

(No Model.)

J. E. PREST.

SPINNING AND TWISTING MACHINE SPINDLE.

No. 604,194.

Patented May 17, 1898.

Fig. 1.

Fig. 2.

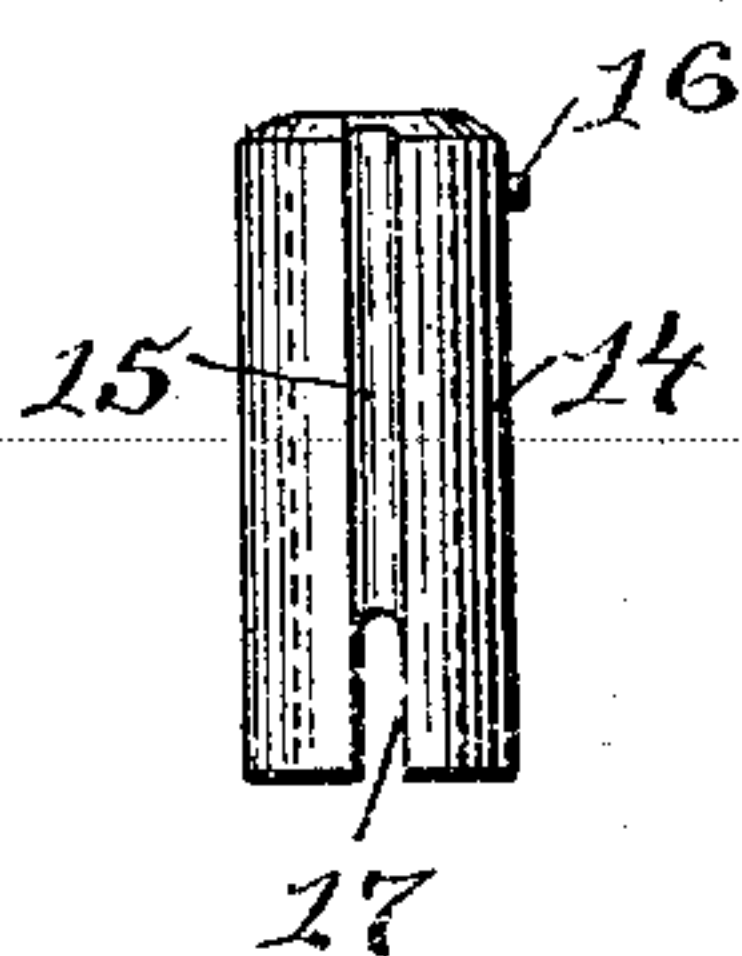


Fig. 4.

