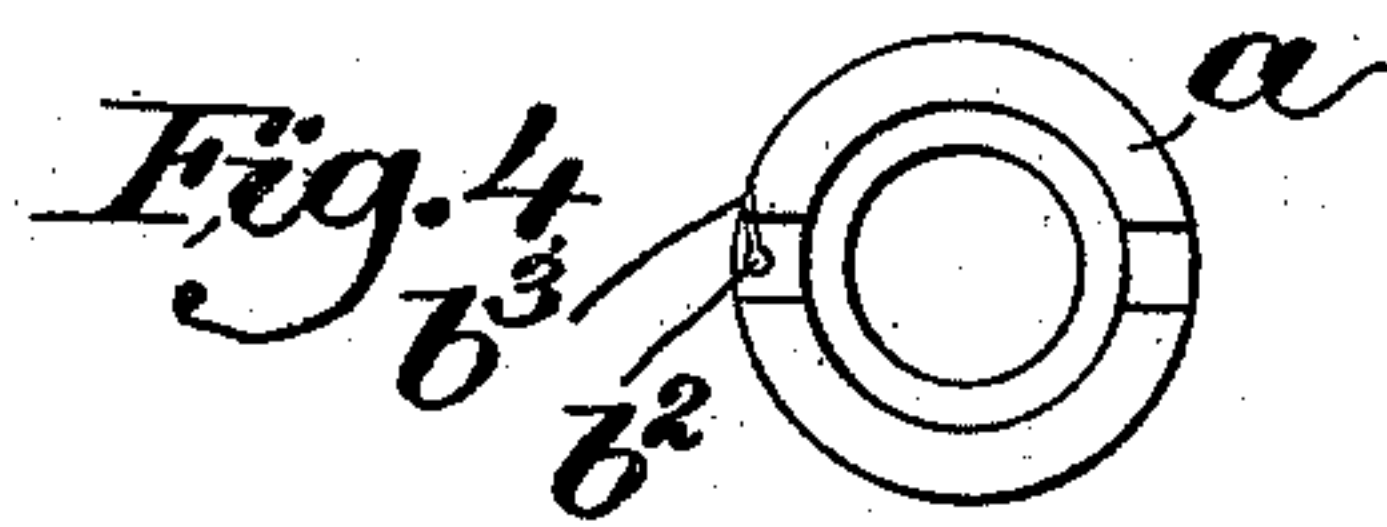


(No Model.)

