(No Model.)

W. S. KENYON.

YARN DRESSER.

No. 357,208. Patented Feb. 8, 1887.

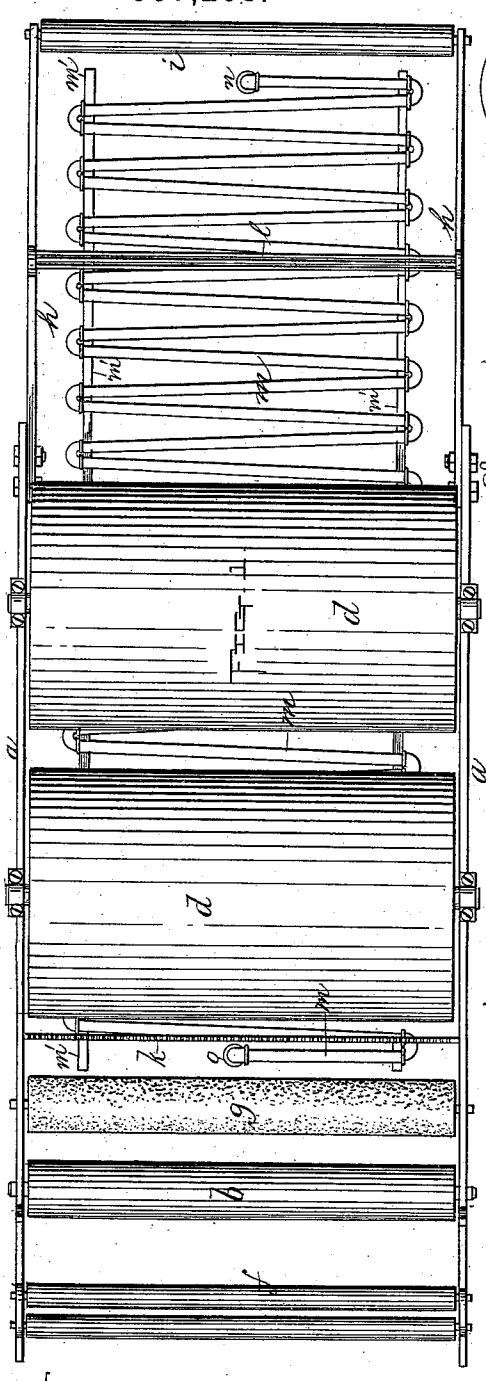


Fig. 1.

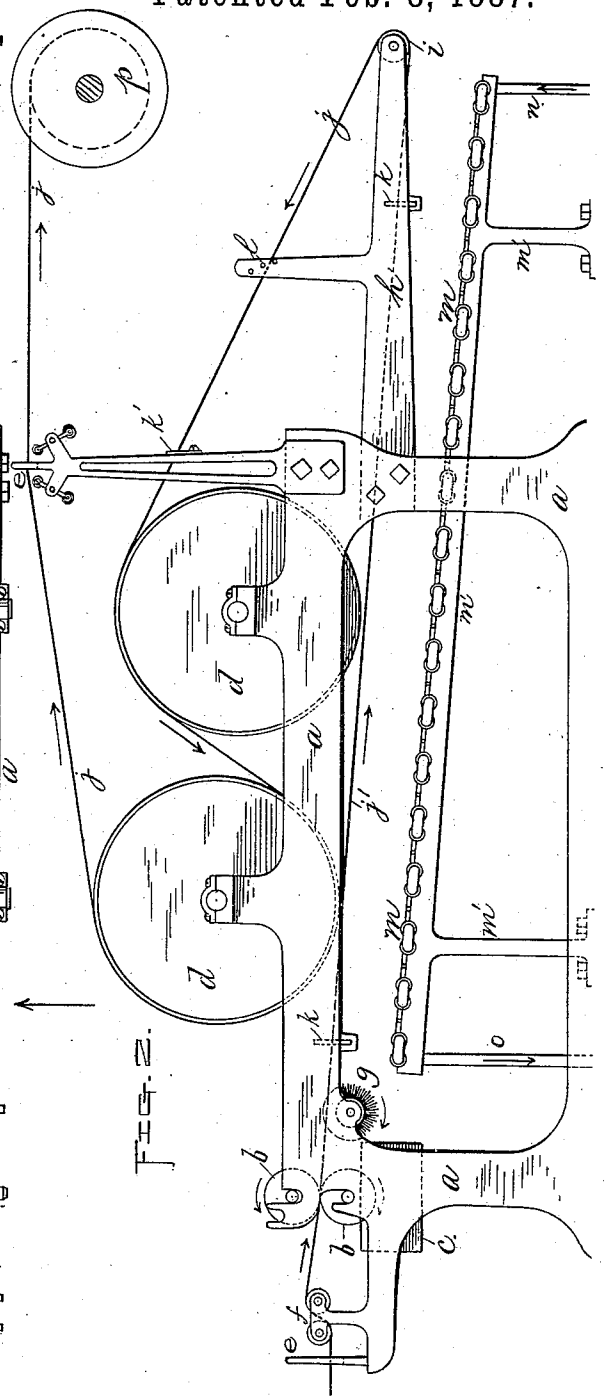


Fig. 2.

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UNITED STATES PATENT OFFICE.

WINFIELD S. KENYON, OF WOODSTOCK, CONNECTICUT.

YARN-DRESSER.

SPECIFICATION forming part of Letters Patent No. 357,208, dated February 8, 1887.

