J. KILBURN.
SPINDLE BEARING.

No. 306,624. Patented Oct. 14, 1884.

Fig. 1

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.
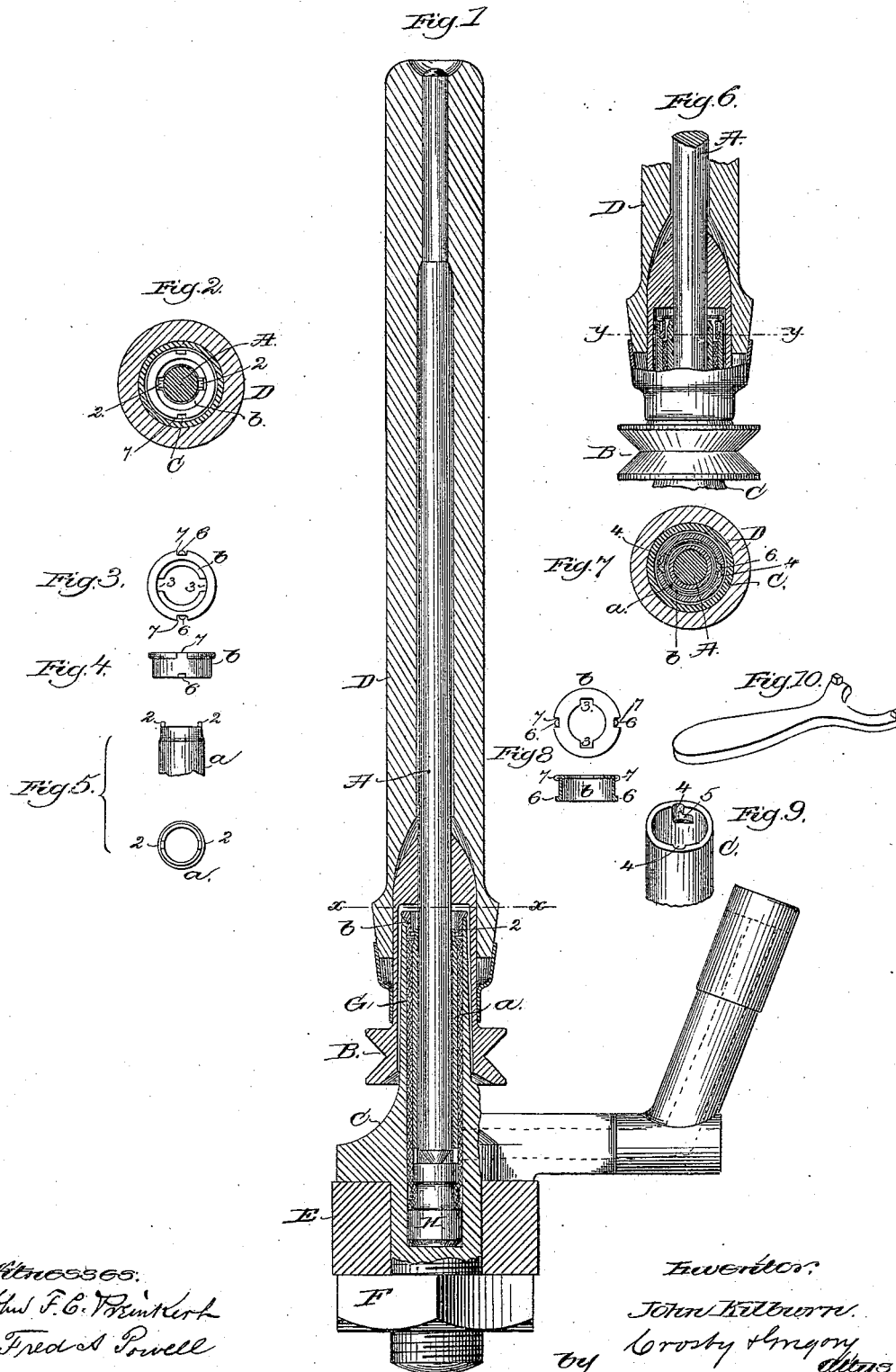
Witnesses:
John F. C. Printkert.
Fred A. Powell

Inventor:
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by Crosby & Gregory
Attys

UNITED STATES PATENT OFFICE.

JOHN KILBURN, OF LOWELL, MASSACHUSETTS.

SPINDLE-BEARING.