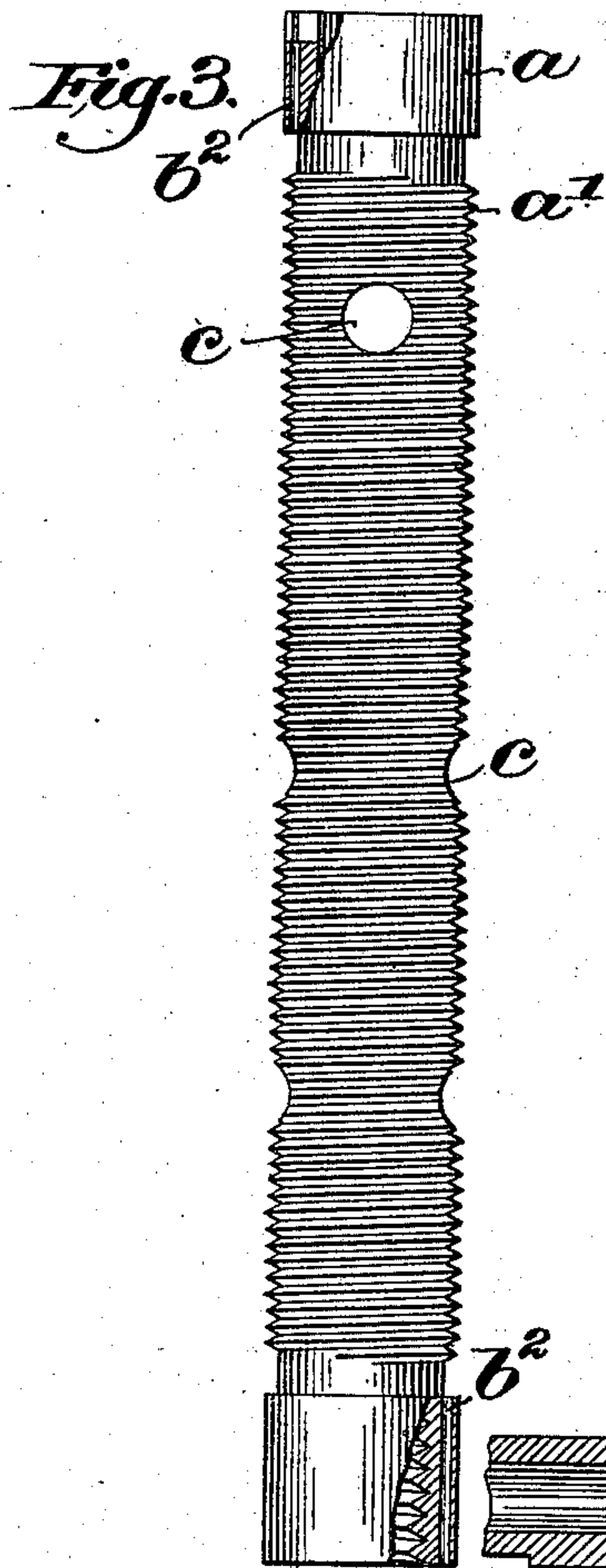
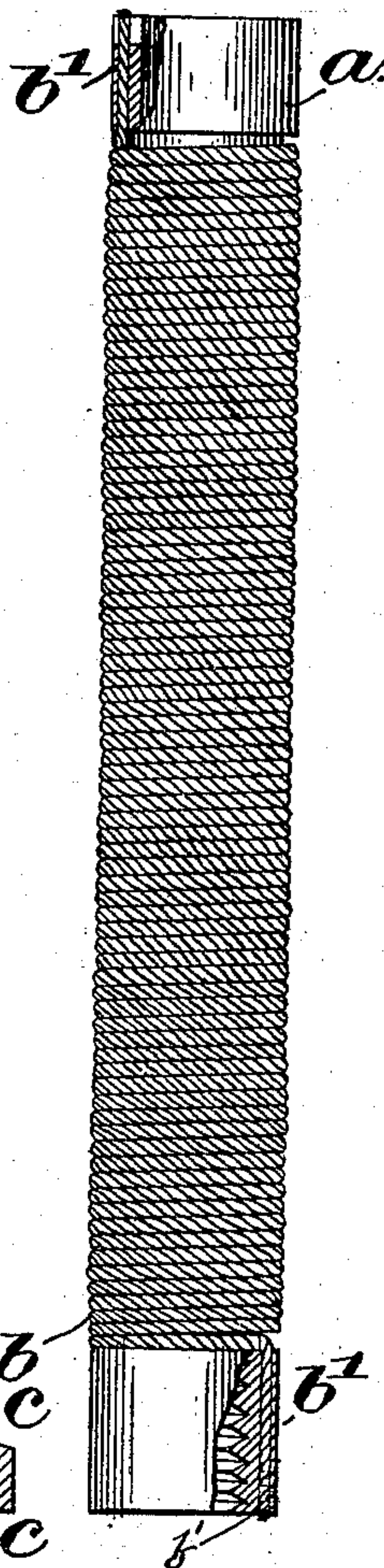
J. H. NORTHROP.  
BOLSTER FOR SPINNING SPINDLES.

No. 503,911.

