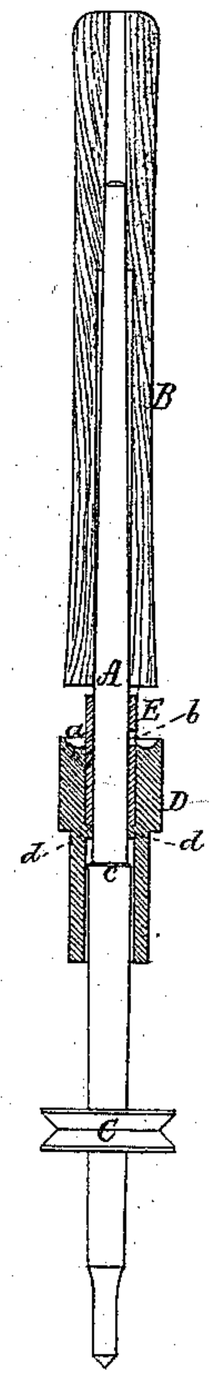
J. BIRKENHEAD.

Improvement in Spindle-Bolsters for Spinning-Machines.

No. 130,559. Patented Aug. 20, 1872.



Witnesses.
S. N. Pipes
L. N. Miller

John Birkenhead.
by his attorney
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UNITED STATES PATENT OFFICE.

JOHN BIRKENHEAD, OF MANSFIELD, MASSACHUSETTS.

IMPROVEMENT IN SPINDLE-BOLSTERS FOR SPINNING-MACHINES.

Specification forming part of Letters Patent No. **130,559**, dated August 20, 1872.

To all persons to whom these presents may come:

Be it known that I, JOHN BIRKENHEAD, of Mansfield, of the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Machinery for Spinning, said invention having reference more particularly to the bolsters of spindles of ring spinning-frames; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, which denotes a vertical section of a ring-frame spindle and its bolster as provided with my improvements.

As such bolsters are commonly made they are bushed with a tube of brass or other suitable material, the spindle extending through and bearing on the tube. The efforts to lift the bobbin off and separate it from the spindle frequently cause the shoulder of the latter to be raised with force or a blow against the lower end of the bushing, and as a consequence such bushing is liable to and occasionally or frequently becomes detached from the bolster. The purpose of my invention is to prevent the bushing from being thus struck by the shoulder of the spindle under circumstances as mentioned, and detached from or loosened and dropped down in the bolster, and to provide a chamber to receive and encompass and protect the spindle-shoulder. To accomplish this, I construct the bolster not only with a shoulder to support the bottom or lower end of the bushing, but with another shoulder to estop the rise of the shoulder of the spindle and prevent it from coming in contact with the bushing.

In the drawing, A denotes the spindle; B, the bobbin; C, the whorl; D, the bolster; E, the brass or composition bushing or tube, arranged concentrically within the bolster, and being extended down within as well as a short distance above the same. In the bolster there is also a chamber to receive the spindle-shoulder and protect it from fibrous matters. The top or upper end of the bolster has an oil-trough, *a*, formed in it, there being a hole or passage, *b*, leading from such through the bushing or into its bore. There is, between the foot or lower end of the bushing and the shoulder *c* of the spindle, an extension, *d*, of the bolster beneath the bushing and directly over the shoulder, and constituting the top of a chamber, formed as shown in the bolster, and encompassing and projecting below the shoulder *c*, all being as shown, such extension serving not only as a support for the lower end of the bushing to keep the bushing, in case of it being or working loose in its socket, from dropping down in the bolster, but as a shoulder or abutment for the shoulder of the spindle to bring up against during the act of pulling the bobbin off the spindle.

From the above it will be seen that when the spindle is being raised with and by the bobbin the shoulder of the spindle cannot strike the lower end of the bushing, but must bring up against the extension *d*, by which the bushing will be effectually insulated from the spindle-shoulder and protected from being lifted or loosened thereby in the bolster.

I make no claim to a bolster made and bushed as shown in Booth and Broome's application for a patent, filed February 29, 1868, such having no estopping shoulder and no chamber arranged with the spindle-shoulder, as in my bolster.

I claim—

The bolster D, provided with the extension *d*, the chamber beneath it, and the bushing E, all arranged with reference to the spindle-shoulder *c*, as and for the purposes specified.

JOHN BIRKENHEAD.

Witnesses:
R. H. EDDY,
J. R. SNOW.