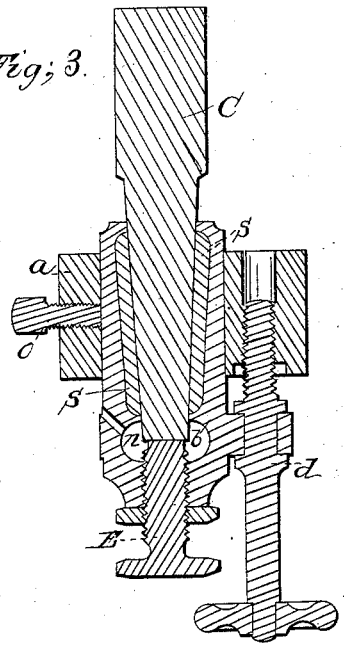
J. Richards,

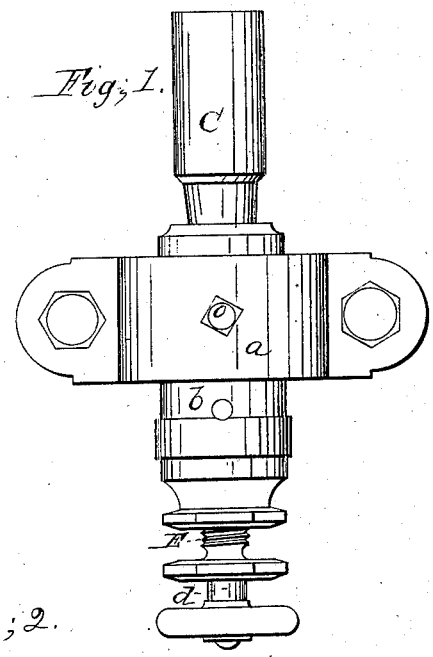
Spindle Bearing.

No. 78,013. Patented May 19, 1868.

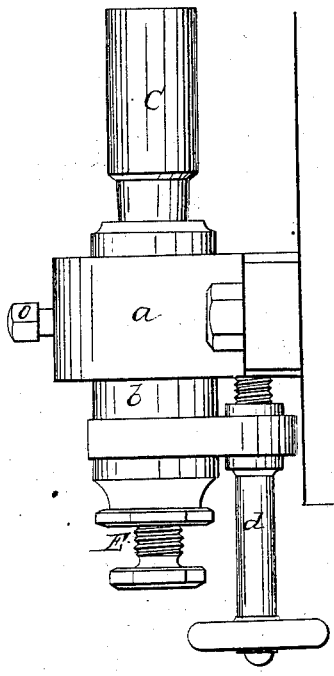
Fig; 3.



Fig; 1.



Fig; 2.



Witnesses;
Dan'l Lyon
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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:

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