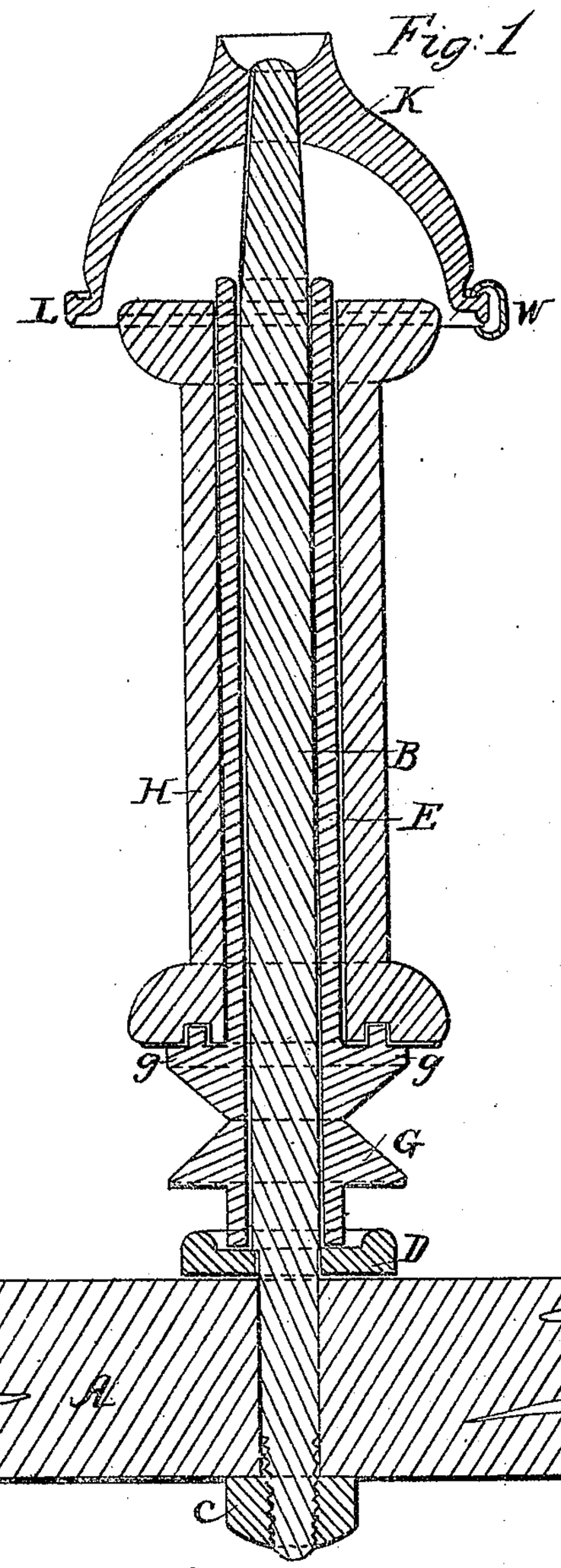
Atherton & Singleton

Silk Spinning Mach.

No. 79,297. Patented Jun. 30, 1868.

Fig. 1



Witnesses,
Francis J Mason
H Gungembre Hubert.

Inventors;
Robert Atherton
George Singleton

United States Patent Office.

ROBERT ATHERTON AND GEORGE SINGLETON, OF PATERSON, NEW JERSEY.

Letters Patent No. 79,297, *dated June* 30, 1868; *antedated June* 19, 1868.

IMPROVEMENT IN SPINNING-MACHINERY.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, ROBERT ATHERTON and GEORGE SINGLETON, both of the city of Paterson, Passaic county, and State of New Jersey, have invented certain Improvements in Silk-Spinning Machinery; and we do hereby declare that the following is a full and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, which represent a sectional elevation of our improved silk-spindle through its vertical centre.

This invention relates to an improved spindle for spinning silk, which, from its construction and arrangement, will allow of silk being spun twice as fast, and equally as regular as with the spindles now in use.

The spindle hitherto used for spinning silk is what is called the "live spindle," in which the shaft or pin carrying the bobbin revolves with the said bobbin, which is pressed down upon a tapered part or pin, provided to enter the bobbin, and the untwisted silk, as it unwinds from the bobbin to be "spun up," passes through a ring or loop in a flier revolving loosely on the top of the bobbin.

In this arrangement, owing to the weight and size of the parts to be put in motion, no great speed can be imparted to the bobbin with advantage, and hence it spins with less rapidity than in our improved spindle, in which, to obviate this difficulty, we only move the bobbin, and have constructed the fixed spindle so as to receive at top a stationary thimble or cap, to the lower part of which is attached a traveller, the whole constructed substantially as follows:

A is the spindle-bar of a silk-spinning machine or frame.

B is a stationary pin, held permanently in a vertical position upon the bar A, by being screwed or bolted thereon.

D is the step or washer, provided with a bead on its outside, and having a flat surface, upon which the tube E rests.

E is a tube fitting snugly upon the round pin B, but having play enough, so that it may turn freely upon said pin B. The tube E has a pulley, G, fast to or made all of one piece with the pipe itself, and on that pulley G are two small catches, *g g*, which fit in proper recesses in the bobbin H, and cause the same to revolve with the tube E.

K is the thimble or cap, fitting on the tapered top of the pin B, so as to remain stationary thereon.

The lower part of the thimble K is provided with a ring, L, having outside beads, top and bottom, as represented in our drawings, forming two grooves, in which the two ends of the little hook, W, may slide freely in a circular manner, all around the lower edge of the thimble K. This little hook, W, is called the traveller, and works in the groove at the lower part of the thimble-cap K, much in the same manner that the traveller or thread-guide of cotton-spinning machinery works in the rings of the "laying-bar."

Operation.

The bobbin H, containing the untwisted doubled silk, is placed on the revolving tube E; the cap K is placed on the top of the stationary pin B; the end of the silk is passed through the traveller W of the stationary thimble-cap K, and from thence to the winding-bobbin or block of the machine.

The bobbin H is put in motion by the action of an endless cord on the pulley G, and as the silk is unwound from the bobbin H, it receives the proper degree of torsion from the retarding effect of the traveller W of the stationary thimble-cap K, and as only the bobbin H has to be put in motion, it may be run at a high speed, and enable us to spin silk with greater rapidity than in the machinery now in use.

We are aware that a loose tube with a bobbin has been used as a receiving-bobbin on a stationary spindle in cotton-spinning machinery, and therefore we do not claim said tube and bobbin as new in itself, nor do we claim the traveller as new, when used for any other purpose, and otherwise combined with the spinning-machinery, than in the manner and for the purpose we describe it; but

What we claim as our invention, and desire to secure by Letters Patent of the United States, is—

In silk-spinning machinery, the combination of the stationary pin B, stationary thimble-cap K, and thread-guide traveller W, with the movable tube E and bobbin H, constructed and arranged substantially in the manner described and for the purpose set forth.

ROBERT ATHERTON. [L. S.]
GEORGE SINGLETON. [L. S.]

Witnesses:
FRANCIS J. MANSON,
H. GENGEMBRE HUBERT.