

(No Model.)

S. J. ROFE.

TOOL FOR OPERATING ON GAS OR WATER FITTINGS.

No. 449,863.

Patented Apr. 7, 1891.

Fig 1

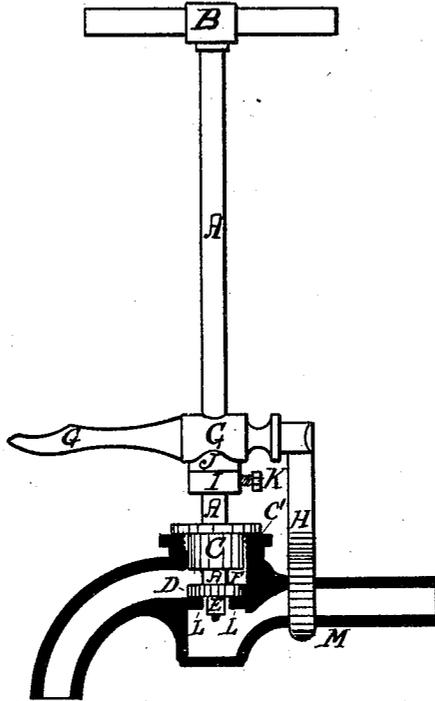


Fig 2

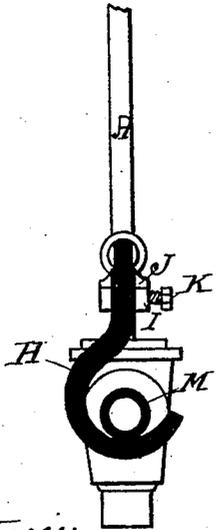
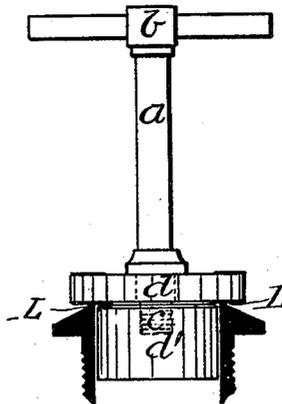


Fig 3



Witnesses:-

J. A. Rutherford.

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UNITED STATES PATENT OFFICE.

SAMUEL JOHN ROFE, OF BIRKDALE, SOUTHPORT, ENGLAND.

TOOL FOR OPERATING ON GAS OR WATER FITTINGS.

SPECIFICATION forming part of Letters Patent No. 449,863, dated April 7, 1891.

Application filed October 6, 1890. Serial No. 367,290. (No model.) Patented in England May 2, 1890, No. 6,744.

To all whom it may concern:

Be it known that I, SAMUEL JOHN ROFE, of Birkdale, Southport, in the county of Lancaster, England, have invented an Improved Apparatus or Tool for Use in Connection with Water, Steam, Gas, and other Taps, Water-Closet - Cistern Valves, Hydrants, and the Like, (for which I have obtained a patent in Great Britain, No. 6,744, bearing date May 2, 1890,) of which the following is a specification.

My invention relates to an apparatus or tool whereby what are known as the "seatings" of taps of all kinds and the valve-seatings of cisterns, hydrants, &c., can be repaired when necessary; and the objects of my invention are, first, to provide an apparatus or tool for the above-named purpose; second, to obviate the necessity for removing the tap or valve from its situation and having to replace with new, much trouble and expense being thereby avoided.

Hitherto when the seatings of taps and cistern-valves, hydrants, &c., have become rough or pitted by wear it has been necessary to remove the same and replace with new ones.

I attain the objects of my invention by the means herein described and illustrated in the accompanying drawings.

Similar letters of reference relate to similar parts.

Figure 1 is a section of a tap, showing the apparatus or tool in elevation. Fig. 2 is an end view of the tap, showing the curved or hooked arm for the purpose hereinafter described. Fig. 3 is a part section of a water-closet-cistern valve, showing the apparatus or tool in elevation, in which it will be seen it takes a somewhat different form, though for the same purpose.

