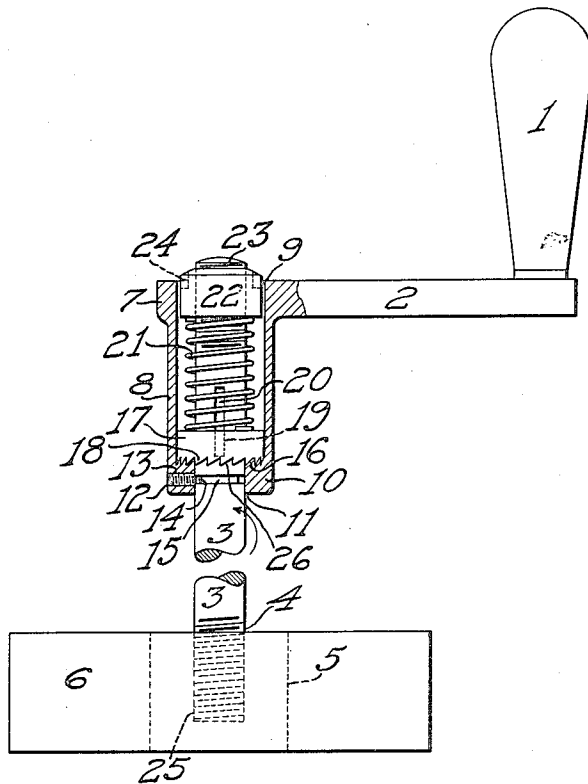


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HANDLE FOR WINDING PHONOGRAPH SPRING MOTORS.  
APPLICATION FILED JUNE 28, 1915.

1,173,316.

Patented Feb. 29, 1916.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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HANDLE FOR WINDING PHONOGRAPH SPRING-MOTORS.

1,173,316.

Specification of Letters Patent.

Patented Feb. 29, 1916.

Application filed June 23, 1915. Serial No. 36,660.

*To all whom it may concern:*

Be it known that I, SAMUEL SEGAL, a citizen of the United States, and resident of the city of New York, in the county of New York and State of New York, have invented a certain new and useful Handle for Winding Phonograph Spring-Motors, of which the following is a specification.

This invention relates to operating mechanism for phonographs or to kindred mechanism wherein a spring motor is utilized to provide the motive power for running the mechanism. The springs of such motors require frequent winding and in the case of phonograph motors the operator must apply considerable force upon the winding handle thereof in order to wind the motor spring. Due to this difficulty of winding the phonograph motor-spring considerable inconvenience is usually experienced in that the operator does not know, on account of the great resistance offered by the spring near the culmination of winding, as to whether the winding has been completed or not. And frequently, the operator, not having such knowledge, applies undue force at the actual termination of the winding and thereby causes accidental snapping or breaking of the motor-spring, or impairment of its effectiveness.

The principal object of my invention is to provide an improved winding-handle for the phonograph spring-motor, wherewith the spring of the motor may be efficiently wound, and by the use of which accidental breaking or impairment of the spring will be prevented.

Another object is to provide an improved winding handle, for the phonograph-motor, which at the termination of the winding of the spring will apprise the operator that the spring has been fully wound and that no further turning of the handle is necessary.

Other objects and advantages will hereinafter appear.

The accompanying drawing shows a general sectional elevation of a phonograph spring-motor handle embodying the invention.

The handle proper comprises a knob 1, a lever 2 the extremity of which carries said knob, and a shaft or stem 3 which has its end 4 adapted to thread into the axle 5 of a motor-spring 6 that forms part of the driv-

ing mechanism of the phonograph. At the opposite extremity 7 of lever 2 is formed a hollow cylindrical hub or casing 8 that extends from the lever in a direction opposite to the knob 1. Said casing has one end 9, at lever 2, open and its opposite end 10 is closed and provided with a bearing-opening 11 which is adaptable to be rotatably mounted over the stem 3. A screw 12 threads through an opening 13 in casing-end 10 and is provided with a projection 14 which enters into an annular groove 15 in stem 3, whereby longitudinal movement of casing 8 along said stem is prevented while said casing is permitted to rotate around the stem and relatively thereto. The casing 8, preferably made of cast metal, has a series of ratchet teeth 16 constituting a clutching-member cast around the opening 11 upon the inner side of its end 10.

A collar 17 having ratchet teeth 18 similar to teeth 16 and constituting a cooperating clutching-member is adapted to slip over the end of stem 3 and is provided with a feather 19 that projects within a keyway 20 formed within said stem, by means of which said collar is capable of being slid longitudinally along the stem 3 while rotation or lateral movement thereof around said stem is prevented. Beyond the collar 17 and within the casing 8 is located a spring 21, wound around the stem 3, which normally presses said collar against the casing-end 10 and causes the teeth 16, 18 to interlock and thereby clutch the stem 3 with the casing 8. A nut 22 threads over the extremity 23 of stem 3 against the spring 21 and compels it to press against the collar 17. By threading said nut along the stem it may be set to cause the spring 21 to exert any degree of pressure desired against the collar 17 and to thereby regulate the pressure of the clutching teeth 16, 18 against each other. As the nut 22 is wholly or almost wholly within the casing 8 threading thereof is effected by means of a pronged key, not shown, inserted within openings 24 provided therein.

