

(No Model.)

W. T. KELLOGG.

TOP DRAWING ROLL FOR SPINNING MACHINES.

No. 406,740.

Patented July 9, 1889.

Fig. 1.

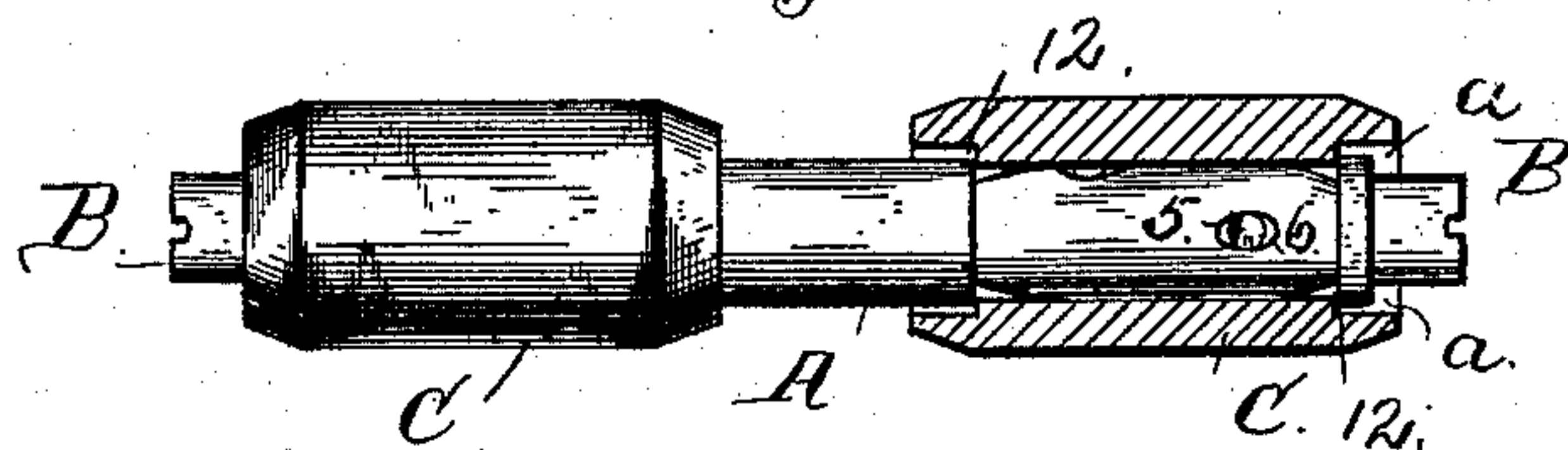


Fig. 2.

