

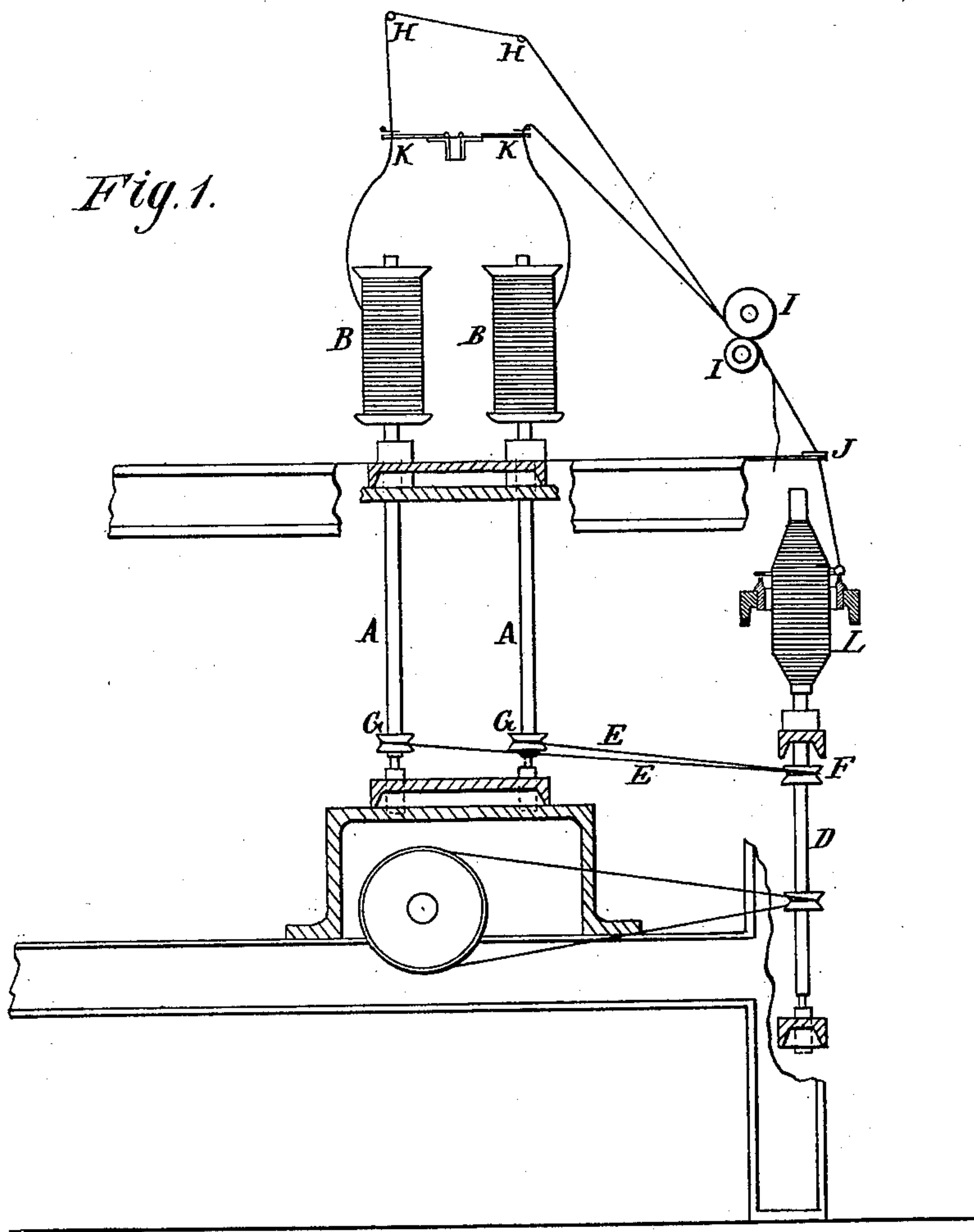
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MACHINE FOR TWISTING FIBROUS MATERIALS.

