N. U. PERIS.

HYDRAULIC, STEAM, OR AIR VALVE.

APPLICATION FILED JAN. 24, 1917.

1,252,490. Patented Jan. 8, 1918.

Fig. 1.

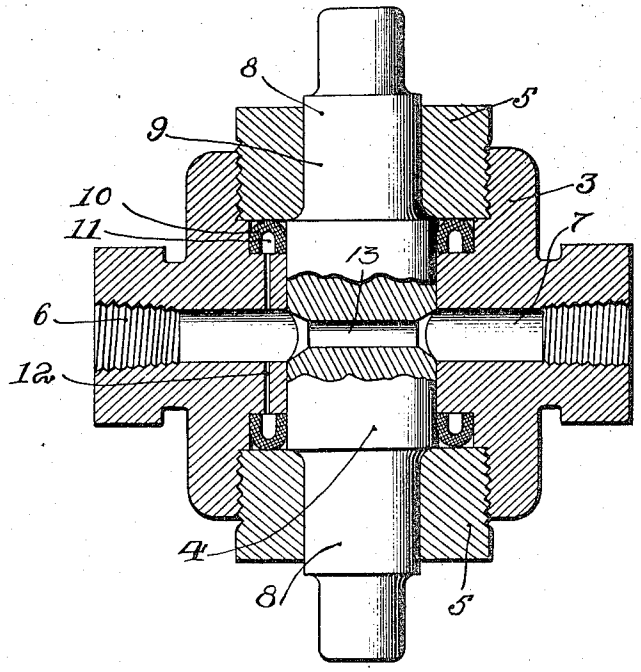
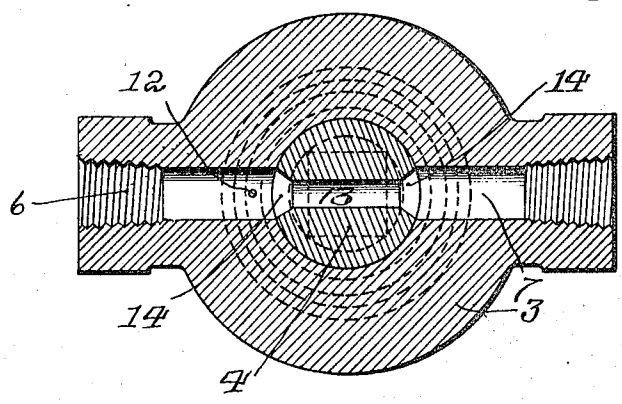


Fig. 2



Inventor

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UNITED STATES PATENT OFFICE.

NICHOLAS U. PERIS, OF STEELTON, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO FRANK E. HOWELLS AND ONE-THIRD TO ROBERT G. WARREN, BOTH OF HARRISBURG, PENNSYLVANIA.

HYDRAULIC, STEAM, OR AIR VALVE.

1,252,490. Specification of Letters Patent. **Patented Jan. 8, 1918.**

Application filed January 24, 1917. Serial No. 144,198.

To all whom it may concern:

Be it known that I, NICHOLAS U. PERIS, a citizen of the United States, residing at Steelton, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Hydraulic, Steam, or Air Valves, of which the following is a specification.

The present invention relates to valves of the steam, air, or hydraulic type and consists in the combination and arrangements of elements hereinafter described and particularly set forth in the accompanying claims.

The purpose of the invention is to provide a valve having means for utilizing fluid pressure from the inlet side to obtain an easy working valve, one free from binding to cause uneven wear, and wherein the usual wearing of the working parts will not cause leaking of the valve.

The invention has for its further purpose to provide a valve having oppositely disposed packings expansible under the fluid pressure from the inlet side of the valve to form fluid-tight joints for the turning plug for the purpose of obtaining a perfectly balanced valve, and one wherein any tendency to leakage along the turning plug will be neutralized through the counter pressure in the packing chambers.

The invention is shown by way of illustration in the accompanying drawings, wherein,

Figure 1 is a central sectional view of the valve, with parts in elevation, and

Fig. 2 is a horizontal sectional view thereof.

Referring to the construction in further detail the valve consists of a casing 3 constructed to provide a central chamber for the turning plug 4, and a pair of opposed bronze glands or nuts 5 screw-threaded therein, as shown in Fig. 1. The casing has the usual ports 6 and 7 respectively for the inlet and outlet pipes of the system.

The pair of glands 5 are apertured to receive the reduced portions 8 of the turning plug 4 and shoulder bearings 9 are formed between the turning plug and the glands to hold said plug in operative position and against axial displacement.

A pair of packing chambers are formed continuous with the aforesaid recesses to receive the pair of expansible U-shaped packings 10 of leather, rubber, or fabric, and said packings are located to position the grooves 11 thereof to receive fluid pressure from the inlet port 6 of the valve through the pair of apertures 12 formed in the casing, as shown in Fig. 1.

The opening 13 in the plug 4 has outwardly flaring inlet and discharge portions 14 to the end that a flush or complete communication is established through the valve whereby any wearing of the passage through the valve stem will not take place at those points where the passing fluid enters and leaves the plug.

In operation the two packing rings 10 are spread through the influence of the pressure in the fluid supply, and thereby substantially perfect fluid-tight joints are provided between the valve casing and the turning plug. It will also be seen that any leaking from the inlet port along the body of the plug will be balanced by pressure from the packing chamber.

It is obvious that those skilled in the art may vary the details of construction and arrangement of parts without departing from the spirit of my invention, and therefore I do not wish to be limited to such features except as may be required by the claims.

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

1. In a balanced valve, the combination of a casing, glands in said casing providing packing chambers, a plug working in said glands and casing, and U-shaped expansible packings in said packing chambers, said casing constructed with apertures leading from the inlet side thereof into the packing chambers to admit fluid pressure into the grooves of the packings to expand said packings and form fluid-tight joints, substantially as set forth.

2. In a balanced valve the combination of a casing constructed with a central chamber and having opposed recesses, glands fitting in said recesses and forming packing chambers, a turning plug fitting in said glands and the casing chamber, and U-shaped flexible packings fitting in said packing chambers, said casing constructed with apertures admitting fluid pressure from the inlet side of the valve into the grooves of the packings and forming fluid-tight joints, substantially as set forth.

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

NICHOLAS U. PERIS.

Witnesses:
FRANK HARTACHER,
FRANK S. WISE.