No. 767,640. PATENTED AUG. 16, 1904.

G. A. FREDENBURGH.

THREAD DRESSING MACHINE.

APPLICATION FILED FEB. 5, 1904.

NO MODEL.

FIG. 1.

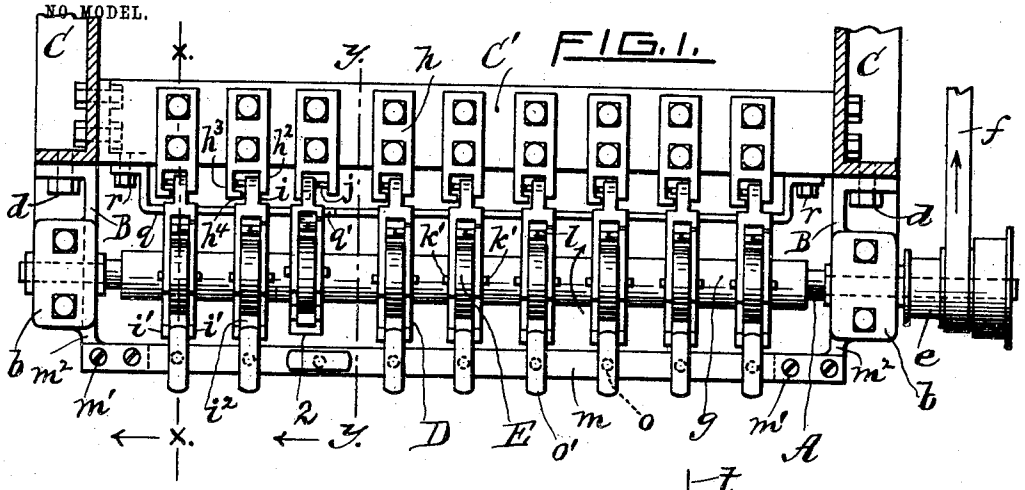


FIG. 2.

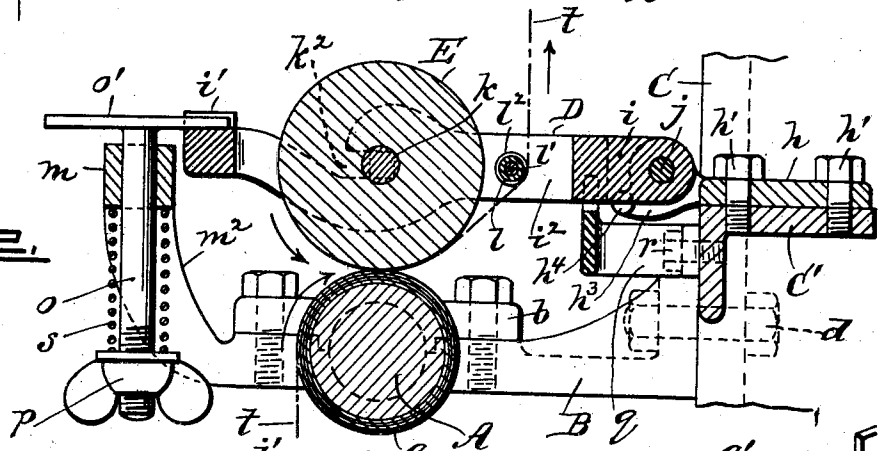


FIG. 4.

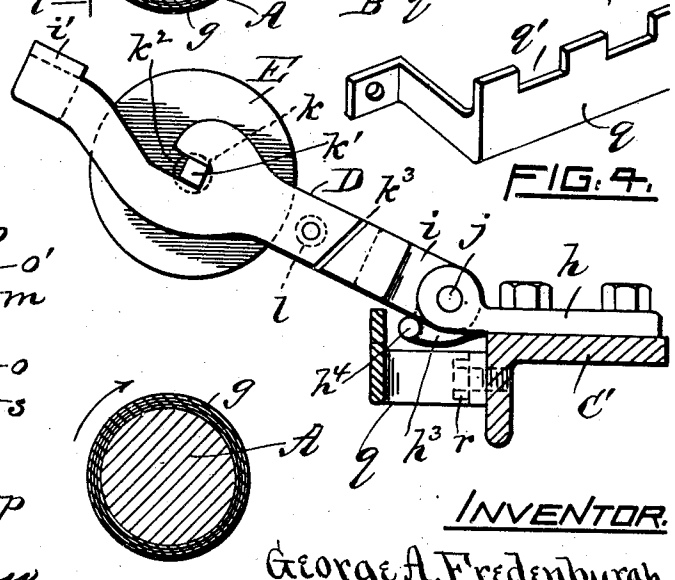
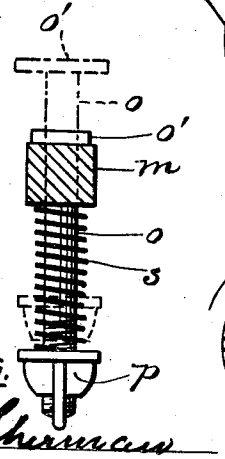


FIG. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE A. FREDENBURGH, OF PAWTUCKET, RHODE ISLAND.

