R. J. CRICKMER.

Steam and other Cock or Tap.

No. 197,924. Patented Dec. 11, 1877

Fig. 2.

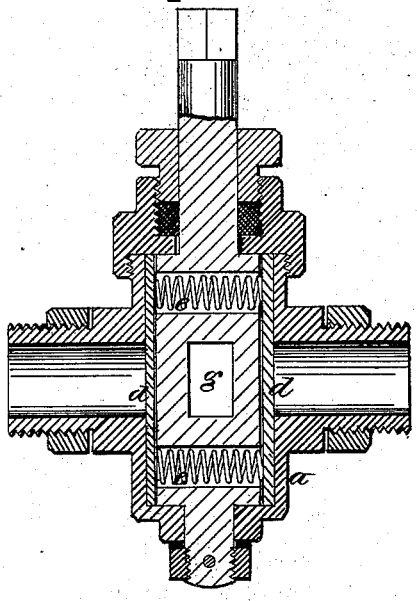


Fig. 1.

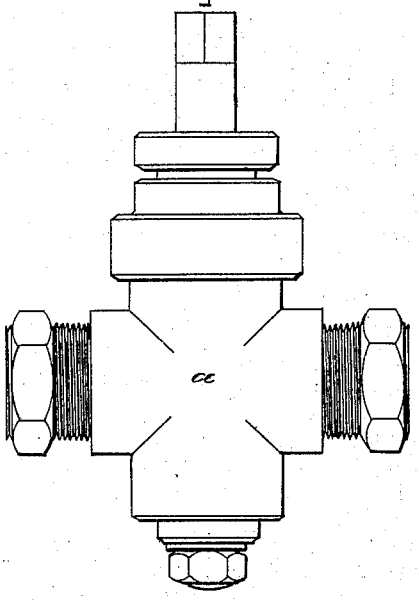


Fig. 3.

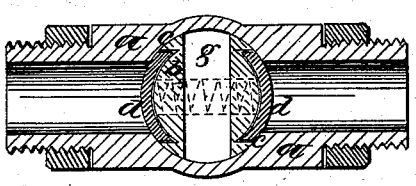
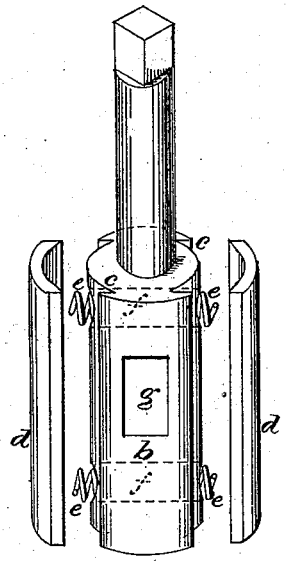


Fig. 4.



ATTEST=

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UNITED STATES PATENT OFFICE.

RICHARD JEX CRICKMER, OF LONDON, ENGLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN EDWARD CAMPBELL KOCH, OF SAME PLACE.

IMPROVEMENT IN STEAM AND OTHER COCKS OR TAPS.

Specification forming part of Letters Patent No. **197,924**, dated December 11, 1877; application filed August 31, 1877.

To all whom it may concern:

Be it known that I, RICHARD JEX CRICKMER, of London, in the county of Middlesex, in the Kingdom of Great Britain, have invented or discovered certain new and useful Improvements in Steam and other Cocks or Taps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures marked thereon—that is to say:

My invention relates to an improved construction of steam and other cocks and taps, whereby these are prevented from sticking fast, owing to the expansion of the metal on becoming heated, and also from becoming leaky through wear. For this purpose the plug of the cock is made to fit loosely, and has formed in it two or more recesses at those points of its cylindrical or coned surface which come opposite the passages or ways of the shell when it is turned into the closed position. Into these recesses are fitted loose pieces or shields, fitting accurately against the chamber of the shell, and pressed against the latter by one or more helical or other springs at the back of the shield.

By this arrangement, when the plug is turned so that the shields close the inlet and outlet apertures of the shell, and steam or other fluid or liquid pressure acts against one of them, it may, if sufficiently powerful to overcome the action of the spring, leak past the shield into the chamber of the shell; but the fluid-pressure in the latter will tend to press the other loose shield against the outlet-aperture, and thus cause it to close the latter effectually against any escape of fluid or liquid. If the inlet and outlet apertures, and consequently the shields, are diametrically opposite each other, I make the before-mentioned springs pass through holes formed through the body of the plug above and below the passage or way of the plug, so that each spring acts simultaneously upon both shields, and the steam, in pressing the one shield away from the inlet-aperture, will cause the springs to exert additional pressure upon the other shield in holding it against the outlet-aperture.

By the above-described contrivance not only is the plug prevented from sticking in the shell, but, as the shields are always caused by the springs to fit tight against the shell, notwithstanding any wear of the parts, I am enabled to make the plug of cylindrical form, instead of conical or tapering, as heretofore, and thus the unequal wear and tendency to leak attendant on the latter form is obviated.

The accompanying drawings represent a cock or tap constructed according to my invention.

Figure 1 is an elevation, and Fig. 2 a longitudinal section, of the cock. Fig. 3 is a sectional plan through the line A B. Fig. 4 is a separate view of the plug and fittings.

a is the shell of the cock. *b* is the plug, fitting loosely in the shell *a*, and having two opposite recesses, *c c*. *d d* are shields or loose pieces in the recesses *c c*, fitting accurately against the chamber of the shell, and pressed against it by helical springs *e e*. These springs are passed through holes *f f* in the body of the plug. *g* is the passage or way through the plug.

The other parts of the cock do not require explanation, and the working of the cock will be fully understood by the description hereinbefore given.

What I claim, and desire to secure by Letters Patent, is—

1. The shields or loose pieces *d d*, in combination with the springs *e e*, and with the recesses *c c* in a tapered or cylindrical plug, substantially as and for the purpose herein described and shown.

2. A cylindrical plug, *b*, formed with recesses *c c*, to receive loose pieces or shields *d d*, and with holes *f f*, to receive springs *e e*, substantially as and for the purpose herein described and shown.

In witness whereof I, the said RICHARD JEX CRICKMER, have hereunto set my hand this 3d day of August, 1877.

R. J. CRICKMER.

Witnesses:
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