

G. RICHARDSON.
Spindle-Bolsters.

No. 143,785.

Patented Oct. 21, 1873.

Fig. 1.

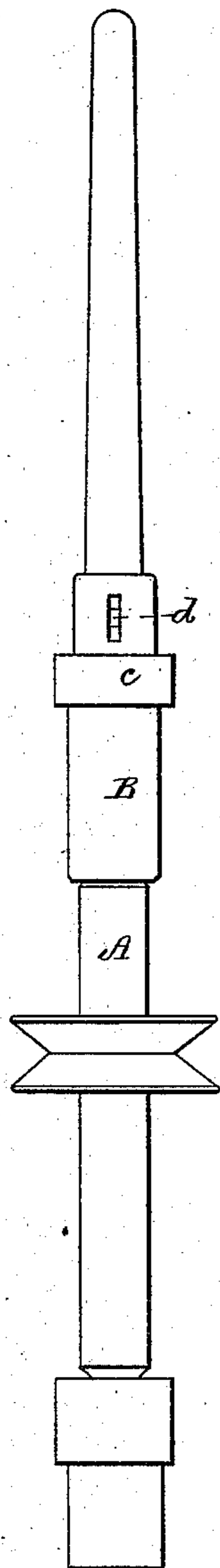


Fig. 2.

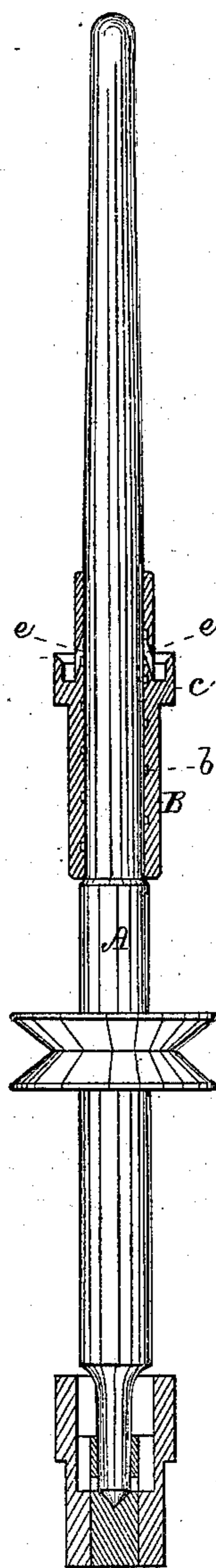


Fig. 3.