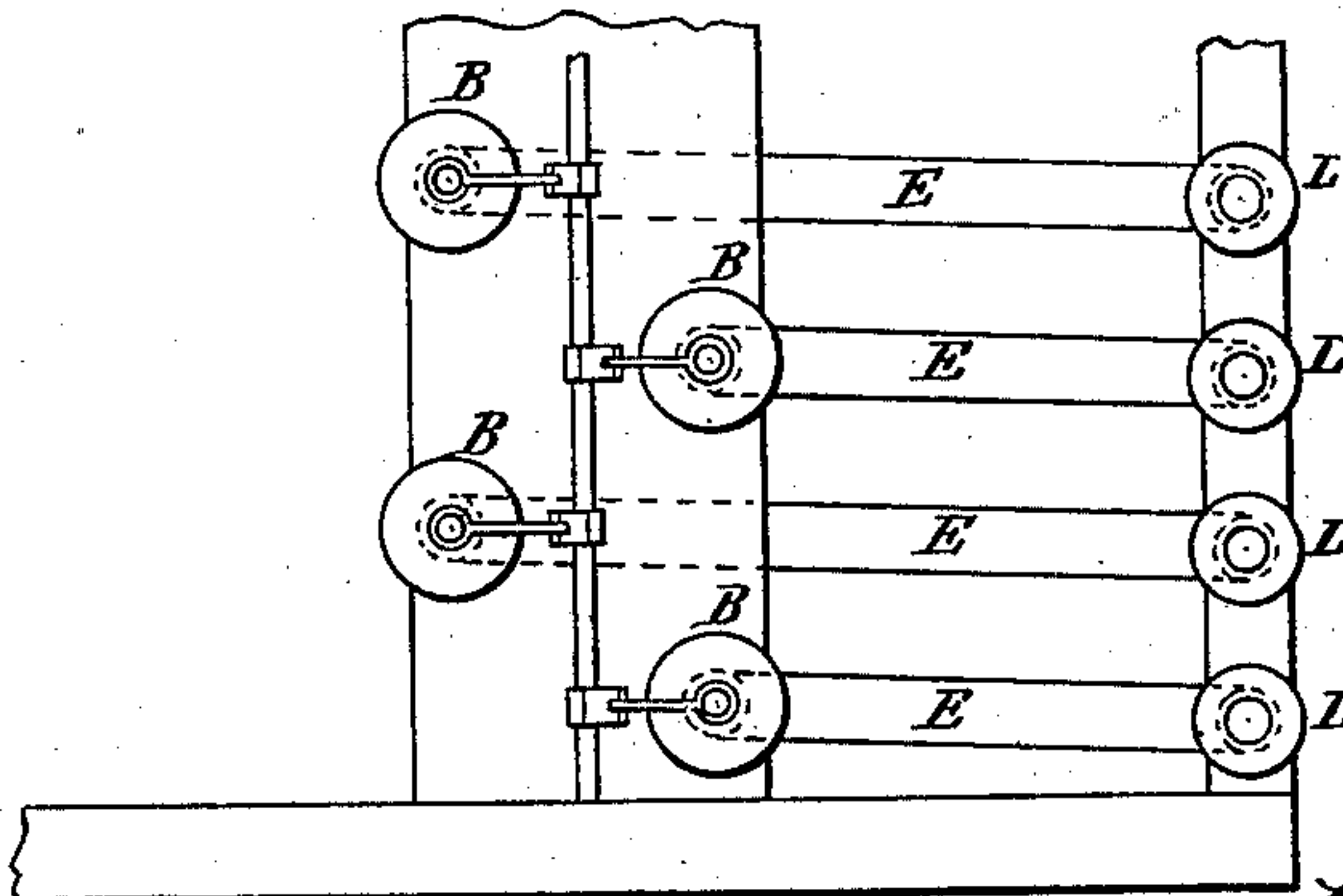
No. 245,856.

Patented Aug. 16, 1881.

*Fig. 1.*



*Fig. 2.*



WITNESSES:

*Henry W. Miller*  
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INVENTOR:

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# UNITED STATES PATENT OFFICE.

