

N. I. ALLEN.

Spinning-Spindles and Bobbins.

No. 147,466.

Patented Feb. 17, 1874.

Fig. 2.

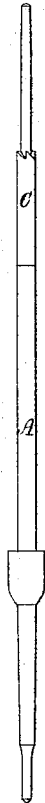


Fig. 1.

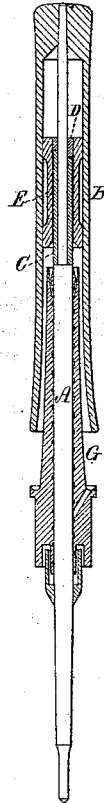
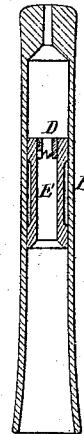


Fig. 3.



Witnesses.

S. W. Piper.

L. N. Hilden.

Nicholas I. Allen.

by his attorney.

R. H. Esley

UNITED STATES PATENT OFFICE.

NICHOLAS I. ALLEN, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND GEORGE DRAPER, OF SAME PLACE.

IMPROVEMENT IN SPINNING SPINDLES AND BOBBINS.

Specification forming part of Letters Patent No. **147,466**, dated February 17, 1874; application filed December 11, 1873.

To all whom it may concern:

Be it known that I, NICHOLAS I. ALLEN, of Hopedale, of the county of Worcester, of the State of Massachusetts, have invented a new and useful Improvement in the Spindles and Bobbins of Ring Spinning-Frames; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a vertical section of a spindle and bobbin provided with my improvement. Fig. 2 is a side elevation of the spindle, and Fig. 3 a vertical section of the bobbin.

In carrying out my invention, I provide the spindle A and the bobbin B with a serrated clutch, consisting of two tubes, C D, serrated at the upper end of one and at the lower end of the other, each tooth of each tube being right-angled triangular in shape, and those of one tube being so formed as to fit into the space between those of the other. One tube encompasses and is fixed on the spindle, and arranged therewith in the manner shown, and the other is driven and fixed concentrically into the bushing E of the bobbin, the bore of the bushing fitting to the longer serrated tube. With such a clutch, it is only necessary to drop the bobbin down on the spindle for the serrations to interlock, so as to cause the spindle, while revolving, to revolve the bobbin; and there is no uncertainty of the engagement of the parts of the clutch, which is a matter of great importance. The spindle and bobbin represented in the accompanying drawings is of the well-known kind, in which the bobbin receives within it, and extends down around and encompasses, the bolster G, by which the spindle is supported, and through and above which it extends, in the manner shown.

The spindle A, where it receives the serrated tube C, and from thence to the upper end of the spindle, is reduced in diameter to what it is below the tube. In other words, it

is formed with a neck and shoulder, as shown in Fig. 1, the tube being slipped on the neck concentrically, and down against the shoulder. The part of the spindle next below and adjacent to the shoulder has a diameter corresponding with the external diameter of the tube, the spindle-neck having a diameter equal to that of the bore of the tube, all being as shown. The tube C is to be fastened firmly to the spindle. The serrated tube D, by being fixed in the plug or bushing E, can be readily introduced with it into the bobbin-shell. After the neck of the spindle has entered the tube D, it will guide the latter into engagement with the tube C.

I am aware that a bobbin-seat has been provided with inclined straight spurs to enter corresponding cavities made in the head of the bobbin, such being not only to hold the bobbin down upon its seat, but to enable the spindle and seat to revolve the bobbin. I am also aware that a spindle has been provided with a pin, extended transversely through it, to engage with an indentation in the bobbin, all of which differs materially from my invention.

I claim as my invention as follows, viz:

1. The spindle A, with its shoulder and neck, in combination with the serrated tube C, applied thereto substantially as described, and for use with the serrated tube D in the bobbin, as set forth.

2. The bobbin B, provided with the serrated tube D, arranged in it as shown and described, in combination with the spindle A, provided with the neck and shoulder, and having the serrated tube C applied thereto, all being substantially as represented, and to operate as explained.

NICHOLAS I. ALLEN.

Witnesses:

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