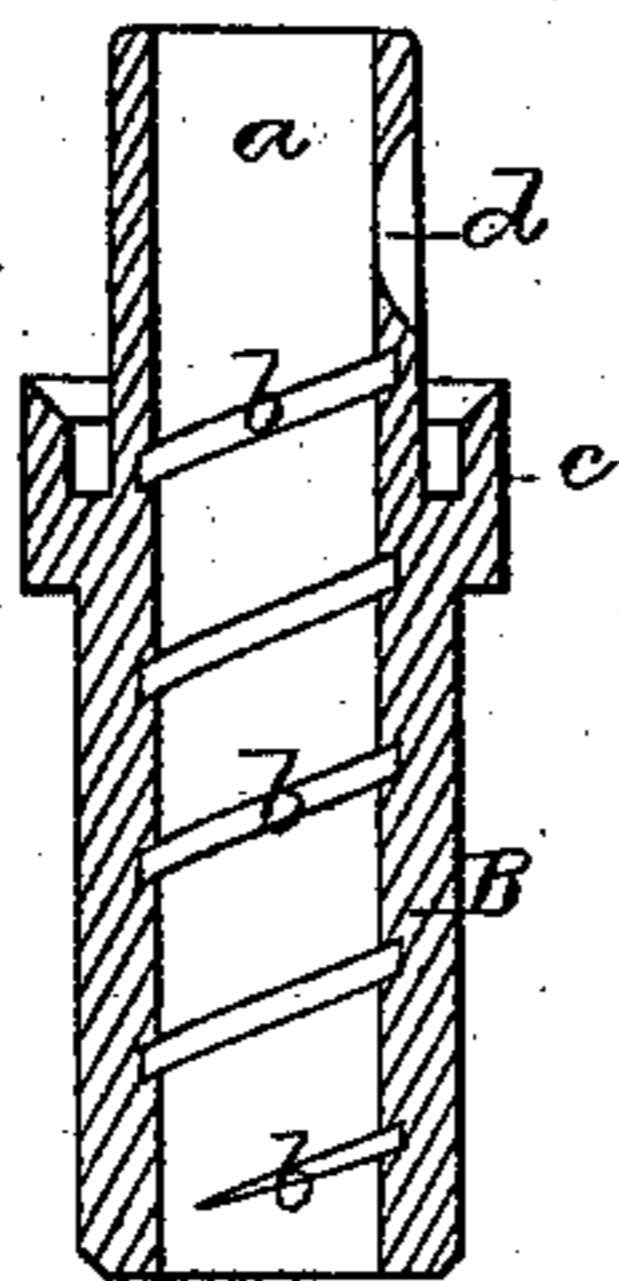
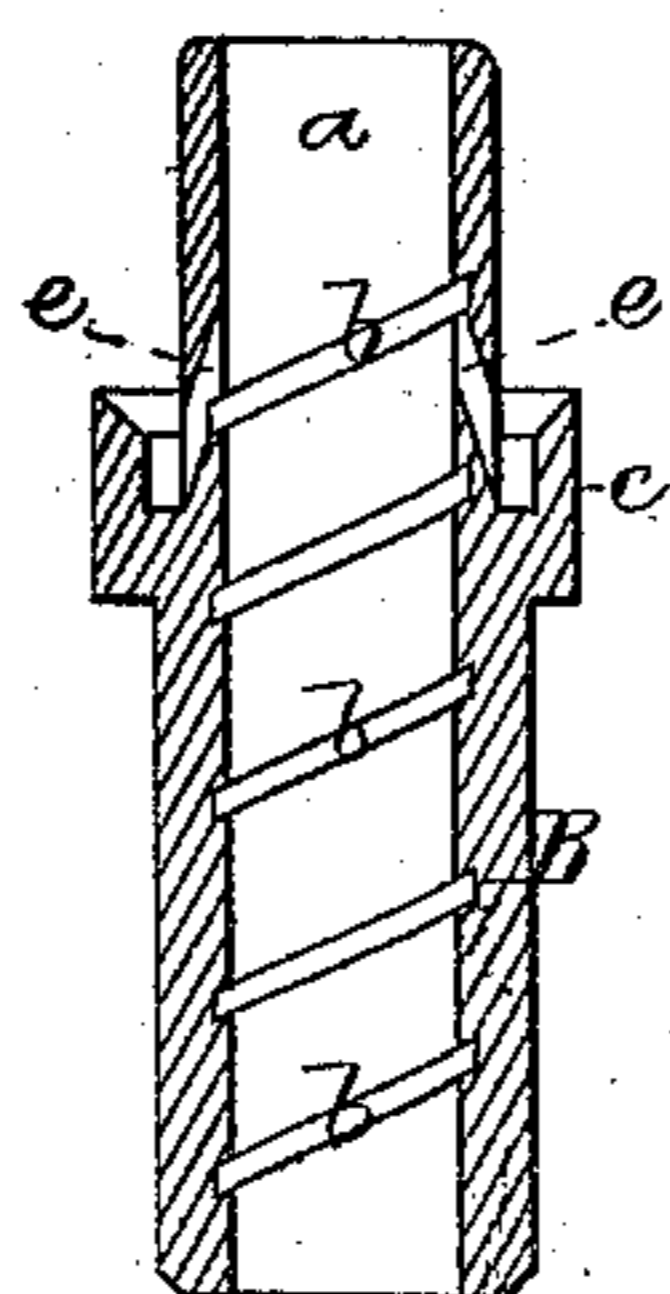


Fig. 4.



