C. E. HUTSON.

Stop Valve.

No. 109,906. Patented Dec. 6, 1870.

FIG. 1

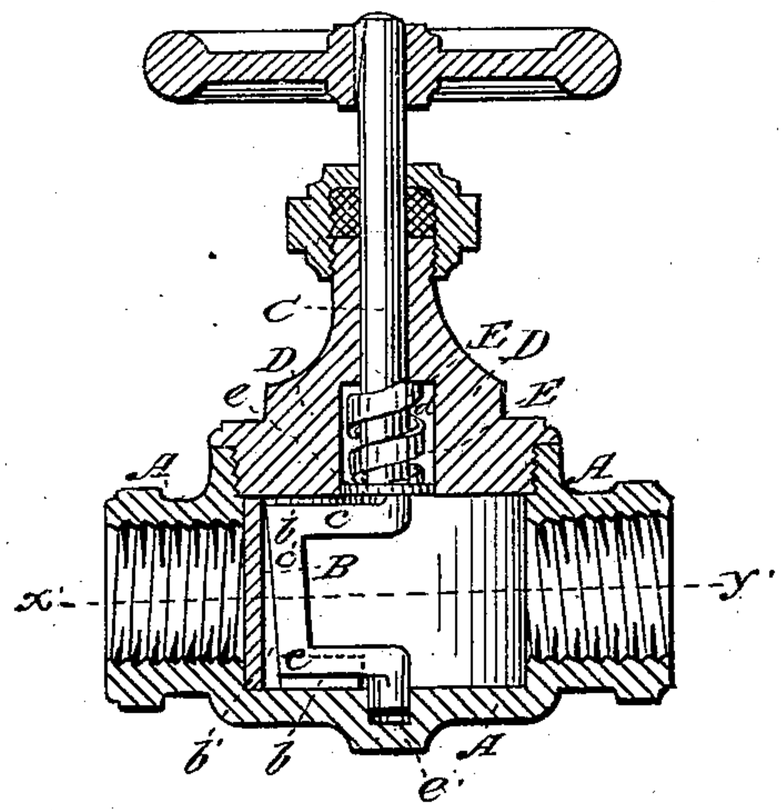


FIG. 2

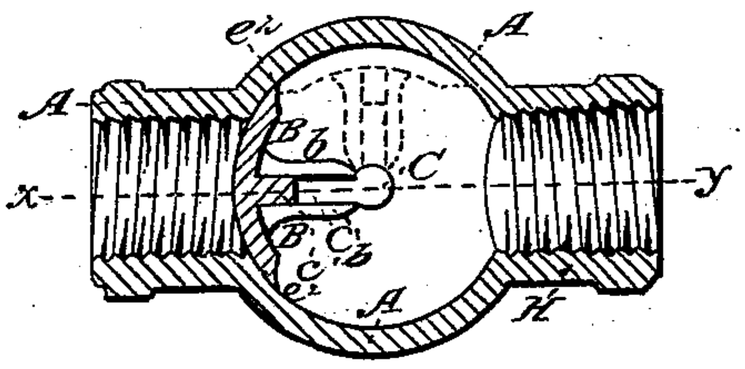
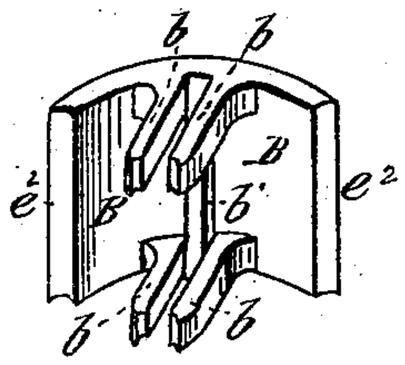


FIG. 3



WITNESSES:

William H. Heckel

Robert Burns.

INVENTOR:

C. E. Hutson

United States Patent Office.

CHARLES EMERY HUTSON, OF COMMERCE, MISSOURI.

Letters Patent No. 109,906, dated December 6, 1870.

IMPROVEMENT IN STOP-VALVES.

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

To all whom it may concern:

Be it known that I, CHARLES EMERY HUTSON, of Commerce, in the county of Scott and State of Missouri, have made certain new and useful Improvements in Stop-Valves; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

This invention relates to an improvement in stop-valves for water, steam, gas, &c.; and

The nature thereof consists—

First, in constructing the valve-shell or body of cylindrical form, having suitable branches for the connection of the supply-pipes.

Secondly, in providing said valve-body with a rotary valve, cast with arms in such a manner that the projecting arm of the valve-stem shall engage in the incline slot between the arms of the valve and operate the same.

Lastly, said invention relates to certain detail construction and arrangement of parts for taking up all wear upon the valve-seat and valve-face, hereinafter to be more fully described.

To enable those herein skilled to make and use my improved valve I will now more fully describe the same, referring to the accompanying

Figure 1 as a sectional elevation; to

Figure 2 as a top section at line *x z*; and to

Figure 3 as an isometrical view of the valve proper.

The valve-shell A is of cylindrical form, and provided with suitable hub and screw-cap connections, in manner usual, the internal surface of said valve-shell forming the seat for the valve B.

The valve B, of segmental form, (corresponding to the interior surface of the shell,) is cast with projecting arms *b*, having an incline, *b'*, in the slot formed between said arms *b*, as clearly shown in figs. 1 and 3.

The valve-stem C, in order to operate said valve B, is cast in form as clearly shown in fig. 1, having corresponding projecting arm *c* suitably incline at its face *c'* to engage in the inclined slot of the valve proper.

Said valve-stem C is operated by means of a proper hand-wheel, as usual.

Within a chamber, *d*, of the hub D, and passing around the valve-stem C, I have arranged a metallic spiral spring, E', resting upon a proper collar, *e*, secured to the stem C. Furthermore, at its lower end, said stem C is fitted to engage in a circular slot, *e'*, as shown in fig. 1.

When operated to close, the tension of the spring E causes a downward tendency of the valve-stem C, and its incline *c'* acting on the incline *b'* of the valve, it is plain that said valve B is thus kept in close contact with its seat.

By the arrangement of the slot e^1 in the bottom of the shell sufficient play is formed for the stem C in taking up all wear of the valve-face and its seats.

The stem C, passing through the hub and cap, is properly packed to prevent leakage, as in the ordinary manner.

In order to keep the valve-seats free from any sedimentary matter the valve B has its side faces beveled to form knife-edges e^2, as shown in figs. 2 and 3. Thus, any choking action on the part of the valve is prevented, as said knife-edges cut through and entirely clear away any deposit of foreign substances whatever, in the action of operating the valve to open and close.

My said improved valve is easily worked under heavy pressure, and as the same readily adapts itself in following up all wear upon the valve-face and valve-seat, it is clear that the valve may be kept constantly tight and free from leakage.

Having thus fully described my said invention,

What I claim is—

1. The rotary valve B, having projecting arms *b*, incline *b'*, and cutting-edges e^2, when arranged in combination with the stem C and valve-shell A, substantially as and for the purpose set forth.

2. The stem C, having projecting arm *c*, incline *c'*, spring *e*, chamber *d* to operate the valve B, and arranged in combination with the valve-shell A of cylindrical form, and having circular slot e^1, substantially as set forth.

In testimony of said invention I have hereunto set my hand in presence of ——.

C. E. HUTSON.

Witnesses:

WILLIAM W. HERTHEL,

ROBERT BURNS.