

(No Model.)

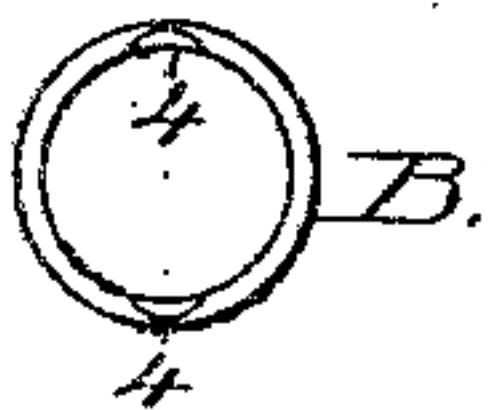
J. KILBURN.  
SPINDLE BEARING.

No. 296,754.

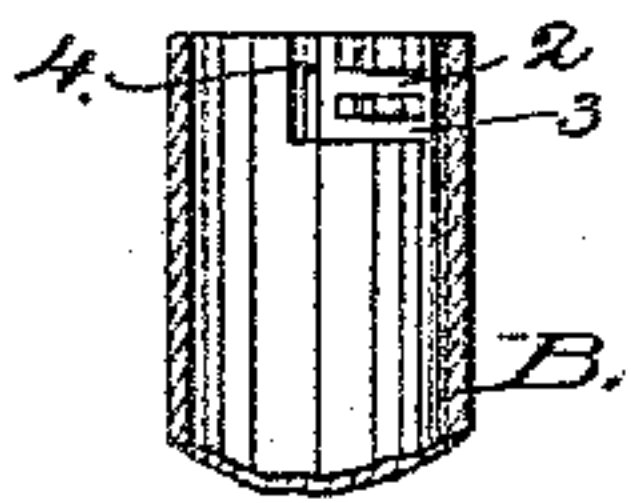
Patented Apr. 15, 1884.