THREAD-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 767,640, dated August 16, 1904.

Application filed February 5, 1904. Serial No. 192,208. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. FREDENBURGH, a citizen of the United States, residing at the city of Pawtucket, in the county of Providence, State of Rhode Island, have invented certain new and useful Improvements in Thread-Dressing Machines, of which the following is a specification.

My invention relates to a thread-feeding mechanism adapted for a thread-dressing machine, and more especially to improvements on certain parts of the thread-dressing machine described and claimed in Letters Patent of the United States No. 735,745, issued to me August 11, 1903.

The invention consists of the novel construction and combination of parts, as hereinafter described, and specifically set forth in the claims.

In the accompanying sheet of drawings, Figure 1 represents a top plan view of a thread-feeding mechanism as applied to the frame of a thread-dressing machine. Fig. 2 is an enlarged side sectional elevation view taken on line x x of Fig. 1, illustrating the normal position of parts embodying my improvements and also showing the direction of the thread in its feeding movement by the thread-feeding mechanism. Fig. 3 is a similar side sectional elevation view taken on line y y of Fig. 1, showing the normal adjustment of parts, as when a thread is to be replaced in position for feeding on the machine. Fig. 4 is a perspective view of a portion of the bracket which is adapted to retain the frame of the thread-weight roller in place during the feeding movement of the thread.

Like letters of reference indicate like parts.

Referring to Fig. 1, A represents a shaft horizontally arranged and whose end portions are rotatably mounted in suitable cap-boxes of brackets B B, which are secured to the end frames C C of the machine by bolts d d. Said shaft A has a cone-pulley e fixedly secured upon one end thereof, and said pulley is driven by a belt f in the arrow direction, as shown, said belt f receiving power from the main or driving shaft of the machine. This shaft A is covered by cloth g, which extends between the brackets B B and is stitched or otherwise firmly secured in place upon said shaft.

C′ represents that portion of the machine-frame which extends longitudinally of the cloth-covered shaft A, and mounted on this portion of the frame is a series of thread-weight roller devices, which are each made alike and constructed as follows:

Referring to Fig. 2, h is a support secured upon the frame C′ by bolts h' h', and this support has two integral ears h^2 and h^3, that project together from one side of said frame C′.

D is a frame having an integral ear i at one end thereof, and which ear i is pivotally mounted on a pin j, that is rigid in the ears of the support h. At the opposite or front portion of this pivotal frame D are two integral vertically-extending flanges i' i'. Said pivotal frame D is provided at its middle portion with two slotted openings formed opposite to each other and extending from the upper surface of its side walls, as at k^2.

E is a thread-weight roller or disk which is loosely mounted on a cylindrical stud-shaft k, whose ends project from each side of said roller or disk and are made square, as at k' k', to enter the slotted openings k^2 of the pivotal frame D.

The pivotal frame D is further provided with a narrow slotted opening in a wall of its rear portion, as at k^3, (see Fig. 3,) and which opening forms a passage for the insertion of a thread. Intermediate the slot k^3 and the peripheral surface of the roller or disk E is situated a circular sleeve or thread-guide l, which is loosely mounted on a pin l', secured in the side walls of the frame D, and said sleeve or thread-guide is provided with a groove formed in its peripheral surface, as at l^2. The roller or disk E is situated directly over the cloth-covered shaft A and is brought to bear firmly in contact upon the same by means of a spring-controlled latch, which forms a part of my present improvement. A rail m extends in front and longitudinally of the shaft A, and said rail has its ends secured by screws m' m' to arms m^2 m^2, integral of the brackets B B. A bolt o is loosely mounted in an opening extending vertically through the rail m, and said bolt

has a centrally-situated integral extension o' at its upper end to rest upon the surface of the rail m and of a length to enter between the flanges i' i' of the frame D. The opposite end or lower portion of the bolt o is screw-threaded to receive a thumb-nut p, and between said thumb-nut and rail m is interposed a push-spring s, which surrounds said bolt to hold the latter in place upon the rail.

