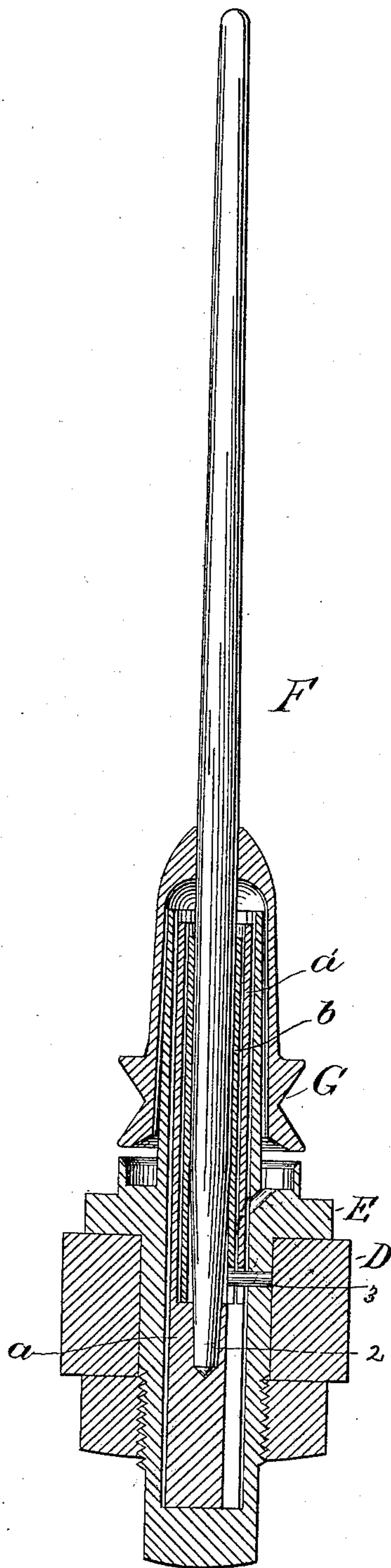


(No Model.)

G. O. DRAPER.
SUPPORT FOR SPINNING SPINDLES.

No. 408,165.

Patented July 30, 1889.



Witnesses.
Fred. S. Greenleaf
Frederick L. Emery-

Inventor.
George O. Draper,
by Lemmy & Augry Attys

UNITED STATES PATENT OFFICE.

GEORGE OTIS DRAPER, OF HOPEDALE, MASSACHUSETTS.

SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 408,165, dated July 30, 1889.

Application filed June 5, 1889. Serial No. 313,179. (No model.)

To all whom it may concern:

Be it known that I, GEORGE OTIS DRAPER, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Supports for Spinning-Spindles, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

10 This invention has for its object to improve the construction of spindle-bearings.

In accordance with my invention I have combined with a sleeve-whirl spindle and a supporting case or holder a step-block mounted loosely therein and bored at its upper end and extended up into the supporting-case within the whirl, and within the hollow upper end of the step-block I have placed loosely a bolster-tube, thus compounding the bearing 20 in the line of the band-pull, the bearings for the spindle, as herein shown, being restrained from rotation in the supporting-case by a pin or projection.

25 The drawing in partial elevation and section represents a spindle and bearings embodying my invention.

The rail D receives and has secured to it in usual manner the supporting case or holder E, and they and the spindle F and its attached sleeve-whirl G are and may be all as usual.

30 Inside the supporting-case I have placed loosely a step-block *a*, consisting of a portion bored to receive the small end 2 of the spindle, and above the bore, which is entered by

the said small end of the spindle and rigid 35 with the step-block, is a tubular portion *a'*. The internal diameter of the tubular portion *a'* of the step-block *a* is of sufficient size to receive loosely a bolster-tube *b*, thus compounding the bearing in the line of the band- 40 pull on the whirl.

The spaces between the tube *b* and the tubular portion *a'* of the step-block and between the exterior of the step-block and the interior of the supporting-case will be cushioned, preferably, by a film of oil, as is well understood, thus obtaining a double cushion for the spindle in its wanderings. 45

I have shown the bolster-tube and the step-block as restrained from rotation with the spindle by the same pin or projection 3. 50

I claim—

The combination, with a sleeve-whirl spindle, a step-block *a* to constitute a lateral bearing for the lower end of the spindle and having a tubular extension *a'* rigidly connected thereto, and a supporting-case in which the said step-block is mounted loosely, of a bolster-tube placed loosely in the tubular portion of the step-block, substantially as described. 55 60

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

GEO. OTIS DRAPER.

Witnesses:

E. D. BANCROFT,
H. F. SEARLES.