The spring-handle is usually made removable so that it may be kept away from the machine in order to prevent unauthorized playing of the phonograph, and when it is desired to wind the spring-motor the stem 3 is inserted through an opening in the phono-

graph-casing, not shown, and its end 4 is threaded wholly within a tapped opening 25 in the spring-axle 5 by turning of the lever 2 with the knob 1. Due to the clutching of the teeth 16, 18, further revolution of the lever 2 causes the stem 3 to be rotated in the direction of the arrow and to thereby wind up the motor-spring 6. Upon termination of the winding the spring-motor 6 prevents further rotation of the stem 3 and its splined collar 17, and hence as the lever 2 is turned further the inclined surfaces 26 of the casing-teeth 16 are caused to forcibly press against their cooperating clutching-teeth 18 and thus compel the collar 17 to move away therefrom contrary to the pressure of spring 21. Further revolution of the lever 2 therefore causes the casing-teeth 16 to ratchet by the teeth 18 and thereby permits idle rotation of said lever and the casing 8 without rotating or affecting the stem 3. The sound of the ratcheting of teeth 16, 18 at once apprises the operator that the motor-spring has been fully wound and that no further revolving of the lever 2 is necessary. By means of the adjustment nut 22 the pressure of the clutching members against each other may be so regulated that the teeth 16, 18 will ratchet just as soon as slightly greater force is applied upon the handle than that required to turn it when at the termination of the winding. Upon turning of the lever 2 and stem 3 oppositely, contrary to the direction of the arrow, the teeth 16, 18 interlock positively and the handle may be readily unthreaded and removed from the phonograph.

It will be evident that by means of this handle the motor spring may be efficiently wound and accidental breaking of the spring or detrimental effect thereupon prevented. The operating mechanism of the handle being entirely within the cylindrical hub or casing 8 it is well protected at all times, and due to said mechanism being thus entirely concealed from view it lends a neat and regular appearance to the handle.

Variations may be resorted to within the scope of the invention.

Having thus described my invention, I claim:—

1. The combination with a motor-spring, of a winding stem therefor, a casing mounted to rotate about said stem and held against longitudinal movement therealong, said casing having a clutch member rotatable therewith, a cooperating clutch member within said casing mounted to slide longitudinally along said stem and held against lateral movement, a spring around said stem pressing said latter clutch member against said former, a nut threading along said stem for adjusting the pressure of said spring, and an operating lever extending from said casing for rotating the casing, said rotatable

clutch member engaging its cooperating member to rotate said stem for winding the motor spring and passing by said member without affecting said stem at the termination of the winding.

2. The combination with a motor spring, of a winding stem therefor, a casing mounted to rotate about said stem and held against longitudinal movement therealong, said casing having a clutch member rotatable therewith, a cooperating clutch member within said casing mounted to slide longitudinally along said stem and held against lateral movement, a spring pressing said latter clutch member against said former, and means to regulate the pressure of said spring, said rotatable clutch member engaging its cooperating member to rotate said stem for winding the motor spring and passing by said cooperating member without affecting said stem at the termination of winding.

3. The combination with a motor spring, of a winding stem therefor, a casing mounted to rotate about said stem, said casing having a clutch member rotatable therewith, a cooperating clutch member mounted on said stem within said casing, and a spring pressing said clutching members toward each other, said rotatable clutch member engaging its cooperating member to rotate said stem for winding the motor spring and passing by said cooperating member without affecting said stem at the termination of winding.

4. The combination with a motor spring, of a winding stem therefor, a casing mounted to rotate about said stem and held against longitudinal movement therealong, said casing having a clutch member rotatable therewith, a cooperating clutch member within said casing mounted to slide longitudinally along said stem and held against lateral movement, and a spring pressing said latter clutch member against said former, said rotatable clutch member engaging its cooperating member to rotate said stem for winding the motor spring and passing by said cooperating member without affecting said stem at the termination of winding.

5. The combination with a motor spring, of a winding stem therefor, a clutch member mounted to rotate about said stem and held against longitudinal movement therealong, a cooperating clutch member mounted to slide longitudinally along said stem and held against lateral movement, a spring around said stem pressing said latter clutch member against said former, a nut threading along said stem for adjusting the pressure of said spring, and an operating lever extending from said rotatable clutch member for rotating it, said rotatable clutch member engaging its cooperating member to rotate said stem for winding the motor

spring and passing by said member without affecting said stem at the termination of the winding.

6. The combination of a motor spring, of  
 5 a winding stem therefor, a clutch member  
 mounted rotatably on said stem and held  
 against longitudinal movement therealong, a  
 cooperating clutch member mounted to slide  
 longitudinally along said stem and held  
 10 against lateral movement, a spring pressing  
 said latter clutch member against said  
 former, and means to regulate the pressure  
 of said spring, said rotatable clutch member  
 engaging its cooperating member to rotate  
 15 said stem for winding the motor spring and  
 passing by said cooperating member with-  
 out affecting said stem at the termination of  
 winding.

7. The combination of a motor spring, of  
 20 a winding stem therefor, a clutch member

mounted rotatably on said stem and held  
 against longitudinal movement therealong, a  
 cooperating clutch member mounted to slide  
 longitudinally along said stem and held  
 against lateral movement, and a spring 25  
 pressing said latter clutch member against  
 said former, said rotatable clutch member  
 engaging its cooperating member to rotate  
 said stem for winding the motor spring and  
 passing by said cooperating member with- 30  
 out affecting said stem at the termination of  
 winding.

Signed at the city of New York, in the  
 county of New York, and State of New  
 York, this 26th day of June, A. D. 1915.

SAMUEL SEGAL.

Witnesses:

CHAS. W. LA RUE,  
 B. ROMAN.