

M. D. Drake,
Spindle Bolster.

N^o 47,195.

Patented Apr. 11, 1865.

Fig. 1.

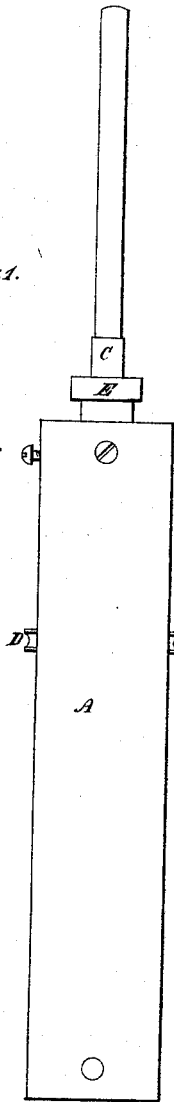


Fig. 2.

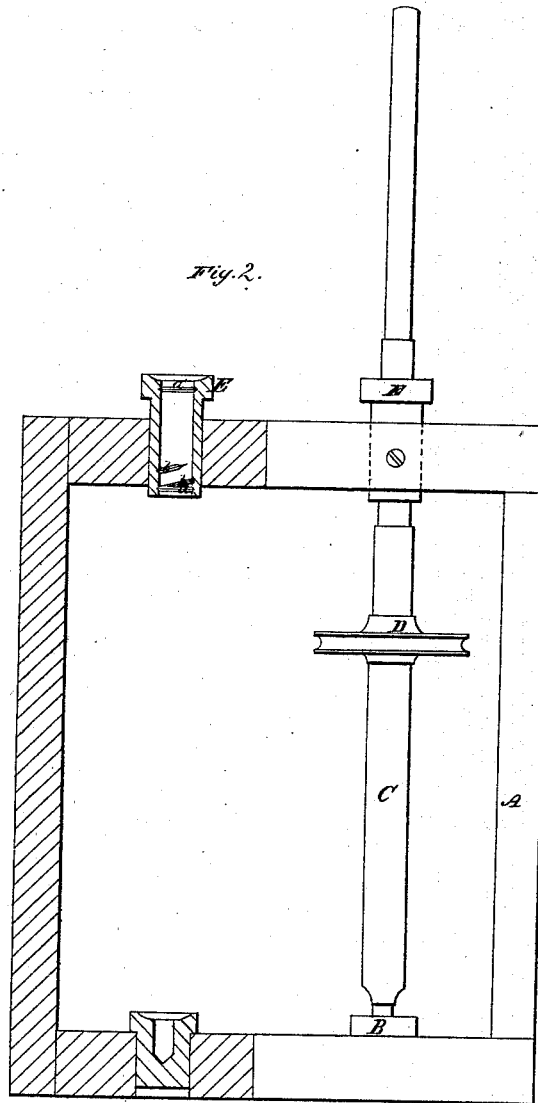


Fig. 4.

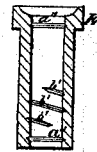
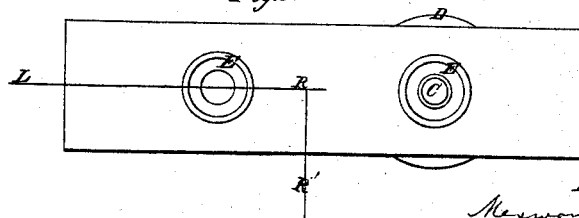


Fig. 3.



Witnesses.

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MEXWORTH D. DRAKE, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN UPPER BEARINGS OR BOLSTERS FOR SPINDLES OF SPINNING-FRAMES.

Specification forming part of Letters Patent No. 47,195, dated April 11, 1865.

To all whom it may concern:

Be it known that I, MEXWORTH D. DRAKE, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Bolsters for Spinning-Frames; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 represents an end view of a frame, A, in which spindle C is supported by a step in the bottom of the frame, and a bolster or upper bearing, E, in the upper part of the frame. Fig. 2 represents an end view of said frame A, a part being shown in section to illustrate the manner in which the internal bearing-surface of the bolster is formed. Fig. 3 represents a top or plan view of Fig. 1; and Fig. 4, a section of bolster, showing modification.

The nature of my invention consists, first, in making the bolster E or spindle-bearing with an annular groove, *a*, in its bottom, in combination with a spiral or helical groove, *b*, above it; and, second, in making the bolster with two annular grooves, *a a'*, one at the top and the other at the bottom, in combination with a spiral or helical groove, *b*.

The upper and lower grooves, *a a'*, are designed as oil-chambers to receive and retain oil for lubricating the spindle when in operation, while the groove *b* is designed to act in combination with the spindle when in motion to elevate the oil from the bottom of the bolster to the top.

When the oil is first applied at the top of the bolster, it naturally descends, first filling the upper chamber or groove *a*, from whence it descends to the inclined groove *b*, and then down into the lower groove *a*.

When the spindle is set in motion by a band passing around the pulley D in ordinary spinning, the bolster having a left-handed groove, *b*, as seen in Fig. 2, the motion of the spindle

causes the oil to pass or move gradually up the groove *b* toward the top until it reaches the upper chamber *a'*, from whence it descends again as soon as the spindle is stopped.

It will thus be seen that by my invention the oil applied at the top of the bolster is prevented from running out at the bottom, whereby the bearing is kept well lubricated, while at the same time it does not require to be oiled near so often as the old or ungrooved bolster.

When doubling and twisting yarns, and the spindle is required to run in an opposite direction, then the groove should be a right-handed one, as seen at *b'*, Fig. 4. The other grooves do not require, however, to be changed, but are made as indicated at *a'' a''*, same figure.

The inclined groove *b b'* may be made to terminate in one or both of the annular grooves. I prefer, however, to have it terminate in the bottom one only. The inclined grooves need not, however, necessarily terminate in either the upper or lower groove.

The annular grooves are cut so as to have an even and smooth bearing-surface for the spindle above the top groove and below the bottom one, as clearly indicated in the drawings, the spiral groove being between them.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The use and employment of an upper and lower groove or oil-chamber in the bore of the bolster, in combination with the use and employment of a spiral or helical groove, substantially as described.

2. The use and employment of a spiral groove in the bore of the bolster, in combination with a groove, *a*, at the bottom, whether the top groove is used or not.

MEXWORTH D. DRAKE.

Witnesses:

J. C. MARKLAND,
FRED. BURGESS.