

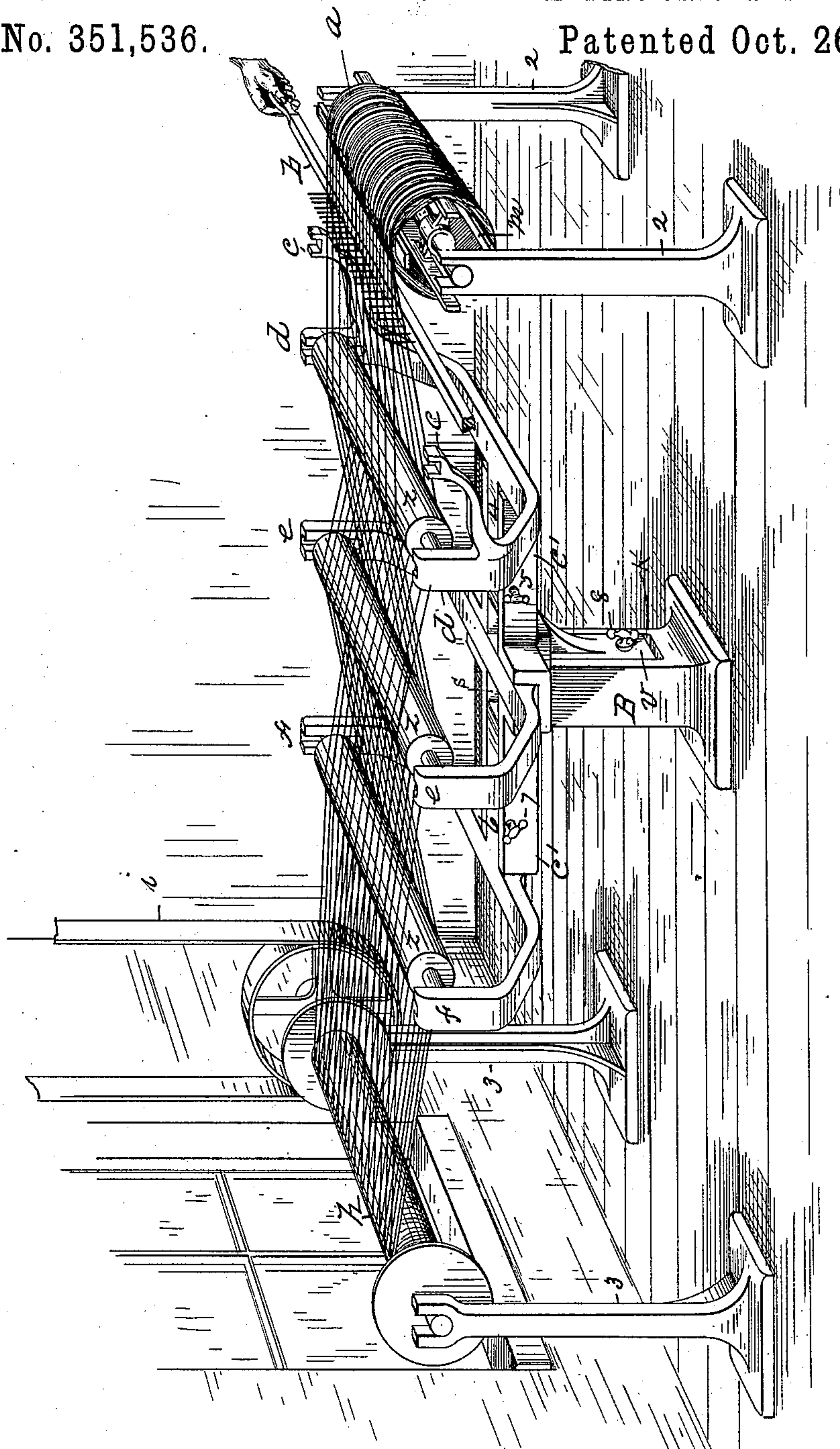
(No Model.)

J. & A. SIMONEAU.

YARN SEPARATING AND WARPING MACHINE.

No. 351,536.

Patented Oct. 26, 1886.



WITNESSES:

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JOSEPH SIMONEAU AND ADELARD SIMONEAU, OF THREE RIVERS, MASS.

YARN SEPARATING AND WARPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 351,536, dated October 26, 1886.

Application filed December 7, 1885. Serial No. 184,903. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH SIMONEAU and ADELARD SIMONEAU, citizens, respectively, of the Dominion of Canada and of the United States, residing at Three Rivers, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Yarn Separating and Warping Machines, of which the following is a specification.

