

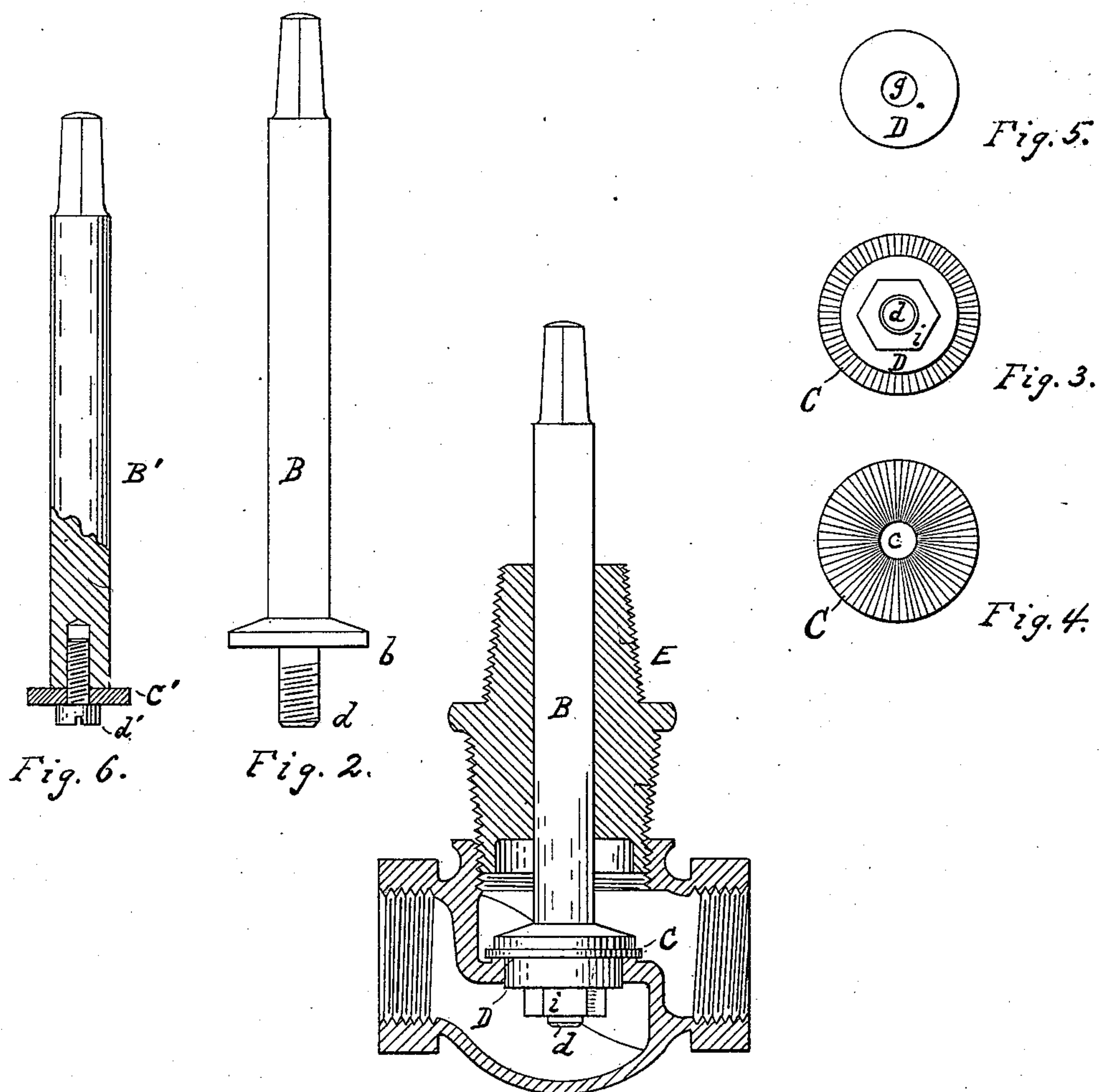
(No Model.)

