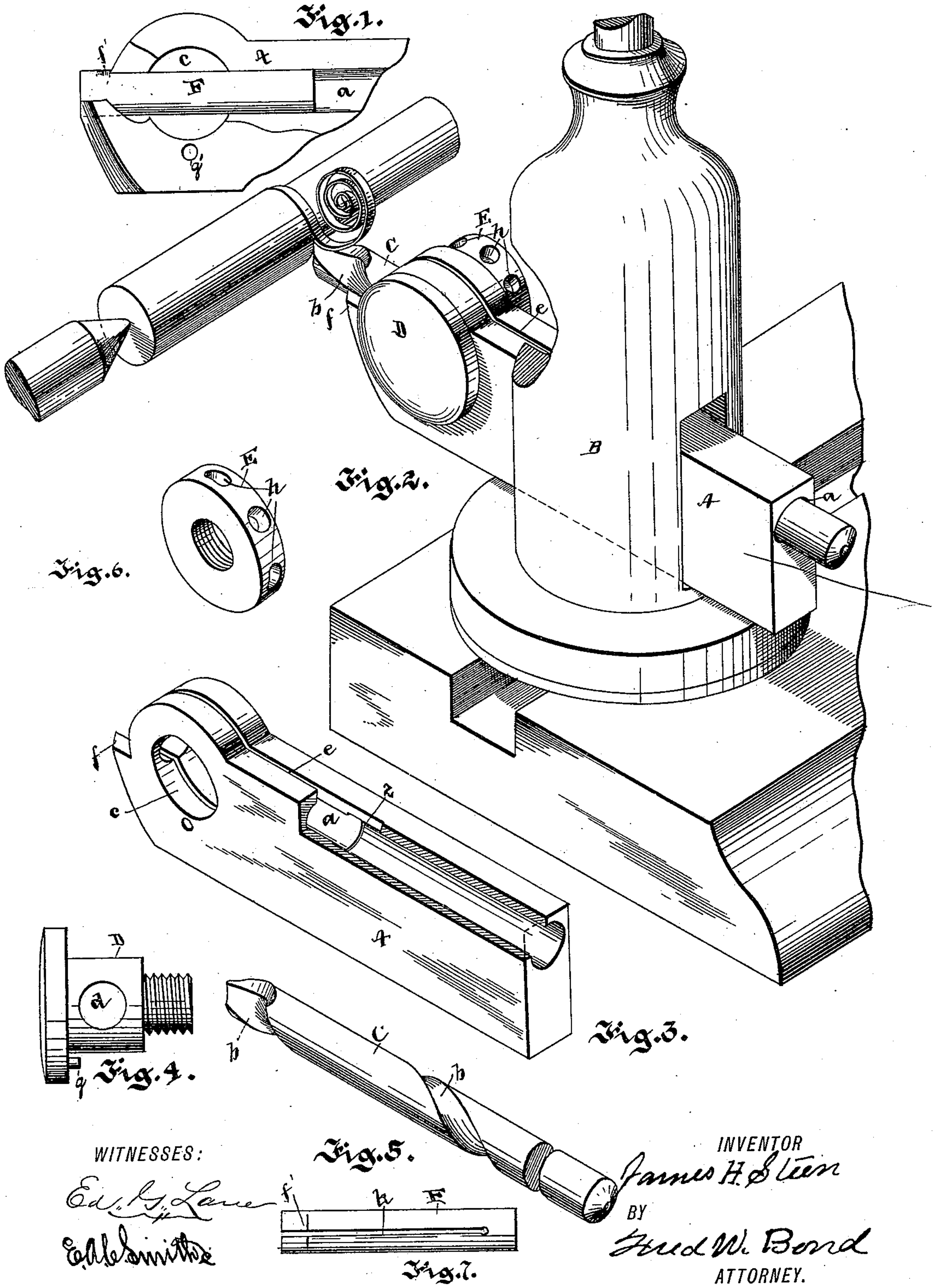
(No Model.)

J. H. STEEN.

LATHE TOOL HOLDER.

No. 463,394. Patented Nov. 17, 1891.



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LATHE-TOOL HOLDER.

SPECIFICATION forming part of Letters Patent No. 463,394, dated November 17, 1891.

