No. 832,064. PATENTED OCT. 2, 1906.

H. E. KEELER.

SPRING ADJUSTING DEVICE.

APPLICATION FILED JULY 3, 1905.

Fig. 1,

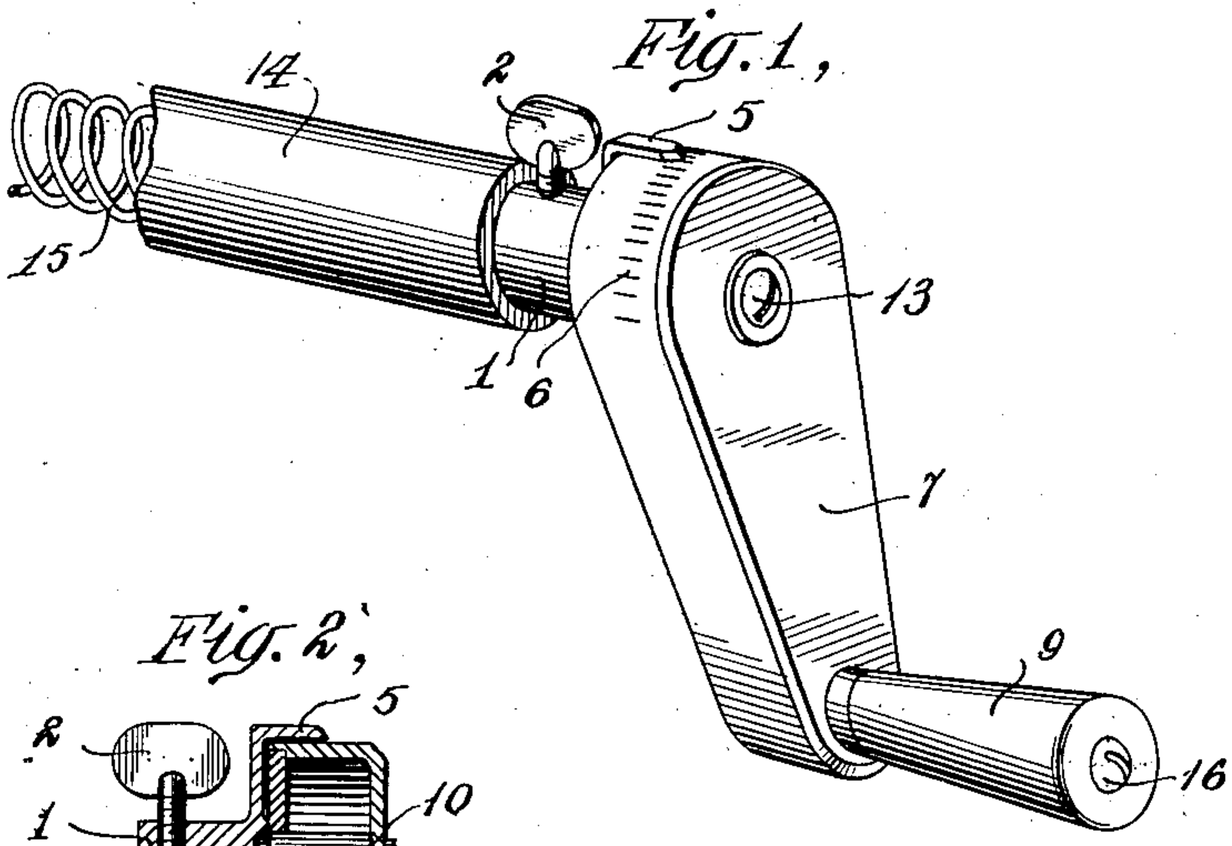


Fig. 2,

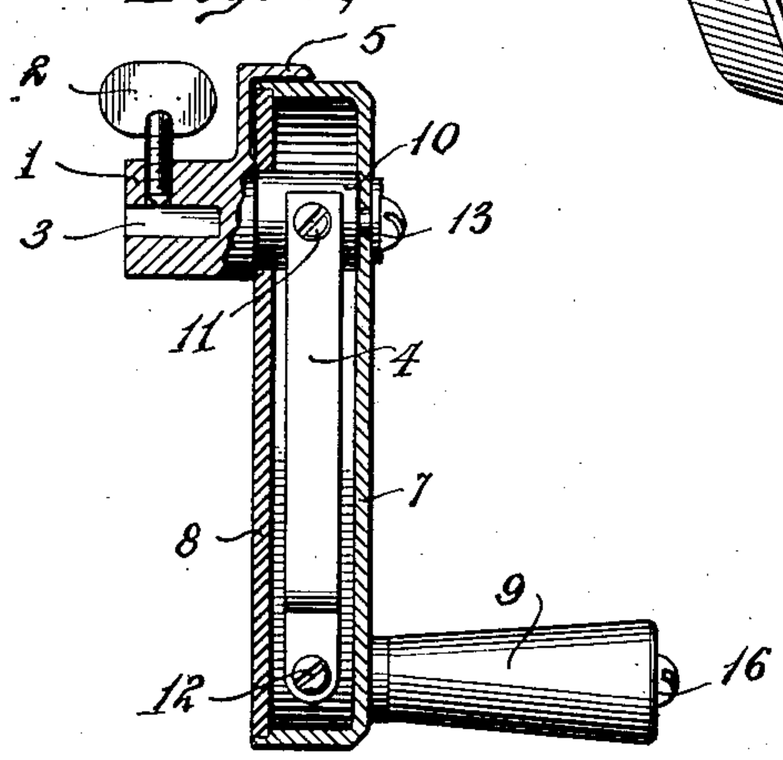
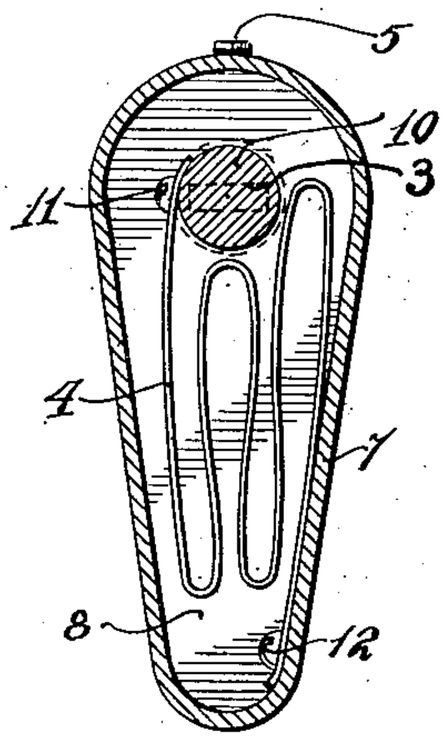


