

(No Model.)

C. F. HALL.
MACHINE FOR REFITTING VALVES.

No. 455,507.

Patented July 7, 1891.

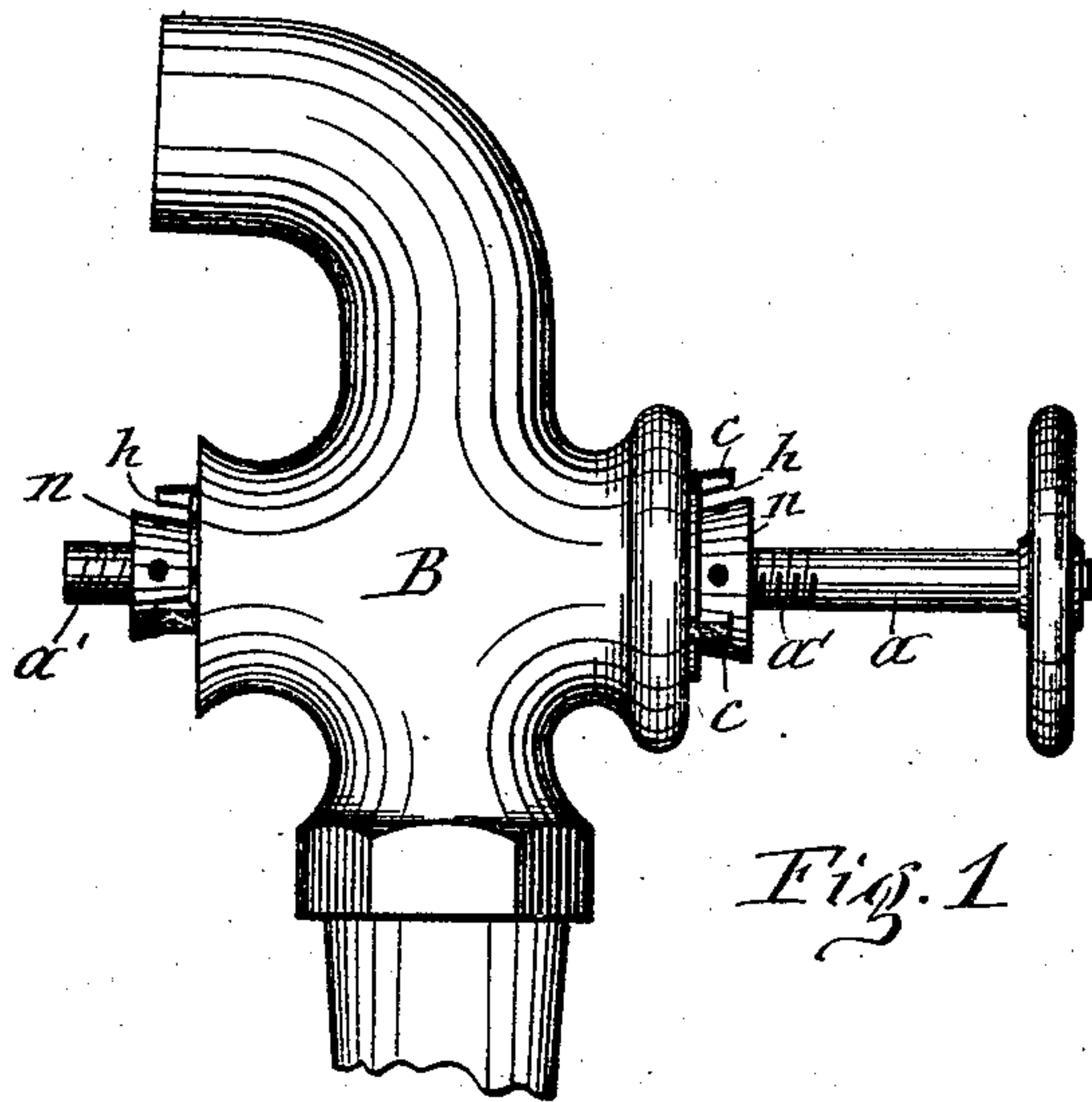


Fig. 1

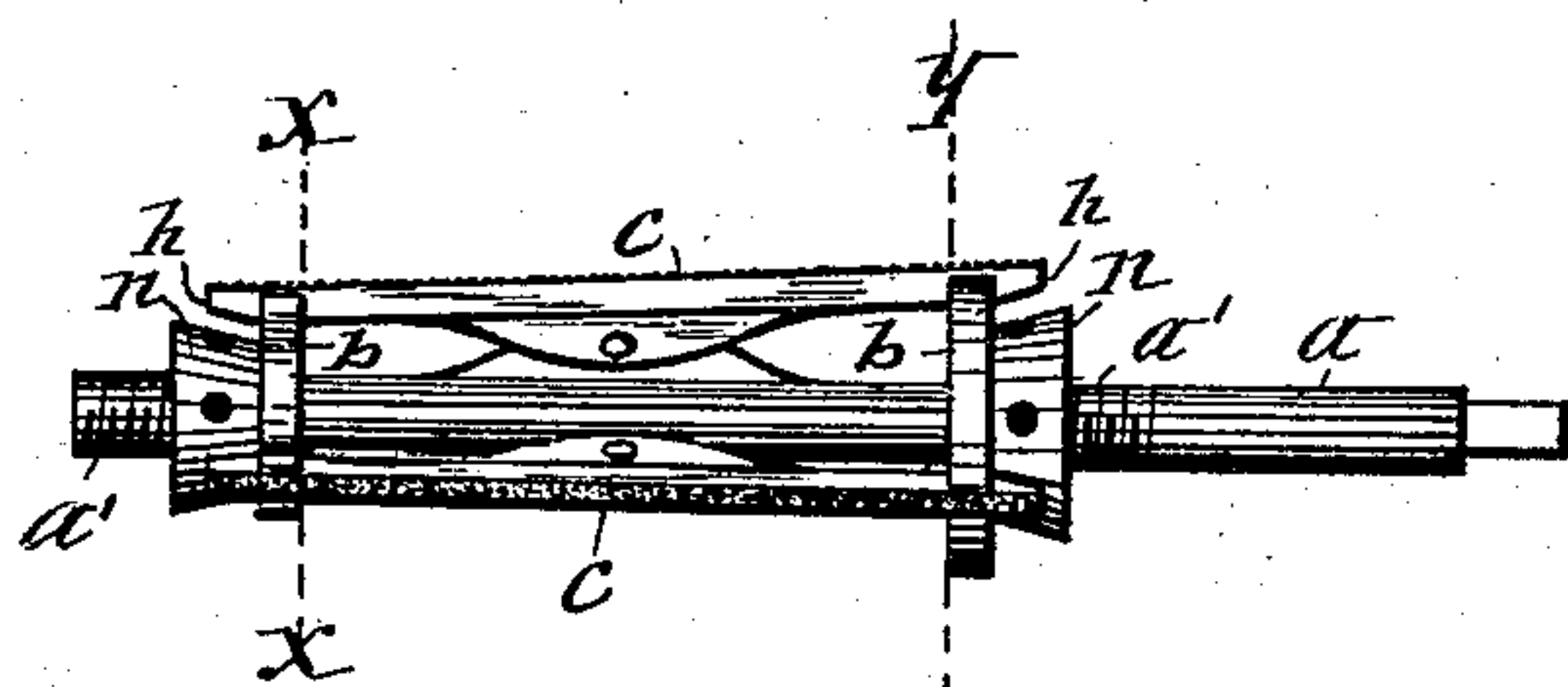


Fig. 2



Fig. 3

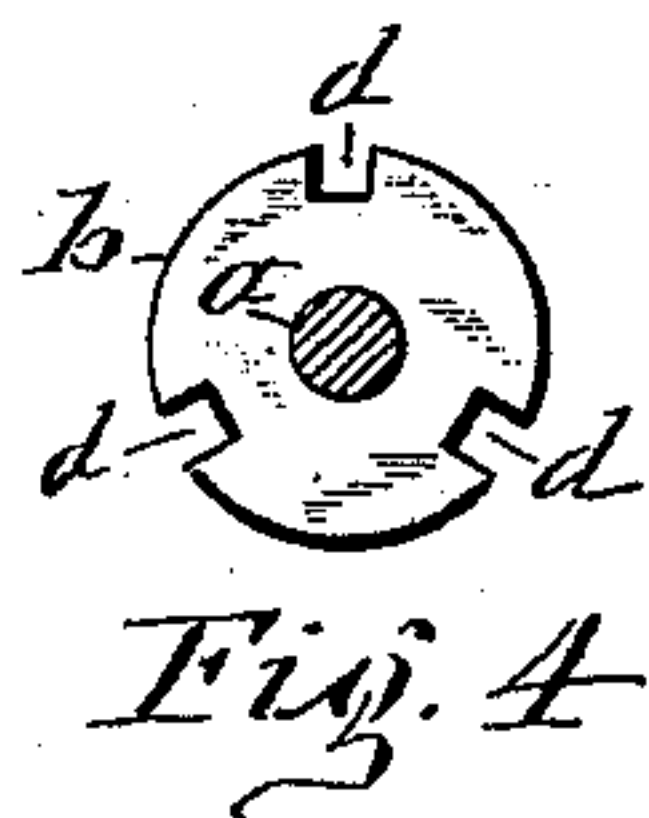


Fig. 4

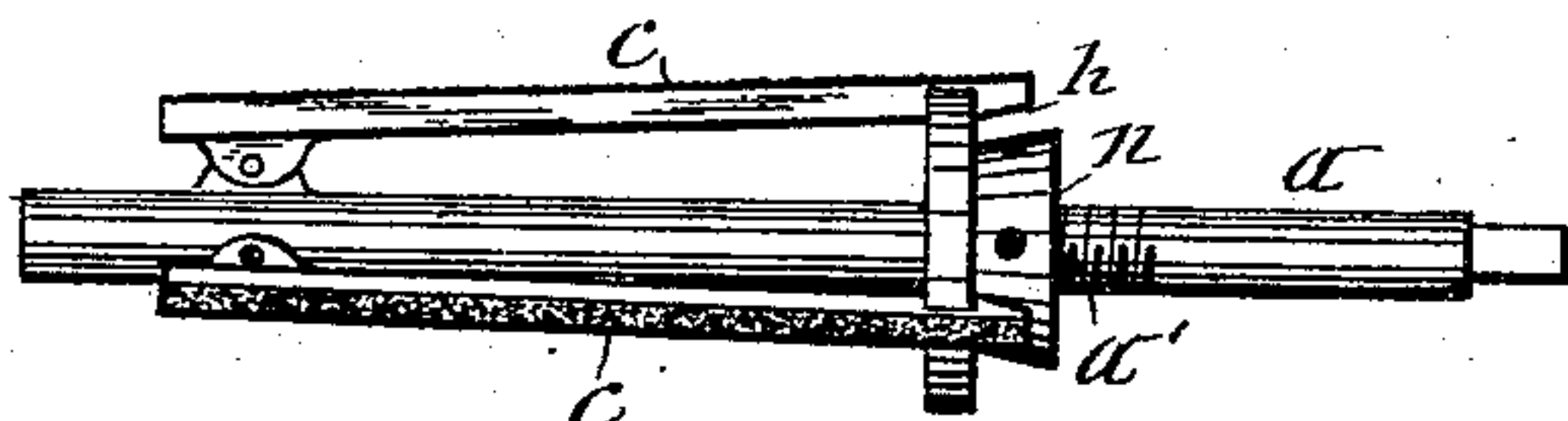


Fig. 5

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES F. HALL, OF SKANEATELES, NEW YORK.

MACHINE FOR REFITTING VALVES.

SPECIFICATION forming part of Letters Patent No. 455,507, dated July 7, 1891.

Application filed December 22, 1890. Serial No. 375,428. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. HALL, of Skaneateles, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Machines for Refitting Valves, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of machines which are employed for refitting the valves and valve-seats of stop-cocks, globe-valves, and analogous valves.

The object of this invention is to provide the cutting or abrading tool with a holder which shall permit said tool to be readily and accurately adjusted to the bevel or taper of the valve-seat to be refitted; and to that end the invention consists in the novel construction and combination of parts hereinafter described, and set forth in the claim.

In the annexed drawings, Figure 1 is a side view of the shell or barrel of a stop-cock with the refitting-tool inserted therein. Fig. 2 is a side view of said tool removed from the aforesaid member of the stop-cock. Figs. 3 and 4 are transverse sections, respectively, on lines *x x* and *y y*, Fig. 2; and Fig. 5 is a side view of a modification of said tool.