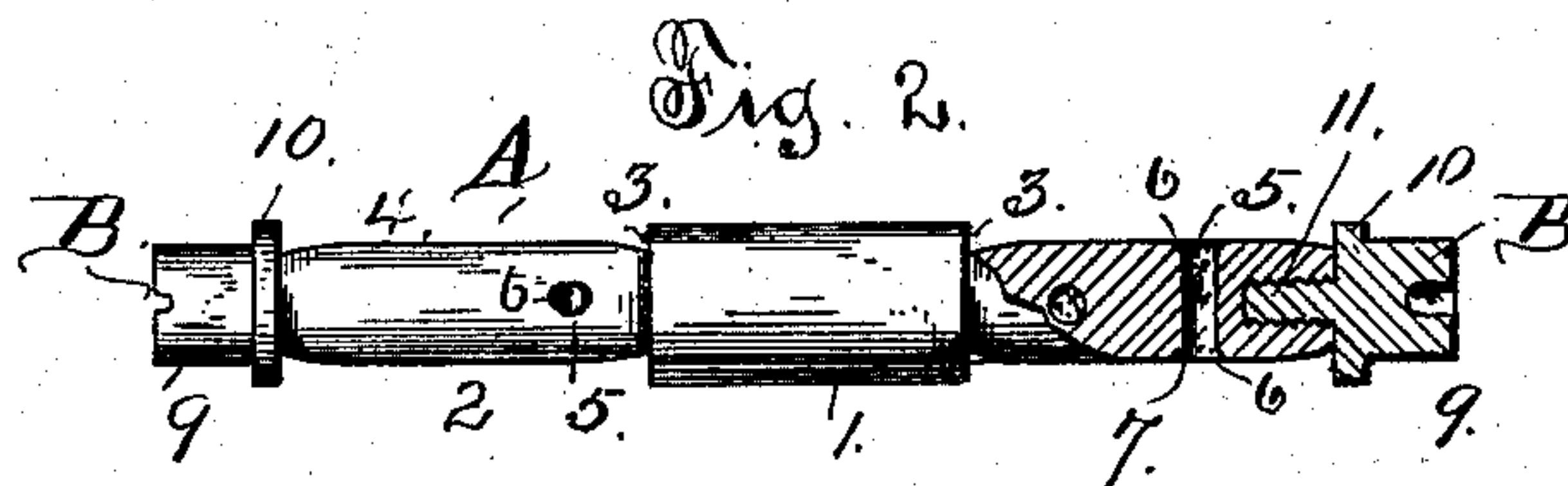


Fig. 3.

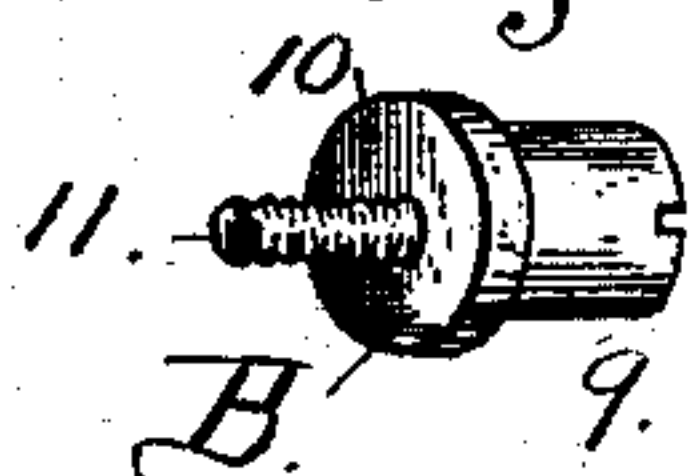


Fig. 4.

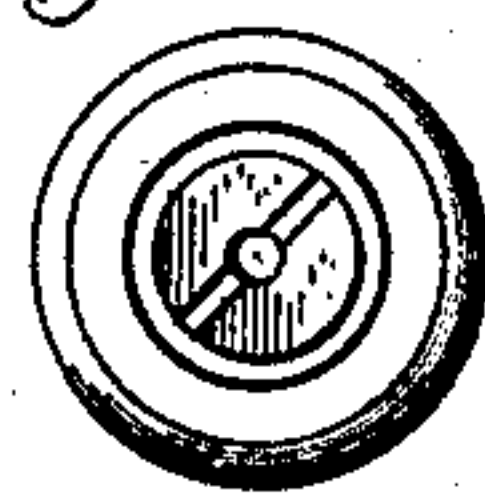


Fig. 5.

