(No Model.)

W. B. NORTON.

SPRING MOTOR WINDING LEVER.

No. 455,291. Patented June 30, 1891.

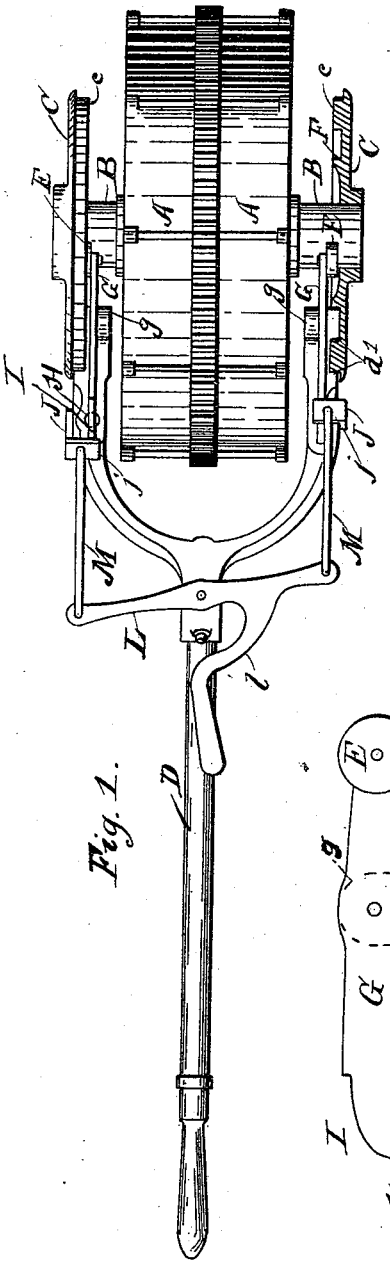

Fig. 1.

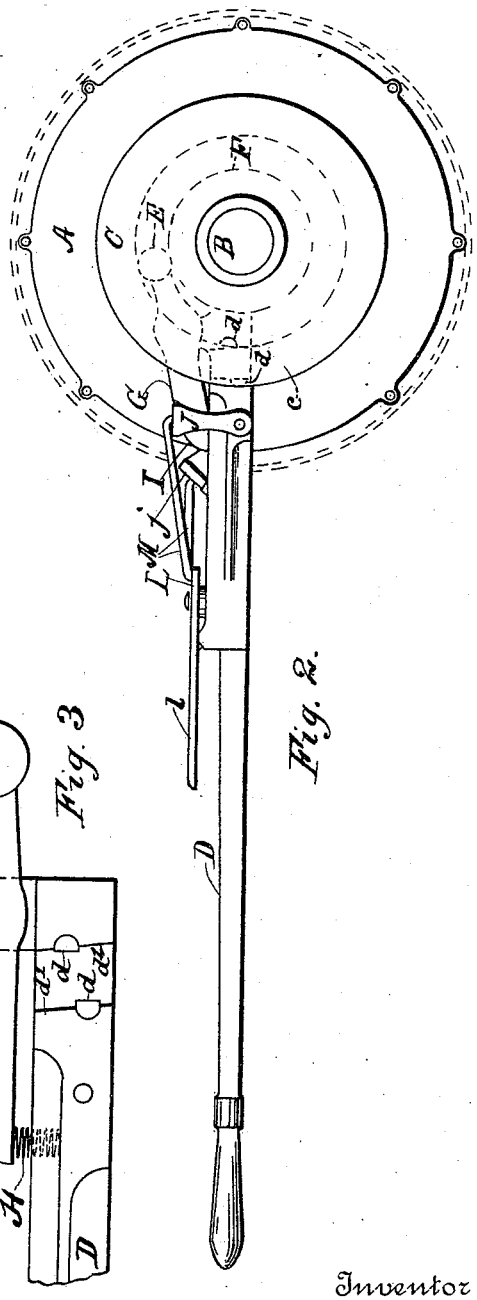

Fig. 2.

Fig. 3

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM B. NORTON, OF MANCHESTER, CONNECTICUT, ASSIGNOR TO THE BROSIUS MOTOR SEWING MACHINE COMPANY, OF ATLANTA, GEORGIA.

