

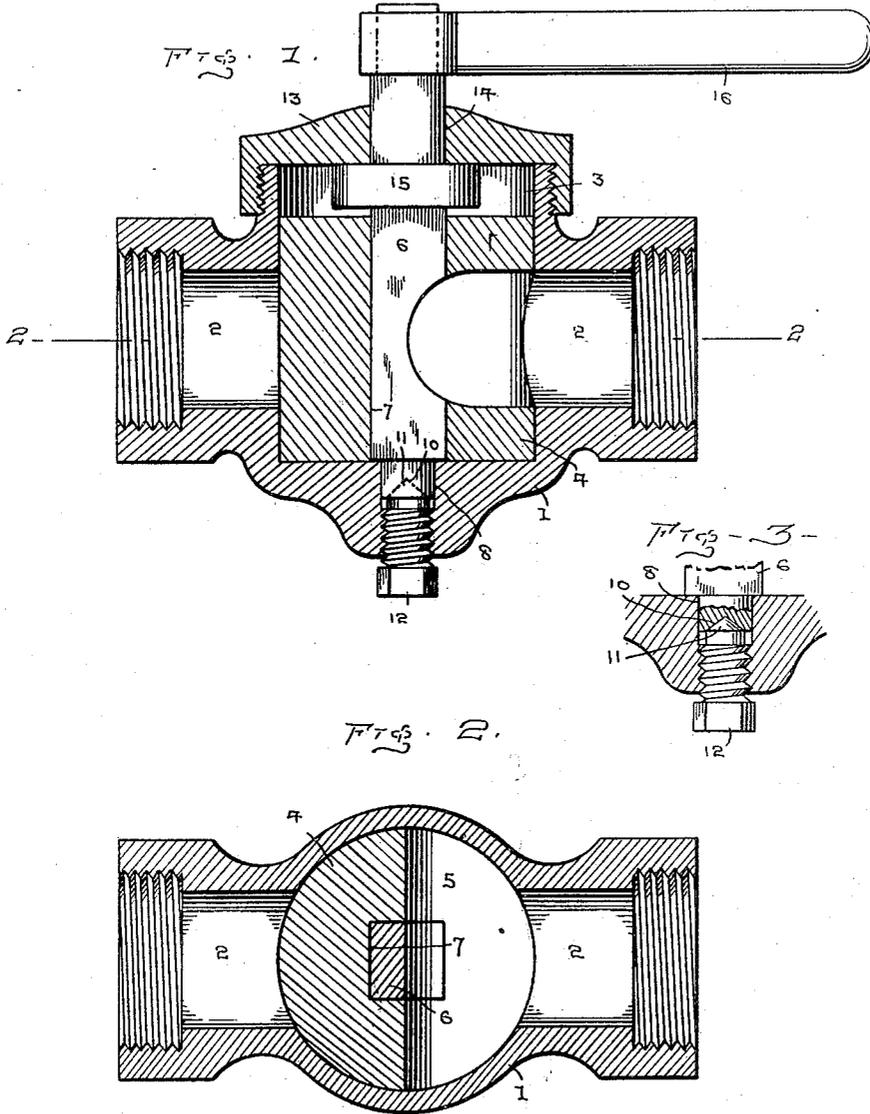
W. PETERSON.

VALVE.

APPLICATION FILED JAN. 28, 1916.

1,205,660.

Patented Nov. 21, 1916.



William Peterson — Inventor

Witnesses

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# UNITED STATES PATENT OFFICE.

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## VALVE.

1,205,660.

Specification of Letters Patent. Patented Nov. 21, 1916.

Application filed January 28, 1916. Serial No. 74,801.

*To all whom it may concern:*

Be it known that I, WILLIAM PETERSON, a citizen of the United States, residing at Prairie City, in the county of Grant and State of Oregon, have invented certain new and useful Improvements in Valves; 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 appertains to make and use the same.

My invention relates to new and useful improvements in valves and more particularly to that class adapted to be used in connection with steam pipes, etc., and my object is to provide means for preventing leakage of the steam, etc., around the stem of the valve without employing the usual form of packing box. And a further object is to provide means for adjusting the stem of the valve to compensate for any wear thereon.

Other objects and advantages will be hereinafter set forth and more particularly pointed out in the accompanying specification.