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ASSIGNOR OF ONE-HALF TO THOMAS WADDEL, OF SAME PLACE.

## MACHINE FOR TWISTING FIBROUS MATERIALS.

SPECIFICATION forming part of Letters Patent No. 245,856, dated August 16, 1881.

Application filed October 20, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM MURRAY, of Selkirk, Scotland, have invented a new Improvement in Machines for Twisting Fibrous Materials; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification.

My invention relates to improvements in machines or frames for twisting fibrous materials; and it has for its object to give double or more twist than is usual by the ordinary machines or frames driven at the same speed and taking but little more power. To effect this I construct or arrange the machines or frames as follows:

The creel-spindles which carry the bobbins on which is wound the fibrous yarn to be twisted were heretofore stationary. I carry the lower end down and into a foot-step, and fix on the lower part of such extended spindle a grooved pulley, to which motion is given by a band from the front take-up spindle, carrying the tube or pirn on which the twisted material is wound. The untwisted threads are led from the bevel-ended bobbins on the creel-spindles (such bobbins being secured to the top end of such spindles in the usual way) through guide-eyelets and over guide-rods through revolving rollers, and thence through the ordinary guide-eyes to the tube or pirn on the front take-up spindle, on which the twisted threads are wound. Thus a twist is given to the threads both before they pass through the rollers and after they have so passed by the front take-up spindle.

In order that my invention may be better understood, I will now proceed to more particularly describe the means by which the same is carried into practical effect by the several figures and letters on the annexed sheet of drawings.

Figure 1 is an elevation of my improvement, showing three spindles, two with delivering-bobbins, with yarn passing from them through guides, over rods, through rollers, through guides again to take-up tube or pirn. Fig. 2 is a plan of the same.

A A are creel-spindles; B B, bevel-flanged

bobbins from which the yarn is drawn, bearing against the upper flange as it comes off, such upper flange acting as a delivery-flier in off-drawing.

D is the pirn or tube-spindle for taking up the twisted or finished yarn.

E is the band for driving the spindles A A from the wharve or pulley F to wharve or pulley G on spindle A.

H H are two guide-rods, over which the yarn passes on its way to rollers I through eyelet or guide J to take-up pirn or tube L.

K is an ordinary guide-frame, through which the yarn has to pass on its way to guide-rods H.

Having described the various parts of my invention, their position, and use, I now proceed to describe its action and effect.

The yarn in most instances is now (by the old system) taken from a bobbin from a still creel-spindle fixed, possibly, in a similar position to bobbins B, merely turning sufficient to give off its yarn, as drawn by traveling rollers and pirn or tube L. I substitute for the inert still creel-spindle lengthened moving spindles, on the top of which the giving-off or delivering bobbins are secured. These spindles, with their bobbins, are driven at any required speed from the front take-up pirn or tube spindles by bands E E over or round pulleys F G. The sizes of such pulleys will regulate the amount of twist put in the yarn at the first operation. It will thus be seen that by these means I put double or more twist in the yarn by one and the same operation, and this I can increase or decrease at will by the size of my pulleys F and G.

Having now described my invention and the way I carry it into practical effect, I wish it to be understood that I do not confine myself to the precise details I have had occasion to describe and refer to, as many variations may be made in detail without deviating from the principal or main features of such invention.

It will thus be seen that the bobbin B, on which the number of threads to be twisted have been wound, is fixed on spindle A, so that when the two spindles A D revolve with equal velocity, half the number of the turns required are put into the yarn before it reaches the rolls



I, and the other half between the rolls and the  
pirn L; hence the pirn L must be filled in one-  
half the usual time, so that double production  
is obtained without increasing the speed of  
5 the spindle D.

What I claim as new and of my invention  
is—

The combination of the bobbin-spindle A  
and the pirn-spindle D, connected by pulleys

and belt to run at equal speed, and the guides 10  
K and J and rolls I, arranged between the  
said guides K J, as and for the purpose speci-  
fied.

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Witnesses:

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