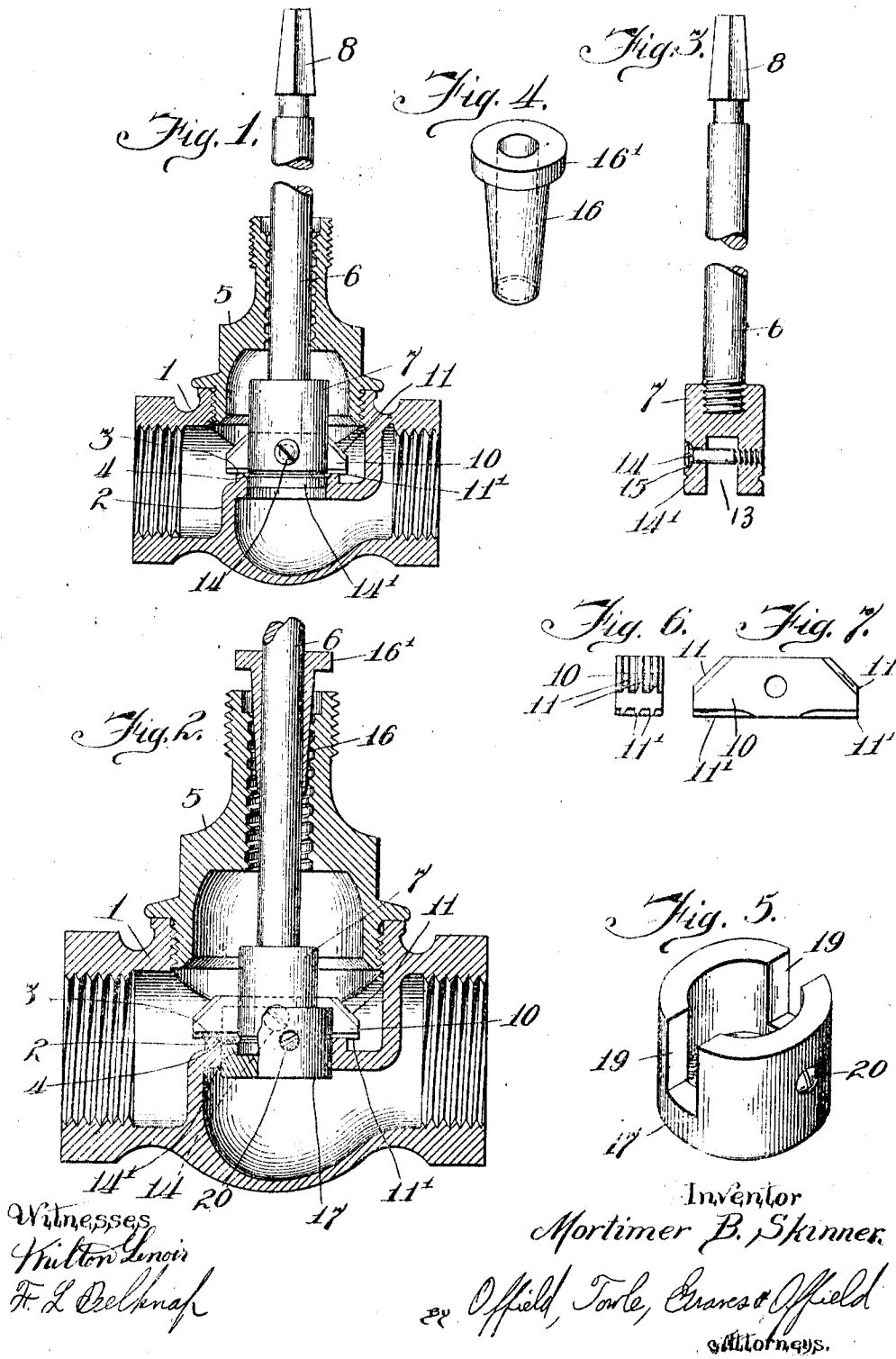


M. B. SKINNER.
VALVE DRESSING TOOL.
APPLICATION FILED JULY 9, 1908.

1,061,694.

Patented May 13, 1913.



UNITED STATES PATENT OFFICE.

MORTIMER B. SKINNER, OF WILMETTE, ILLINOIS.

VALVE-DRESSING TOOL.

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Specification of Letters Patent.