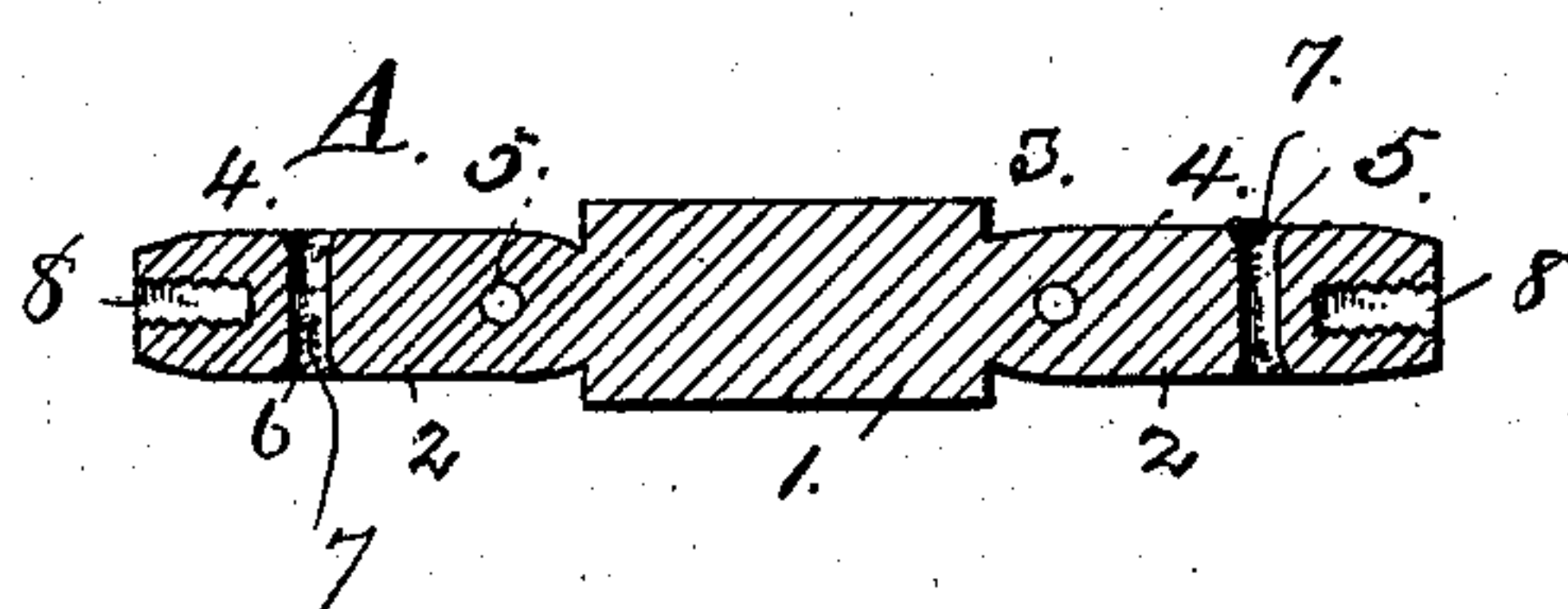
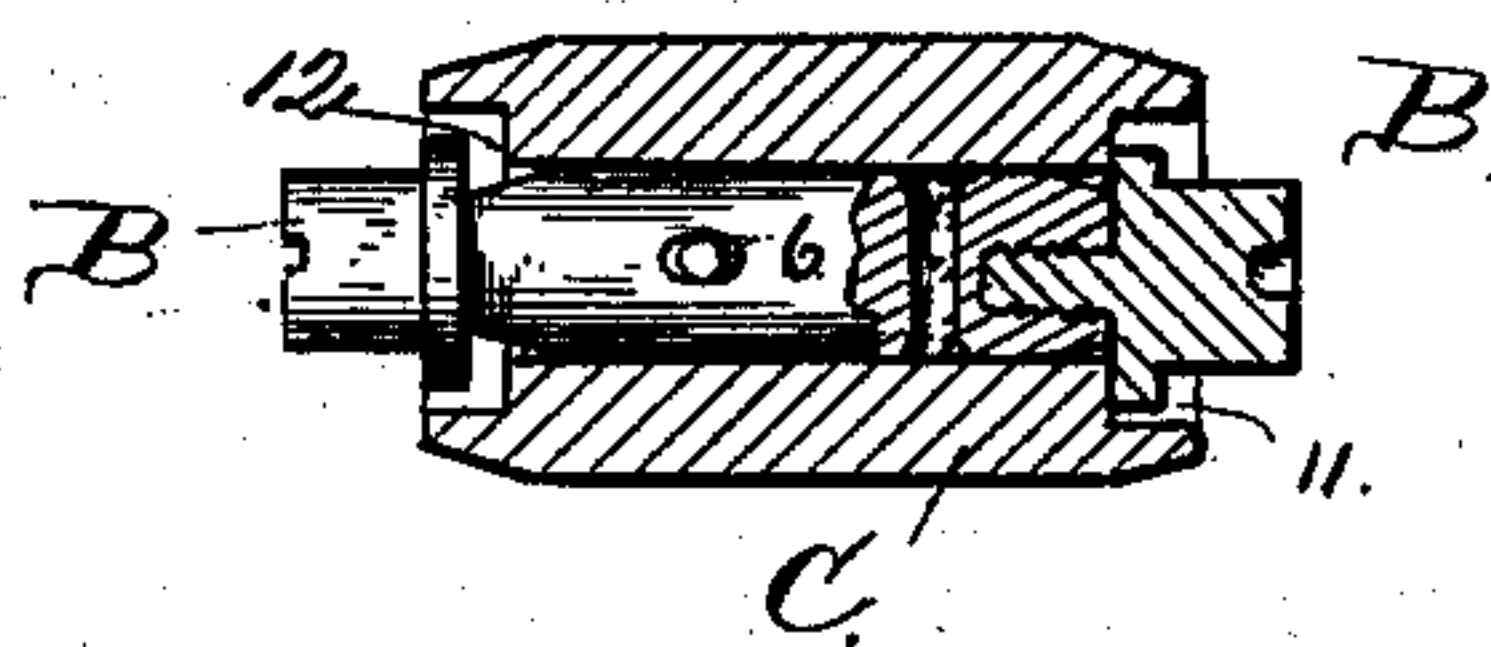