A, Fig. 1, is a vertical rod of any convenient length, and B the handle. This rod carries the following parts, namely: C, a metal cylindrical plug or bush; D, a reversible cutter; E, a screw-nut; F, the square of the rod whereon fits the reversible cutter D; G, a horizontal lever; H, a curved or hooked vertical arm of the lever; I, a collar upon the vertical rod; J, a metal seating or bearing or the lever G to work upon, and K a set-screw to adjust and keep tight the collar I and bearing J, also for regulating the posi-

tion of the lever G upon the vertical rod to suit the various sizes of taps.

L shows the seating in the tap. The same letter represents the seating upon a water-closet-cistern valve, as shown in Fig. 3.

In order to repair the seating of a tap with my improved apparatus I proceed thus: It is obvious that the head or crown of the tap is unscrewed and removed. The apparatus or tool is then placed in the tap, as shown in Fig. 1, the metal bush C, through which the apparatus or tool works, fitting into the head of the tap C' and keeping the apparatus steady and in its place. This metal bush C is of a diameter to suit the diameter of the chamber or head of the tap at C', into which it has to fit, a bearing being obtained upon the head of the tap by means of the flange on the bush. The apparatus or tool being thus placed in position, the reversible cutter D bears down upon the seating L. This cutter consists of a disk of steel or any suitable metal, having cross-cut or serrated surfaces, being coarse cut on the one face and fine cut on the reverse. The curved or hooked vertical arm H, which is hinged, pivoted, or jointed to the lever G, having been placed under the barrel or stem of the tap M to obtain a hold for the lever G, the lever is adjusted to the required height upon the vertical rod A by means of the set-screw K. The finger of the left hand of the operator is placed under the nozzle of the tap and the thumb upon the horizontal lever G, which, upon being pressed down, forces the cutter D onto its work on the surface of the seating L. The vertical rod A is then manipulated with the right hand, causing the cutter D to rotate horizontally. The coarse side of the cutter is first used. The screw-nut E is then removed and the cutter reversed, the fine side finishing the work, thus producing a smooth surface on the seating.

As an alternative way I can, when desired, actuate the tool by means of suitably-placed cog-wheels.

The metal bush C will be made of varying diameters to suit the various sizes of taps, thus: three-eighth inch, one-half inch, three-fourths inch, one inch, and so on.

An alternative way of obtaining a bearing or hold for the arm H of the lever G is by

forming the lower part so that it may catch round or hook under the neck or flange of the head of the tap at C'.

Fig. 3 shows my invention as applied for the purpose of repairing the valve-seatings of water-closet cisterns and such like valve-seatings. In this case I dispense with the lever and also the metal bush. A rod and handle *a* and *b*, as before, are used, and having a square and screw termination, (seen in dotted lines *c*,) the reversible cutter *d* is placed on the rod, and a metal cylindrical plug or bush *d'* is screwed on, which is of a diameter to suit the valve. This cylinder keeps the cutter tight and the tool steady while working. The reversible cutter *d*, which has cross-cut or serrated surfaces, coarse and fine, as described in Fig. 1, is reversed by unscrewing the cylinder or plug *d'*. By bearing on with the hand and turning the apparatus or tool the seating L of the valve is repaired. For valves of smaller diameter a cutter and

cylinder of a smaller size are used, fitting the same rod and handle.

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

1. An apparatus for repairing the seats of water, steam, and other taps, consisting of a vertical rod having a handle, a cylindrical plug or bush, and a reversible cutting-disk having coarse and fine cut surfaces, the horizontal lever on the rod, the collar supporting the lever, and the vertical arm suspended from the lever, substantially as described.

2. An apparatus for repairing valve-seats, consisting of a rod having a handle and provided with a removable and reversible cutting-disk, and a cylindrical plug or bush for steadying the parts while in use, substantially as described.

SAMUEL JOHN ROFE.

Witnesses:

MATTHEW CHAMBERLIN,
GEORGE LYMATH.