(No Model.)

W. S. LOVELAND.

CHECK VALVE.

No. 485,746. Patented Nov. 8, 1892.

Fig. 1

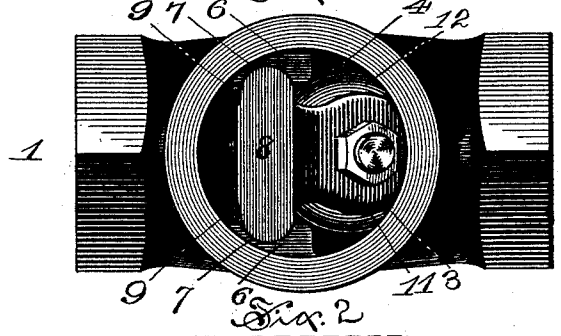


Fig. 2

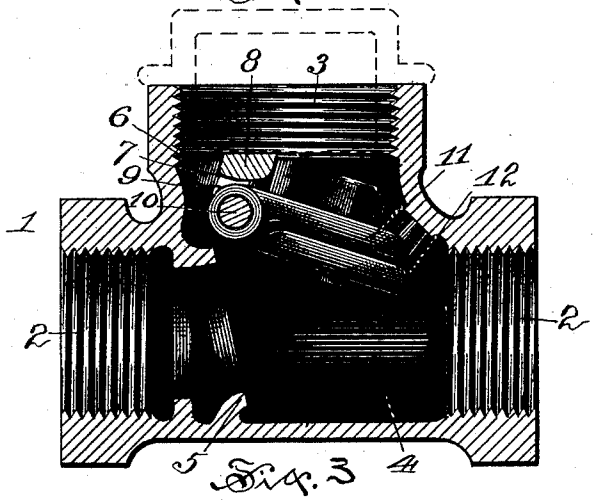
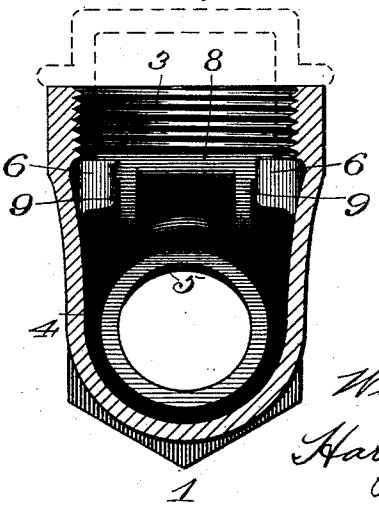


Fig. 3



Witnesses:
C. E. Buckland.
R. A. Phelps.

Inventor:
Walter S. Loveland, by
Harry P. Williams
Atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WALTER S. LOVELAND, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE STANDARD MANUFACTURING COMPANY, OF SAME PLACE.

CHECK-VALVE.

SPECIFICATION forming part of Letters Patent No. 485,746, dated November 8, 1892.

Application filed April 14, 1892. Serial No. 429,116. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. LOVELAND, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Check-Valves, of which the following is a full, clear, and exact specification.

The invention relates to the class of straight-way check-valves in which the disks are removable, the object being to provide a light and strong valve of this class with few joints and interchangeable parts which can be cheaply constructed and assembled, so that the disk will set tightly upon its seat when in place, every time in the same position, with but few places where sediment can collect, but which can be readily removed if the cap is taken off for cleaning, renewing, or repairing the disk or the seat.

Referring to the accompanying drawings, Figure 1 is a plan of the valve with the cap removed. Fig. 2 is a central vertical longitudinal section, and Fig. 3 is a central vertical transverse section of the same with the disk, arm, and its pivot removed.

In the views, 1 indicates the body of the valve, which is usually cast to shape, of brass, gun-metal, iron, or other desirable metal, in the manner common in forming valve-bodies, with pipe ends 2 for making the connections and the cap end 3 for opening the valve, which usually are threaded, as shown, but may be belled or flanged, as desired, for making the connections. In the center of the body is the chamber 4, on one side of which around the fluid-way, usually on an incline, is formed the seat 5, which is ground to the proper surface or provided with a seat-face in any other common manner. Cast integral with the opposite walls, near the cap end of the body and projecting into this chamber, are bosses 6, in which, preferably on an incline from the top, by a milling-machine are cut semicircular mortises or sockets 7. Across the chamber, suspended with its ends in these mortises, is loosely placed a narrow oblong bridge 8, which reaches from side to side across the body, but does not touch the walls, whose upper surface is on a level with the lower end of the cap, while from the lower face of this bridge, projecting into the chamber, are lugs 9. These lugs are perforated and support a pivot 10, on which oscillates an arm 11, that bears a disk 12. The disk is secured to the arm by any common means, as by a pin and nut, and has a plane face of brass, babbitt, leather, asbestus, or any other suitable material that will present a durable surface and fit tightly to the seat on the body when the valve is shut.

When the body is connected with the pipes in position for use, the bridge bearing the swinging arm and disk is dropped into the mortises and the cap secured in place, so as to hold the bridge firmly in the semicircular mortises. The mortises are cheaply and accurately milled in the lugs on the opposite sides of the body, while the bridge is cheaply and accurately formed to dimension by machinery to fit the mortises, so that the arm will swing correctly and the disk close tightly and always in the same position against the seat. When the disk becomes worn, the cap is taken off and the disk rotated to another position or removed by lifting out the bridge and renewed or reground. Besides the pipe ends there is no joint to keep tight except the cap. There are no openings through the shell for the pivot of the swinging arm nor for the admittance of a tool for grinding the disk to its seat, which openings weaken the walls, so that they have to be made thicker and heavier to give requisite strength, besides requiring additional packing to keep them tight, and while the disk is readily removble it is firmly and positively held in position, so that it will lie correctly and tightly against the seat.

As the bridge-piece is oblong and narrow and does not touch the side walls, there is no place where dirt and sediment can collect and accumulate to interfere with the working and rust out the parts.

I claim as my invention—

1. A valve consisting of a body having a chamber with a seat in the chamber, mortises cut in the opposite side walls, a bridge extending across the chamber with its ends supported in the mortises, an arm pivoted to

the bridge, and a disk secured to the arm, substantially as specified.

2. A valve consisting of a body having a chamber with a seat in the chamber, semicircular mortises cut in the walls, a bridge with rounded ends and projecting lugs extending across the chamber with its rounded ends fitting the semicircular mortises, an arm pivoted to the lugs, and a disk secured to the arm, substantially as specified.

WALTER S. LOVELAND.

Witnesses:
H. R. WILLIAMS,
C. E. BUCKLAND.