Application filed September 4, 1886. Serial No. 212,699. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. KENYON, of Woodstock, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Yarn-Dressers; 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 a part of this specification, and in which--

Figure 1 represents so much of an ordinary yarn-dresser as is necessary to illustrate my improvements thereon; and Fig. 2 is a side view thereof with additional parts, (not shown in Fig. 1,) looking in the direction indicated by the arrow in said Fig. 1, this figure also showing the position of one of the yarn-strands in passing through the machine, as hereinafter more fully set forth.

The purpose of my invention is to provide means whereby the yarn, after having been sized in the usual way, may be dried sufficiently upon the exterior thereof prior to its passing over the usual drying-cylinders, to prevent the separate strands from adhering one to another or to said cylinders, and thus enabling the same to be smoothly and evenly dressed.

Said invention consists in combining with an ordinary dressing-machine a series of steam-coils arranged horizontally beneath the machine and proper guides and rolls for conducting the yarn-strands from the usual sizing-rolls over said steam-coils and between the latter and the usual drying-cylinders, so as to partially dry the yarn before passing onto said cylinders, as hereinafter more fully set forth.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe it more in detail.

Referring to the drawings, the part marked *a* represents the frame, *b b* the sizing-rolls, *c* the box in which the sizing material is contained, and *d d* the drying-cylinders, of an ordinary yarn-dressing machine. The aforesaid rolls and cylinders are fitted to turn in suitable bearings, and the sizing-box may be supported under the sizing-rolls, as ordinarily.

I employ, as in other machines of this class, suitable separating-reeds and guide-rolls, *e* and *f*, for properly guiding the yarn in its passage through the machine. I also employ an ordinary brush-wheel, *g*, just in front of the sizing-rolls, for smoothing the fibers of the yarn after having been sized in the usual way.

The method often employed of passing the yarn directly from the sizing-rolls to the drying-cylinders and thence around said cylinders and off to be wound upon the usual receiving spool or reel, *p*, is objectionable, owing to the surface of the separate strands of yarn not becoming sufficiently dried before passing onto the cylinders to prevent their adhering to each other and gumming the surface of said cylinders as they are drawn forward through the machine. When thus stuck and baked together, it is obvious that the operation of separating the strands in front of the guides and of drawing them through the machine must necessarily be attended with considerable difficulty, and from this cause the strands are often broken or damaged by the aforesaid method of dressing.

To obviate the above objections is the main purpose of my invention, which result I attain by drying the yarn immediately upon its being sized sufficiently to prevent the separate strands from adhering when coming in contact with each other by guiding and carrying forward each strand separately for some distance from the sizing-rolls before guiding the same onto the drying-cylinders *d d*.

I accomplish the above result by fastening the arms or extensions *h h* to the front end of the frame *a*, which project forward longitudinally and about upon a horizontal line from said frame. Said extensions *h* have mounted upon their outer ends a carrying-roll, *i*, around which the yarn is passed. By the use of said extensions and roll, it will be seen by reference to Fig. 2 that I am enabled to obtain a long stretch between bearings, and thus allow the separate strands to become well hardened or sufficiently dried to prevent their sticking together or to the cylinders when they subsequently pass over the latter, as indicated by the line *j*, which represents the course which one of the strands takes in passing through the machine.

The yarn is guided and separated prior to entering between the sizing-rolls, as previously specified, and between said rolls and the cylinders by means of ordinary guides, *k k* and *k'*. Separating-rods *l* may also be employed between the carrying-roll *i* and said cylinders,

if desired. Said yarn is partially dried before passing onto the cylinders *d d* by means of steam passed through a series of steam-coils, *m*, arranged substantially horizontally under the long stretch *j'* of the yarn, which bed of coils extend sidewise nearly to the inner sides of the frame *a* and longitudinally from just in front of the sizing-rolls *b b* nearly up to the carrying-roll *i*. Steam is inserted through the pipe *n* and passes out at the opposite end through the pipe *o*, or vice versa. By thus passing the yarn under the usual drying-cylinders and over the aforesaid bed of steam-coils it is obvious that it must necessarily be dried sufficiently upon its surface to prevent one strand adhering to another, which, as is well known, is of great practical advantage, inasmuch as I am thereby enabled to divide the yarn up into sections of any desired number of strands without the liability of their bunching up or becoming clogged together.

By the use of my improved machine the receiving-spool may be divided up into several compartments, with divisions or partitions between each two, and the various styles and classes of yarn may be wound separately at one time in their respective sections upon said spool, the advantage of which is at once apparent to those skilled in the art to which my invention relates.

The steam-coils *m* may be supported by means of a frame, *m'*, or in any other convenient manner. Although I prefer said steam-coils, other means may be employed for applying artificial heat under the part *j'* of the yarn, if desired.

I am aware that it is not new to conduct the yarn over guide-rolls for a considerable distance before passing it onto the drying-cylinders, and that artificial heat, aside from said cylinders, has been employed for drying the yarn, but in a different way to that hereinbefore set forth. I therefore, in view of the above, limit my invention to my mode of accomplishing the desired result.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

In combination with the usual sizing-rolls and drying-cylinders of a yarn-dressing machine, a bed or series of steam-coils having a supply and waste pipe connected therewith, also means for supporting said coils in substantially a horizontal position just beneath the working parts of the machine, and means for conducting the yarn from the sizing-rolls down and forward between said steam-coils and the drying-cylinders, and thence back and up over said cylinders, substantially as and for the purpose set forth.

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