The thread (designated by letter t) comes up from a sizing-box (not shown) below, passes in front of and between the peripheral surfaces of the cloth-covered shaft A and disk E, thence to the rear of the sleeve or guide l in the groove thereof, from whence the thread is directed to the twisting-head (not shown) above. Now should the thread break during its feeding movement between the sizing-box and the twisting-head by simply lifting up and turning the projecting portion of the extension o' from engagement with the flanges of the pivotal frame D to the dotted position indicated in Fig. 3 the pivotal frame may be carried or tilted up to the position shown in said figure. A space is provided between the ear i of the pivotal frame D and the ear h^3 of the support h, so that when the said frame is tilted to the position aforesaid it can be forced to move toward the left upon its pin j to the position shown at 2 in Fig. 1, and the amount of movement provided by this space between said ears is to allow the ear i of the frame D to pass directly over an inwardly-projecting lug h^4, integral of the ear h^3, and which lug acts as a support to hold said frame in this tilted position during the time required for tying together the broken or parted ends of the thread. After the thread is thus united it is passed through the slot h^5 and replaced in the groove of the sleeve or guide l. The frame D is then forced from its resting place on the lug h^4 to swing and carry its roller or disk E to its normal position upon the cloth-covered shaft, as shown in Fig. 2. The latch is again lifted and turned to bring its extension o' in engagement between the flanges i' i' of the frame D. The frame D being in the normal position shown in Fig. 2, is held from lateral displacement upon the support h by means of a bracket q, whose ends are secured by bolts r r to the machine-frame C'. Said bracket q has a series of vertical openings q' formed in the upper portion of its wall (see Fig. 4) and of a size to receive the width of said frame D. By use of the sleeve or guide l, rotatably mounted on the frame D, as shown, there is less liability of a breakage of the thread, by the fact that there is less friction of the thread in its feeding movement upon a revoluble sleeve than where a fixed or stationary thread-eye is used for directing the thread. By having the roller or disk E mounted on the pivotal frame D as described the said roller or disk can be readily withdrawn from said frame when its peripheral surface becomes worn by contact with the feeding-thread to be replaced by a new roller or disk and at the same time by having the shaft A mounted in boxes of the brackets B B allows of their caps b b being taken off to withdraw and re-cover the said shaft with cloth. Furthermore, by the latch arrangement the proper pressure of the roller or disk E is readily obtained upon the cloth-covered shaft by simply turning the thumb-nut p in accordance with the size or fineness of the thread which is to feed.

From this description it is obvious that a large number of these devices may be mounted on the machine-frame, each operating to feed a thread independent of the other.

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

1. In a thread-dressing machine having a cloth-covered shaft rotatably mounted in suitable cap-box brackets of the machine-frame, and driven by power therein, the combination therewith, of a thread-weight roller device, consisting of a support fixed to the machine-frame and having a pin extending between two integral ears and one of which ears has an inwardly-projecting lug; a pivotal frame having at one end two integral vertical flanges, and its opposite end mounted upon the pin of said support, and arranged to have a sliding movement thereon whereby the lug of said support can hold said pivotal frame in a tilted position; said pivotal frame provided with a centrally-vertical opening, and two slotted openings formed opposite to each other in its side walls, and extending from the top surface thereof, and a slot or thread-passage formed in one of the side walls, respectively; a stud-shaft whose ends project and are square to fit in the slotted openings of said pivotal frame; a disk rotatably mounted on said stud-shaft, and said disk arranged to have its peripheral surface contact upon the peripheral surface of the cloth-covered shaft; means to prevent lateral movement of said pivotal frame when said disk is in its normal position upon the cloth-covered shaft; a sleeve or thread-guide rotatably mounted near to the slot or thread-passage of said pivotal frame and provided with a groove in its peripheral surface; a rail having its ends secured to the brackets of the machine-frame and provided with a vertical circular opening; a bolt loosely mounted in the opening of said rail and having at one end an integral centrally-arranged extension to engage between the flanges of said pivotal frame and its opposite end screw-threaded; a thumb-nut on the threaded portion of said bolt; and a push-spring surrounding said bolt and interposed between said thumb-nut and said rail, all arranged substantially as set forth.

2. In a thread-dressing machine having a cloth-covered shaft rotatably mounted in suitable cap-box brackets of the machine-frame,

and driven by power therein, the combination therewith, of a thread-weight roller device, comprising a support fixed to the machine-frame and having two integral ears, one of which ears has an inwardly-projecting lug; a pin extending between the ears of said support; a pivotal frame slidably mounted on the pin of said support and arranged to be held in a tilted position when upon the lug of said support; said pivotal frame having its side walls provided with two slotted openings opposite to each other and extending from the upper surface of the walls, and a slot or thread-passage near its pivotal center, respectively; a stud-shaft whose ends project and are made square to fit in the slotted openings of said pivotal frame; a roller or disk rotatably mounted on said stud-shaft, a grooved sleeve rotatably mounted on said pivotal frame, between its slot or thread-passage and said roller or disk; a rail having its ends secured to the cap-box brackets of the machine-frame and provided with a vertical opening; a spring-controlled lifting-latch mounted in the opening of said rail and arranged to engage said pivotal frame to hold said roller or disk in contact upon the cloth-covered shaft; and means to prevent lateral movement of said pivotal frame when said roller or disk is in its normal position upon the cloth-covered shaft, substantially as shown and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE A. FREDENBURGH.

Witnesses:

FRANK I. SHERMAN,

GEORGE E. ORDWAY.