No. 820,550. PATENTED MAY 15, 1906.

C. CARTIER.

DEVICE FOR RECUTTING VALVE SEATS.

APPLICATION FILED OCT. 9, 1905.

Fig. 1.

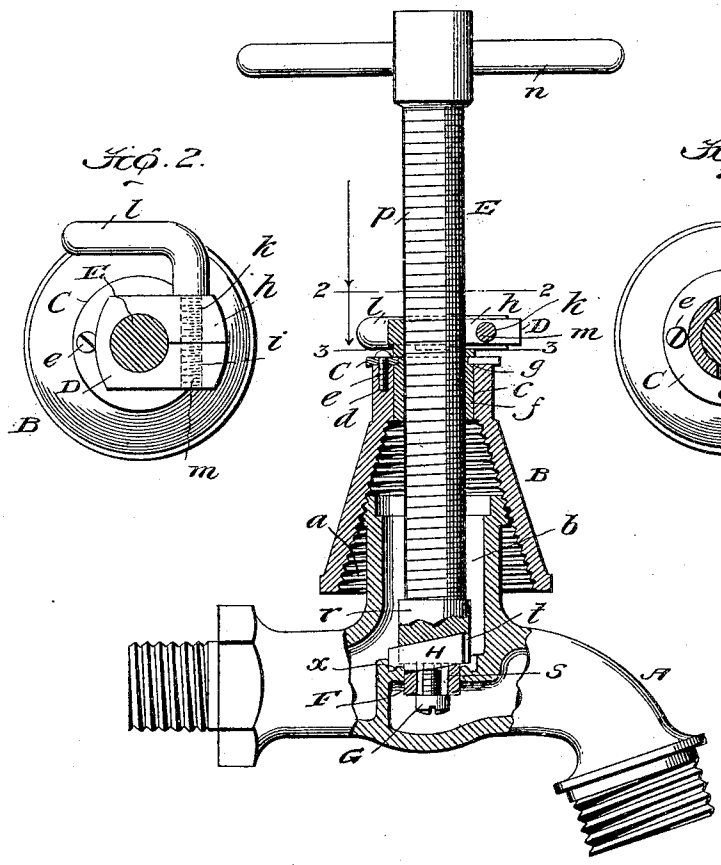


Fig. 2.

Fig. 3.

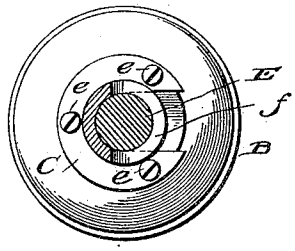


Fig. 4.

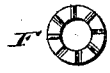


Fig. 6.

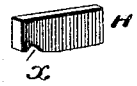


Fig. 5.

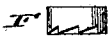
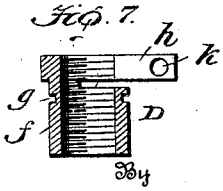


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

CYRILLE CARTIER, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO WILLIAM H. WILLIAMS, OF WOONSOCKET, RHODE ISLAND.

DEVICE FOR RECUTTING VALVE-SEATS.

No. 820,550. Specification of Letters Patent. Patented May 15, 1906.

Application filed October 9, 1905. Serial No. 281,971.

To all whom it may concern:

Be it known that I, CYRILLE CARTIER, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Devices for Recutting Valve-Seats, of which the following is a specification.

My invention pertains to devices for recutting valve-seats, and it contemplates the provision of a simple and easily-operated device adapted to be expeditiously connected in a proper manner to valve-casings and also adapted to assure the formation of a perfectly level seat.

Other advantageous features of the invention will be fully understood from the following description when the same is considered in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view, partly in elevation and partly in vertical section, illustrating the device constituting the present and preferred embodiment of my invention as properly positioned relative to a faucet-casing. Figs. 2 and 3 are horizontal sections taken in the planes indicated by the lines 2 2 and 3 3, respectively, of Fig. 1. Fig. 4 is an inverted plan view of the boring-tool of the device. Fig. 5 is a side elevation of the same. Fig. 6 is a perspective view of the seat-cutting tool of the device removed, and Fig. 7 is a detail view of the body of the clamp.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—.

A is a conventional faucet-casing from which the valve-stem and valve-body have been removed.

B is the body of my novel device. This body comprises a lower interiorly-threaded portion *a* of the shape of a truncated cone, whereby it is adapted to be expeditiously screwed on and securely affixed to the exteriorly-threaded portions *b* of faucet or valve casings of various diameters, and an upper smooth-bore portion *c*, having threaded sockets *d* in its upper end, one of which is shown in Fig. 1.