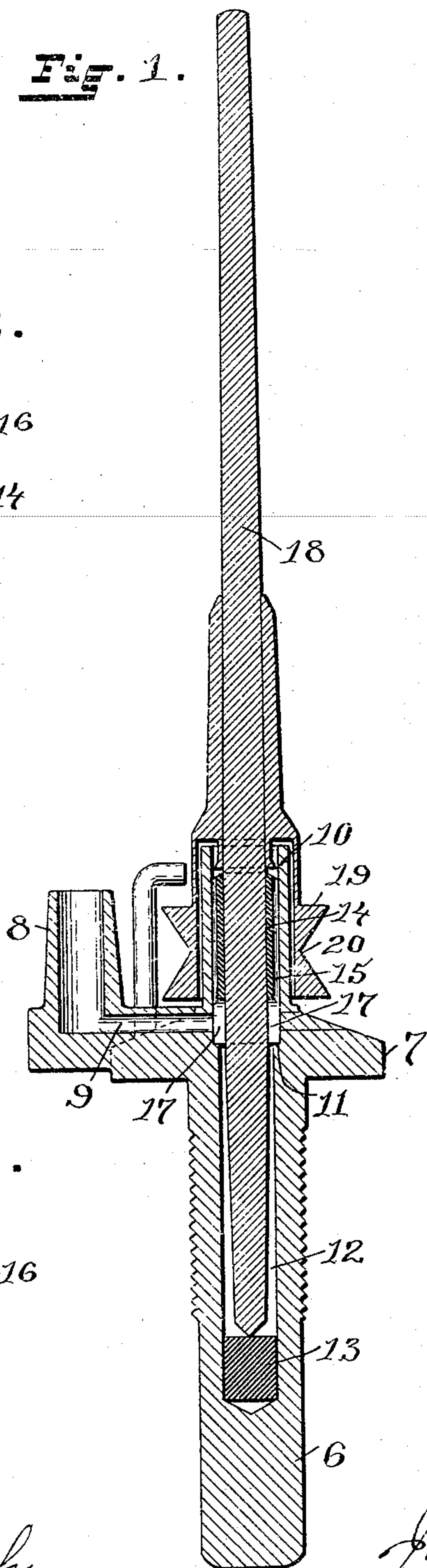
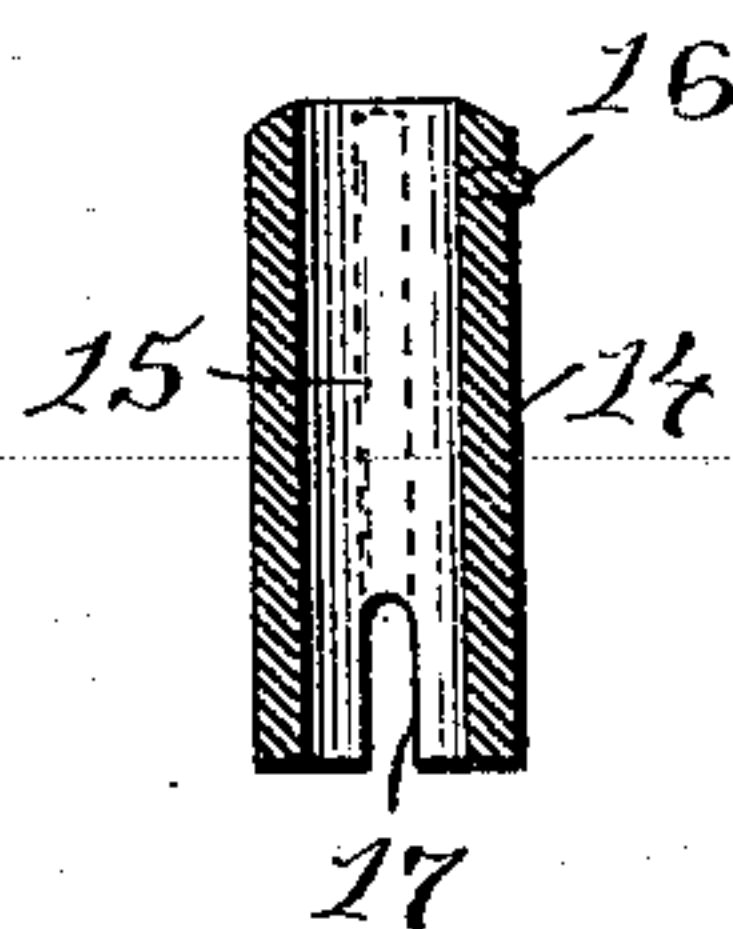


Fig. 3.

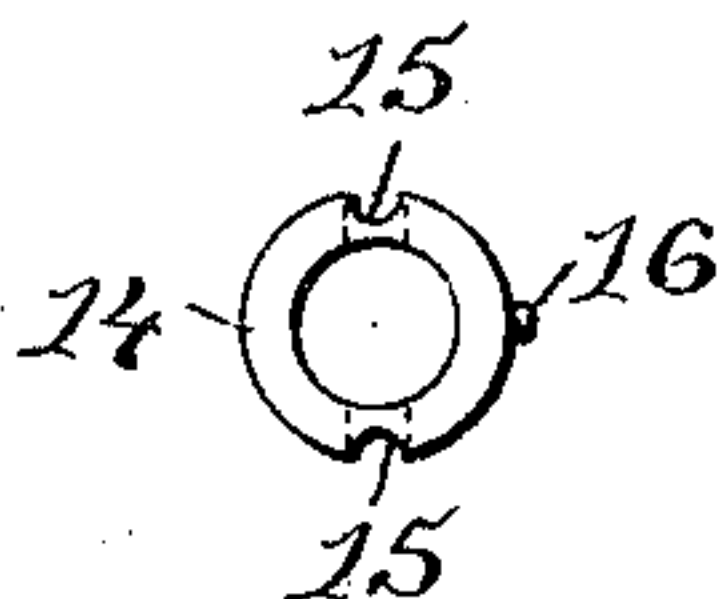
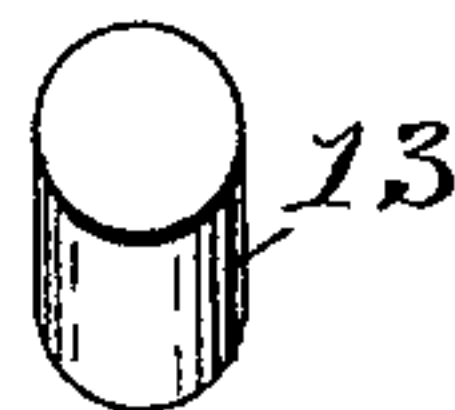


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN E. PREST, OF COHOES, NEW YORK.

SPINNING AND TWISTING MACHINE SPINDLE.

SPECIFICATION forming part of Letters Patent No. 604,194, dated May 17, 1898.

Application filed May 6, 1897. Serial No. 635,296. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. PREST, of Cohoes, in the county of Albany and State of New York, have invented certain new and
5 useful Improvements in Spinning and Twisting Machine Spindles; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part
10 of this specification.