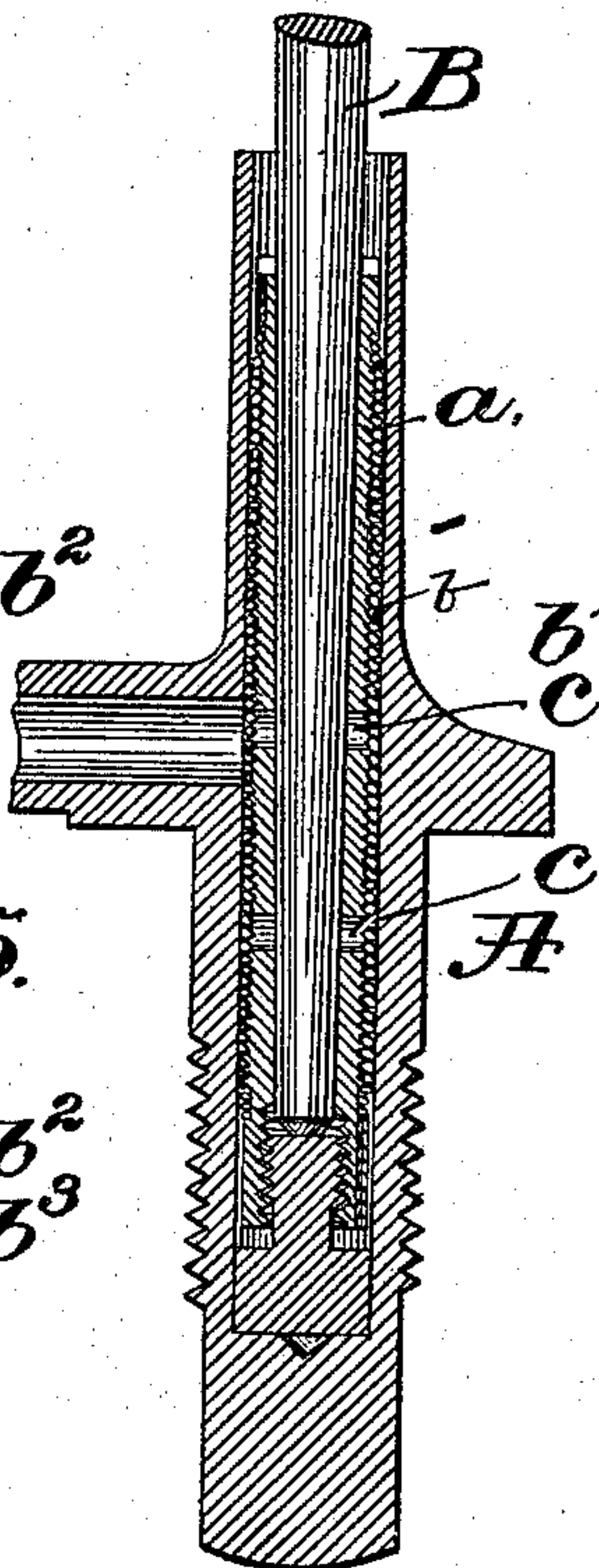
Patented Aug. 22, 1893.



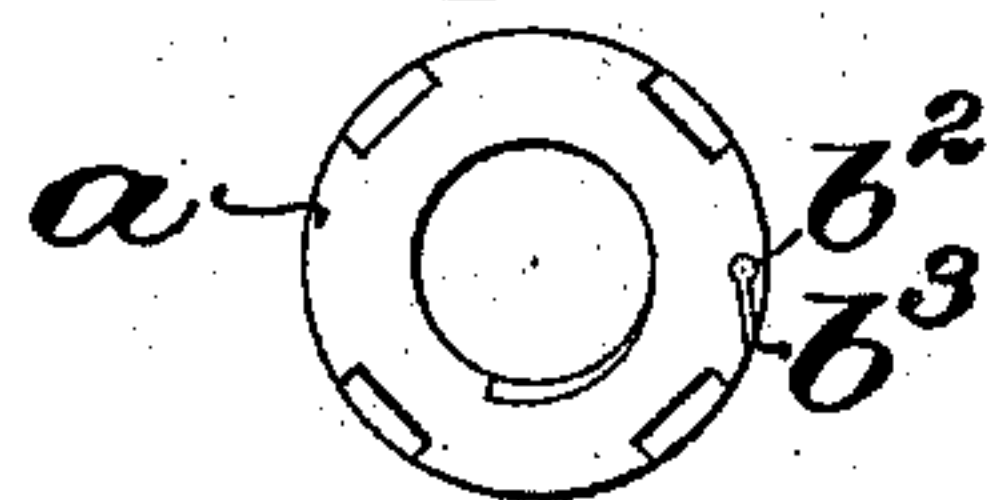
*Fig. 2.*



*Fig. 1.*



*Fig. 5.*



Witnesses.  
Fried S. Grumbaf.  
Louis N. Howell

Inventor:  
James H. Northrop.  
by Crosby & Gregory Attys



# UNITED STATES PATENT OFFICE.

JAMES H. NORTHROP, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO GEORGE DRAPER & SONS, OF SAME PLACE.

## BOLSTER FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 503,911, dated August 22, 1893.

Application filed April 22, 1893. Serial No. 471,397. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. NORTHROP, a subject of the Queen of Great Britain, residing at Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Bolsters for Spinning-Spindles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Prior to this invention it has been customary to provide a bolster or lateral bearing for use in a surrounding bolster-case or support, with an elastic or yielding cushion or packing, and such packing has been made as a tube or jacket drawn over and fastened at its ends to the bolster tube by a string or thread.

