J. BAINS.

Bushings for Grinding Globe-Valves.

No. 149,971. Patented April 21, 1874.

Fig. 1

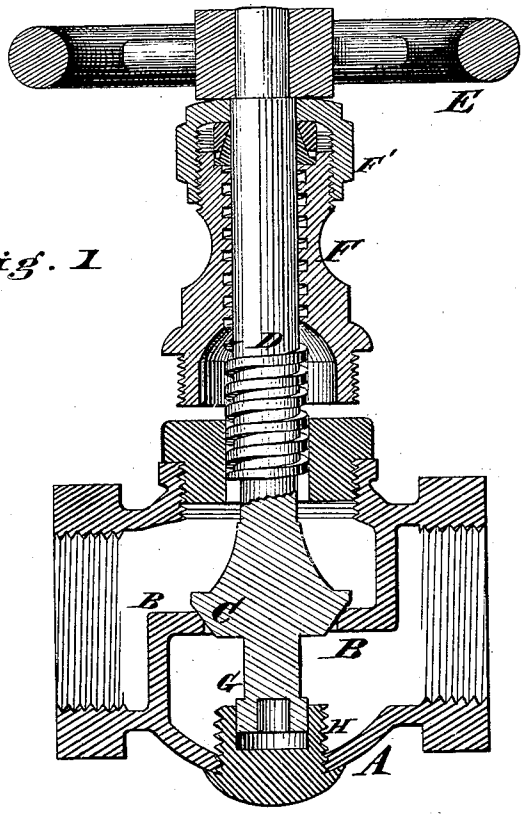
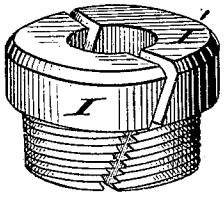


Fig. 2



Attest

E. M. Hunter

C. F. Kenyon

Inventor

James Bains

By Y. Millward

Attorney

UNITED STATES PATENT OFFICE.

JAMES BAINS, OF CINCINNATI, OHIO, ASSIGNOR TO CRANE, BREED & CO.

IMPROVEMENT IN BUSHINGS FOR GRINDING GLOBE-VALVES.

Specification forming part of Letters Patent No. **149,971**, dated April 21, 1874; application filed March 5, 1874.

To all whom it may concern:

Be it known that I, JAMES BAINS, of Cincinnati, Hamilton county, State of Ohio, have invented a certain new and useful Improvement in Globe-Valve Bushings, of which the following is a specification:

The object of my invention is to provide means enabling the accurate grinding of the valve in its seat; and my invention consists in the provision of a detachable two-part bushing, the exterior of which fits the thread of the valve-shell, and the interior of which is smoothly bored to fit the exterior of the screw on the valve-stem.

Figure 1 is a vertical section of a globe-valve embodying my improvements. Fig. 2 is a perspective view of the detachable bushing.

A is the shell or casing of the valve, having the usual diaphragm B, in which the seat is formed. C is the valve, having the customary screw-threaded stem D and wheel E. The case A is fitted with the nut F to match the screw-thread of the stem, the nut being fitted with the ordinary stuffing-box F′ to pack the smooth part of the stem. To the lower face of the valve a projection, G, is formed, which is turned truly concentric with the valve. A socket, H, is either formed upon or attached to the case A, and bored out concentric with the valve-seat, and of such diameter as to enable the projection H to snugly fit it. This connection of the socket H with the projection G constitutes a guide, which, in small-sized valves, is sufficient to prevent the valve from being ground out of line. As an additional security against inaccurate grinding, I provide the detachable two-part bushing I I′. These parts, when together, fit into the screw-threaded aperture in the case A, from which the nut F is necessarily withdrawn before grinding, in the manner shown in Fig. 1, and the interior of this bushing is smoothly bored to fit the exterior of the square thread of the valve-stem, thus serving as a guide to prevent the upper end of the stem from "wobbling" eccentrically in the operation of grinding.

The interior projection of the case, in which the socket H is formed, may be separately attached, as shown, for repairs of old-style valves, or may be formed upon the case A in the original casting of it.

I claim—

For attachment to globe-valves, substantially in the manner and for the purpose specified, the two-part bushing I I′, connected and operating as described.

In testimony of which invention I hereunto set my hand.

JAMES BAINS.

Witnesses:

GEO. W. CORMANY,

GEO. S. URURLER.