

J. J. HENRY.
Spindle-Steps.

No. 137,443.

Patented April 1, 1873.

Fig. 1.

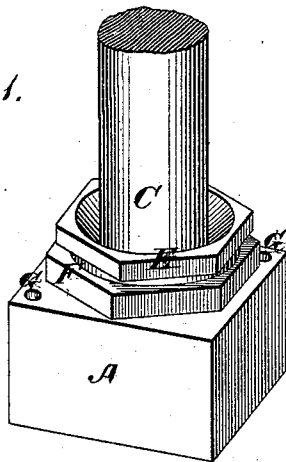


Fig. 2.

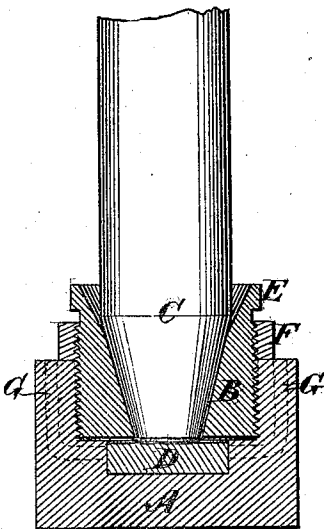
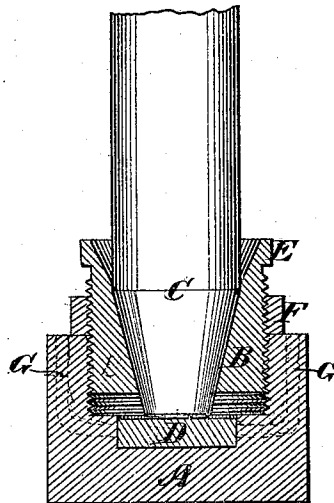


Fig. 3.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SPINDLE-STEPS.

Specification forming part of Letters Patent No. **137,443**, dated April 1, 1873; application filed February 26, 1873.

To all whom it may concern:

Be it known that I, JOHN JOSEPH HENRY, of the city and county of Baltimore, and State of Maryland, have invented a new and useful Improvement in Steps for Mill-Spindles and other shafts; and I do hereby declare the following to be a full, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of my improved step. Fig. 2 is a vertical section, showing the shaft or spindle in elevation; and Fig. 3 is a similar view, showing the position of parts when adjusted to compensate for wear.

Similar letters of reference in the accompanying drawing denote the same parts.

My invention has for its object to improve the construction of steps for mill-spindles and other vertical shafts, whereby they are made adjustable, to compensate for the wear of the bearing-surfaces. To this end the invention consists, first, in adapting the guide or bearing which receives the toe of the shaft to screw into the iron or base-piece, so that it can be adjusted vertically to fit the toe as the parts become worn. It consists, secondly, in the combination of a locking-nut with the adjustable guide or bearing, to hold the latter firmly at any elevation or point of adjustment rendered necessary by wear or other causes, all as I will now proceed to describe.

In the accompanying drawing, A is the base or body of iron, formed with a central recess, and B is the guide or bearing, having an exterior screw-thread, fitting within a corresponding screw-thread in the walls of the recess. The guide is constructed with an inverted conical opening to receive the toe of the spindle C, the end of which extends through such opening so as to rest upon a hardened steel plate D let into the base at the bottom of its

recess, as shown. The top of the guide forms a collar, E, beveled off around the interior to receive oil for lubricating the spindle, and F is the lock-nut screwed upon the guide between such collar and the base A. Oil is further supplied to the spindle-toe through the passages G in the base, as shown by dotted lines Figs. 2 and 3. In Fig. 2 the guide is shown let into the base to the fullest extent, and locked in position by the nut F, screwed down so as to bear upon the upper surface of the base. As the guide becomes worn by the rotation of the spindle, it is unscrewed or moved up, as shown in Fig. 3, to the requisite height to fit the toe snugly, and prevent the spindle from vibrating, or running out of true; or, in other words, to compensate for the wear. The nut is then screwed down upon the base, to lock the guide securely in position.

Having thus described my invention, what I claim as new is—

1. The screw-threaded guide or bearing B, constructed with the inverted conical opening and aperture through which the spindle-toe passes, and adapted for vertical adjustment around such toe, and within the recessed base A, to compensate for wear, substantially as described.

2. The locking-nut F, in combination with the adjustable guide or bearing B, substantially as described, for the purpose specified.

3. The step for spindles and other shafts, consisting of the guide or bearing B, adapted to screw into the base A, and the locking-nut F, arranged upon the guide above the base, substantially as described, for the purpose specified.

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Witnesses:

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