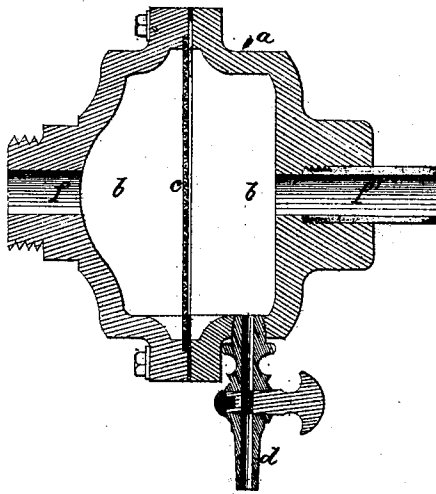


J. E. Watts,
Valve Protector.
No. 96,747. Patented Nov. 9, 1869

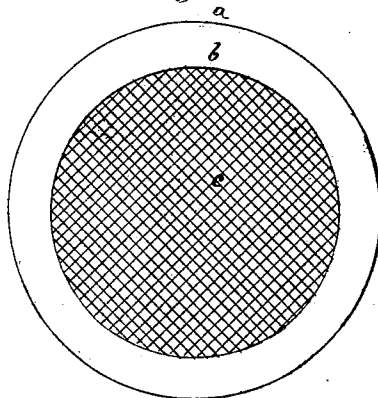
Fig. 1.



Witnesses.
Edmund Griffith
Edmund H. Howins

Joseph E. Watts.
by his Attorney
Frederick Curtis.

Fig. 2.



United States Patent Office.

JOSEPH E. WATTS, OF LAWRENCE, MASSACHUSETTS.

Letters Patent No. 96,747, dated November 9, 1869.

VALVE-PROTECTOR.

The Schedule referred to in these Letters Patent and making part of the same

To all to whom these presents shall come :

Be it known that I, JOSEPH E. WATTS, of Lawrence, in the county of Essex, and State of Massachusetts, have made an invention of a new and useful device or Mode of Protecting Valves against injurious action of dirt and foreign substances; and do hereby declare the following to be a full, clear, and exact description thereof, due reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is a vertical section of my invention;

Figure 2 being a transverse section of the same.

Various expedients have been heretofore adopted by mechanics in the attempt to clear a valve of dirt or extraneous matter which may find its way to it, and, by creeping between it and the seat, produce very injurious results.

These expedients have all been connected directly with the valve, and aim at relieving the valve of injurious matters after they have come in contact with it.

My invention, herein described, is intended to insulate the valve entirely from the action of dirt, by removing the dirt from the steam or other fluid, previous to its reaching the valve.

By this course, I entirely obviate any wear upon the valve, which now results under the best of care, while the act of removing the dirt which may accumulate, need be done only at comparatively long intervals of time.

The invention consists in the employment of a shallow chamber or vessel, of a flattened spheroidal form, such vessel being provided, at each side, with inlet and outlet-pipes for the passage of steam or other fluid through it, the said chamber being divided by a foraminous partition or disk, which serves to arrest and collect dirt, or any foreign and injurious agent, which would otherwise pass on to the engine-valve, and with a blow-off cock for cleansing the diaphragm, as hereinafter explained.

The drawings accompanying this specification represent, at *a*, a vessel or receiver, of a flattened spheroidal, or other proper form, such vessel being composed of two bowls or concave disks, *b b*, bolted together face to face, and so as to enclose between them, in a perfect steam-tight joint, a foraminous partition or screen, *c*.

This said screen is enclosed so tight between the two bowls, that crippling of it is impossible, and a tight joint is thereby secured between the abutting face of the said bowls, for additional security, a rubber ring, *b*, being situated between them.

The lower part of the chamber *a* is provided with a suitable cock, *d*, to permit of "blow off" or escape at this point.

A pipe, *f* or *f'*, is made upon the receiver *a*, and so as to extend in opposite directions therefrom, one of such pipes being carried to the steam-generator, and the other to the steam-trap, or other object containing a valve.

As steam, in its passage to the steam-trap, or to any species of valve, perforce passes through the interstices of the foraminous diaphragm, it will be evident that any particles of foreign matter which would tend to clog, loosen, or wear the valve, will be retained by such diaphragm, and from whence they may be removed at any time, by opening the faucet *d*, and allowing the steam to "blow off" through it.

Owing to the large area of the diaphragm *c*, clogging of it becomes impossible, provided even ordinary care is taken to clean it.

The advantages of my invention are, that besides obtaining perfect immunity of the valve from the injurious action of foreign substances, I secure the removal of these impurities in a comparatively quick and expeditious manner.

The device is inexpensive, and may be applied to any species of valve, and may be used to advantage with either steam or water.

I am aware that it is not novel to extend gauze between the inlet and outlet-orifices of a case, such as described, and this I do not claim; but I am not aware that a blow-off cock has ever been used in connection therewith, for the purpose of cleansing the diaphragm and chamber of sediment.

Claim.

I claim as my invention, and desire to secure by Letters Patent of the United States—

A "valve-protector," so called, consisting of the chamber or case *a*, and the foraminous or gauze diaphragm or screen *c*, the case being provided with inlet and outlet-pipes or passages for attachment, and with a "blow-off" cock, for cleaning the diaphragm of all foreign substances which may collect thereupon, and the whole being in manner and for the purpose as explained.

JOSEPH E. WATTS.

Witnesses:

WILLIAM SHARROCK,
WILLIAM HOWARTH.