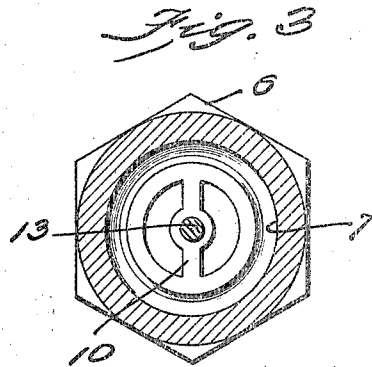
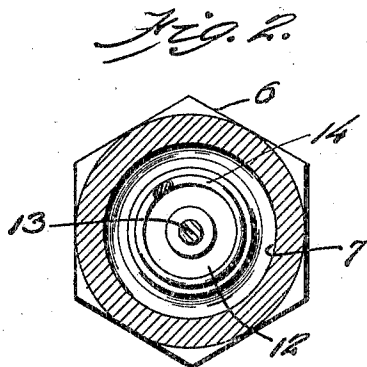


1,275,697.



WITNESSES

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PATRICK H. JOYCE, OF RUSHVILLE, INDIANA.

CHECK-VALVE.

1,275,697.

Specification of Letters Patent.

Patented Aug. 13, 1918.

Application filed September 29, 1917. Serial No. 194,046.

To all whom it may concern:

Be it known that I, PATRICK H. JOYCE, a citizen of the United States, residing at Rushville, in the county of Rush and State of Indiana, have invented certain new and useful Improvements in Check-Valves, of which the following is a specification.

My invention relates to improvements in check valves and more particularly regulating valves that are adapted to regulate the amount of liquid to be passed by the valve.

An important object of my invention is to provide a device of the above mentioned character which is so constructed that it may be readily disassembled in order that the valve disk and valve seats may be removed from the drum or valve chamber, and ground or trued up.

Another object of my invention is to provide a device of the above mentioned character including valve seats or plugs which provide a joint feature, whereby the valve may be installed at any point in a system.

A further object of my invention is to provide a device of the above mentioned character which is strong, durable, efficient in practice and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of the description and wherein like numerals are employed to designate like parts throughout the same.

Figure 1, is a longitudinal vertical sectional view of my invention showing the several parts assembled.

Fig. 2, is a sectional view of the device taken on the line 2—2 and

Fig. 3, is a similar view taken on the line 3—3.

In the drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a cylindrical chamber or drum, having its ends 6 squared off in order to form grips for a wrench when installing the valve in a system. This chamber is provided with a bore therethrough, the ends of which are provided with internal threads for a purpose to be hereinafter set forth. The diameter of the bore 7 inside of these threaded ends is larger than the bore surrounded by these threads.

Adapted to be received in both ends of this chamber, are plugs or valve seats 8, provided with an externally threaded flange 9, adapted for engagement with the internal threads of the chamber 5. These valve seats are provided with an integral spider 10, having a central perforation therein to form a guide for the valve stem and lies flush with the top of the flange 9. Internal threads 11 are cut in the head of the valve seat thereby providing means whereby the valve may be installed anywhere in a system.

My valve disk 12 is secured to a stem 13 and is adapted to reciprocate longitudinally of the chamber. It will be noted that the diameter of the valve disk is smaller than that of the threaded openings in the chamber 5, thereby making it possible to remove the same therefrom in order to true up the valve disk. The stem 13 is adapted to pass through an opening in the spiders and thereby seat the valve disk correctly. A spiral coil spring 14 is positioned to surround the longer end of the stem 13, one end thereof engaging one of the spiders, while the opposite end engages the flat surface of the disk valve and normally urges the disk valve to a closed position, or against the opposite spider.

In use, a liquid passes into the opening in the plug 8, upon which the valve disk seats and exerts a pressure upon the disk and coil spring and forces the disk away from its seat, thereby allowing the liquid to pass through the valve. As soon as the pressure diminishes, the coil spring being under tension, urges the disk against its seat and closes the valve. It will be readily recognized that the valve disk and coiled spring may be reversed after the seat 10 wears or corrodes, so that the disk will seat upon the opposite spider or valve seat.

I wish it to be understood, that I do not desire to limit the use of the valve to liquid pressure, but that it may be used in connection with air, steam pressure, or the like.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. A check valve comprising a chamber having its inlet and outlet ports internally threaded, threaded plugs adapted to be received in said ports and having a passage therethrough, the inner ends of each of these plugs forming a valve seat, a strip bridging each of the inner ends of said plugs and having a central opening therein, a valve stem adapted to pass through the openings in said strips, a valve disk secured to said stem, and a spiral spring adapted to surround the valve stem and bear against one plug and the valve disk, to normally hold the disk in engagement with the inner end of the other plug.

2. A check valve comprising a chamber having its inlet and outlet ports, valve seats detachably connected to said ports, spiders carried thereby, a valve stem adapted to pass through said spiders, a valve disk secured to said stem, a coil spring surrounding said stem and normally urging said disk into engagement with the inlet port, and said spring and disk being diametrically smaller than said ports to facilitate the removal of these parts from said chamber.

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

PATRICK H. JOYCE.

Witnesses:

LEE PYLE,
THEO. L. HEEB.