H. R. TOWER.

DEVICE FOR DRESSING VALVE SEATS.

No. 352,591.

Patented Nov. 16, 1886.



Witnesses—

A. H. Holman.
Emil Schmidt.

Fig. 1.

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UNITED STATES PATENT OFFICE.

HARVEY R. TOWER, OF HOLYOKE, MASSACHUSETTS.

DEVICE FOR DRESSING VALVE-SEATS.

SPECIFICATION forming part of Letters Patent No. 352,591, dated November 16, 1886.

Application filed February 26, 1886. Serial No. 193,384. (No model.)

To all whom it may concern:

Be it known that I, HARVEY R. TOWER, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Dressing-Tools for Valve-Seats of Globe-Valves, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to improvements in certain tools used in the dressing or restoration of the valve-seats of globe-valves without removing them from their position, if desired; and the objects of my improvements are to provide better means of steadying and guiding the tool and to provide a tool suitable for all sizes of valves. I attain these objects by the mechanism shown in the annexed drawings, in which—

Figure 1 is an elevation of the tool and its improved guide in position in a globe-valve, shown in section. Fig. 2 is an elevation of a part of the tool. Fig. 3 is an end view of the tool. Figs. 4 and 5 are views of parts of the tool; and Fig. 6 is an elevation, partly in section, of an improved form of the tool adapted to smaller sizes of valves than the form shown in the foregoing figures.

When the valve-seat of a globe-valve has become corroded or partially eaten away, it is necessary to reface the seat or replace the entire valve with a new one. By the devices here shown the seat can be repaired while in place, and the work done more quickly and accurately than by ordinary methods.

B is a stem, having its upper end of proper form to be received in a bit-stock or other convenient handle for turning it, having its central part of cylindrical form of uniform size throughout, and formed at its lower end into a flat shoulder, *b*, which surrounds a screw-stem, *d*, prolonged axially from the stem B.

C is a cutter of flat disk shape, with one or both sides file-cut, and having a central hole, *c*.

D is a cylindrical guide. The cutter C and guide D fit over the screw-stem *d*, and are secured and held firmly against the shoulder *b* by the nut *i*, as shown. The guide D is of proper size to fit the port of the valve-seat for the purpose of guiding the lower end of the stem.

E is a guide for the upper part of the stem B. It is important that the stem should be perfectly guided in order to have a true and square seat formed by the cutter C. This it is impossible to secure by the use of the lower guide, D, alone. The upper guide, E, has a central hole fitting the stem B, but allowing said stem to revolve freely therein. The ends of the guide are slightly conical in form, as shown, and threaded, for the object of screwing into the top opening of the valves to hold said guide in position. By making the two ends of the guide of different sizes and conical, different sizes of openings can readily be fitted.

For small valves the construction of the cutter-stem and attachments described cannot be used on account of the small diameter of the port of the valve-seat. For these the device shown in Fig. 6 is provided, in which B' is the stem, of proper form to be guided by an upper guide, E. C' is the cutter, held directly to the end of stem B' by the screw *d'*, the head of said screw forming, if desired, a lower guide by fitting the valve-port.

I am aware that prior to my invention stems with disk-shaped file-cut cutters and lower guides have been used for the purpose specified, a patent for the same having been granted to Pliny J. Wright and Samuel Rust, May 29, 1883, Patent No. 278,478, and transferred and assigned to me, as recorded in Liber V 30, page 473, of Transfer of Patents. I am not aware, however, that the upper guide herein described, and essential to the perfect working of the device, has been before known or used, nor the modified form of the tool shown in Fig. 6.

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

1. In a tool for dressing the seats of globe-valves, the combination of the stem B, cutter C, and guides D and E, substantially as and for the purpose set forth.

2. The guide E, having two conical or tapering threaded parts of different sizes, and a central opening adapted to receive the stem of a dressing-tool, substantially as set forth.

HARVEY R. TOWER.

Witnesses:

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