Patented May 13, 1913.

Application filed July 9, 1909. Serial No. 506,710.

To all whom it may concern:

Be it known that I, MORTIMER B. SKINNER, a citizen of the United States, residing in the city of Wilmette, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Valve-Dressing Tools, of which the following is a specification.

This invention relates to improvements in valve dressing tools, and refers more particularly to tools for dressing the seats of globe valves and the like.

The invention consists in the matters hereinafter described and more particularly pointed out in the appended claim.

In the drawings—Figure 1 is a vertical sectional view of a globe valve with the valve stem removed, and showing my improved dressing tool therein; Fig. 2 is a similar sectional view on a somewhat larger scale, but showing the tool equipped with the centering attachments; Fig. 3 is a view partly in side elevation and partly in vertical section of the tool stock, parts, however, being broken away in order to reduce the size of the drawing; Fig. 4 is a perspective view of the upper centering or guiding collar. Fig. 5 is a similar view of the centering ring which fits within the valve seat; Figs. 6 and 7 are respectively end and side elevations of the cutter.

In valves of this character it is necessary that the valve seats be very accurately and uniformly dressed. This cannot be accomplished, however, unless the dressing tool is at all times centered during the operation of dressing.

Referring to the drawings 1 designates as a whole a globe valve of well known construction having a valve seat 2, which in the present instance is flat at its upper face as shown at 3, and is provided with a beveled inner edge 4.

The main body of the tool consists of a stock 6 which when in use extends through the bonnet 5 of the valve, a shank portion 8 which fits within the brace, and an enlarged head or chuck 7 which receives the cutter. In using the tool the valve stem and bonnet are first removed and the chuck inserted in the body of the valve. The bonnet is then replaced and screwed into position. In order, however, to permit of the same tool being used for valves of various sizes, the former is provided with a series of attachments. To this end I provide the

tool with a series of cutters 10 having a plurality of blades or knife edges upon either face of the cutter. As shown more clearly in Fig. 6 the blades on one face of the cutter are inclined as shown at 11, while the blades on the opposite face are flat as shown at 11'. This construction permits of the same cutter being used for dressing either a flat or beveled valve seat. While the tool is provided with a plurality of cutters, the heads of the latter are made uniform, in order to fit within the socket 13 of the chuck 7. The cutters are detachably locked in position by means of a set screw 14, the head of which is countersunk as shown at 15.

In the construction shown in Fig. 1, the valve is of such size that the tool is accurately guided and centered during the operation of dressing without the necessity of using any attachments. The upper end of the stock fits snugly within the bonnet, while the lower end 14' of the chuck similarly fits within the valve seat. It is apparent, however, that if the same tool is used for dressing a larger valve seat such as shown in Fig. 2 the stock will not be centered, thus preventing the proper dressing of the seat. To overcome this difficulty, the upper end of the stock is provided with a loosely mounted tapered collar or ring 16 which fits closely within the upper end of the bonnet as shown in Fig. 2 thus serving as a bearing and centering means for the upper end of the stock. The taper of the ring obviously permits of the same ring being used for bonnets of different sizes. In order to prevent the ring or collar from slipping into the bonnet, the former is preferably provided at its upper end with a flange 16'. For the same purpose the chuck is provided with a plurality of centering rings or socket members 17 slotted at either side as shown at 19, 19 to fit over the cutter 10. This centering ring may be locked in position by means of a set screw 20. Inasmuch as the tool is provided with a series of these socket members of varying size, it is apparent that the chuck may be accurately centered by simply inserting upon the lower end of the latter a centering member corresponding to the size of the valve seat. The taper of the upper ring or collar permits of this attachment being used for a valve of any given size as stated.

While I have herein shown a preferred embodiment of my invention, it is apparent

that it is not limited to the details of construction shown, except as set forth in the appended claim.

I claim as my invention:

- 5 In a valve dressing tool, the combination with a stock, of a cylindrical chuck member threaded to the lower end of said stock, said chuck member having a diametral slot in its lower end, a tool rigidly secured
10 in said slot, a cylindrical centering cap for fitting over the lower end of said chuck

member and having opposite slots for receiving the ends of the tool projecting from the chuck member, said chuck member having a peripheral groove and a set screw for engaging in said groove to hold said centering sleeve to said chuck member.

MORTIMER B. SKINNER.

Witnesses:

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