Witnesses.

L. N. Hollen.
J. R. Snow.

George Richardson.

by his attorney.
R. H. Lacy

UNITED STATES PATENT OFFICE.

GEORGE RICHARDSON, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN SPINDLE-BOLSTERS.

Specification forming part of Letters Patent No. 143,785, dated October 21, 1873; application filed September 22, 1873.

To all whom it may concern:

Be it known that I, GEORGE RICHARDSON, of Lowell, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Bolsters for the Spindles of Spinning-Machines; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, in which—

Figure 1 denotes a front view, and Fig. 2 a vertical section, of a spindle and my improved bolster. Figs. 3 and 4 are vertical sections of the bolster, one section being taken through its oil-educt, and the other through the capillary oil-inducts.

In such drawings, A denotes the spindle, and B the bolster.

One object of my invention is to prevent the rise of oil out of the bolster at its top and upon the spindle and its discharge therefrom by centrifugal force in longitudinal directions, upon the spinning-frame or the adjacent cops of the spindles.

My present bolster involves the annular trough, the bolster extension above such, and one or more capillary educts, essentially as shown in my patent No. 137,239, dated March 25, 1873. I have combined therewith not only a helical groove within the bore of the bolster, but an educt to lead out of the bore, below its top, and into the annular trough. In other words, in carrying out my invention, I form the bore *a* of the bolster with a helical groove, *b*, to extend around within it, and to be closed at either or both ends. It is to be closed at its upper end or to terminate within a short distance of the top of the bolster, and I prefer to close it at its lower end, or terminate it at a short distance from the bottom of the bolster, although this latter is not essential. The bolster I form or construct with a surrounding channel or trough, *c*, for reception of oil, such trough being located below the top of the bolster, in manner as shown. In that portion of the bolster which rises above the trough *c* I form a vertical slot or educt, *d*, to extend laterally out of the bore and open out thereof below the top of the bolster. I also form in the part above the bottom of the trough one or more capillary holes or passages or inducts, *e*, which, in Fig. 4 of the drawings, are repre-

sented as inclined, opening from the trough into the bore at parts above the trough. On oil being poured into the trough it will, by the induct or inducts *e*, be drawn upward by capillary attraction, and caused to flow into the bore of the bolster and around in and down its helical groove. The spindle in revolving will cause the oil to rise in the helical groove, from whence the surplus will escape by the educt into the trough. Were the helical groove to open out of the top of the bolster the oil would rise to such top and be thrown off tangentially by the spindle, but by having the groove terminate below the top and open into the educt, leading from below the said top into the oil-trough, the surplus oil is prevented from escaping at the top of the bolster and being thrown off tangentially by the spindle, as before stated.

With my improved bolster the bore will be thoroughly lubricated without material waste of oil, there being a constant flowage of the surplus through the educt into the trough, and from thence through the induct or inducts back into the bore.

By having the bolster helical groove stopped at its lower end, waste of oil out of such end and upon that part of the spindle which is below the bolster, will be prevented, in a great measure, if not entirely, whether the bolster be provided with the educt or not.

I disclaim a bolster provided with a helical groove, an oil-receiver, an educt, and an oiling induct, arranged in manner, and to operate as represented, in the United States Patent No. 134,863, in which case the oil-receiver is at the top of the bolster, and is open at its top, all causing the bolster to differ in construction and operation from my improved bolster, whose top is closed, or not open, in order that there may be no discharge of oil therefrom tangentially by the spindle.

I claim as my invention—

The bolster provided with the reservoir or trough *c*, one or more capillary inducts, *e*, one or more helical grooves, *b*, and the educt *d*, constructed substantially as specified.

GEORGE RICHARDSON.

Witnesses:

R. H. EDDY,
J. R. SNOW.