

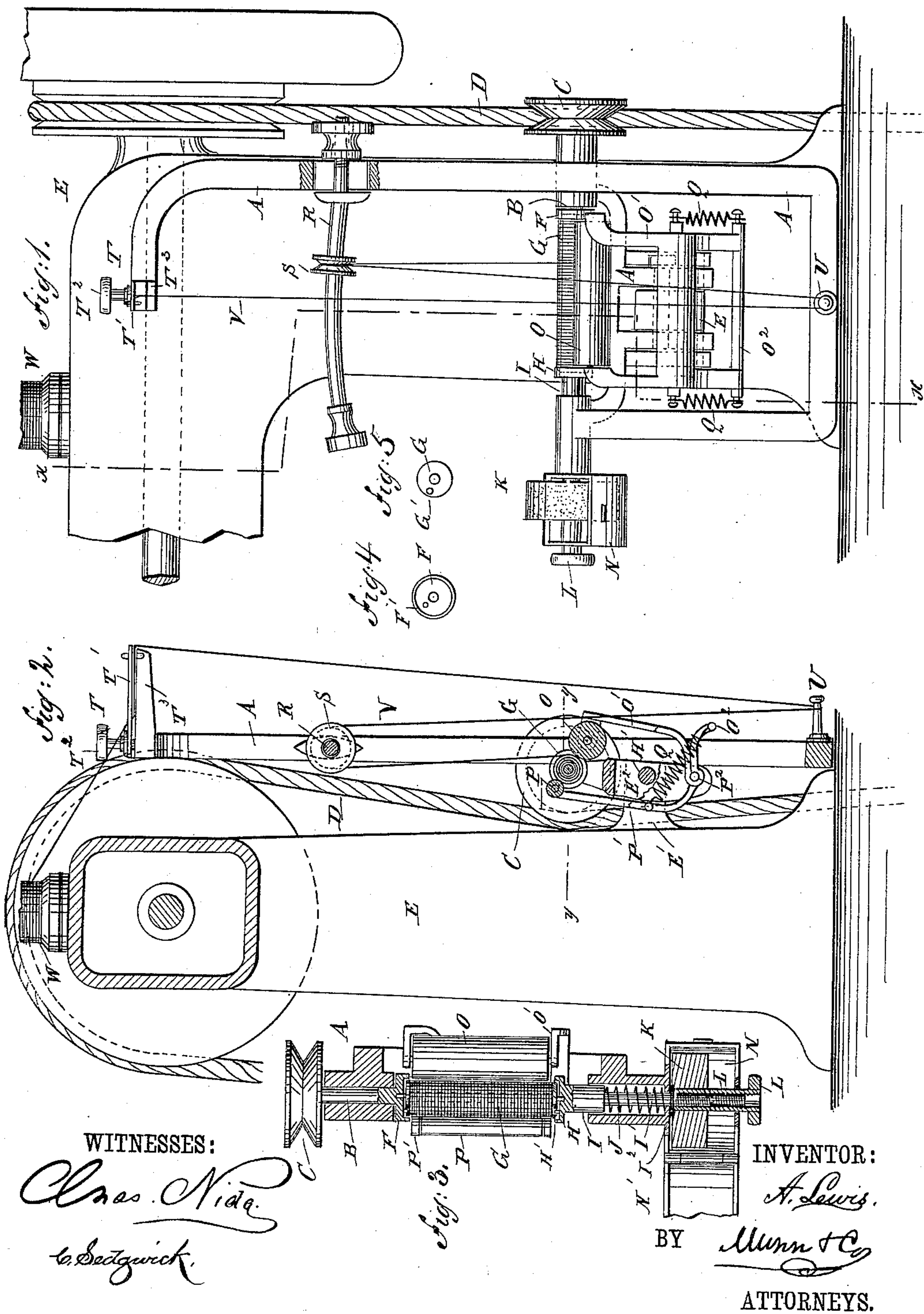
(No Model.)

A. LEWIS.

BOBBIN WINDER FOR SEWING MACHINES.

No. 391,905.

Patented Oct. 30, 1888.





# UNITED STATES PATENT OFFICE.

ANNIE LEWIS, OF GALVESTON, TEXAS, ASSIGNOR OF ONE-HALF TO JOHN E. MOESER, OF NEW YORK, N. Y.

## BOBBIN-WINDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 391,905, dated October 30, 1888.

Application filed August 17, 1887. Serial No. 247,177. (No model.)

*To all whom it may concern:*

Be it known that I, ANNIE LEWIS, of Galveston, in the county of Galveston and State of Texas, have invented a new and Improved Bobbin-Winder, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved attachment for sewing-machines for winding bobbins.

10 The invention consists in the construction and arrangement of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

15 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

20 Figure 1 is a side elevation of my improvement as applied to a sewing-machine. Fig. 2 is a vertical cross-section of the same on the line *x x* of Fig. 1. Fig. 3 is a sectional plan view of the same on the line *y y* of Fig. 2. Fig. 4 is a face view of the disk of the main driving-shaft, and Fig. 5 is an end elevation of the bobbin.

My improvement is specially adapted for sewing-machines, and is used in connection with the same, as illustrated in the drawings.

30 On a suitably-constructed frame, A, is mounted to rotate the driving-shaft B, carrying on its outer end a grooved pulley, C, over which passes the driving-belt D of the sewing-machine E, of any approved construction. On the inner end of the main driving-shaft B is formed a recessed disk, F, into which is placed and held one end of the bobbin G, secured by its other end in a similar disk, H, formed on the end of the shaft I in axial line with the main driving-shaft B and mounted to rotate in a suitable bearing on the main frame A.