The invention relates to an improvement in the supports for the spindle; and it consists in the peculiar and novel construction of the bolster, supported in the upper part of the
15 holder on a line with the band-pull, and the step-bearing in the lower part of the holder, as will be more fully set forth hereinafter.

In spinning-machines, where the spindles are turning at a very high rate of speed, the
20 thorough lubrication of the spindle-bearing and the capacity of the spindle-bearing to resist the band-pull and adjust itself to the rotating spindle to prevent the vibration and tremor incident to such spindles are essential
25 to secure the true running of these spindles.

The object of this invention is to secure these qualities in a spindle of simpler and cheaper construction than heretofore used.

To this end my invention consists in the
30 peculiar and novel construction of the spindle and holder, by which the spindle, provided with a pointed foot, is vertically supported on a flat step loosely held in the holder and laterally in a short bolster having capacity for slight adjustment, as will be more fully
35 described hereinafter.

Figure 1 is a vertical sectional view of a sleeve-whirl spindle and holder, showing my improvements. Fig. 2 is a side view of the
40 bolster-bearing. Fig. 3 is a top view of the bolster-bearing. Fig. 4 is a vertical sectional view of the bolster-bearing, and Fig. 5 is a perspective view of the step-bearing.

Similar numerals of reference designate corresponding parts in all the figures.

In the drawings, 6 indicates the lower part of the holder, which is screw-threaded part of its length to receive a nut by which the holder is secured to the spindle-rail of a ring
50 spinning or twisting machine; 7, the flange which rests on the spindle-rail; 8, an oiling-

tube the interior of which is connected with the lateral duct 9, connecting the oil-tube with the interior of the holder. The tube 10 of the holder extends upward from the flange
55 7. The holder is bored out from the upper end of the tube 10 to a point slightly below the lateral duct 9 to form the shoulder 11. From this point a hole of less diameter extends to near the bottom of the holder and forms
60 the chamber 12, in the bottom of which the step 13 is supported. This step fits with a loose sliding fit and is merely dropped into the holder.

The bolster 14 consists of a short tube open
65 at both ends. The upper end is preferably beveled and the lower end is cut off square, so as to rest on the shoulder 11. The bolster is provided with two longitudinal grooves 15, one on each side, and the metal of the walls
70 of the bolster is cut away to form the transverse passage 17. The bolster, resting on the shoulder 11, fits the interior of the tube 10 with a close sliding fit and is held against rotation by the stud 16, projecting from the bol-
75 ster, which enters a groove in the tube 10 in the manner usual with loose bolsters in this class of spindles. The spindle 18 is provided with the sleeve-whirl 19, the band-pull 20 of which is on a line about midway between the
80 ends of the bolster 14. The foot of the spindle is pointed and rests on the flat surface of the step 13, free to yield with or independent of the step.

The construction is simple and less costly
85 than spindle-supports of this class as heretofore constructed. The short bolster only requires to be bored and fitted. No combined bolster and step-tube is required to be bored
90 and fitted.

The spindle when in use is supplied with oil by the oiling-tube 8. The oil flows through the passage 17, opposite the oil-duct 9, into the chamber 12, where it surrounds the spindle. The rotation of the spindle raises the
95 oil into and through the bolster, a centrifugal oil-spreader carries the surplus oil to the sides of the tube 10, and the oil flows down the grooves 15 and through the passages 17 to the spindle. The bolster 14 being short,
100 as its whole length does not exceed a length equal to two and one-half diameters, the spin-

dle can adjust itself to any variation in load, while the foot of the spindle is free to move on or with the step independent of the bolster.

Practical tests have demonstrated that a spinning-machine provided with these spindles can be run at high speed without the trembling, jarring, and uneasy motion incidental to some of the spindles in which the bolster and step-bearings are held in a bolster-tube, and equally as well as the class of spindles in which the step-bearing is flexibly connected with the bolster-tube. They can also be driven with less power.

The simplicity in the construction of the holder with its separate bolster and step-bearing reduces the cost of ring-spinning machines.

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

In a spinning and twisting machine spindle,

the combination with a sleeve-whirl spindle having a pointed foot, a holder therefor adapted to be secured to the bolster-rail, and a tube extending from the holder into the sleeve-whirl of larger internal diameter than the internal diameter of the lower part of the holder, of a flat step in the lower part of the holder forming the vertical support of the spindle, a short cylindrical bolster loose in the tube extending upward from the holder into the sleeve-whirl and held against rotation by a pin, whereby the spindle is supported laterally within the sleeve-whirl by a short bolster free to adjust itself with the spindle, as described.

In witness whereof I have hereunto set my hand.

JOHN E. PREST.

Witnesses:

RICHARD BOLTON,
JOE L. SMITH.