

C. A. SAYRE.
VALVE.
APPLICATION FILED JULY 6, 1910.

994,955.

Patented June 13, 1911.

2 SHEETS—SHEET 1.

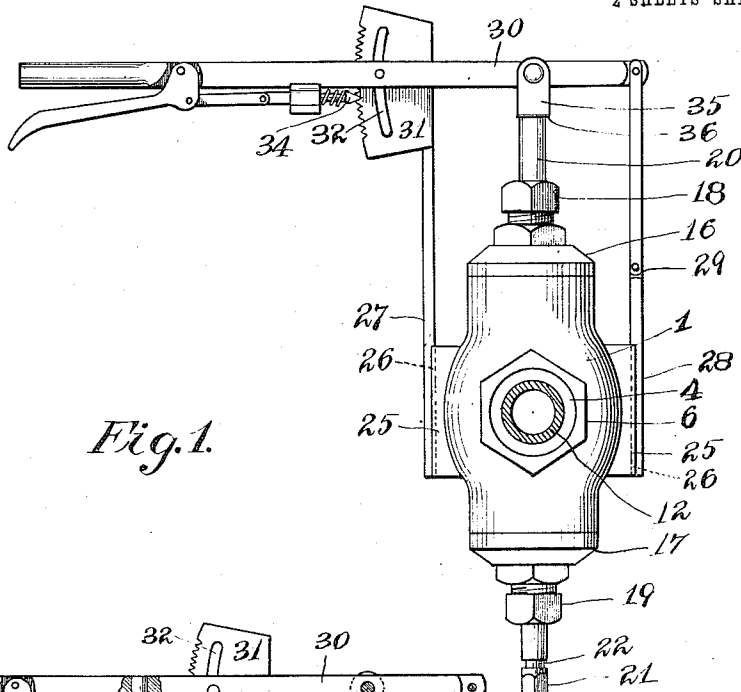


Fig. 1.

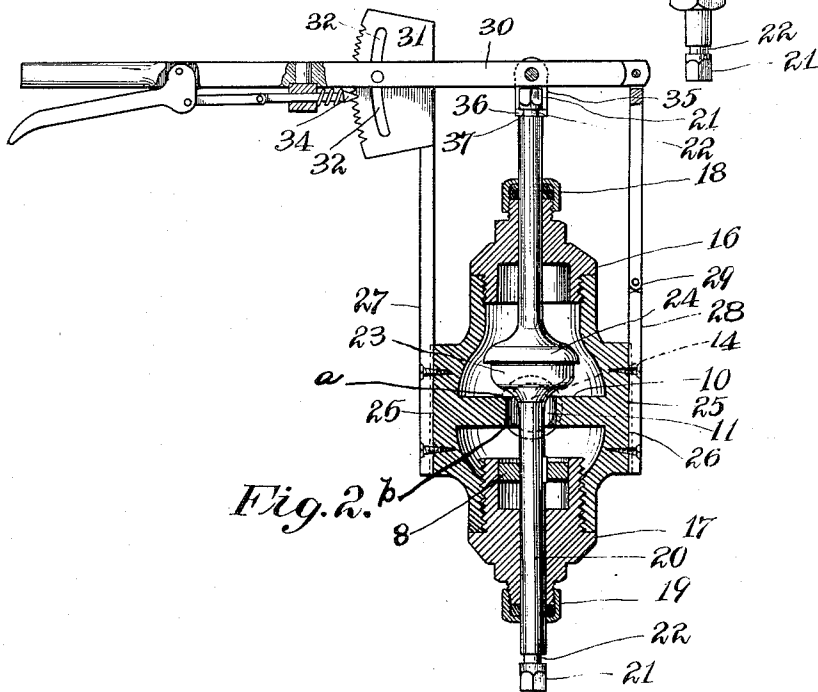


Fig. 2.

