinder through the channel *d'*, and it exhausts through the channel *d*, and through the interior of the tube A.

Instead of using only one valve, two of my valves may be applied to the same cylinder, and in this case the connection is made as shown in Fig. 2, in red outlines. The steam is admitted to the cases which surround the valves through a pipe E, and in the position given to the valves in that figure the steam passes into the cylinder through the channel *d*, and it exhausts through the channel *d'*, and through the interior of the valve over this channel. Both valves in this case may be connected to the same eccentric or they may be operated by separate eccentrics or cams, if it is desired to work the steam expansively.

The construction of this valve is very simple, it is easily kept in order and the pressure of the steam has little or no effect on its operation.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is.

The construction of the valve with a shoulder *a* at its extremity and with a projection B extending beyond its periphery, and otherwise made as herein shown and described for the purposes set forth.

GEO. W. VAN DEREN.

Witnesses:

HENRY M. HILES,  
HENRY MINIER.