40 The shaft I is adapted to slide longitudinally, and is provided with a reduced part, I', on which is coiled a spring, J, one end of which presses against a shoulder on the shaft I, and its other end presses against the bearing on the main frame A, so that said spring J presses the shaft I inward toward the main driving-shaft B. A shoulder or flange, I<sup>2</sup>, on the reduced part I' limits the inward motion of the shaft I.

In order to hold the bobbin G securely in place on the disks F and H, I provide each of the latter with a central recess, into which fit trunnions formed on the ends of the bobbin, 55 and I also provide said recessed disks F and H with projecting lugs or pins F' and H', respectively, which engage corresponding apertures G', formed in the flanges of the bobbin G. The bobbin is placed in position by pressing 60 the shaft I outward, thus compressing its spring J and making sufficient room between the two disks F and H to insert the bobbin, one flange of which is placed in the disk F, and then when the pressure on the shaft I is 65 released the other flange is engaged by the disk H. The pins F' and H' respectively engage the apertures G' in the bobbin-flanges, and now when the driving-shaft B is rotated the bobbin and the shaft I rotate with the 70 same.

In the front and rear of the bobbin G are held the rollers O and P, mounted, respectively, in the frames O' and P', fulcrumed on the common pin P<sup>2</sup>, held in an extension, A', of the main 75 frame A directly below the bobbin G. The two frames O' and P' are pressed toward each other by the springs Q, so that the rollers O and P play against the front and rear of the bobbin G and serve to even the thread. The 80 frame O' is provided with a front arm, O<sup>2</sup>, serving to press the two frames O' and P' apart when disengaging the bobbin from the disks F and H or replacing the same.

85 Directly above the bobbin G is held vertically adjustable on the frame A a curved rod, R, on which rotates and slides loosely a grooved guide-pulley, S, over which a thread passes to the bobbin. Above the curved rod is placed a tension device, T, consisting of the tension- 90 plate T', held by a screw, T<sup>2</sup>, on an arm, T<sup>3</sup>, secured to the main frame A and projecting toward the front. In the tension-plate T' is the usual slot for the admission of the thread, and on the front of the arm T<sup>3</sup> is a small groove, 95 through which the thread passes on its way downward to the central post, U, secured on the bottom of the main frame A.

The thread V to be wound on the bobbin G passes from the spool W, held in the usual 100 manner on the sewing-machine frame, to the tension device T, and then passes from the



same around the post U on the lower end of the frame A, and then passes upward over the guide-pulley S and downward from the same to the bobbin G, on which it is to be wound.

5 The main frame A can be secured to the sewing-machine table and frame in any suitable manner; but I prefer the construction shown in the drawings, in which I provide the sewing-machine frame with a lug, E',  
10 which passes between forked arms of the extension A', and is secured to the same by a bolt, E<sup>2</sup>, the lower end of the frame A resting on the sewing-machine table and against the sewing-machine, as illustrated in Fig. 2.

15 The operation is as follows: The bobbin G is held between the disks F and H, and when the sewing-machine is set in motion its driving-belt D, on passing over the grooved pulley C, rotates the main driving-shaft B of the attachment, thus imparting a rotary motion to  
20 the bobbin G and the shaft I, which carries the grindstone K. The thread V is wound on the bobbin and is evenly divided by the rollers O and P pressing against the front and rear of  
25 the bobbin, and thus forcing the thread into even layers on the bobbin. The guide-pulley S travels forward and backward on its curved rod R, according to the layers of the thread.

K is a grindstone, which may be placed on  
30 the reduced part I' of the shaft I, and L is its retaining-nut.

N N' represent the casing of the grindstone.

The grindstone is to be used during the operation of winding the bobbin; but when it is  
35 desirable to use the grindstone when not winding thread I place an empty bobbin between the disks F and H and then set the sewing-machine in motion, whereby the grindstone is rotated, as before described, and then it can be  
40 used for sharpening tools in the usual manner.

I am aware that bobbin-winders attached to sewing-machines have been patented, but they differ materially in construction from my device; hence I do not claim, broadly, a bobbin-  
45 winder as attached to sewing-machines, but its special construction.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a bobbin-winder, the combination, 50 with the main driving-shaft carrying a disk and rotated by the driving-belt of the sewing-machine, of a second shaft in axial line with the said driving-shaft and having a longitudinal movement, a disk held on the said second 55 shaft, a bobbin held by its flanges in said disks, and rollers pressing against the bobbin in the front and rear, substantially as shown and described.

2. In a bobbin-winder, the combination, 60 with the main driving-shaft carrying a disk, of a second shaft in axial line with the said driving-shaft and provided with a similar disk and having a longitudinal movement, a bobbin held between the said disks, rollers pressed 65 by springs against the front and rear of the bobbin, a guide-roller over which the thread passes to said bobbin, and a curved rod on which said guide-roller travels, substantially as shown and described. 70

3. In a bobbin-winder, the combination, with the main driving-shaft carrying a disk, of a second shaft in axial line with the said driving-shaft and provided with a disk and having a longitudinal movement, a bobbin 75 held between the said disks, rollers pressed by springs against the front and rear of the said bobbin, a guide-roller over which the thread passes to the bobbin, a curved rod on which said guide-roller travels, and a tension device 80 through which the thread passes to the said guide-roller, substantially as shown and described.

4. The combination, with a bobbin having a rotary motion, of two rollers pressing, respectively, on the front and rear of said bobbin, frames having a common fulcrum and carrying said rollers, and springs for pressing said frames toward each other, so as to hold said rollers against the front and rear of the 90 bobbin, substantially as shown and described.

ANNIE LEWIS.

Witnesses:

J. P. KINDRED,  
L. E. TREZEVANT.