Inventor

Charles Ashery Sayre

By Victor J. Evans

Attorney

Witnesses

Thos. H. Knox,

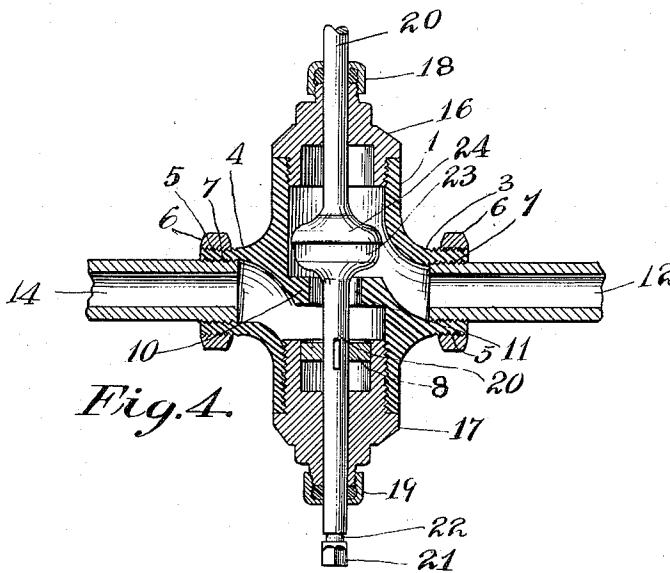
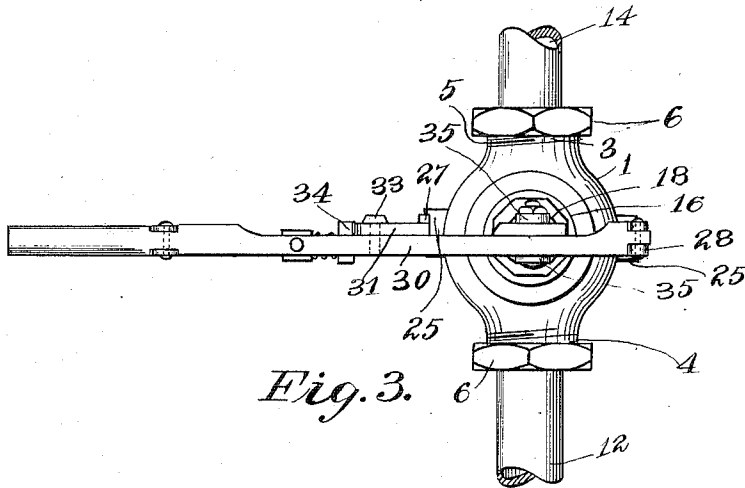
E. E. Conant

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Edmundson

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By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

CHARLES ASHERY SAYRE, OF OLCOTT, WEST VIRGINIA.

VALVE.

994,955.

Specification of Letters Patent. Patented June 13, 1911.

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To all whom it may concern:

Be it known that I, CHARLES A. SAYRE, a citizen of the United States, residing at Olcott, in the county of Kanawha and State of West Virginia, have invented new and useful Improvements in Valves, of which the following is a specification.

This invention relates to valves and more particularly to throttle valves.

10 The object of the invention is the provision of a novel valve rod which is provided with a projection thereon providing two valve surfaces so that when one surface is worn the valve rod may be reversed to bring
15 the other valve surface in position to act upon the seat.

A further object of the invention is the provision of a valve rod which is reciprocally and rotatably mounted in the casing and which is provided with means whereby
20 the same may be rotated to bring the valve therein in true engagement with the seat while under steam pressure and without disconnecting the operating means.

25 Further objects of the invention will appear as the following specific description is read in connection with the accompanying drawings which form a part of this application, and in which:

30 Figure 1 is a side elevation. Fig. 2 is a longitudinal section. Fig. 3 is a top plan view. Fig. 4 is a detail elevation showing the inner side of one half of the casing with the valve rod and valves mounted therein.