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

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TOP DRAWING-ROLL FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 406,740, dated July 9, 1889.

Application filed March 14, 1888. Serial No. 267,144. (No model.)

To all whom it may concern:

Be it known that I, WARREN T. KELLOGG, a citizen of the United States of America, residing at Cohoes, in the county of Albany, State of New York, have invented new and useful Improvements in Top Drawing-Rolls for Spinning-Machines, of which the following is a specification.

My invention has relation to spinning and drawing rolls in spinning-machines; and the objects are, first, to provide improved self-oiling means for the bosses or shells, and, second, to provide improved means for holding the bosses on the arbor and for releasing them therefrom.

Heretofore means for self-oiling the shells in their bearing-surface on the arbor or spindle have been used, and also means for keeping the shells in their seats on the spindle, and I therefore am aware that my invention is restricted to the novel construction and combination of parts, as will be hereinafter fully specified, and especially as I have particularly pointed out and distinctly claimed the same.

I have fully illustrated my improvements in the accompanying drawings, wherein—

Figure 1 is a front elevation, partly in section, of the top rolls. Fig. 2 is a view of the arbor or spindle, one part being shown in central longitudinal section and the caps in place. Fig. 3 is a view of one of the caps in detail. Fig. 4 is an end view of the roll and cap. Fig. 5 is a transverse section of the spindle, taken through one of the oil-wells. Fig. 6 is a view of a top roll having a single boss and my improvements applied thereto.

Reference being had to the drawings, A designates the spindle or arbor. This in the part 1, to which the saddle is applied, is of larger diameter than the part or parts 2, which serve as the bearings for the revoluble bosses, in order that the termination of the part 1 may operate as shoulder-bearings 3 for the bosses and prevent the oil from escaping from the inner tapering ends of the bearings. The boss-bearings 4 are preferably formed with central horizontal bearing-surfaces and tapering ends, substantially as seen in the drawings. In the bearing parts of the spindle are formed oil-receptacles 5, consisting of holes

bored diametrically through the solid spindle and having the edges slightly chamfered, as at 6, to permit the oil to settle at these parts and prevent the lubricant-holding material from extending over the polished surface of the spindle, where it might choke or retard the free movement of the shells. In these oil-wells is packed any suitable saturable material 7, adapted to hold the lubricant. The ends of this packing are cut flush with the circumferential line of the arbor, and being well packed the slight spread occasioned by the contact with the inner surface of the shell is disposed against the chamfered edges of the holes, and the packing runs free against the inner surface of the shell and feeds the lubricant sufficiently to the parts for all the purposes intended and without any of the inconvenient results attending a lubricator more extended in area or fed from a chamber leading to a duct with or without packing.

My improved lubricator, consisting of a saturated packing arranged in a diametrical seat in the arbor, lasts for a long time, and when the oil is used up the deficiency is readily supplied by simply saturating the packing. In the ends of the spindle are formed threaded sockets 8 to take the attaching-screws of the end caps.