Similar letters of reference indicate corresponding parts.

My improved tool for refitting valve-seats consists, essentially, of the arbor *a* and the cutting or grinding tools *c c c*, extending lengthwise of said arbor and connected thereto radially adjustable to different angles to the arbor. I preferably hinge the cutters *c c c* to the sides of the arbor either at one end of the cutters, as shown in Fig. 5 of the drawings, or at or near the center of the lengths of the cutters, as represented in Fig. 2 of the drawings. When hinged as last described, the refitting-tool can be employed without additional means for sustaining the cutters *c c c* by simply inserting the tool into the shell or barrel *B* of the stop cock or valve, as represented in Fig. 1 of the drawings. The cutters automatically conform to the taper of the valve-seat or interior of the said shell or barrel, and by turning the arbor *a* the cutters are caused to operate on said valve-seat; but in order to secure and retain an exact gage of

the taper or bevel of the valve-seat, by which gage the valve-refitting cutters may be adjusted to a corresponding taper or bevel, I mount longitudinally movable on the smooth portion of the arbor *a* the collars *b b*, which are of different diameters, and receive upon their peripheries respectively opposite ends of the cutters, which are beveled on their under sides, as shown at *h h*, in Fig. 2 of the drawings. By pushing the said collars tightly under the beveled ends of the cutters after said cutters have accommodated themselves to the valve-seat or tapering interior of the shell or barrel *B* the cutters are effectually sustained in their self-adjusted positions. To retain the said collars in their said position under the cutters, I form the arbor *a* with screw-threaded portions *a' a'* and apply thereto nuts *n n*, which are separate and detached from the collars *b b*. By screwing said nuts up against the outer faces of the collars the latter are confined in their adjusted positions. To properly sustain the ends of the cutters laterally, I form the collars *b b* with notches or recessed seats *d d* in their peripheries for the reception of the ends of the cutters.

When the cutters are hinged at one end to the arbor, as shown in Fig. 5 of the drawings, only one collar *b* and nut *n* are required at the opposite end of the cutters.

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

In combination with the arbor *a*, provided with a screw-threaded portion *a'* and cutters *c c c*, pivotally connected to said arbor, the collar *b*, mounted loosely on the smooth portion of the arbor and supporting on its periphery the ends of the cutters, and the nut *n*, separate and detached from the collar and mounted on the screw-threaded portion of the arbor outside of the collar, substantially as described and shown.

In testimony whereof I have hereunto signed my name this 13th day of December, 1890.

CHARLES F. HALL. [L. s.]

Witnesses:

C. L. BENDIXON,
MARK W. DEWEY.