In practice the string sometimes breaks thus loosening the tube, and in use, if the string holds, the strain on the bolster, due to lateral and other movements in the bolster-case, and also in removing it from and replacing it in the case, distorts, loosens, twists, and cuts through the tube or jacket, and the cushion becomes deteriorated and the work of the spindle is reduced to a point below the proper standard of efficiency.

I have aimed to produce an indestructible cushion, a cushion which will not wear through or become loose on the bolster, and which cannot be displaced longitudinally thereon.

In accordance with my invention I have provided the exterior of the bolster with a series of grooves, notches or indentations into which the cushion material enters and by which it is prevented from longitudinal displacement, the portions of the cushion outside said grooves, notches or indentations contacting with the outside support for the bolster, and in wear the cushion can never be cut entirely through, for that part of it originally entering the grooves, notches, &c., will always remain there sufficiently to prevent contact of the metallic exterior of the bolster with the metallic interior of the surrounding outside support.

Figure 1, in section and elevation, shows a spindle-bearing and spindle containing my improvement. Fig. 2 shows the bolster removed and greatly enlarged, with the cushion

or covering thereon. Fig. 3 shows the bolster with the covering removed. Fig. 4 is a top or upper end view of the bolster shown in Fig. 3, and Fig. 5, a lower end view thereof.

The bolster-case A and the sleeve whirl spindle B are and may be of usual construction. The bolster-case contains a metallic bolster, the interior of which may be of any usual or well known shape, and the step used to support the bolster may also be of any usual or well known shape and yet be within the scope of this invention. Ordinarily the bolster bearing has drawn over or upon it a knitted or braided tube, or a tube made by sewing together flannel or other soft material, but in practice I have ascertained that such tubes are so loosened on the bolster, that they slip thereon longitudinally, or wear through. To obviate this trouble I provide the exterior of the bolster *a* with a series of grooves, notches, or indentations *a'*, preferably extending around the bolster in the form of a screw-thread, or it may be a series of annular notches. These notches may be of any suitable shape common to the shape of screw threads. Into these notches, for the best results and in the simplest form of my invention, I wind a yarn, as *b*, fastening the ends *b'* of the yarn to the ends of the bolster, preferably by drawing the said ends into a suitable hole in the ends of the bolster, and preferably the hole *b<sup>2</sup>*, see Figs. 4 and 5, will have a slit *b<sup>3</sup>* leading into it to enable the yarn or thread to be drawn in by a lateral movement as commonly practiced in putting thread into thread-eyes or guides of sewing and other machines.

The bolster having a covering, wherein a part of the covering is contained in grooves or notches, and another part that projects outwardly beyond the apices or crowning parts of the metal between the grooves and notches, presents a surface which, it will be obvious, cannot become detached so as to slip longitudinally upon the bolster, and in case of external wear, the wear cannot go through the covering, certainly not farther than the high portions of the metal between the notches, as stated, and the portion of the covering contained within the notches cannot, therefore, be cut through



but will always remain in place to furnish a more or less yielding cushion.

The bolster may have, at suitable intervals, suitable oil holes as c.

5 This invention is not limited to the particular shape shown for the notches to receive the packing material, nor to the particular material of the packing, my invention including  
10 any packing the interior of which is embedded in notches and which projects outwardly beyond the metal surrounding the notches, to operate in the manner herein specified.

I find woolen yarn to be the best material for the packing, but this invention is not  
15 limited to the particular material of the packing so long as it affords an elastic covering and is capable of being applied and held in position, as described, and may, in operation, act as a perpetual covering to move only in  
20 unison with the bolster bearing.

A bolster cover, in accordance with my invention, will be found to have a practically indestructible cushion.

Having described my invention, what I

claim as new, and desire to secure by Letters 25 Patent, is—

1. A bolster bearing having a series of surrounding grooves, notches or indentations, combined with an elastic cushion applied thereto, substantially as described. 30

2. A bolster bearing having a series of surrounding grooves, combined with a cushion consisting of a strand wound into and more than filling said grooves the ends of the strand being suitably connected to the bol- 35 ster, substantially as described.

3. A bolster provided with a screw thread on its exterior, and having a strand of soft material wound on such screw thread, substantially as described. 40

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

JAMES H. NORTROP.

Witnesses:

C. E. LONGFELLOW,  
S. F. SMITH.