Application filed May 15, 1891. Serial No. 392,935. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. STEEN, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Lathe-Tool Holders; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a view showing a portion of the tool-holder and illustrating the groove or aperture for holding the tool, and showing a reducer or thimble located in the tool-aperture and showing the clamping-bolt removed. Fig. 2 is a view showing the tool and its holder properly fixed to a lathe-post for work. Fig. 3 is a detached view of the tool-holder, showing parts broken away. Fig. 4 is a detached view of the clamping-bolt. Fig. 5 is a detached view of the tool. Fig. 6 is a detached view of the nut designed and calculated to be received upon the screw-threaded portion of the clamping-bolt. Fig. 7 is a detached view of the reducer or thimble.

The present invention has relation to lathe-tool holders; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, A represents the tool-holder, which may be of any desired size, reference being had to the work designed and calculated to be done, and is fixed to the tool-post B in any convenient and well-known manner.

The holder A is provided with the longitudinal aperture *a*, which is for the purpose of receiving the tool C, said tool being located in the aperture *a*, substantially as illustrated in Fig. 2. The tool C is provided with the twisted groove *b*, said groove terminating in a cutting-point, substantially as illustrated in Figs. 2 and 5.

The holder A is provided with the transverse aperture *c*, which aperture is for the purpose of receiving the clamping-bolt D, as illustrated in Fig. 2, and for the purpose of allowing the tool C to pass the clamping-bolt D the aperture *d* is formed in said clamping-bolt.

For the purpose of causing the clamping-bolt D to properly bind and hold the tool C in proper position, the opening or kerf *e* is formed in the holder A and extends a sufficient length into the holder A to allow the front or forward parts of the holder to spring to or from each other when clamped or released by means of the clamping-bolt D.

For the purpose of providing a brace or support for the tool C, the shoulder *f* is formed upon the front or forward end of the holder A. The top or upper side of said shoulder *f* is formed in line with the bottom or under side of the longitudinal aperture *a*.

For the purpose of preventing the tool from binding or sticking in the aperture *a*, the rear portion of the aperture *a* is formed somewhat larger in diameter than the front or forward portion of said aperture, as indicated at Z, Fig. 3.

It will be understood that the aperture *d* may be formed upon the side of the clamping-bolt D and the same object accomplished, the body of the bolt below the aperture or recess coming below the longitudinal aperture *a*.

For the purpose of causing the aperture *d* to register with the longitudinal aperture *a*, the pin *g* is provided, which enters the aperture *g'* and holds the clamping-bolt D from rotating.

The nut E is for the purpose of receiving the screw-threaded portion of the clamping-bolt D, and its periphery may be provided with the apertures *h*, which are for the purpose of rotating said nut by means of a pin or bar; but if desired said nut may be made angular and rotated by means of a wrench, the manner of rotating said nut being immaterial.

It will be understood that by providing the twisted groove *b*, said tool can be kept sharp by grinding or filing from the under side of the cutting-lip, and that the tool can be worn back to a point where it will be too short to be held, thereby utilizing nearly the entire length of the tool C.

For the purpose of using tools having a less diameter than the diameter of the longitudinal aperture *a*, the reducer or thimble F is provided, and in use is located as illustrated in Fig. 1, and for the purpose of allowing said

reducer to be compressed and bind the tool the openings or kerf *k* is provided.

For the purpose of forming a stop for the reducer or thimble F, the shoulder *f'* is provided upon the top or upper side of said reducer or thimble F, the inner end of said shoulder abutting against the front or forward end of the holder A, as illustrated in Fig. 1, thereby stopping the reducer or thimble at the desired point.

It will be understood that any desired number of thimbles may be used and each thimble provided with a different-sized aperture for receiving different-sized tools.

It will be understood that by providing the shoulder *f*, a brace or support will be provided for the tool, and that the cutting-point of said tool can be brought far enough away so that the chip will clear above and at the same time prevent any trembling of the tool.

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

1. The combination of the holder A, provided with the longitudinal aperture *a*, the opening or kerf *e*, and the reducer or thimble F, provided with the shoulder *f'* and the kerf *k*, substantially as and for the purpose specified.

2. The combination of the holder A, provided with the longitudinal aperture *a*, having different-sized diameters, and the shoulder *f*, the kerf *e*, and the clamping-bolt D, provided with the aperture *d*, substantially as and for the purpose specified.

3. The combination of the holder A, provided with the longitudinal aperture *a*, the clamping-bolt D, provided with the pin *g*, and the aperture *g'*, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES H. STEEN.

Witnesses:
F. W. BOND,
E. A. C. SMITH.