(No Model.)

J. H. STONE.

WARPING REEL.

No. 417,844. Patented Dec. 24, 1889.

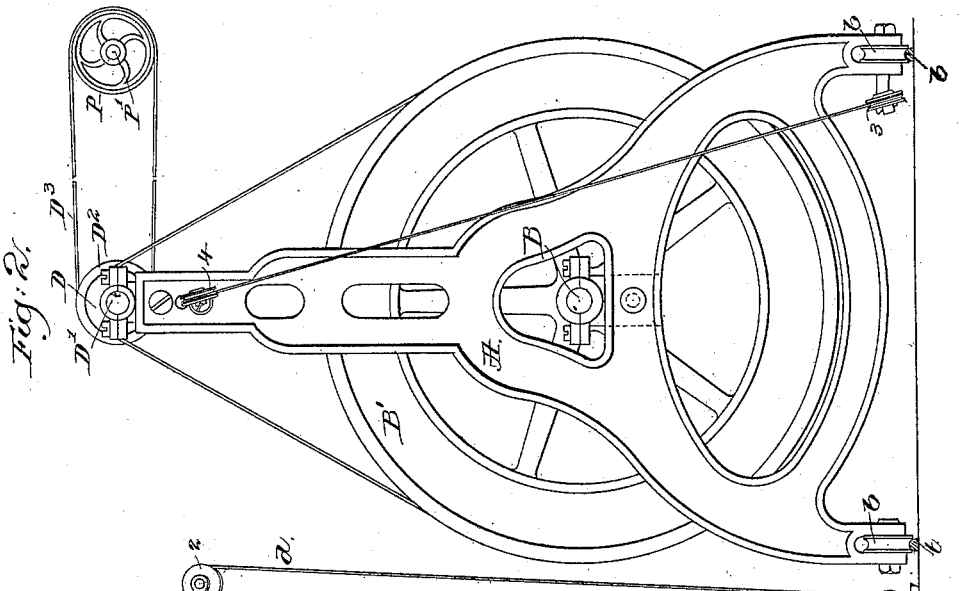

Fig. 2.

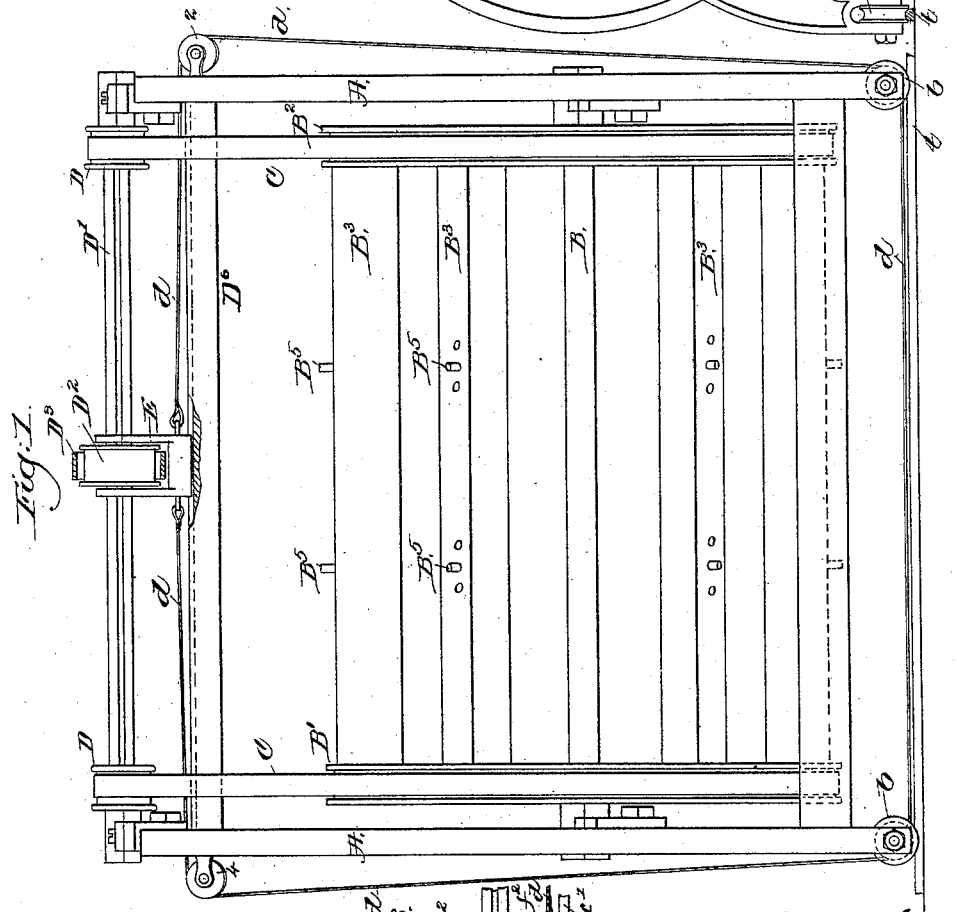

Fig. 1.