*Fig. 1.*

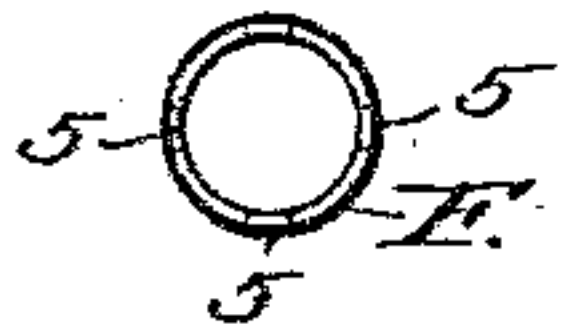
*Fig. 2.*



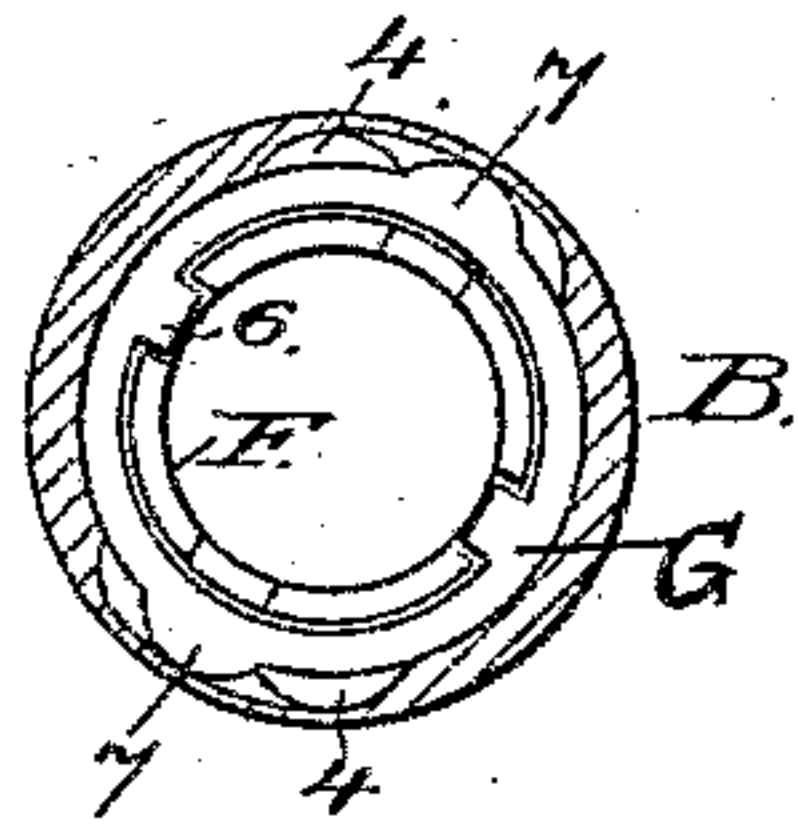
*Fig. 3.*



*Fig. 4.*



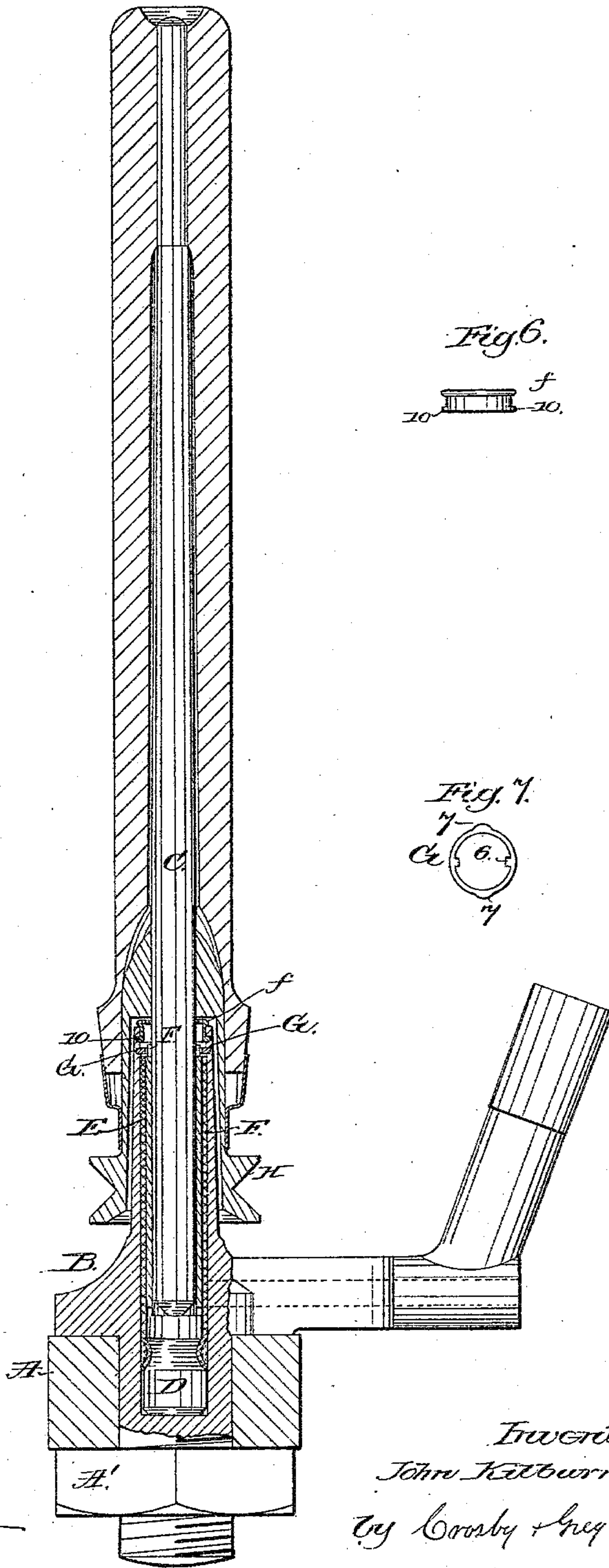
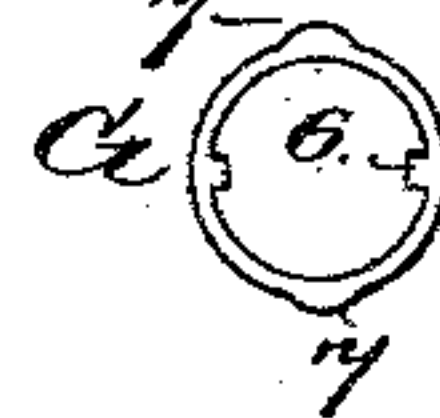
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



Witnesses,

Fred A. Powell

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by Coorby & Gregory attys



# UNITED STATES PATENT OFFICE.

JOHN KILBURN, OF LOWELL, MASSACHUSETTS.

## SPINDLE-BEARING.

SPECIFICATION forming part of Letters Patent No. 296,754, dated April 15, 1884.

Application filed June 18, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN KILBURN, of Lowell, county of Middlesex, and State of Massachusetts, have invented an Improvement in 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 to restrain the rotation with a spindle of the bolster forming the lateral bearing for its lower end, the said bolster being contained in a bolster-case having a closed bottom and serving as an oil-well.

