

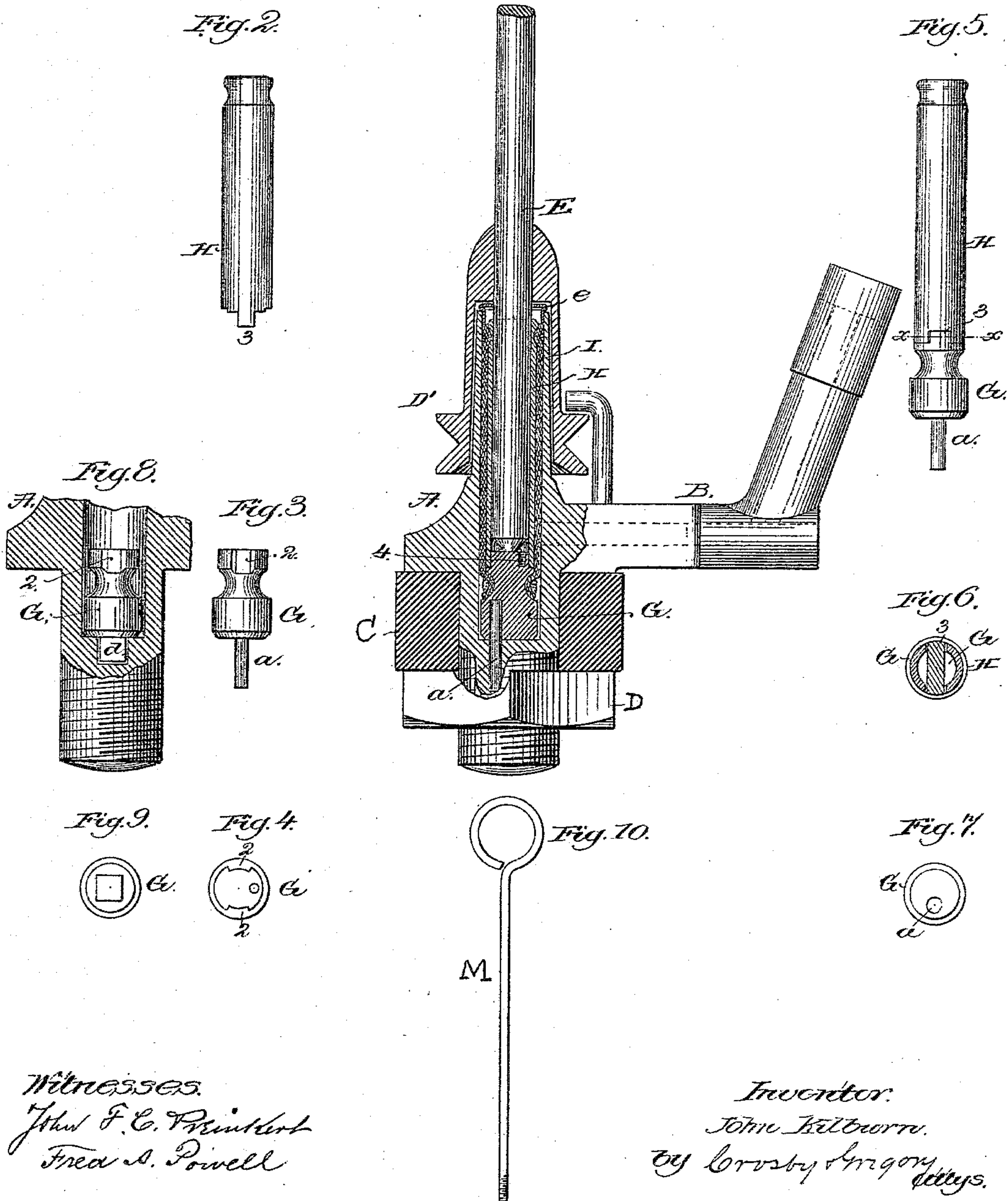
(No Model.)

J. KILBURN.  
SPINDLE BEARING.

No. 296,755.

Patented Apr. 15, 1884.

*Fig. 1.*



Witnesses.  
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By Crosby & Gregory Attys.



# UNITED STATES PATENT OFFICE.

JOHN KILBURN, OF LOWELL, MASSACHUSETTS.

## SPINDLE-BEARING.

SPECIFICATION forming part of Letters Patent No. 296,755, dated April 15, 1884.

Application filed June 25, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN KILBURN, of Lowell, county of Middlesex, State of Massachusetts, have invented an Improvement in  
5 Spindle-Bearings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object certain improvements in the construction of the foot-step, whereby it is restrained from rotation with the spindle, the lower end of which rests upon the step, and the said foot-step by a pin or spur and slot connection also restrains the  
15 bolster from rotation with the spindle.

