

*Cone & Hodgson,
Rotary Steam Valve.*

N^o 31,701.

Patented Mar. 19, 1861.

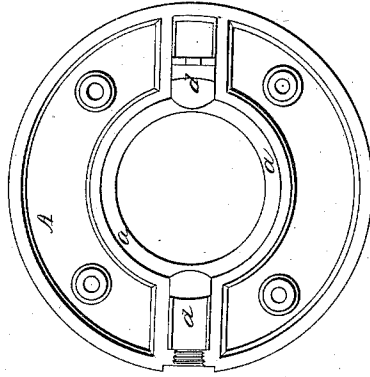


Fig. 3.

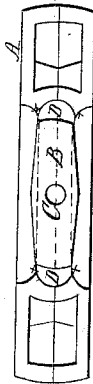


Fig. 2.

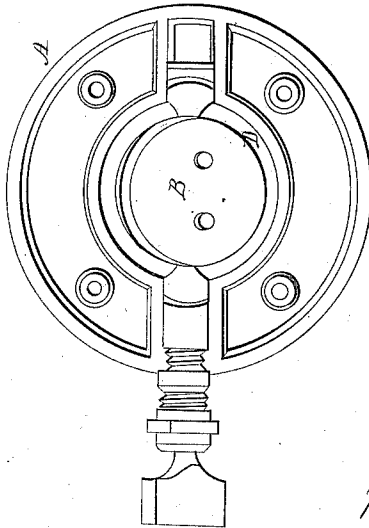


Fig. 1.

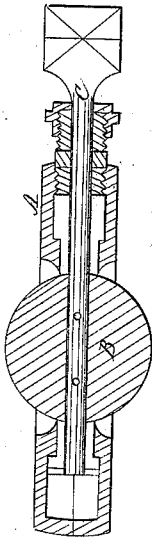


Fig. 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

NATHAN COPE AND WM. HODGSON, OF CINCINNATI, OHIO.

VALVE.

Specification of Letters Patent No. 31,701, dated March 19, 1861.

To all whom it may concern:

Be it known that we, NATHAN COPE and WILLIAM HODGSON, of Cincinnati, in the county of Hamilton and State of Ohio, have
5 invented certain new and useful Improvements in Valves; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the
10 letters of reference marked thereon.

The nature of our invention consists in constructing the valve and the valve seat and case in the manner hereinafter fully set forth.

15 In the annexed drawings Figures 1 and 3 represent plan view of the two portions of the valve case. Fig. 2 is a section taken crosswise of the valve rod or stem. Fig. 4 is a section taken longitudinally of the valve
20 stem.

In the figures A represents the valve case which is cast in two equal sections the one being a counterpart of the other. Fig. 3 exhibits the internal construction of the sections. The principal peculiarity in the construction of these sections consists in casting each with a groove *a*, which when the two parts are secured together form a semi-circular annular groove, into which soft
30 metal is run to form a valve seat. Furthermore in casting the cross opening or groove *d*, for the reception of the valve stem, larger than the diameter of said stem, and connecting with the grooves *a*, *a*, so that soft
35 metal may be run in as a packing around the stem and for forming a valve seat at the same time.

The valve represented by B, is the central section of a sphere.

40 C, represents the valve stem, which is made and secured to the valve in any of the known and usual ways.

When the valve is secured to the stem and we wish to pack the said stem and form the valve seat, we adjust the stem in a central position between the two sections and turning the valve in the position seen in Fig. 2, we pour in soft metal which fills the opening *d*, around the stem and the groove *a* around the valve, thus forming a tight packing for the stem and a valve seat, in exact conformity to the shape of the periphery of the valve. Thus it will be seen that while the valve is the central section of a sphere, the valve seat is the corresponding central
45 section of a concentric sphere.

It is evident that when once the valve has been secured in the case by casting its seat around it, it cannot be removed without dividing the case; hence the necessity of
60 making the case in two parts.

We do not claim the ordinary ball valve seat or the employment of a valve to fit said seat, a representation being seen in the English patent of S. Smith. But
65

What we do claim is—

1. The employment of a valve which is the central section of a sphere adapted to and used in connection with a valve seat which is the corresponding section of a concentric or hollow sphere, substantially as and for the purpose specified.

2. The employment of the valve case constructed in two parts and provided with metallic packing and valve seat, as and for
75 the purpose herein set forth.

In witness that we claim the foregoing we have hereunto set our names in the presence of two witnesses.

NATHAN COPE.
WILLIAM HODGSON.

Witnesses:

H. N. CLARK,
JOHN ANTHONY.