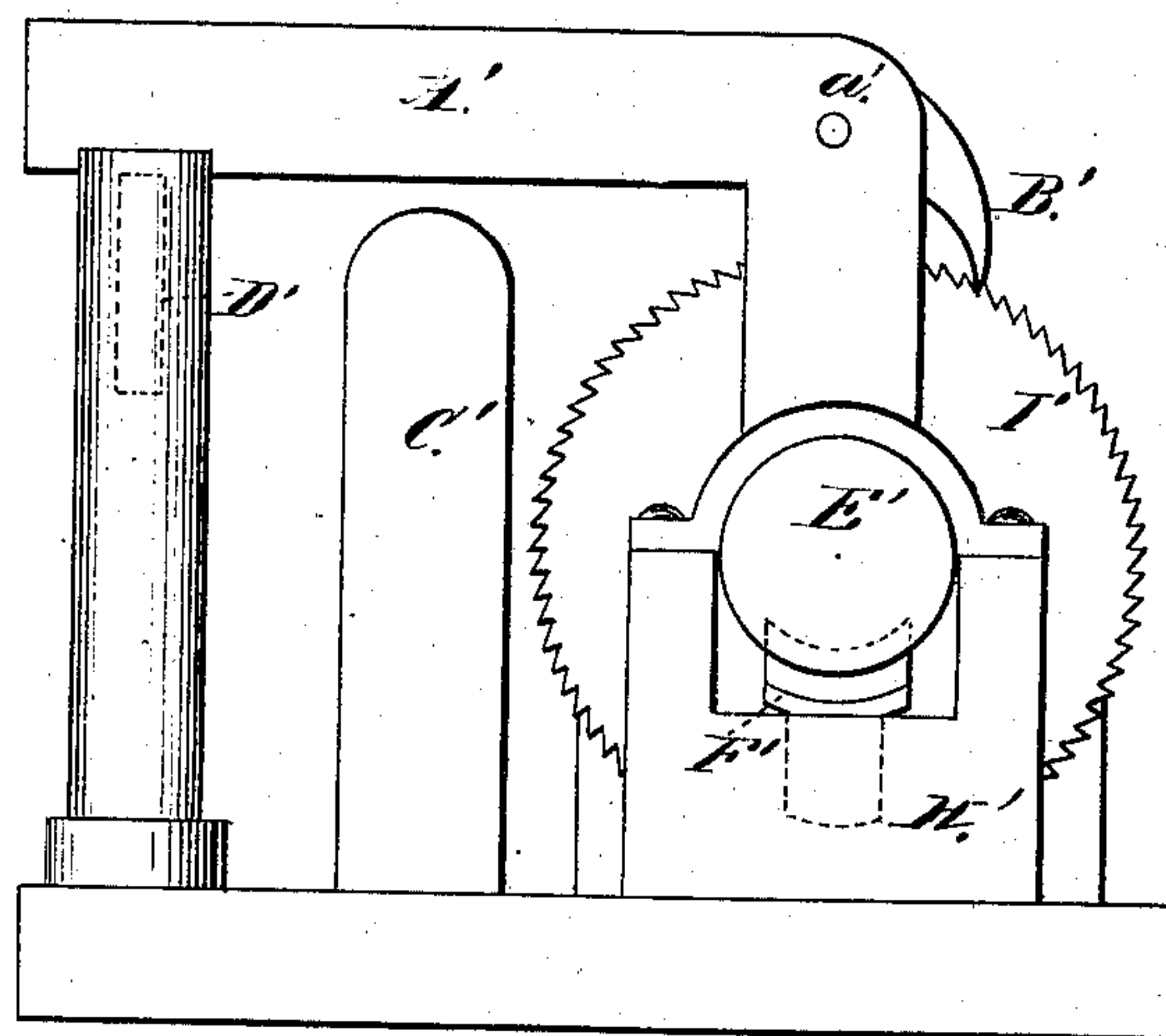


S. D. LEARNED.  
Spooling Machine.

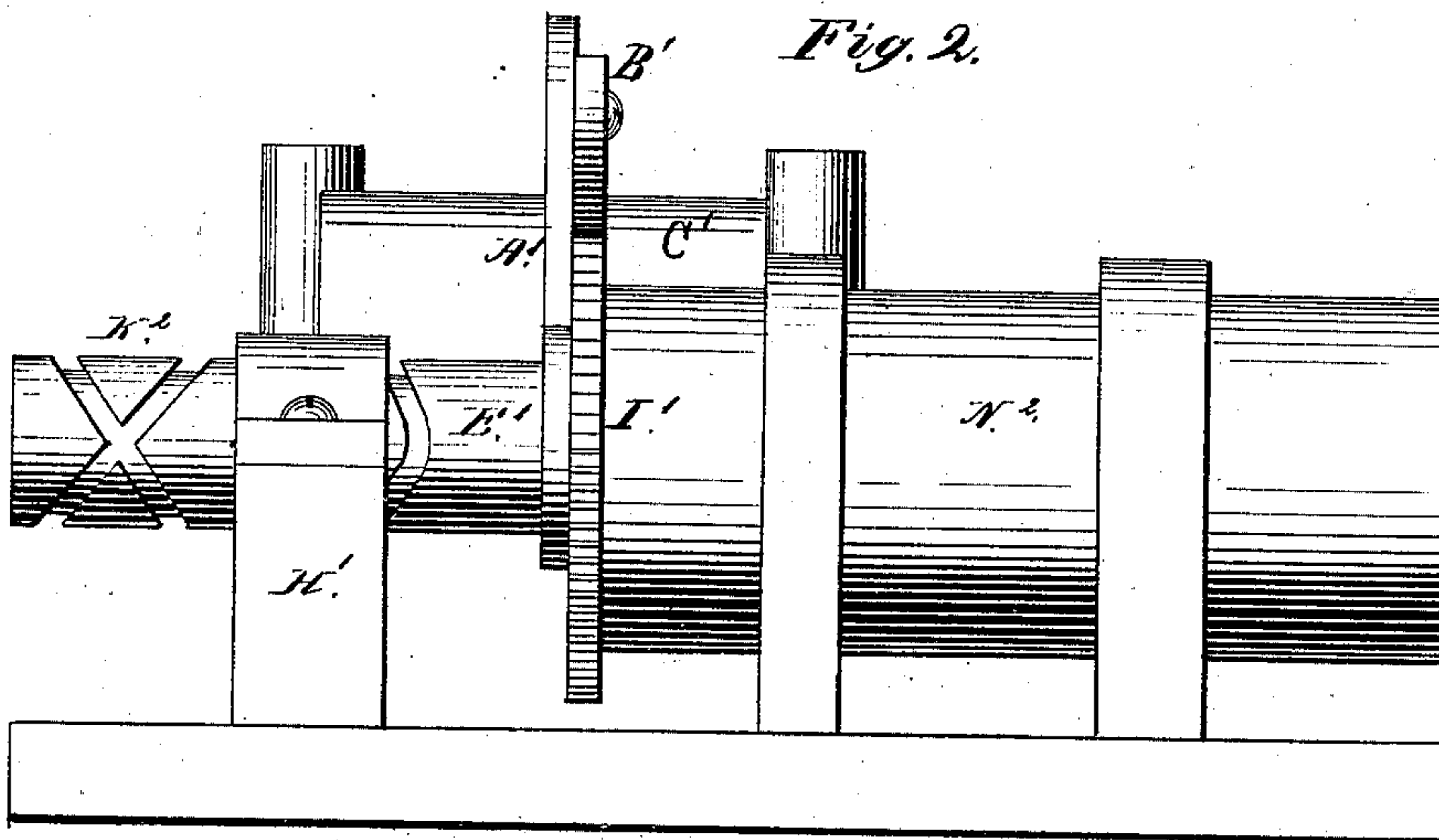
No. 166,016.

Patented July 27, 1875.

*Fig. 1*



*Fig. 2.*



*Witnesses.*

*Wm. A. Clapp*  
*W. W. Blodgett*

*Inventor:*

*Stephen D. Learned.*

# UNITED STATES PATENT OFFICE.

STEPHEN D. LEARNED, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO  
ALBERT C. LEARNED, OF BERGEN, NEW JERSEY.

## IMPROVEMENT IN SPOOLING-MACHINES.

Specification forming part of Letters Patent No. **166,016**, dated July 27, 1875; application filed  
November 9, 1874.

*To all whom it may concern:*

Be it known that I, STEPHEN D. LEARNED, of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain Improvements in Spooling-Machines, of which the following is a specification:

My invention is to be applied to spooling-machines for winding yarn from the cop or bobbin onto spools preparatory to warping or twisting, and is to prevent the cutting of the cloth covering of the friction-roll by the yarn passing over it in one place, this causing it to wear evenly over its entire surface, and at the same time give a more even tension to the thread; and consists in the mechanism hereinafter described for giving such roll both a slow rotary and endwise motion.

In order to enable others skilled in the art to which my invention relates to make and use the same, I will proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is an end view, showing the frame, friction-roll, ratchet-wheel, pawl, lever, and dog. Fig. 2 is a front view, showing the same device.

A' is a lever, which is hung on the shaft of the friction-roll between the return-screw and the ratchet-wheel. B' is a pawl hung to the lever by pin *a'*, C' is the eye-bar. D' is the wave-bar. E' is the shaft in the end of the friction-roll. H' is a hanger. I' is a ratchet-wheel fastened to the friction-roll. F' is a dog in the hanger. K<sup>2</sup> is a return-screw cut in the shaft E'. N<sup>2</sup> is the friction-roll.