In the accompanying drawings which are made a part of this application, Figure 1 is a vertical central longitudinal sectional view through the valve structure; Fig. 2 is a transverse sectional view as seen on line 2-2, Fig. 1, and Fig. 3 is a detail sectional view of the lower end of the valve stem and the casing adjacent thereto.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the valve casing through which extends an opening 2, said opening being intersected by a circular cavity 3 for the reception of a valve 4, the walls of the cavity forming a seat for said valve, and by properly grinding the walls of the cavity and of the valve, a close fitting joint is formed therebetween.

In order to rotate the valve 4 to bring the channel 5 therein into or out of registration with the opening 2, a stem 6 is extended vertically through the cavity 3 and through a socket 7 extending longitudinally of the valve, said stem and socket being preferably square in cross section so as to cause the valve to rotate with the stem.

The lower end of the stem 6 is formed into a trunnion 8 which projects into a seat 9 in the bottom portion of the valve, the

free end of said trunnion having a conical depression 10 therein with which engages the pointed end 11 of an adjusting screw 12, said screw being threaded into the lower end of the seat 9. The upper end of the stem 6 extends through a cap 13 which cap forms a closure for the upper end of the cavity 3, the flange of the cap being interiorly threaded to engage threads on the exterior of the valve casing.

In order to prevent leakage between the upper end of the stem 6 and the opening 14 in the cap 13 through which the stem projects, a collar 15 is formed integral with the stem and engages the lower face of the cap, said lower face and the upper face of the collar being ground so as to provide a non-leakable joint therebetween, thus dispensing with the requirement of the usual form of packing and greatly reducing the cost of production by so doing.

The channel 5 is formed in the peripheral face of the valve 4 and extends inwardly substantially to the axial center of the valve, a portion of the cavity being formed in the stem 6, the height of the cavity being equal to the diameter of the opening 2 through the valve casing so that when the channel is moved into registration with the two ends of the opening, steam, or the like, will readily pass through the valve construction.

In assembling the parts of the valve structure, the valve is introduced into the cavity 3 and the stem 6 inserted through the socket in the valve and the trunnion at the lower end thereof introduced into the seat 9 after which the cap 13 is entered over the upper end of the stem and firmly seated over the upper end of the cavity. The adjusting screw 12 is then threaded into the lower end of the seat 9 until the upper face of the collar 15 is properly seated against the lower face of the cap 13, a lever 16 being then engaged with the extreme upper end of the stem for rotating the stem and valve attached thereto.

This form of valve, in view of its simplicity, can be very cheaply constructed and a leakage through parts of the valve will be fully eliminated by grinding the contacting parts so as to form a close union between the parts and should the face of the collar or cap become worn, the adjusting screw 12 may be operated to move the stem upwardly to compensate for such wear.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent of the United States, is:—

1. In a valve structure, the combination  
5 with a casing having an opening there-  
through and a cavity in said casing, of a  
valve seated in said cavity having a chan-  
nel therein, a stem projecting through said  
10 valve and having longitudinal movement  
independently of said valve, a trunnion at  
the lower end of the stem, said casing hav-  
ing a seat to receive said trunnion, an ad-  
justing screw cooperating with said trun-  
15 nion to adjust the stem longitudinally, a  
cap fitting over the end of the cavity  
through which the upper end of the stem  
projects, and a collar on the stem adapted  
to be forced against the lower face of the  
20 cap by said adjusting screw to prevent leak-  
age between the cap and stem.

2. In a valve construction, the combina-  
tion with a casing having a cavity therein,  
a cap adapted to close said cavity, and a  
25 valve in said cavity, of a valve stem extend-  
ing through said valve and cap and having  
longitudinal movement independently of  
said valve and cap, an integral collar on  
the stem adapted to be forced against the

under face of said cap to prevent leakage  
30 between the stem and cap, and means to ad-  
just the stem longitudinally.

3. In a valve construction, the combina-  
tion with a casing having a cavity therein,  
a cap adapted to close said cavity and a valve  
35 rotatably mounted in said cavity, said valve  
having a socket therethrough square in  
cross section, of a stem having a squared  
portion to fit the opening in the valve, said  
stem being longitudinally movable inde-  
40 pendently of the valve, a collar fixed to the  
stem beyond one end of the valve, a trun-  
nion integral with one end of the stem hav-  
ing a conical depression therein, a screw  
threaded through said casing and having a  
45 pointed end adapted to engage said conical  
depression, said screw being adapted to  
force the collar against the under face of  
the cap to prevent leakage between the stem  
and cap.

In testimony whereof I have signed my  
50 name to this specification in the presence of  
two subscribing witnesses:

WILLIAM PETERSON.

Witnesses:

EDWARD MARSHALL,  
GEO. W. MASSAMORE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,  
Washington, D. C."