

(No Model.)

W. W. ST. JOHN.
PUPPET VALVE.

No. 463,175.

Patented Nov. 17, 1891.

Fig. 1.

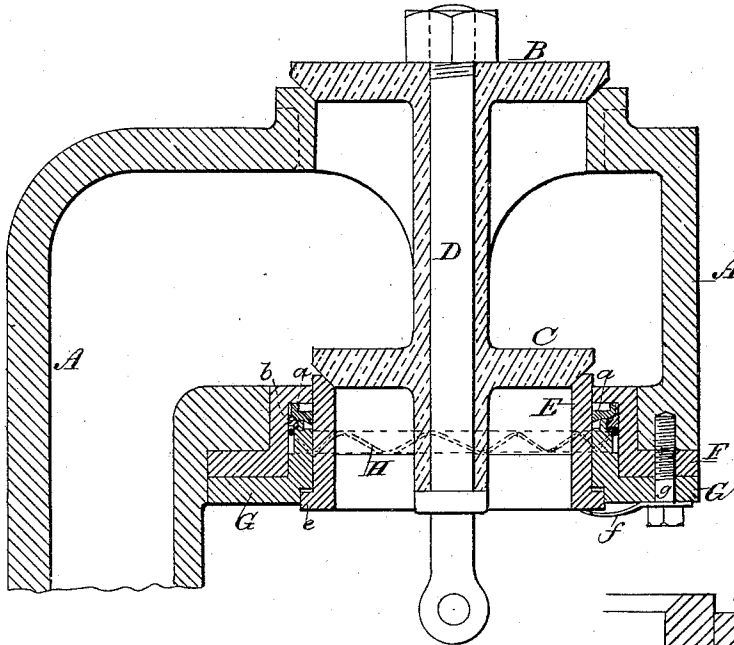


Fig. 3.

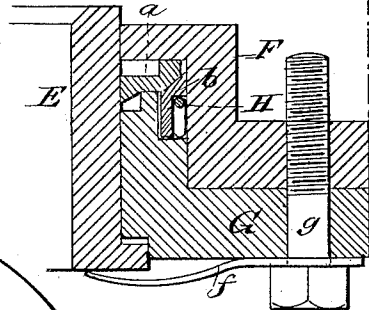
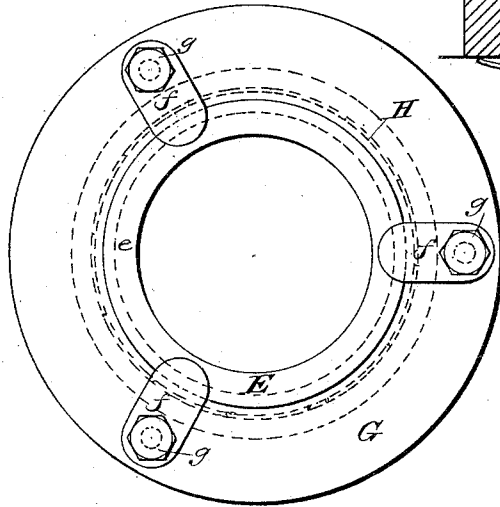


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM W. ST. JOHN, OF BROOKLYN, NEW YORK.

PUPPET-VALVE.

SPECIFICATION forming part of Letters Patent No. 463,175, dated November 17, 1891.

Application filed January 27, 1891. Serial No. 379,320. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. ST. JOHN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Automatically-Adjustable Valve-Seats for Double Puppet-Valves; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in self-adjusting valve-seats for double puppet-valves; and the object of the invention is to provide means by which the valve-seat of any double puppet-valve is automatically adjusted to the valve, so as to accommodate itself to the uneven expansion and contraction, as it is a well-known fact that such double puppet-valves are liable to get out of order, become leaky, and then inoperative.

Another object is to readily apply this valve-seat to old valves now in use as well as new ones at a very moderate cost; furthermore, to compensate for the wear of such valves in an automatic and regular manner, and, finally, to prevent any leakage of steam from the valve-seat by a peculiar and improved packing on the periphery.

With these objects in view my invention consists in the construction of certain details and arrangement of parts, as will be more fully described hereinafter, and specifically pointed out in the claims.

Like letters indicate similar parts in the different figures of the drawings, in which—

Figure 1 represents a vertical section of a double puppet-valve on its seats in the steam-chest, partly broken away. Fig. 2 is a bottom view of the valve-seat. Fig. 3 is an enlarged sectional detail view of the valve-seat.

In the drawings, A represents part of the steam-chest or valve-chamber for a double puppet-valve, and B is the upper and C the lower valve, both attached to the ordinary valve-stem D in the usual way. The upper valve B is seated on the usual seat, which may be provided with the removable lining, as indicated in dotted lines. The lower valve-seat consists of the sliding ring E, held and

forced upward by three or more springs *f*, which are secured in place by the bolts *g*, that are tapped into the recessed ring F, passing through the lower ring G, forming the lower that supports the packing-rings. The ring E is provided with a flange *e*, that fits into a recess in the lower edge of the ring G, and against said flange the springs *f*, three or more, according to the size of the valve, press. The packing consists of the beveled rings *a* and *b*, the latter being provided with a recess, in which the corrugated spring H, formed of a wire or its equivalent, is placed. This spring thus forces the ring *b* as well as the ring *a* both upward and inward against the sliding ring E, the two beveled faces sliding against each other. It will be seen that thus a perfectly steam-tight packing against the outside of the sliding ring E is produced and thereby the automatically-adjustable valve-seat for the valve C. This is a very important feature of my invention.

The valve-seat may be inserted in place through the lower bonnet or through suitable side openings in the steam-chest, and, as stated, they can be applied to old valves now in use as well as to new ones at a very small expense.

Having thus described my invention, what I claim is—

1. An automatically-adjustable valve-seat for double puppet-valves, consisting of the recessed rings F and G, containing the self-adjusting packing-rings *a* and *b*, bearing against the sliding ring-seat E, as shown and specified.

2. The packing-ring *b*, having its upper face beveled and its outer side recessed, as shown, for the reception of a spring H, in combination with a packing-ring *a*, as set forth.

3. The combination of the sliding ring E, forming the valve-seat and held in place by springs *f*, secured by bolts *g*, and moving up and down through the packing-rings *a* and *b*, placed in the recessed rings F and G, with the springs H and *f*, all arranged as shown and specified.

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

WILLIAM W. ST. JOHN.

Witnesses:

T. C. BRECHT,
WM. H. WETZEL.