B designates the end caps to the spindle. These consist of an end piece 9 to set in the end boxes which support the spindle, and formed with an annular shoulder 10 and square face to lie against the face end of the arbor, with the shoulder projecting beyond the periphery. From the inner face of the end cap is projected a screw 11, which engages the threaded socket of the arbor, and serves to hold the cap to the arbor and the shell on the bearing and from dropping off when the arbor is removed from the seat. These end caps are arranged in the seats, bearings, or slots usually receiving the ends of the arbor, and serve in this arrangement to support the arbor, of which they form a part when connected thereto.

C designates the shells or bosses. These are of the usual exterior style, having roughened surfaces to take the usual coverings. The bore of the shells is a straight tube in the part constituting the bearing-surface, and

at the ends they are counterbored, as at 11, to project slightly over the end caps and middle part of the arbor and revolve with the shoulders 12, respectively, against the shoulders on the end caps and middle of the arbor. I thus afford by means of these constructions a comparatively tight union of the parts, to prevent the escape of the lubricant from the bearings—a desirable and essential result. I also in the construction and union of the parts accomplish the important result of holding the bosses on a lubricated arbor by means which, being detached, permit the bosses to be removed from their seats without the slightest contact with an abrading-surface. The bosses, it will be seen, are reversible.

In Fig. 6 of the drawings I have shown my improvements as applied to an arbor carrying a single boss, and from this illustration it will be perceived that the means for holding are equally useful and applicable to spindles carrying one or two bosses.

What I claim is—

1. The spindle for a drawing-roll of a spinning-machine, consisting of a shaft formed with a bearing-surface for the revoluble boss, and end supports consisting of end caps detachably secured to the ends of the shaft and formed with their inner ends of greater diameter than the diameter of the bearing-surface of the shaft, substantially as described, and for the purpose specified.

2. The spindle for a drawing-roll of a spinning-machine, consisting of a shaft formed with a bearing-surface for the revoluble boss and having screw-threaded sockets in the ends, and end supports consisting of end caps of larger diameter than the bearing-surface of the shaft and formed with centrally-projected screw-stems to engage the threaded sockets of the shaft, substantially as described, and for the purpose specified.

3. A spindle for a top roll of a spinning-machine, consisting of a shaft formed with a bearing to take the revoluble boss and having diametrical holes formed through the said bearings, in combination with a saturable packing arranged in said holes with the ends flush with the periphery of the bearing, substantially as described.

4. A spindle for a top roll of a spinning-machine, consisting of a shaft formed with a bearing to take the revoluble boss and having diametrical holes formed through the said bearings, said holes having chamfered edges, in combination with a saturable packing arranged in said holes with the ends flush with the periphery of the bearing, substantially as described.

5. A spindle for a top roll of a spinning-machine, consisting of a shaft A, formed with bearings having diametrical oil-wells for the revoluble bosses, a middle portion 1, of greater diameter than the said bearings and terminating in shoulders 3, and provided with screw-threaded sockets in the ends, and bearings consisting of end caps having threaded projections to engage the threaded sockets of the arbor, and annular shoulders extending beyond the circumference of the boss-bearings on the shaft, substantially as described.

6. The combination of the spindle A, having boss-bearings provided with oil-holes projected diametrically through the said bearings, and packing arranged in said holes with the ends flush with the surface of said bearings, a middle portion of greater diameter than the said bearings and provided with threaded sockets in the ends, bearings consisting of end caps having threaded stems projected from their inner faces, and annular shoulders extending beyond the face of the bearings, and bosses formed with counterbored ends to set over the annular shoulders of the end caps, substantially as described.

7. The combination, with the spindle having oil-holes diametrically arranged through it, and detachable end pieces consisting of caps of larger diameter than the spindle secured to the ends of the spindle, of bosses having counterbored ends to project over the inner edges of the detachable end caps, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two attesting witnesses.

WARREN T. KELLOGG.

Attest:

JAMES H. MASTEN,
ISAAC HILLER.