C is a plate, preferably U-shaped, disposed on the upper end of the body B and connected thereto by screws *e*, and D is a clamp which the said plate C serves to hold against vertical movement with respect to the body B. The said clamp D has a lower sleeve *f* and a circumferential groove *g* in the upper portion thereof designed to receive the inner edge of the plate C, Fig. 1, and also has an upper laterally-extending and split portion *h* and a threaded aperture *i* in one of the arms of said portion *h* and a smooth aperture *k* in the other arm thereof and a screw which has a handle *l* and a threaded shank *m* disposed in the apertures *i* and *k* of the body.

E is the feed-screw of the device, which comprises a suitable handle *n* and a threaded shank *p*, extending through and engaging the thread of the clamp-body. At its lower end the shank *p* is provided with an integral enlargement *r*, which has a reduced and interiorly-threaded lower portion *s* and a bifurcation *t*, which extends upwardly from its lower end.

F is the boring-tool of the device, which is mounted on the reduced lower portion *s* of the feed-screw and against the shoulder afforded by the portion *r*.

G is a screw which has its shank arranged in the interiorly-threaded reduced portion of the feed-screw and its head disposed below the boring-tool, so as to hold the latter in position, and H is the seat-cutting tool, which is arranged in the bifurcation *t* of the feed-screw and between the upper wall of said bifurcation and the upper edge of the tool F, and has a bead-forming notch *x* in its lower edge. By virtue of this construction it will be apparent that both tools F and H may be readily removed from the feed-screw, also that bead-cutting tools of various widths may be clamped between the tool F and the upper wall of the bifurcation or diametrical slot in the feed-screw.

In the practical use of my novel device the body B is screwed upon the portion *b* of the faucet-casing, from which the valve stem and body have been removed, and the screw E is turned down through the clamp D until the boring and seat-cutting tools are in a position to operate. The clamp D is then tightened upon the feed-screw, when, as will be readily apparent, said clamp will freely turn with the screw E and in the body B and yet will preclude further downward movement of the boring and seat-cutting tools. In case it is necessary after the original positioning of the tools F and H relative to the faucet-casing to

cut deeper into the faucet the clamp D is loosened and held stationary by hand or otherwise and the screw E is turned downwardly through the clamp to the extent desired, after which the clamp is tightened and the cutting proceeded with.

It will be noticed that by reason of the clamp D holdingthe screw E against downward movement the production of a perfectly-level seat in the faucet-casing is assured, also that the boring-tool F centers the tool H and enables the same to cut a true circular seat.

I prefer to provide the tool H with a bead-forming notch, but do not desire to be understood as limiting myself to such notch, as it may be omitted without affecting my invention.

It will be gathered from the foregoing that my novel device may be quickly and easily applied to faucet-casings, and through the medium of the same valve-seats may be expeditiously recut with but a minimum amount of effort.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a valve-seat-recutting device, the combination of a rotary device having a diametrical slot, a boring-tool removably arranged on the rotary device, means for holding the boring-tool on the rotary device, and a seat-cutting tool removably arranged in the slot and clamped between the end wall thereof and the boring-tool.

2. In a valve-seat-recutting device, the combination of a suitable body adapted to be attached to a valve-casing, a plate attached to the said body, a clamp comprising an interiorly-threaded sleeve journaled in the body and having a circmferential groove receiving the plate, a lateral split portion and means connecting the arms of said split portion, a feed-screw extending through and engaging the thread in the sleeve of the clamp, and means carried by the feed-screw for recutting valve-seats.

3. In a valve-seat-recutting device, the combination of an interiorly tapered and threaded body adapted to be screwed on a valve-casing, a plate attached to the said body, a clamp comprising an interiorly-threaded sleeve journaled in the body and having a circumferential groove receiving the plate, a lateral split portion and a screw connecting the arms of said split portion, a feed-screw extending through and engaging the thread in the sleeve of the clamp, and means carried by the feed-screw for recutting valve-seats.

4. In a valve-seat-recutting device, the combination of a body adapted to be attached to a valve-casing, a feed-screw, means carried by the feed-screw for recutting valve-seats, a clamp having an interiorly-threaded sleeve journaled in the body and receiving the feed-screw and also having means for fixing the sleeve to the feed-screw, means on the body, and means on the sleeve coöperating with said means on the body to hold the sleeve against endwise movement in the body.

5. In a valve-seat-recutting device, the combination of a suitable body adapted to be attached to a valve-casing, a rotary device carried by said body and having a diametrical slot in its lower portion and also having a reduced and interiorly-threaded lower end, a seat-cutting tool removably arranged in the slot of the rotary device, a boring-tool removably arranged on the reduced lower end of the rotary device and against the lower edge of the seat-cutting tool, and a screw arranged in the said reduced lower end and having a head bearing against the boring-tool.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CYRILLE CARTIER.

Witnesses:
WM. H. WILLIAMS,
GEO. W. SPAULDING.