SPRING-MOTOR WINDING-LEVER.

SPECIFICATION forming part of Letters Patent No. 455,291, dated June 30, 1891.

Application filed March 19, 1891. Serial No. 385,684. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. NORTON, a citizen of the United States, and a resident of Manchester, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Spring-Motor Winding-Levers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to the kind of winding-levers for spring-motors that is described in Letters Patent to Albert A. Wood, No. 428,326, dated May 20, 1890, the object being to so improve said winding-lever as to make it more convenient and effective.

The invention consists of mechanism for causing said lever to engage by frictional contact with one or both of the disks on the spring-arbor, as will be hereinafter described.

In the accompanying drawings, Figure 1 is a plan, and Fig. 2 is a side elevation, showing the device in construction with the winding-lever and disk on the spring-arbors, one disk in Fig. 1 being shown in central horizontal section. Fig. 3 is an enlarged view showing a portion of one of the forked ends of the arm and more fully showing the coil-spring.

In the figures the different parts are uniformly marked by reference-characters.

Briefly, the parts of the device sought to be improved by this invention and that are affected by it are the spring-barrels A, the two arbors B, to which the inner ends of two springs are fastened and in which they are wound, and operate in all respects separately, the disks C, having annular flanges *c*, one of which disks is on each arbor, and the winding-lever D, that is bifurcated and engages with both disks, for which purpose each of the forked ends of said lever have crescent-shaped friction-pieces *d* inserted in jams *d'*, that contact with the flanges *c* on the disks C, and, by reason of the said friction-pieces not being in line radially of the flanges, it is obvious that a movement of the lever in one direction will cause the pieces to adhere to the said flanges frictionally, and that a movement in the opposite direction will not have that effect. It is also obvious that to produce the first effect just described these friction-pieces must be held firmly in contact with the opposite sides of the flanges *c*, for which purpose the levers G are pivoted to the lugs *g* on each of the forked ends of the lever and rollers E are journaled thereon and contact with the flanges F. The springs H force the rollers E against the flanges F, thereby raising the lever D and causing the pieces *d* to contact with the opposite sides of the flange *c* with sufficient pressure to prevent their slipping thereon. The pressure of the pieces *d* being increased by the downward movement of the lever D in proportion to the resistance will cause the disks to revolve with the downward movement of said lever. The upward movement of the lever D will receive the pressure of the pieces *d* on the flange, and consequently they will slip during the upward movement of the lever.

In the use of the device to which this improvement applies it is desirable to prevent the engagement of one or the other of the forked ends of the lever with its corresponding disk, in order that but one spring may be wound, to accomplish which the rear end of lever G is depressed, as shown in Fig. 2, depressing also the corresponding spring H, thereby preventing the initial pressure of the pieces *d* against the flange, that is necessary to cause their engagement with said frame.

The levers C are provided on the ends opposite the rollers E with cam-surfaces I, as shown in Figs. 2 and 3. Pivoted to the sides of the lever are the levers J, that have at their tops the inward projections *j*, that are adapted by their proportions and positions to be forced into the cam-surface I and depress the lever A, as shown in the lower part of Fig. 2 and in Fig. 1. Each of these levers J is attached by rods M to the corresponding end of the centrally-pivoted lever L, said lever being provided with a handle *l*. The proportions of the levers J, the lever L, and the connecting-rods M should be such that both of the levers J may be disengaged from the cam-surfaces on the levers G, and that either of the levers J may be forced on and depress its

corresponding cam, and thereby prevent the winding of the spring.

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

1. In a winding device of the class specified, flanged disks, a lever having engagement therewith, levers G, carrying rollers in contact with the flanges F and having at their ends cam-surfaces I, and the levers J, having inwardly-projecting parts to engage said cam-surfaces, substantially as and for the purpose set forth.

2. In a winding device of the class specified, the disk C, having flanges F and *c*, the lever D, carrying friction-pieces *d*, the lever G, having the rollers E and cam-surfaces I, the lever L, the levers J, connected with the lever L, and the rods M, substantially as and for the purpose set forth.

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

WILLIAM B. NORTON.

Witnesses:
A. P. WOOD,
A. A. WOOD.