

*J. Sheriff,
Globe Valve,*

No. 6,032,

Patented Jan. 16, 1849.

Fig. 2.

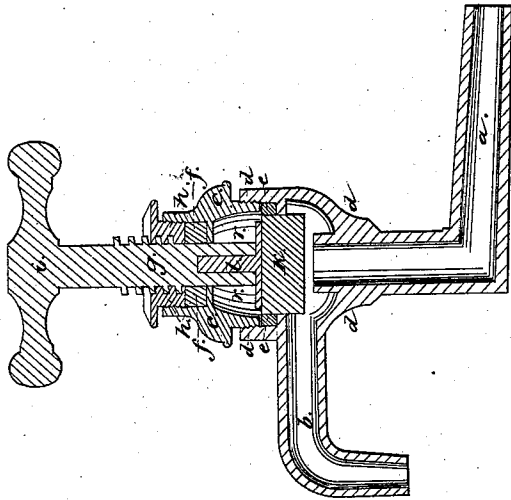


Fig. 5.



Fig. 4.

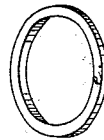


Fig. 1.

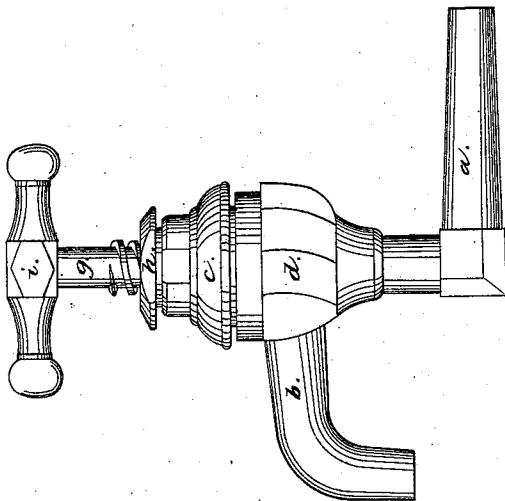
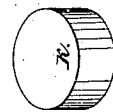


Fig. 3.



UNITED STATES PATENT OFFICE.

JOHN SHERIFF, OF PITTSBURGH, PENNSYLVANIA.

STOP-COCK FOR HOT WATER, &c.

Specification of Letters Patent No. 6,032, dated January 16, 1849.

To all whom it may concern:

Be it known that I, JOHN SHERIFF, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain
5 new and useful Improvements in Cocks for Drawing Off and Stopping Water and other Fluids at High Temperatures, of which the following is a full and exact description, reference being had to the annexed drawings
10 of the same, making part of this specification, in which,

Figure 1 is a perspective elevation of the cock viewed on the side, Fig. 2 is a vertical section through the same, Fig. 3 is a perspective view of the wooden stopper, Fig. 4 is a view of the annular wooden packing for the cap-joint, Fig. 5 is the wooden packing to surround the stem of the key to keep it in place and render the joint tight.

20 The same letters indicate the same parts in all the figures.

Engineers have not hitherto been able to construct a metallic stop cock that will for
25 any great length of time remain completely water tight when constantly used for drawing off and stopping hot water under great pressure, because, however well the parts may be proportioned and fitted together, the erosive action of hot water very soon renders
30 the surface of the stopper, and its seat, irregular, which prevents their coming together, and of course leaves a passage open through which the water leaks out, and the passage for the leak being once begun, is
35 rapidly enlarged by the current of water which accelerates the corrosion of the metal, probably by carrying away the particles of oxid, partly by its mechanical action, and in part by solution as fast as formed, and
40 thus constantly exposing a fresh surface to be acted on. Depositions of earthy and saline matter upon the stopper and its seat also obstruct their coming together, thus constituting another frequent cause of leak-
45 age.

The accuracy with which a metallic stopper must be fitted, requires that it should be ground into its seat, which is always a tedious and expensive operation.

50 For the stopper of the screw key cock, I have discovered, that wood is cheaper, more durable, will keep tight longer, and is more easily repaired than any other substance heretofore employed for this purpose, capable
55 of resisting the solvent and softening action of hot water.

In the accompanying drawings the injection pipe (*a*) and discharge pipe (*b*) are connected with the hollow ball or globe in the usual manner. The globe is divided into two
60 hemispheres (*c* and *d*) which are screwed together with a flat ring of wood (*e*) between them, to render the joint tight. This globular expansion, is for the purpose of forming a recess (*r*) to receive the stopper, and allow of its working up and down to open and close the passage for the water.
65 To the top of the upper half (*c*) of the ball, a stuffing box is attached, through which the stem of the screw key passes the joints being kept tight by another ring of wood (*f*) which surrounds the stem (*g*) and is held in place by the follower (*h*) in which a female screw is made to receive the male screw on the stem, which being turned
75 by the cross handle (*i*) in one direction forces the stopper (*k*) down upon its seat, while turning it in the other direction allows it to rise, and the water to escape through the pipe. I prefer to make the stopper of
80 compact hard wood in the form of a short cylinder with flat ends; on the upper side of the stopper (*k*) a washer (*l*) is placed, which consists of a disk, from the middle of the upper side of which a stem projects
85 that fits loosely into a cavity in the axis of the lower end of the stem of the key, when the key (*g*) is turned down its stem presses upon the washer (*l*) which acting upon the stopper (*k*) compresses its seat (*m*), to
90 which, owing to its elasticity it accurately conforms, making a perfectly tight joint.

When it is required to open the cock, the stem is screwed up and the pressure of the water raises the stopper.
95

Whenever from any cause the wooden stopper (*k*) gets injured, or ceases to perform properly, its appropriate functions, any ordinary workman can readily cut out from a board another piece to replace it and
100 in this way keep the cock in a state of complete repair.

If the wooden stopper were fastened to the end of the stem of the key, the abrasion against its seat, when being turned up and
105 down, would rapidly destroy it; to prevent this abrasion the stopper and washer are both independent of the stem of the key, which exerts direct pressure upon them without any twisting motion, that would cause
110 abrasion. This arrangement is an essential condition when a wooden stopper is used,

and the superior durability and efficiency of this kind of stopper is mainly attributable to its capability of making a tight joint when compressed by direct pressure upon an irregular surface in this manner.

Having thus described the construction and operation of my improved hot water stopper, what I claim therein as of my invention and discovery, and for which I solicit letters patent, is—

1. The wooden stopper in combination with an expanded recess for its reception, and with a stem entirely unconnected with it, the sole being a wash between them, so that

the stopper may be pressed down upon its seat by the stem without turning—whereby the cost and difficulty of making, and keeping it in repair is lessened, and its durability and efficiency increased as herein set forth.

In testimony whereof I have hereunto signed my name in presence of two subscribing witnesses:

J. HERBERT

Witnesses:

THOS. HANDELVILLE
HERMAN DENNY