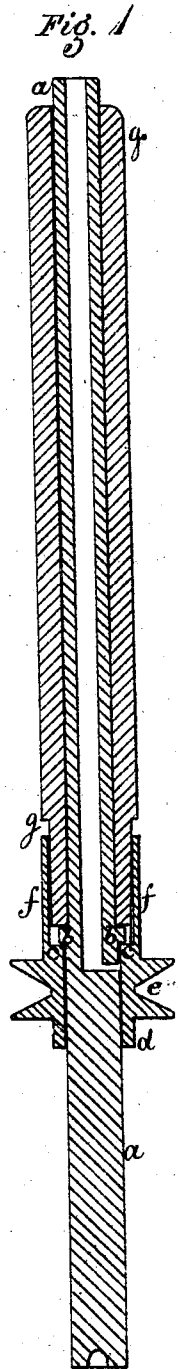


W. T. CARROLL.

Improvement in Spindles and Whorls for Spinning Machines.

No. 123,867.

Patented Feb. 20, 1872.



Witnesses
Jose F. Wheeler
Sam^e M. Barton

Inventor
Wm. T. Carroll
by his atty-
Carroll D. Wright

UNITED STATES PATENT OFFICE.

WILLIAM T. CARROLL, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR TO
SIMEON S. COOK, OF SAME PLACE.

IMPROVEMENT IN SPINDLES AND WHORLS FOR SPINNING-MACHINES.

Specification forming part of Letters Patent No. 123,867, dated February 20, 1872.

SPECIFICATION.

I, WILLIAM T. CARROLL, of Woonsocket, in the county of Providence and State of Rhode Island, have invented certain Improvements in Spindles, of which the following is a specification:

Figure 1 in the drawing is a central vertical section of my improved spindle.

The present invention relates to certain new and useful improvements in that class of spindles known as "dead spindles;" and has for its main objects, economy in the construction of the whorl of the spindle; and the prevention of the splitting of the bobbin, which is liable to occur when arranged, as ordinarily, to fit over the spindle; also, to secure lightness in the spindle, so as to diminish the power requisite to carry it. The invention consists in the combination of a spindle provided with a shoulder, to prevent the whorl from being drawn off with the bobbin; and a whorl made hollow to receive the tapering bottom of the bobbin; all as hereinafter more fully specified.

a a, in the drawing, represent a spindle formed with a shoulder, *b*. Said spindle passes through the spindle-rails, not here shown, between which rails and inclosing the spindles is a collar having a set-screw, by means of which the spindle is held in such position that the shoulder *b* does not come in contact with the shoulder *c*. The function of the shoulder *b* is to prevent the whorl from being drawn off the spindle with the bobbin when the latter is removed. The shoulder *c* is formed by the

lower stem *d* of a whorl, *e*, which has an upper stem, *f f*, that is made hollow, so as to form a socket for the reception of tapered end of a bobbin, *g g*. The bobbin *g g* is placed over the spindle *a a*, and its tapering end fits into and is firmly held by the socket formed by the upper stem *f f* of the whorl *e*. The tapering form of the end of the bobbin *g g* prevents the wear of the bobbin *g g* from lessening, at any time, its bearing in the socket *f f*, into which it is pressed further down as it wears away. By placing the bobbin *g g* within the socket, the splitting of the bobbin, which often occurs when it is pressed down over the spindle or whorl-stem, is obviated. By making the stem *f f* of the whorl *e* hollow, less metal is required in its construction, and a lightness of the whorl is secured by which a saving of power in the running of many spindles is obtained.

Having thus described my invention, what I claim, and desire to have secured to me by Letters Patent, is—

A spindle, *a*, formed with a shoulder, *b*, and combined with a whorl, *e*, having a shoulder, *c*, and made hollow so as to receive the tapering bottom of a bobbin, *g*, all as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM T. CARROLL.

Witnesses:

EDWIN ALDRICH,
LELAND D. JENCKES.