The friction-roll of the ordinary spooling-machine is covered with cloth, and rests in rings fastened to the frame, remaining stationary unless turned by the hand of the op-

erator, which is often neglected, thereby allowing the yarn to run in one place, which very soon cuts a groove in the cloth, making the friction much greater until worn through the cloth to the wood, when it becomes less, by reason of which the spools are not evenly wound, and the yarn, when warped, will show the difference, one thread being looser than another, and, when twisted from the beam, one thread will be tight and the one twisted with it loose and kinky, making the double thread uneven and of poor quality.

The operation of my invention in combination with spooling-machines is as follows: When the wave-bar D' rises it lifts the lever A' from its position on the eye-bar C', and, by means of the pawl B', turns the ratchet-wheel I' one or more teeth, and at the same time rotates the friction-roll N<sup>2</sup>, and, by means of the dog F' in the thread of the return-screw K<sup>2</sup>, moves the friction-roll laterally, giving the combined rotary and traverse motions, by reason of which the bearing of the thread against the surface of the friction-roll is changed by each motion of the wave-bar, insuring the wear of the cloth over its entire surface and an even tension of the thread, making a great saving to the manufacturer and a better quality of goods.

I claim—

In combination with the friction-roll of a spooling-machine, the wave-bar D', lever A', pawl B', ratchet-wheel I', and return-screw K<sup>2</sup>, for producing rotary and lateral motions of such roll, substantially as described.

STEPHEN D. LEARNED.

Witnesses:

JOHN P. GREGORY,  
GEO. H. STANLEY.