

(No Model.)

W. F. DRAPER.
SPINDLE BEARING.

No. 505,196.

Patented Sept. 19, 1893.

Fig. 1.

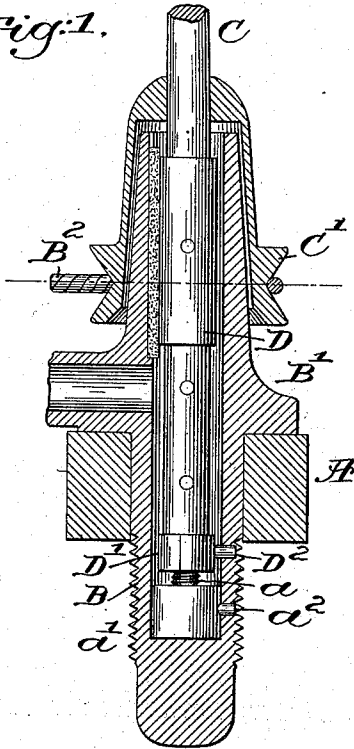


Fig. 3.

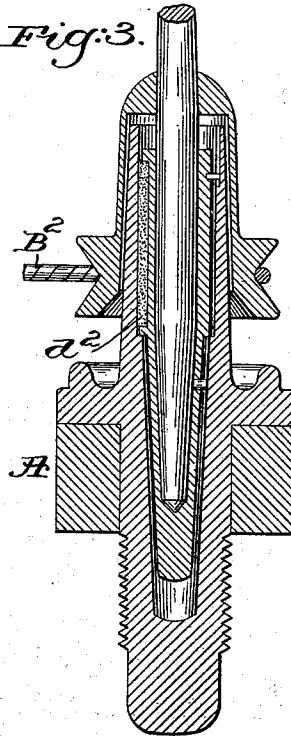


Fig. 2.

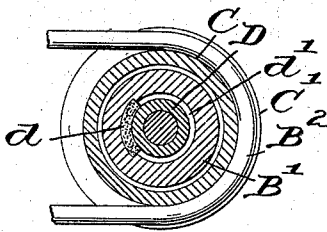
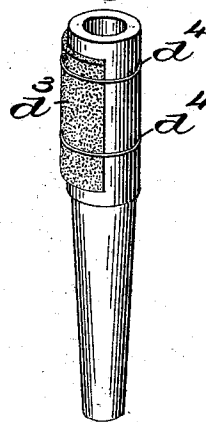


Fig. 5.



Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM F. DRAPER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO GEORGE DRAPER & SONS, OF SAME PLACE.

SPINDLE-BEARING.

SPECIFICATION forming part of Letters Patent No. 505,196, dated September 19, 1893.

Application filed May 29, 1893. Serial No. 475,858. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. DRAPER, of Hopedale, county of Worcester, 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.

In spinning the tendency of the band is to hold the bolster or lateral bearing against the interior of the supporting-case at one side and in the direction of the tension of the band, and as the bolster moves, due to the gyrations of the spindle, it must be against the band pull, the elasticity of the band serving as a cushion in that direction.

Prior to my invention bolsters mounted loosely in supporting cases have been entirely surrounded by cushions made of textile and other materials, but I have found by experiment that by interposing a cushion between the bolster and case only in the direction of the band pull most of the usual surrounding bolster cushion may be dispensed with, which not only improves the sensitiveness of the spindle bearing to respond to and right itself when unequally loaded, but also reduces the cost of the cushions.

My invention consists essentially in the combination with a sleeve-whirl spindle and a supporting-case, of a lateral bearing for said spindle, said bearing being mounted loosely in the supporting-case, and a cushion interposed between the said bearing and the said supporting-case at but one section of the circumference of the said bearing, substantially as will be described.

Figure 1 in section shows part of a sleeve-whirl spindle, and supporting-case and bearing embodying my invention in one form; Fig. 2, a section in the line *x*. Fig. 3 shows a modification. Fig. 4 shows yet another modification, and Fig. 5, a modified form of segmental cushion.

The rail A receives within it the shank B of a supporting case B'.

The spindle C, having a sleeve-whirl C' has its usual pintle entered into a bolster D, which, as represented, has a loose fit in the supporting-case, the lower part of the bolster

shown having a notched collar D' which is entered by a pin or projection D² to restrain the rotation of the bolster with the spindle while the latter is rotated by the band B². The lower end of the bolster in Fig. 1, has, in practice, a coarse thread adapted to engage a coarse threaded projection *a*, the upper end of which serves as a step for the foot of the spindle, the portion *a* rising from a block *a'*, restrained from rotation in a suitable manner, as by a pin or projection *a*². This class of connection between the spindle and step is old and common, and provides not only for a limited amount of looseness for the bolster at its lower end, but also enables the bolster, it having, it is supposed, a tapered interior, to be adjusted to compensate for any wear, or to provide looseness between the tapering pintle of the spindle and the supporting-case.

The interior of the supporting-case in Fig. 1 is provided, see also Fig. 2, with a narrow segmental packing or cushion *d*, it being applied only at that part of the supporting-case against which the bolster would be drawn by the pull of the band, the space between the bolster and supporting-case at other points, being open and free for the reception of oil, and to let the bolster move with no other restriction in the nature of a cushion than the oil and the band surrounding and rotating the sleeve-whirl spindle. In Fig. 2 this free open space is marked *d'*.

This invention is not limited to the exact shape or width of the cushion, so long as it is interposed where shown and described, leaving other parts of the bolster unobstructed, and inasmuch as the cushion does not wholly, and only partially surrounds the bolster, I designate it as segmental.

This invention is not limited to any one material for the cushion, or to the particular way shown of supporting it.

In Figs. 1 and 2 the supporting-case sustains the cushion, but in Fig. 3 the cushion marked *d*² is contained between shoulders of the bolster, and the bolster itself is shown as having an annular shoulder to rest on a shoulder of the supporting-case.

In Fig. 4 the cushion marked *d*² is confined to the bolster by strings *d*⁴, and in Fig. 5 I

have shown the cushion *d*⁶ as made of a piece of thin steel or spring metal corrugated so as to act as a spring.

In Figs. 1 to 3, the cushion may be glued or cemented in place, or be confined in any usual or suitable manner.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

- 10 1. A sleeve-whirl spindle, a bolster or lateral bearing, and its surrounding supporting-case, combined with a segmental cushion interposed between the supporting-case and that side of the bolster or lateral bearing
- 15 which is drawn toward the said case by the pull of the band, leaving other parts of the space between the said bearing and case free and unobstructed for oil and to let the bear-

ing move if desired away from said cushion under the elasticity of the band, substantially as described. 20

2. The combination with a sleeve whirl spindle and a supporting-case, of a lateral bearing for said spindle, said bearing being mounted loosely in the supporting-case, and 25 a cushion interposed between the said bearing and the said supporting-case at but one section of the circumference of the said bearing, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 30

WILLIAM F. DRAPER.

Witnesses:

S. F. SMITH,
L. WRIGHT.