F. S. Stoddard.

Spinning Frame.

No. 31,162.

Patented Apr. 23, 1861.

32,166.

Fig. 1.

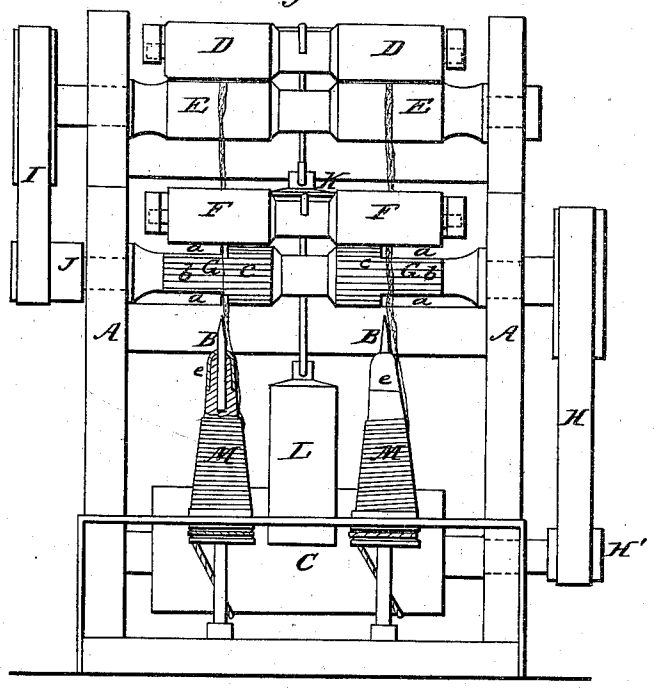
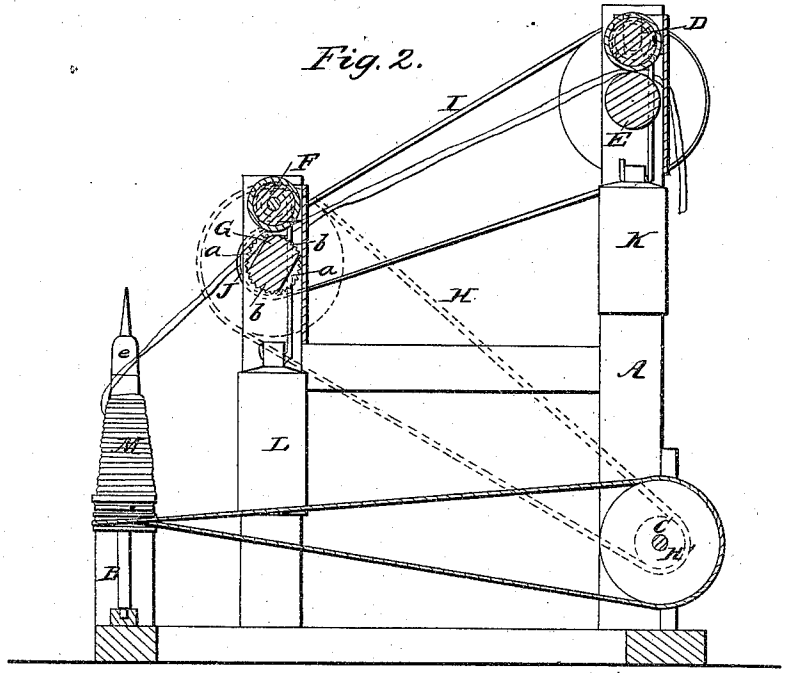


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

F. S. STODDARD, OF LITCHFIELD, CONNECTICUT, ASSIGNOR TO EDWD. COE, OF NEW HAVEN, CONNECTICUT.

SPINNING-FRAME.

Specification of Letters Patent No. 32,166, dated April 23, 1861.

To all whom it may concern:

Be it known that I, FREDERICK S. STODDARD, of Litchfield, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Spinning-Frames; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of a spinning frame with my improvement. Fig. 2 is a vertical section of the same at right angles to Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

The object of my invention is to allow the twist to pass from the spindle to the first or back pair of drawing rollers during certain portions of every revolution of the front drawing rollers in which their drawing action is suspended, and to perform the drawing during the remaining portions of the revolution in which the twist is prevented passing the second or front rollers; and my invention consists in a certain construction of the lower front drawing rollers to effect the above object.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A is the framing, B. B. are the spindles; and C. the cylinder for driving. D. E. are the first or back drawing rollers, and F. G. the second or front drawing rollers. All of these parts are arranged in the usual manner; and the lower front drawing rollers G. receive motion through a band H. from a pulley H′. carried by the shaft of the cylinder C. and the lower back drawing rollers E. are driven by a band I. from a pulley J. on the shaft of the lower front drawing rollers.

The back rollers are constructed in the usual manner, the upper ones D. D. being covered with leather and driven by the lower ones through the friction produced by the weight K. which is suspended from the upper ones for the purpose of producing the necessary pressure.

The lower front rollers G. G. differ from those of the usual construction in having two or more flat places or recesses *a*, *a*, extending the greater portion of their length at equal distances apart in a circumferential direction the intervening portions *b*, *b*, and the full cylindrical portions *c*, *c*, of the said rollers being fluted in the usual manner. The upper front rollers F. are of the usual kind and applied in the usual manner, that is to say, covered with leather, and loaded by a weight L. which produces the necessary pressure to effect the draft, and to insure the said rollers being driven without interruption by the friction of the complete cylindrical portions *c*, *c*, of the lower rollers, which also serve to keep the upper rollers F. F. supported while the portions *a*, *a*, are passing them.

The spindles B. B. are so arranged relatively to the drawing rollers that the rovings in passing to the bobbins M. M. do not pass over the complete cylindrical portions *c*, *c*, of the rollers G. G. but over the portions *a*, *a*, *b*, *b*, thereof.

While the portions *a*, *a*, are passing F. F. the draft ceases and the twist runs back from the spindles to the back rollers D. D. E. E. but when the portions *b*, *b*, are passing F. F. the twist is prevented passing the front rollers and the drawing of the twisted roving takes place between the front and back rollers. In this way the operations of drawing and twisting are made to alternate with each other, each intermittingly and the roving is caused to have a twist at the time of drawing. In order to make this operation successful, the speed of the front rollers has to be sufficiently increased beyond what is necessary when the draft is continuous, in order to make up for the time and space lost in allowing the twist to pass the front rollers.

e, *e*, are the caps of the bobbins M. M. made of steel or other metal and fitted tightly over the tops of the said bobbins. The said caps are made of rounded form in order that the rovings or yarns may pass freely over them without any liability to catch or be obstructed while being wound on the bobbin.

I do not claim broadly providing the front drawing rollers with recesses in their peripheries to produce an intermission in their drawing operation during every revolution, as such a system of geared drawing rollers in which both the upper and lower ones are so constructed is shown in the pat-

ent of James E. Crowell dated May 17, 1859; but

What I claim as my invention and desire to secure by Letters Patent, is—

The employment in combination with top rollers F. F. of the kind commonly used, of bottom rollers G. G. made with recesses *a*, *a*, in a portion of their fluted peripheries, but with a portion *c*, *c*, of said peripheries completely cylindrical substantially as herein described so that while they intermit the drawing operation and allow the twist to pass them they keep the top rollers F. F. supported and drive them continually by friction.

F. S. STODDARD.

Witnesses:

WILLIAM L. RANSOM,

THEODORE S. SEDGWICK.