This invention relates to warping-machines, the object being to provide an improved machine through which the warp-yarns are passed from the skeins onto the warp-beam, whereby the threads are properly separated and so guided onto the beam that they are delivered from the latter without entanglement or breakage.

In the drawing forming part of this specification is illustrated in perspective view a warping-machine constructed according to our invention, and in which are shown the courses of the warp-threads from said reel to said beam, a "raddle" having one end broken off being shown in operative position between the reel and the adjoining roll.

In the drawing, *m* is a yarn-reel of ordinary construction, supported on the standards 2 2, on which it rotates, and *a* indicates skeins of yarn on said reel.

B is a standard located about midway between the yarn-reel *m* and the warp-beam *h*, having a vertical groove, *K*, in one side thereof, as shown. A roller-support, *c'*, having a leg, *v*, which fits said groove in the standard *B*, is secured to the latter by the hand-screw 8, the latter being adapted to be screwed into different holes in the standard *B*, to provide for raising or lowering the roller-support *c'*, and securing it at different points of elevation. The said support *c'* extends horizontally each side of the roller-frame *e*, the latter consisting of a bar secured to the top of standard *B*, and having each end turned up and grooved, as shown, to receive the end of the shaft of a roller, *z*, in the direction of the warp-threads above, and said horizontal extensions are provided with grooves *s s*, as shown, and in one thereof is supported the roller-frame *f*, constructed substantially like said frame *e*, excepting that it has thereon the arm 6, which

fits one of said grooved extensions of the support *c'*, in which it slides, to allow of moving the roller, which is hung in frame *f*, toward and from that which is hung in frame *e*. A hand-screw, 7, passing through the side of support *c'*, against said arm 6, is to secure frame *f* and the roller therein in any desired position.

A roller-frame, *d*, having an arm, 4, thereon, and grooved sides to receive the shaft ends of a roller, substantially like frames *e* and *f*, has its said arm 4 fitted into one of said grooved extensions of the support *c'*, and is adjustable thereon like to said frame *f*, to permit of moving the roller which is hung in it toward and from that one in frame *e*.

A hand-screw, 5, serves the same purpose relative to arm 4 on frame *d* that the said hand-screw 7 serves relative to arm 6 on frame *f*. Said frame *d* is provided with two bracket-arms, *c*, each having a slot in its upper end to receive the raddle *b*, and keep its teeth in engagement with the yarns when the operator desires to stop using it. The warp-beam *h* is supported on two standards, 3 3, and is rotated by the belt *i*, or other suitable means, to wind the warp-yarns thereon. The yarn-reel *m*, the three rolls *z z z*, hung in the frames *d e f*, and the warp beam *h*, are arranged parallel to each other. The said frames *d e f*, with the rolls *z* hung therein, are made adjustable vertically on the standard *B* by the movement of the support *c'*, to accommodate the height of said rolls to that of the beam *h* and reel *m*, and the rolls hung in the frames *d* and *f* are made, as above described, adjustable toward and from the roller in frame *e*, in order to increase or decrease the angle of inclination of the yarns between the roller in frame *e* and those on each side of it, it being desirable to run fine yarns at a less degree of inclination than coarser ones, in order to obviate the danger of breaking said fine ones.

The operation of our improvements is as follows: The skeins *a* of yarn to be warped are placed on the reel *m*, and a yarn is drawn from each of said skeins and carried over and under the rolls *z*, as shown in the drawing, and is attached to the beam *h*, each yarn crossing that adjoining it between the rolls each side of the center roll and the latter, as shown, whereby

each strand of yarn is compelled to follow a certain course from the reel to the beam, and to become wound upon the latter in such a regular manner that when the beam is placed in the loom the warp is delivered therefrom without becoming entangled and broken. While the yarn is being drawn from the reel *m* the operator uses the raddle, in the ordinary way, for perfectly separating the yarns or preventing any entanglement between them before they pass on to the rolls *z*, the latter being allowed a certain freedom of vertical motion in said slots in frames *d e f*, to accommodate them to any varying strain there may be on the yarns.

15 What we claim as our invention is—
A yarn separating and warping machine consisting of the combination, with a yarn-reel

and a warp-beam, *h*, of the standard *B* intermediately between said reel and beam, the roller-support *c'*, having the leg *v*, fitting the groove *K* in said standard, wherein it is adjustable vertically, the hand-screw 8, temporarily connecting said leg to said standard, the roller-frames *d e f*, supported on said roller-support, and three rolls, one hung in each of said frames, and all parallel with said beam, over and under which rolls the warp-yarns pass as they are drawn from said reel, substantially as set forth.

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Witnesses:

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