(No Model.)

C. G. BUTTRICK & T. B. FLANDERS.

SUPPORT FOR SPINNING SPINDLES.

No. 438,879. Patented Oct. 21, 1890.

Fig 1.

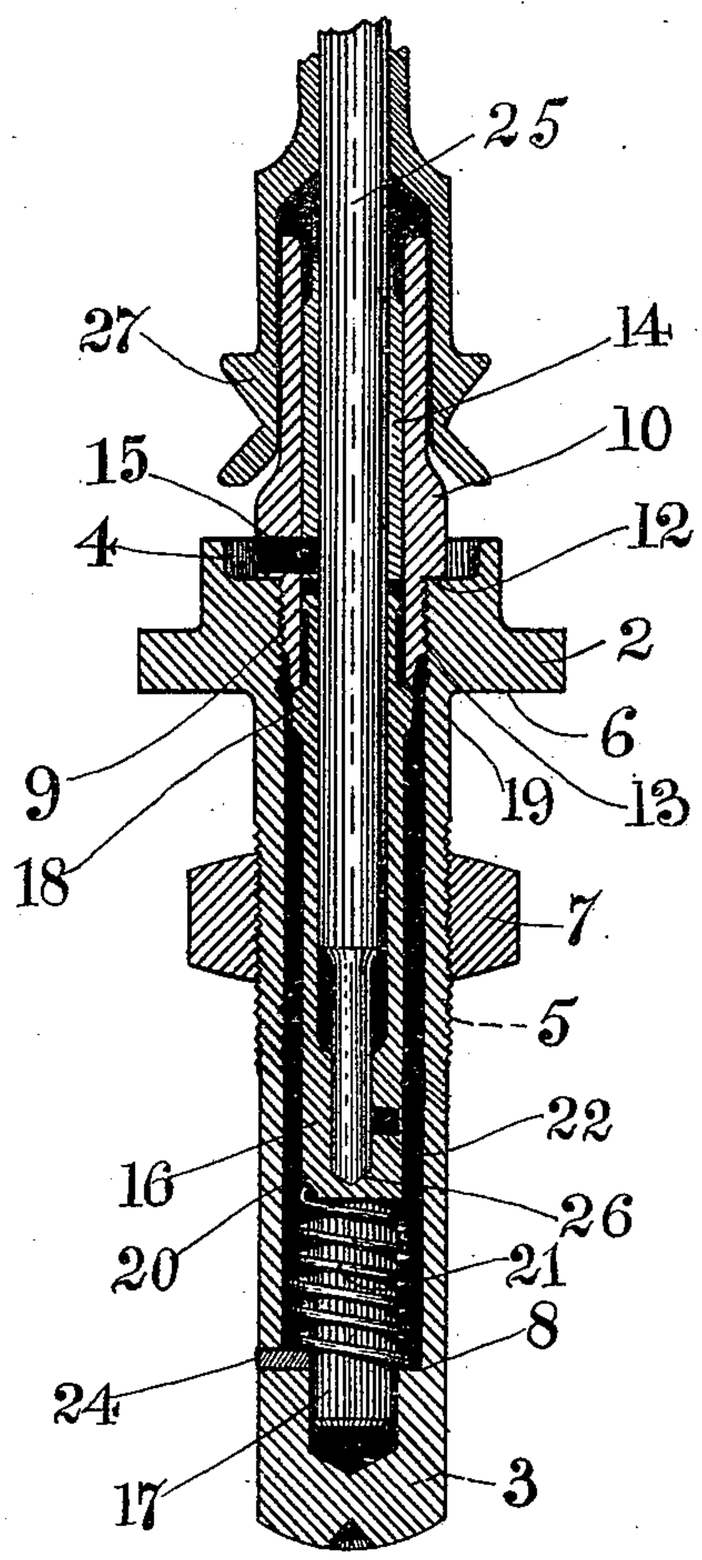
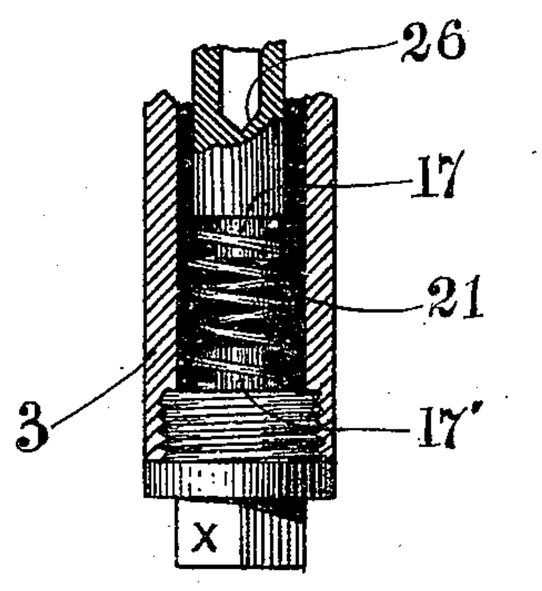


Fig 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES G. BUTTRICK AND TIMOTHY B. FLANDERS, OF HOLYOKE, MASSACHUSETTS, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE SAWYER SPINDLE COMPANY, OF MASSACHUSETTS.

SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 438,879, dated October 21, 1890.

Application filed November 16, 1886. Serial No. 219,074. (No model.)

To all whom it may concern:

Be it known that we, CHARLES G. BUTTRICK and TIMOTHY B. FLANDERS, of Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Supports for Spinning-Spindles, of which the following is a specification.

This invention relates to spindle-bearings; and it consists in certain combinations of parts, more fully described below, and distinctly specified in the claims.

This invention is illustrated by the accompanying drawings, in which—

Figure 1 is a partly sectional view of a spindle and its bearings with the spindle itself, the stud projecting from the step, and the spring supporting the step shown in elevation. Fig. 2 is a sectional elevation of a modification of the lower end of the case and step.

In the drawings, 2 is a bolster and step case, whose lower part 3 is of less diameter, and is provided with an exterior screw-thread 5. Above the screw-thread a shoulder 6 is formed, which rests on the rail of an ordinary spinning-frame when in use, the lower part 3 passing through the rail and being held securely therein by the nut 7, which engages with the screw-thread 5 on part 3. Above shoulder 6 an oil-cup 4 is provided. The case is bored out from the top of practically uniform size to near the lower end, the bore being then contracted to form a socket for the lower end of the step and a seat 8 for the spring to rest on. The case is also provided near the top with an internal screw-thread 9, which engages with a screw-thread on bolster 10. A pin 24 is inserted in the case at the lower end for the lower end of spring 21 to abut against.

The bolster-tube 10 constitutes the upper bearing for the spindle, and consists of a tube provided with an external shoulder 12. Below said shoulder an external screw-thread 13 is formed, which engages with the internal screw-thread 9 in case 2. The bolster-tube is preferably provided with a bushing 14. An oil-duct 15 leads from the oil-cup 4 to the interior of the bolster.

The step 16 constitutes the lower bearing for the spindle, and is provided with an arbor or stud 17 at its lower end, which is reduced in diameter. The step fits loosely in the case, and is provided near the top with a projection 18. The upper part of that projection constitutes a shoulder 19, which impinges against the lower end of bolster-tube 10, the portion above the shoulder entering the bolster-tube. A portion of the lower part of the step is cut away, thereby forming a shoulder 20 for one end of the spring 21 to abut against. That portion of the step which enters the bolster-tube fits the same loosely, and thereby permits the lower end of the spindle to have a lateral movement.

The step is bored out from the top of practically uniform diameter to near the lower end, where the bore is contracted, thereby forming a bearing 26, adapted to the small bearing end of the spindle. An oil-duct 22 is provided, through which oil that may be contained in case 2 (and between the step and case) flows into the step, thereby aiding in the lubrication of the lower bearing. The step is inserted into case 2 from the top, the spring having first been placed on the arbor or stud 17, that arbor entering the contracted bore at the lower end of the case and the spring resting on the seat 8 with the lower end abutting against shoulder 24 and the upper end abutting against the shoulder 20 on the step. The bolster-tube 10 is then screwed into the top of the case, the step entering the bolster-tube, bringing the shoulder 19 to bear against the lower end of the bolster-tube, the step resting on spring 21, which rests on seat 8 at the lower end of case 2.

Fig. 2 shows a modification of the lower end of the case 2, in which the case is open at the lower end and provided with an internal screw-thread, which engages with an external screw-thread formed on a plug, which carries a stud 17, that corresponds with arbor or stud 17 on step 16. The spring 21 encircles the stud 17 on the step and the stud on the plug. The screw-plug affords facilities for observing and clearing the interior lower portion of the case 2.

In Fig. 1 the spindle is provided with a

whirl 27, which whirl is provided with a sleeve, which extends upward and is adapted to hold a bobbin.

We are aware of the Patent No. 212,779 to Wrigley, dated February 25, 1879, and disclaim all that is shown in it, for although that patent shows a case containing a bolster-bearing and a step supported by a spring within the case, yet the application of the power to drive the spindle is in a plane above the top of the bolster or lateral bearing, and hence there exists a constant force tending to tilt the spindle, which is avoided in our combination by means of a sleeve by which the whirl is brought to a plane near the middle of the lateral bearing, thereby leaving the spindle free to center itself by moving the end bearing as required, which is practically impossible when the power required to drive the spindle is applied above the upper end of the bolster or upper lateral bearing.

What we claim, and desire to secure by Letters Patent, is—

1. In combination, the spindle, its sleeve-whirl, the bolster-case, the bolster or upper lateral bearing for the spindle in the upper part of the bolster-case, and the step in the lower part of the bolster-case, the bolster and step being separate and the step having lateral motion in the case, all substantially as described.

2. In combination, the spindle, its sleeve-whirl, the bolster-case, the bolster or upper lateral bearing for the spindle, the step or end bearing for the spindle, and the spring carrying the step and permitting it to move with the foot of the spindle, all substantially as described.

3. The combination, with a sleeve-whirl spindle and a bolster-case whose lower portion is of greater inner diameter than the diameter of the bolster-bearing, of a bolster-bearing in the upper portion of the case and a loose step in the lower portion of the case, substantially as described.

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Witnesses:
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