Fig. 3,



WITNESSES:

Herbert E. Keeler INVENTOR

BY

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UNITED STATES PATENT OFFICE.

HERBERT E. KEELER, OF NEW YORK, N. Y.

SPRING-ADJUSTING DEVICE.

No. 832,064. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed July 3, 1905. Serial No. 268,222.

To all whom it may concern:

Be it known that I, HERBERT E. KEELER, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented certain new and useful Improvements in Spring-Adjusting Devices, of which the following is a specification, taken in connection with the accompanying drawings, which form a part of the same.

This invention relates to spring-adjusting devices, and relates especially to devices for adjusting the tension in spring-acting curtain-rollers and for indicating the tension of such springs.

In the accompanying drawings, showing an illustrative embodiment of this invention, and in which the same reference-numeral refers to similar parts in the several figures, Figure 1 is a perspective view showing an embodiment of this invention in relation to a curtain-roller. Fig. 2 is a longitudinal sectional view of this device, and Fig. 3 shows a transverse section of the same.

In the illustrative embodiment of this invention shown in the drawings a suitable holder is indicated to engage and preferably to securely grip the spindle end which projects from a curtain-roller and is attached to a spring within the same or to engage any other spring-actuated device. Such a holder 1 may be formed with the socket 3 of rectangular cross-section to conform to the shape of the spindle end, and this holder is also preferably provided with gripping means, which may take the form of the gripping-screw 2, which can be readily set down and grip the spindle end to securely retain it within the holder. This holder is indicated as provided with a stud 10, extending within the actuator, which may take the form of a crank-casing 7, closed at its other side by a plate 8, secured thereto. A suitable bolt 13 is shown passing through the actuator-casing and holding the stud in proper rotative relation thereto.

As indicated in the drawings, the actuator may be conveniently given the form of the crank-casing 7 and is preferably provided with a suitable handle 9, rotatably mounted at the free end of the actuator by a suitable bolt 16, although this form of actuator is not necessary in all cases. Any suitable yieldable connection may be arranged between the holder and actuator so as to allow a relative movement between the two and to make possible the convenient indication of the torque or turning power between these two elements. A suitable reflexed spring 4 is indicated for this purpose, and, as shown in Figs. 2 and 3, this spring is secured at one end to the holder-stud 10 by the screw 11 and at its other end to the actuator by the screw 12. By giving this spring a reflexed form, as indicated, the desired elasticity can readily be obtained and the connection given a suitable yielding character. In order to indicate the extent of movement between the holder and actuator, the indicator 5, secured to the holder, coöperates with a suitable scale 6, which can be conveniently arranged on the circumferential or lateral face of the actuator, and in this position it is readily observable by the operator using this device. This scale can be conveniently marked off in suitable subdivisions to indicate in foot-pounds or otherwise the turning force between the holder and actuator, which of course corresponds exactly at that time with the turning force or strength of the spring 15 in the curtain-roller 14, connected with the device.

In using this spring-adjusting device the spindle end of the curtain-roller is inserted in the socket of the holder and may be firmly retained therein by setting down the gripping-screw upon it. The actuator is then rotated by the handle so that the roller-spring is wound up to the desired extent and its tension adjusted to the proper amount as indicated by the coöperating indicator and scale on the adjusting device. Then after the pawl or other holding means in the curtain-roller has been brought into play to prevent the spring unwinding the adjusting device is removed and the curtain-roller is ready for use.

Having described this invention in connection with an illustrative embodiment thereof, to the details of which I do not desire to be limited, what I claim as new, and what I desire to secure by Letters Patent, is set forth in the appended claims.

1. In spring-adjusting devices, a crank-casing provided with a handle at its free end, a holder having a stud revolubly retained within said crank-casing, said holder having a projecting end provided with a socket to accommodate the end of a spring or spring-actuated device and a gripping-screw coöperating with said socket, an indicator on said holder coöperating with a scale on the cir-

cumferential part of said crank-casing and a reflexed spring within said casing connected to said holder and said crank-casing.

2. In spring-adjusting devices, a crank-casing provided with a scale, a holder having a socket and gripping means coöperating with said socket, said holder being revolubly mounted with respect to said casing and provided with an indicator coöperating with said scale and a yielding connection between said holder and said casing.

3. In spring-adjusting devices, a holder to engage a spring-actuated device, a crank-actuator in which said holder is permanently and revolubly mounted, a yielding connection between said holder and said actuator and indicating means on said holder and actuator comprising means on the lateral face of said actuator.

4. In spring-adjusting devices, an actuator comprising a hollow crank-casing and a handle, a holder revolubly mounted in said actuator and having projecting means to engage a spring-actuated device, a yielding connection between said actuator and said holder and located within said actuator and indicating means to show the extent of movement between said holder and actuator.

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Witnesses:
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