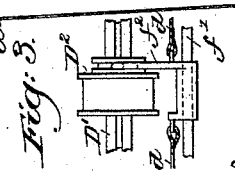

Fig. 3.

Witnesses.
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UNITED STATES PATENT OFFICE.

JOSEPH H. STONE, OF ANDOVER, MASSACHUSETTS, ASSIGNOR TO THE DAVIS & FURBER MACHINE COMPANY, OF SAME PLACE.

WARPING-REEL.

SPECIFICATION forming part of Letters Patent No. 417,844, dated December 24, 1889.

Application filed April 3, 1888. Serial No. 269,467. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. STONE, of Andover, county of Essex, and State of Massachusetts, have invented an Improvement in Warping-Reels, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In another application, Serial No. 267,473, filed on the 17th day of March, 1888, I have described and shown means for holding stationary the driver-pulley of a reel while the reel is being moved longitudinally with relation to a warp-dresser. Prior to my invention, as described in the said application, this pulley has been adjusted by the application thereto of the hand of the operator. In the machine of present invention the said pulley is surrounded or engaged by a pulley-controller which I have added to the machine, the said pulley-controller having jointed to it connections by or through which the operator at either end of the reel may readily apply to the said pulley-controller the necessary power to move it longitudinally on the driving-shaft of the reel to enable the said pulley to be quickly placed in proper alignment with the pulley on the dresser-shaft, notwithstanding the different longitudinal positions of the reel with relation to the dresser.

My invention consists, essentially, in the combination and arrangement of mechanism as hereinafter particularly set forth and claimed, whereby the object just stated is accomplished.

Figure 1 in side elevation represents a reel embodying my improvements; Fig. 2, an end elevation thereof, and Fig. 3 a modification of the pulley-controller.

A is the reel-frame; B, the reel-shaft; B′ B^2, with their connected bars B^3, the reel; D′, the driver-shaft of the reel, mounted in suitable bearings upon the reel-frame. D^2 is a driver-pulley mounted loosely to slide only upon the driver-shaft D′, and D^3 a belt which is extended over a pulley P, fixed upon a shaft P′, which is supposed to be one of the shafts of a warp-dresser. The reel-frame A, at its opposite corners next the floor, is provided with sheaves and rolls *b*, which rest upon tracks *t*, laid upon the floor. The bars of the reel contain pins B^5, which divide the reel up into sections, and the yarn coming in usual manner from the dresser is wound upon first one and then another section of the reel, each section being filled in succession. To do this the reel has to be moved longitudinally with relation to the dresser after each section has been filled, and as the driver-pulley D^2 is driven from the pulley P on the dresser it becomes necessary for the operator to grasp the pulley D^2 in his hand and slide the same upon the shaft D′ until the said pulley is in proper alignment with the pulley P, so that the belt D^3 will run straight upon both pulleys, and to obviate this grasping of the pulley D^2 by hand I have applied to the reel-frame a pulley-controller, as E, it embracing or engaging the pulley D^2, the controller being shown as supported on the cross-girt D^6, which may be grooved, if desired, as shown by dotted lines in Fig. 1, to act as a guide for the said controller; or the said controller may slide upon a cross girt or rod, as *f′* in Fig. 3. As shown in Fig. 1, the pulley-controller has two arms or uprights, in which are placed the hubs of the pulley D^2; but instead the pulley-controller may have a single arm, as shown in Fig. 3, the said arm entering loosely an annular groove formed in one of the hubs of the pulley D^2. The pulley-controller has attached to it the opposite ends of a flexible connector, as *d*, the said connector being extended over a sheave 4, then down under and about a sheave 3, and under and over a like sheave at the opposite end of the machine, and up over a sheave 2, as best shown in Figs. 1 and 2. By the flexible connector the operator may stand on the floor at either end of the reel and push the reel upon the track into proper position, and then by the flexible connector *d* may readily move the pulley-controller to place the pulley D^2 in proper alignment with the pulley P. The operator may also by engaging the connector *d* by one end hold the same and the pulley-controller while the reel is rolled along upon the track *t*.

I do not desire to limit my invention to the

particular form of pulley-controller, as instead I may use any well-known equivalent device whereby the pulley D^2 may be moved on the shaft D'. As, for instance, I may provide one hub of the pulley with an annular groove in which will be entered an arm, as f^2, (see Fig. 3,) the hub of the said arm being guided on a rod f', or in other usual manner.

I claim—

The reel, the reel-frame, the driver-shaft, power-connections between it and the reel, and the driver-pulley adapted to slide upon said shaft and to rotate with it but not independently of it, combined with a controller for the driver-pulley, sheaves at opposite sides of the reel-frame, and an endless flexible connector attached by its ends to opposite sides of said controller and extending over the sheaves to opposite sides of and around the reel and wholly contained in and supported by the reel-frame, whereby an operator by engaging the said connector may actuate the pulley-controller from either end of the machine to change the position of the said driver-pulley in either direction upon the driving-shaft agreeably with the change of position of the reel-frame, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH H. STONE.

Witnesses:
EBEN A. BALDWIN,
GEO. L. WRIGHT.