35 Referring more particularly to the drawing, 1 represents the casing which is provided with cylindrical nipples 3 and 4 externally threaded at 5 to receive the nuts 6 to reinforce the same and internally threaded
40 at 7 to receive the pipes 12 and 14. The casing is provided with a floor or partition 10 which has the circular opening 11 in its center adapted to form a valve seat and a port for the passage of steam from the steam pipe
45 12 which is connected to the inlet 3, to the steam pipe 14 connected to the outlet 4. The upper and lower cylindrical ends of the casing have threaded therein glands 16 and 17 which have secured to their outer ends
50 the stuffing boxes 18 and 19. The gland 17 has a considerably longer sleeve than the gland 16 and is adapted to enter the casing a considerable distance for a purpose which will hereinafter be described.

55 Slidably mounted in the glands and stuffing boxes is a valve rod 20 having its ends

squared as at 21 and provided with grooves 22 adjacent the squared portion for a purpose which will hereinafter be described. Secured to the valve rod intermediate its
60 length is an enlargement having oppositely disposed valve surfaces 23 and 24, each adapted to engage certain sides of the partition 10 when the valve rod is operated. The partition is shown as having upper and
65 lower surfaces *a* and *b*, the former of which is adapted to be engaged by the valve surface 23 and the latter is adapted to be engaged by a valve surface 24 when the valve rod is reversed as will be hereinafter de-
70 scribed.

Secured to opposite sides of the casing are the standard tables 25 which are grooved on their outer faces as at 26 to receive the standards 27 and 28, the latter of which is
75 separated into two parts which are pivoted together as at 29 and the upper part is pivotally connected to the operating lever 30 which travels over a rack segment 31 carried by the standard 27. The segment is
80 slotted at 32 and a headed pin 33 is carried by the lever 30 and travels in the slot so as to support the handle end of the lever and maintain the same in proper position so that the latching dog 34 will be held in
85 position to engage the teeth of the segment.

Pivotally mounted upon either side of the lever 30 are arms 35 which have inwardly turned lower ends 36 which have semi-cylindrical sockets 37 to engage the
90 grooves 22 in the valve rod 20 so that the valve rod may be turned therein. When it is desired to reverse the valve stem the packing glands are removed and the arms 35 are disconnected from the end of the valve rod.
95 The valve casing is then disconnected from the pipes and given a half turn horizontally so as to connect the nipple 3 with the pipe 14. The casing is then inverted or given a
100 half turn on the axis of the pipes so as to bring the valve surface *b* uppermost and so that the steam will pass from the pipe 12 down through the partition. The valve rod is then completely reversed so as to bring
105 the valve surface 24 into engagement with the surface *b*. The glands 16 and 17 are then reversed or transferred from end to end and if found desirable the plunger head 8 may also be placed upon the opposite end of the rod so as to operate in the
110 socket of the gland 17. By applying a wrench to the squared lower end of the rod,

the valves may be turned upon their seats while steam pressure is upon the valve and thus the valves are caused to secure a true seat.

- 5 A plunger head 8 operates in a socket 9 formed in the gland 17 so as to cushion the action of the valve in seating and unseating and prevents fluttering.

10 Having thus described the invention, what is claimed is—

1. A valve having a rotatable and reciprocating valve rod, means whereby the same may be reversed, and means whereby the rod may be rotated and reciprocated in either position.

- 15 2. A valve comprising a casing, a valve rod reciprocatively, rotatively and reversely mounted therein, a lever for reciprocating the valve rod in either position, and means whereby the same may be rotated in either position.

- 20 3. A valve comprising a casing, a rod reciprocatively and rotatively mounted therein, a double face valve upon said valve rod,

means whereby either face of the valve may be employed to close the passage through the valve casing, a lever for operating the valve in either position, and means for rotating the valve in either position.

4. A valve comprising a casing having a valve seat therein, a valve rod passing through the seat and rotatably mounted therein, means to rotate the valve rod, means for reversing the valve rod, and means for reciprocating the same in either position.

5. A valve comprising a casing, a reversible rod slidably and rotatably mounted therein, means for reversing the valve rod, and means for reciprocating and rotating the valve rod in either position.

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

CHARLES ASHERY SAYRE.

Witnesses:

CAP. PAULEY,
JAMES OLIVER.