My invention is an improvement on the class of spindle-bearings represented in United States Patent No. 227,129, dated May 4, 1880; and it consists in a bolster-case provided with an internal annular or circumferential groove and a bolster provided with notches, combined with a locking-ring having projections to engage the notches of the bolster, and having ears to enter the said annular or circumferential groove of the bolster-case, whereby the said locking-ring serves to restrain the bolster from rotation with the spindle, and also from being lifted from the bolster-case by the lifting of the spindle.

Other features of invention will be hereinafter described, and pointed out in the claims at the end of this specification.

In this class of spindle-bearings referred to, the elastic or fibrous packing in practice tied to the foot-step and to the bolster is apt to be worn out by the rubbing of the bolster inside of it when the bolster moves with the spindle, and the said packing thus worn out is easily torn or twisted off; but by restraining the bolster from rotation the difficulties are obviated. It is essential for the best results that the bolster be so held that it will be free to yield in every direction as the foot of the spindle wanders on its step to find its true center of rotation; and to that end I have made the locking-ring of such width with relation to the internal diameter of the bolster-case and the external diameter of the bolster as to provide for the necessary or desired movement of the top of the bolster.

Figure 1 represents in elevation a spindle and step and nut, and in section the sleeve-

whirl, step-rail, bolster, and parts in the bolster-case, the latter being partially in section; Fig. 2, a top view of only the end of the bolster-case; Fig. 3, a sectional detail of the interior of the bolster-case just below its upper end; Fig. 4, a top view of the bolster; Fig. 5, an enlarged cross-section of the bolster-case just above the locking-ring; Fig. 6, a detail of the cap removed; and Fig. 7 shows the locking-ring by itself.

The step-rail A, nut A', bolster-case B, spindle C, foot-step D, and elastic packing E are substantially as usual, and as in the said patent, except that I have provided the interior of the bolster-case, near its upper end, with, as herein shown, two short auxiliary or circumferentially-extended grooves, 2 3, which communicate with an intersecting groove, 4, extended downward from the top of the bolster-case, there being two sets of grooves such as described located at opposite portions of the bolster-case.

The upper end of the bolster F is notched, as shown at 5, to be entered by the projections 6 of the locking-ring G, the latter at its periphery having two lugs, 7. (See Fig. 7.) To apply the ring G, so as to restrain the bolster F from rotation with the spindle, and also to keep the locking device down in engagement with the upper end of the bolster, I place two of the notches 5 of the bolster in line with the vertical or intersecting grooves 4, and placing the lugs 7 in the grooves 4, the ring is pushed down until its projections 6 enter the notches 5 in the bolster, and as the lugs 7 come opposite the grooves 3 the ring is partially rotated, causing the lugs 7 to enter the grooves 3, (see Fig. 5,) the projections 6 in engagement with the bolster partially rotating it, and the lugs 7, as they reach the ends of the short annularly or circumferentially extended grooves 3, are arrested, preventing any further rotation of the bolster in that direction, the direction being that of the rotation of the spindle. The width of the ring is less than the distance between the inner wall of the bolster-case and the external diameter of the bolster, and this difference between the width of the ring and the space between the bolster and bolster-case affords room for such lateral movement of the



bolster as is desirable, and may be more or less. This locking-ring is very simple, and may be made quickly and cheaply, and may be readily applied to old bolster-cases and bolsters now  
5 in use by simply providing the bolster with notches and the bolster-case with grooves 4 and 3, which may be done cheaply and quickly, using for the production of groove 3 a very simple milling-tool on a short shaft.

10 The cap *f* is liable to be thrown out of the bolster-case by the vibration of the spindle, and to overcome this objection I have provided the bolster-case with the two partial grooves 2 2, into which the lug 10 on the said cap is  
15 turned, after having been moved down into the said groove 4.

The sleeve-whirl is marked H.

I do not broadly claim a pin or projection to restrain the rotation of the bolster, as I am  
20 aware that that is old.

I claim—

1. The bolster and the bolster-case, combined with a ring located at the upper end of the bolster, the said parts being provided with

notches and projections, to enable the said ring to co-operate with the said bolster and case and restrain the rotation of the bolster in the said case, substantially as described.

2. The bolster-case provided with the groove 3, and the bolster notched at its upper end, combined with the locking-ring having lugs adapted to enter the grooves of the case, and projections to enter the notches of the bolster, to operate substantially as described. 30

3. The bolster-case and bolster, combined with a narrow locking-ring adapted to hold the bolster and to be held by the bolster-case, the said ring being of less width than the space between the interior of the said case and the exterior of the bolster, substantially as described. 35 40

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.