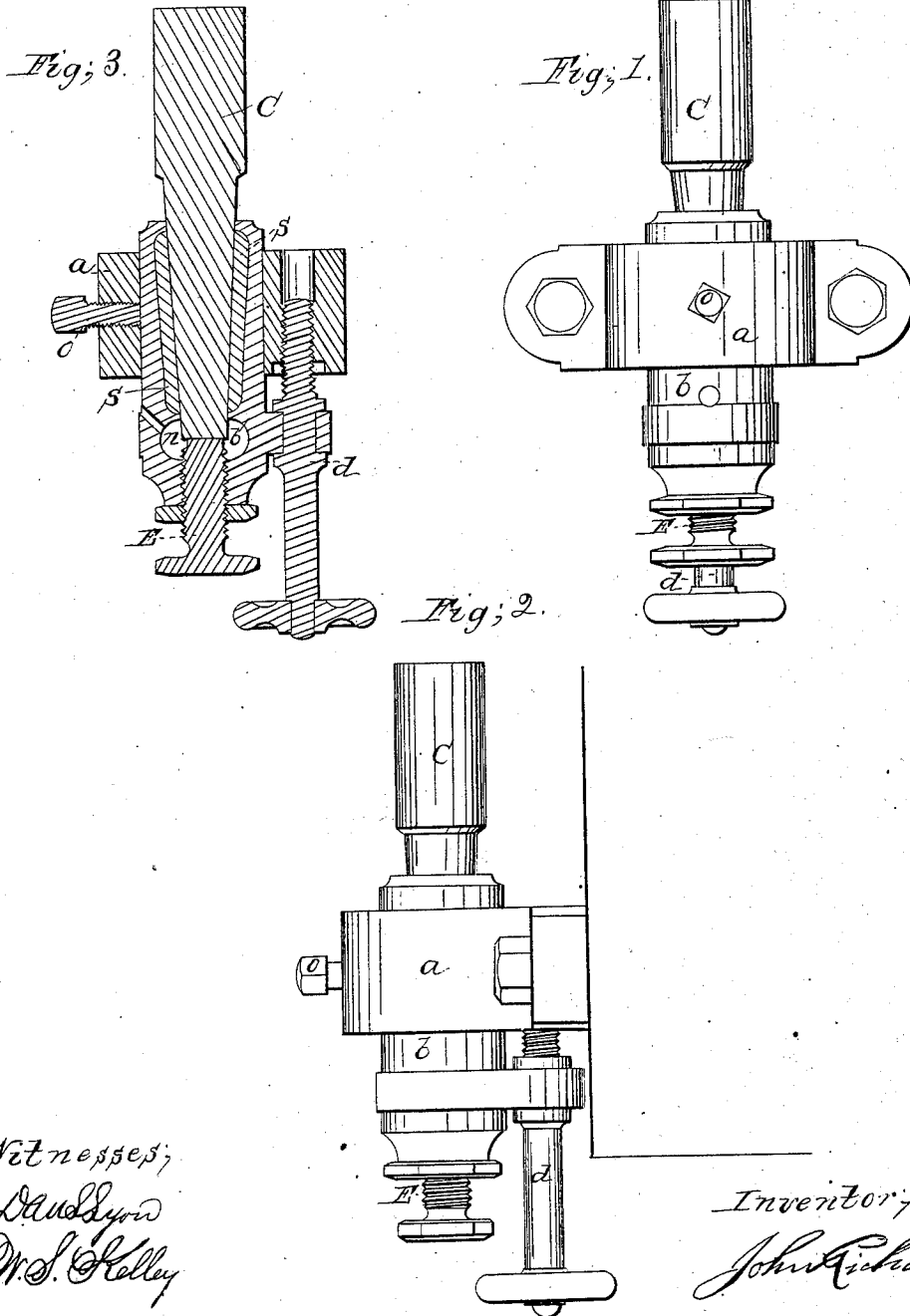


J. Richards,
Spindle Bearing.

N^o 78,013.

Patented May 19, 1868.



Witnesses;
Dan Lyon
W. S. Kelley

Inventor;
John Richards

United States Patent Office.

JOHN RICHARDS, OF CINCINNATI, OHIO.

Letters Patent No. 78,013, dated May 19, 1868.

IMPROVEMENT IN BEARINGS FOR SPINDLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN RICHARDS, of Cincinnati, in the county of Hamilton, and State of Ohio, have invented a new and improved Bearing for Spindles; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a front elevation of one of my improved bearings.

Figure 2 is a side elevation of the same; and

Figure 3 a vertical section through figs. 1 and 2.

Similar letters of reference on the different figures indicate corresponding parts.

The nature of my invention consists in a point or step-bearing, having a ready means of adjusting to compensate wear, and in a lubricating-cell at the end of the spindle, all as hereinafter described.

Step or point-bearings for vertical spindles and lathe-spindles have heretofore been constructed solid, and without means of compensating for wear. Should the spindle wear away the bearing on the sides, it had to be renewed; and if the point wore down faster than the sides, the spindle became tight in the socket. The bearing illustrated is intended to obviate these difficulties and allow of a ready adjustment to compensate for wear, and to have all advantages of a common journal-box in this respect, while the spindle can, by the same mechanism, be adjusted to different positions or heights to suit the requirements of shaping-machines or moulding-machines.

To enable others skilled in the art to make and use my invention, I will describe the manner of constructing the same, and the mode of its operation, referring to the drawings, and the letters of reference marked thereon.

a is a bracket, for supporting the step or bearing; is simply a shell of iron, bored out to receive the adjustable sleeve *b*, and may be represented by the main casting of the machine, or a portion of the frame of a common lathe.

c is a portion of a spindle inserted in the bearing.

e is a hardened steel pressure-screw, on which the spindle rests, if vertical, and when used on a lathe receives the thrust of the work against the end of the spindle.

d is an adjusting-screw, for raising or lowering the spindle, and is also used for tightening the bearing, as will hereinafter be described.

o, fig. 3, is a common set-screw, for holding the sleeve *b*.

n, fig. 3, shows an oil-cell or chamber, in which the point of the spindle is at all times immersed.

s, fig. 3, shows the soft metal lining of the sleeve *b*.

To adjust the spindle, the screw *o* is loosed, and the sleeve *b*, with the spindle *c*, is moved by the screw *d*, as will be readily understood.

To tighten the bearing, the step-screw *e* is backed out. The spindle being fixed, the sleeve *b* is moved up by means of the screw *d*, and the spindle being tapered, as shown, comes to a perfect fit in the sleeve, thus compensating for wear, and preserving a true cylindrical bearing, and calculated to withstand end-thrust or weight, and maintain a perfect lubrication by means of the cell *n*, fig. 3.

Having thus described the nature of my invention, what I regard as new, and desire to secure by Letters Patent, is—

1. The adjustable sleeve *b*, in combination with the screw *e*, for adjusting the spindle *c* to different positions in the socket, substantially as and for the purposes specified.

2. I claim the oil-cell *n*, in combination with sleeve *b* and screw *e*, operating together in the manner and for the purposes set forth.

3. I claim the adjusting-screw *d*, in combination with the sleeve *b* and screw *e*, for adjusting the sleeve *b* and spindle *c*, substantially as specified.

4. I claim the sleeve *b*, screws *e* and *d*, together with the lubricating-cell *n*, when combined and operating in the manner and for the several purposes as specified.

JOHN RICHARDS.

Witnesses:

DAN. L. LYON,

W. S. KELLEY.