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 Spin-
5 dle-Bearings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Spindles and bolsters of the class represent-
10 ed in United States Patent No. 227,129 contain in practice a fibrous packing which incloses and connects the bolster with the footstep, both being located within the chamber in the bolster-case. The fibrous packing worn
15 away more or less rapidly by the friction inside of it of the bolster as the latter is moved with the spindle is liable to be torn and twisted off. To restrain the bolster from rotation with the spindle, and thus obviate wearing the pack-
20 ing, I have provided the upper end of the bolster with one or more projections to enter one or more notches in a collar or cap inserted into the open end of the bolster-case, the said collar or cap being restrained from rotation
25 therein and preventing the rotation of the bolster in the bolster-case and with the spindle.

Figure 1 represents in elevation a spindle and step and nut, and in section the sleevewhirl, step-rail, bolster, and other parts lo-
30 cated in the bolster-case, the latter being partially in section; Fig. 2, a section of Fig. 1 on the dotted line *x x;* Fig. 3, an under side view of the detachable collar; Fig. 4, a side view thereof. Fig. 5 is a top and a vertical side
35 view of the bolster. Fig. 6 is a modification in section, it showing the collar made to serve the purposes of the cap or cover for the bolster-case; Fig. 7, a section of Fig. 6 on the dotted line *y y* as it would appear if in eleva-
40 tion instead of section; Fig. 8, a top view and section of the modified collar or cap. Fig. 9 is a sectional detail of the inner side of a portion of the upper end of the bolster-case to show the short annular or circumferential
45 groove and the groove intersecting it, and Fig. 10 represents a forked wrench used to turn the collar or cap.

The spindle A, its sleeve-whirl B, bolster-case C, bobbin D, step-rail E, nut F, fibrous
50 or elastic packing G, and foot-step H are all

substantially as in the patent referred to. The bolster *a,* placed next the spindle and surrounded by the elastic packing, is provided at its upper end with two projections, 2, adapted to enter notches 3 cut in a flanged part of the 55 cap or collar *b,* adapted to be inserted into the open top of the bolster-case. The bolster-case is provided at its interior with two short grooves, 4, extended from its upper end downward for a short distance, where a substan- 60 tially-horizontal slot or groove, 5, is extended from each for a short distance annularly or circumferentially within the bolster-case, one of the said horizontal slots being shown in Fig. 9. The cap or collar *b,* near its lower end, has two 65 projections, 6, which may be inserted into the two vertical grooves 4, (see Fig. 9,) made in the bolster-case at its upper end. When the said cap is to be inserted into the upper end of the bolster-case to restrain the bolster from 70 rotation, the projections at the top of the bolster will be placed midway between the vertical grooves in the bolster-case, and the projections 6 on the cap or collar, as the latter is moved downward in the bolster-case, will di- 75 rect the collar and insure the entrance of the projections 2 of the bolster into the notches 3 in the flanged part of the cap or collar. The cap or collar having been engaged with the projections of the bolster-case, a small fork 80 (shown in Fig. 10) has its prongs placed in the notches 7 of the cap or collar, and the latter is thereby given a partial rotation, causing the projections 6 thereon to move into the horizontal or annularly-extended grooves 5 of the 85 bolster-case, and the said projections, acting in the grooves 4 and 5, form what is known as a "bayonet-joint connection," and prevent the cap from being lifted, so long as the projections rest in the groove. The projections 6 on 90 the cap or collar arriving at the closed end of the groove 5, the cap or collar cannot further turn in that direction—namely, the direction of rotation of the spindle—and consequently the bolster, the projections 2 of which 95 are then extended into the notches of the cap or collar, cannot rotate with the spindle. The notches in the cap or collar are considerably larger in area than the projections on the bolster, so that the bolster is free to move later- 100

ally to a limited extent in every direction as the spindle moves laterally to find its true center of rotation.

In Fig. 8 the notches 3 are shown as formed
5 in a flange nearer the top of the cap or collar than in Figs. 1 and 3, and the bolster-tube is carried up a little higher, as in Fig. 6, so that the projections 2 come high enough to enter the notches 3.
10 I claim—

1. The bolster-case and cap or collar provided with the notches 3, combined with the bolster having one or more projections, 2, to enter the said notches, whereby the cap or col-
15 lar is enabled to restrain the bolster from rotation with the spindle, substantially as described.

2. The bolster-case, grooved at 4 5, as described, and the cap or collar *b*, provided with notches 3 and with the projections 6 to enter 20 the grooves 4 5 in the bolster-case, combined with the bolster having one or more projections at its upper end to enter the notches 3 in the cap or collar, substantially as described.

In testimony whereof I have signed my name 25 to this specification in the presence of two subscribing witnesses.

JOHN KILBURN.

Witnesses:
WM. F. DRAPER,
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