(No Model.)

F. B. BOWMAN.

ADJUSTABLE TOOL HOLDER.

No. 296,310. Patented Apr. 8, 1884.

Fig 1

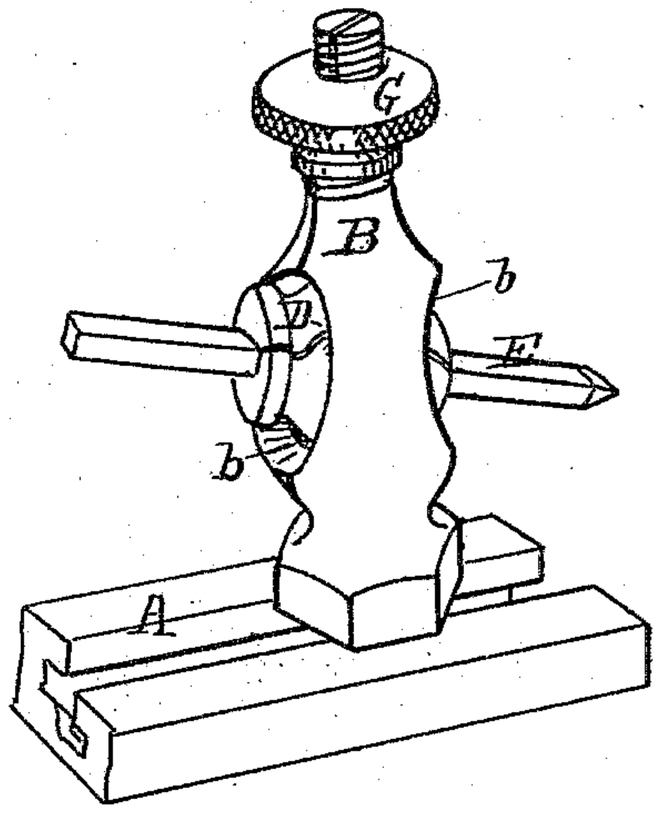


Fig 4.

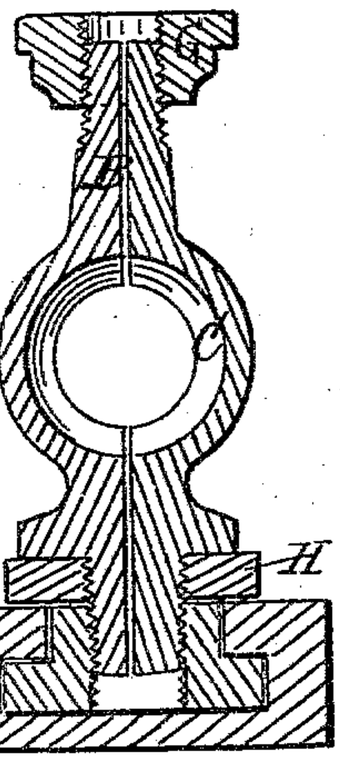


Fig. 3.

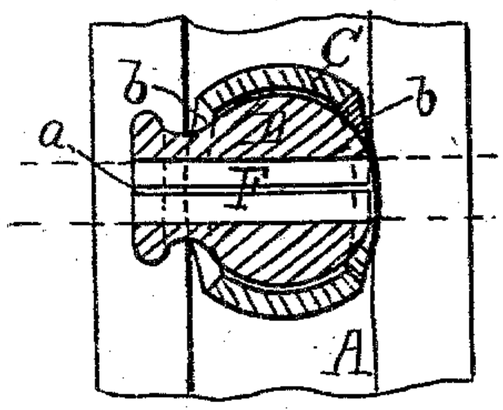
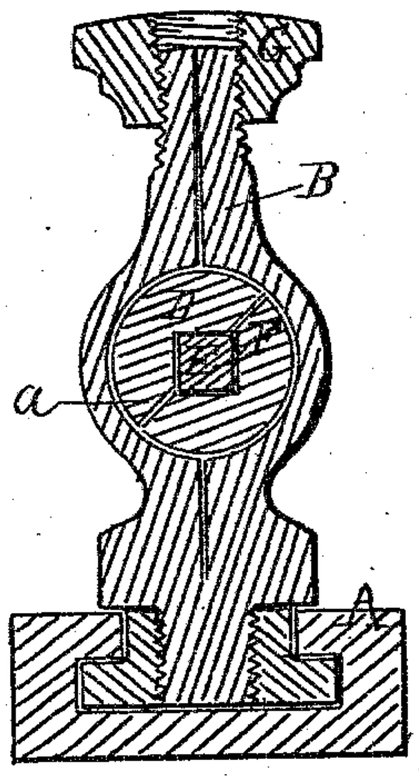


Fig. 2.



Witnesses.
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A. P. Hayden

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UNITED STATES PATENT OFFICE.

FRANCIS BROOKS BOWMAN, OF WALTHAM, MASSACHUSETTS.

ADJUSTABLE TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 296,310, dated April 8, 1884.

Application filed September 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS BROOKS BOWMAN, a citizen of the United States, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Adjustable Tool-Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention consists in a holder of which the tool-post is split and capable of being expanded, and is formed with an internal socket to receive a ball, which is preferably, but not necessarily, formed in halves and pierced to receive the tool, opposite sides of the post being formed with openings to admit of passage of the tool, and such post being contracted about the ball by nuts or other suitable means.

The drawings accompanying this specification represent, in Figure 1, an elevation, in Fig. 2 a vertical section, and in Fig. 3 a horizontal section, of a tool-holder embodying my invention. Fig. 4 is a modified construction of the tool-post.

In said drawings, A represents a portion of the bed-plate of a lathe-rest, and B the tool-post thereof.

In carrying out my invention I form centrally in the post B a spherical socket, C, and within this socket I place a spherical ball, D, which constitutes the holder of a turning-tool, which is shown at E, said ball being pierced axially and horizontally, as shown at F, to receive said tool. The ball D is split centrally into halves, as shown at *a*, in order to close upon the tool E, and in order to introduce said ball into the socket C of the tool-post I split such post from the top nearly to the bottom, and I spread its sides sufficiently to introduce the ball into the socket, the elasticity of the post being sufficient to permit of the requisite expansion of the said socket, which, after the insertion of the ball, closes upon the latter. A nut, G, is screwed upon the upper part of the post B, which latter is somewhat tapering, in order that as the nut is lowered it shall crowd the sides of the post together, and in so doing clamp the ball between them. To permit of passage of the tool through the post and enable it to be adjusted in position in any direction, I cut in opposite sides of such holder openings *b b*, which communicate with the socket C.

The post B, in lieu of being composed of one piece of metal split from the top downward, may be of two distinct pieces or halves confined together at top or bottom by nuts G and H, which inclose screw-thread shanks cut upon the conjoint halves, as shown in Fig. 4 of the drawings.

It will be seen that by my construction of a tool-holder for turning-lathes such tool may be readily turned or adjusted to any desired angle or position, horizontally or vertically, upon the ball as a point of motion. To crowd the two portions of the ball apart when the nut is loosened, I introduce spiral springs between such portions.

I claim—

The herein-described tool-holder, composed of the ball and the socketed post encompassing the ball, which is pierced axially to receive the tool, the post being split partially or entirely to permit of insertion of the ball, and clamped about such ball by nuts suitably applied, substantially as explained.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS BROOKS BOWMAN.

Witnesses:
F. CURTIS,
A. HAYDEN.