My invention consists in a bolster-case having the bottom of its chamber provided with a stud-receiving opening, and a foot-step having a stud at its lower end to enter the said  
20 opening, combined with a bolster, the upper end of the foot-step and the lower end of the bolster being provided with notches and projections adapted to mutually engage each with the other, thereby retaining the bolster fixed  
25 relatively with relation to the foot-step and bolster-case, substantially as will be described.

Figure 1, designed to represent one embodiment of my invention, shows a foot-step and bolster in section, the bolster-case in partial  
30 section set in the rail, the latter in full cross-section, the sleeve-whirl being also in section, but the spindle is shown in elevation; Fig. 2, is a side elevation of the bolster; Fig. 3, a side elevation of the foot-step; Fig. 4, a top view of Fig. 3; Figs. 5 and 6, a modification in the construction of the bolster and foot-step, to be referred to; Fig. 7, an under side view of the foot-step shown in Figs. 1, 3, 5; Fig. 8, a view showing a modification for connect-  
40 ing the bolster and foot-step. Fig. 9 is an under side view of the foot-step shown in Fig. 8, and Fig. 10 represents the wire by which the foot-step is handled.

The bolster-case A, closed at its lower end  
45 to form an oil-chamber, and provided with an oil reservoir or tube, B, is as usual, and the bolster-case is inserted into a hole in the rail C, and has a nut, D, applied to it, and the spindle E and its attached sleeve-whirl D' are  
50 all as usual. The foot-step G, to support the lower end of the spindle, has a stud or pro-

jection, *a*, which is placed eccentrically with relation to the center of the foot-step and to the prolonged axis of the spindle, the said stud entering a hole made for it in the metal  
55 closing the bottom of the bolster-case, as fully shown in Fig. 1, where the bolster-case below the bottom of its oil-chamber is broken away. The upper end of the foot-step is notched, as shown at 2, to receive prongs 3 at the lower  
60 end of the bolster, placed loosely in the bolster-case, and the bolster is shown as surrounded by usual elastic or yielding packing, I, wound or tied at its ends to the bolster and foot-step, the bolster being supported or held  
65 so that it is free to move to a limited extent in any direction to accommodate the changing position of the spindle as the latter seeks its true center of rotation. The stud *a*, being placed eccentrically, as described, and entered  
70 into a hole out of the line of the prolonged axis of the spindle, effectually prevents the foot-step from rotation. The bolster is permitted, as stated, to have a limited amount of lateral play; but it cannot rotate, for the lower  
75 end of the bolster and the upper end of the foot-step are provided with projections and notches to engage with each other, so that the bolster is effectually restrained from rotation. When the bolster is permitted to rotate in the  
80 oil-chamber of the bolster-case, its friction against the elastic or yielding packing wears out the latter, so that it soon becomes disconnected or torn off, thus destroying the efficient action of the bolster with relation to the spin-  
85 dle.

The upper end of the foot-step is shown as provided with a tapped hole, 4, into which may be inserted the screw-threaded end of a wire, M, (see Fig. 10,) by which to handle the  
90 foot-step so as to enable it to be correctly and quickly placed in the chamber of the bolster-case, and the projection *a* in the hole to receive it, and also to withdraw the step.

In Figs. 1, 2, 3, and 4, the lower end of the  
95 bolster has a projection to enter a notch in the foot-step; but it is obvious that the notch and projection may be reversed, as is shown in Fig. 5 and in Fig. 6, (which is a section of Fig. 5 on the dotted line *x x*,) the projection 3 in  
100 such figures being on the foot-step and entering notches in the bolster. So long as the bolster



and foot-step are connected by prongs and notches which permit them to be easily separated by moving the bolster longitudinally, and yet so as to prevent one from being rotated without the other, I may use as an equivalent of the eccentrically-placed stud the centrally-located stud *d*, the cross-section of which is shown as square, but which may be of any cross-section other than round. The top of the bolster-case is closed by the usual cap or cover, *e*. It is obvious that the effect would be the same were the stud *a* fast in the bolster-case and the lower end of the foot-step were provided with an eccentrically-placed hole to receive the said pin.

I claim—

The bolster-case and foot-step and a pro-

jection or stud to engage an opening within the chamber of the bolster-case, combined with a bolster, the lower end of the bolster and the upper end of the foot-step being provided with projections and notches, substantially as described, whereby the bolster, when engaged with the foot-step, is prevented from being rotated within the bolster-case, for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN KILBURN.

Witnesses:

WM. F. DRAPER,  
GEO. W. GREGORY.