

(Model.)

G. F. JOHNSON.

HAIR SPRING REGULATING PIN FOR WATCHES.

No. 305,821.

Patented Sept. 30, 1884.

Fig. 1

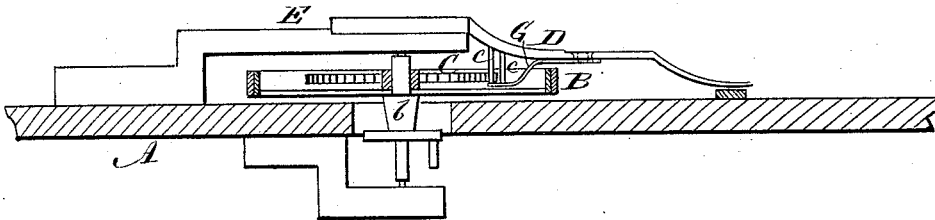


Fig. 2

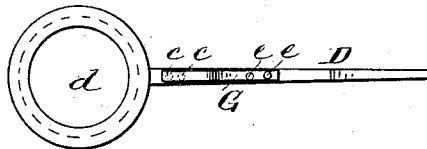


Fig. 3

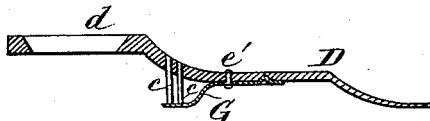
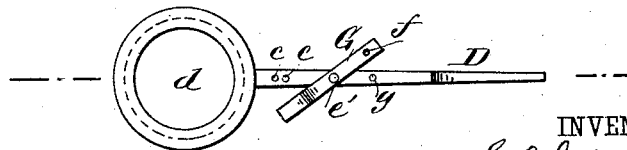


Fig. 4



WITNESSES:

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GEORGE F. JOHNSON, OF AURORA, ILLINOIS.

HAIR-SPRING-REGULATING PIN FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 305,821, dated September 30, 1884.

Application filed April 10, 1884. (Model.)

To all whom it may concern:

Be it known that I, GEORGE F. JOHNSON, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful
5 Improvements in Hair-Spring-Holding Attachments for the Regulators of Watches, of which the following is a full, clear, and exact description:

This invention consists in the construction
10 and combination of parts, as will be hereinafter fully described and claimed.

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

Figure 1 represents a vertical partly-sectional view, upon an enlarged scale, of a watch mechanism in part with the invention applied; and Fig. 2, an under view of the regu-
20 lator with my improved device applied thereto. Fig. 3 is a vertical longitudinal section, and Fig. 4 an under view, of the regulator, showing my invention under a modified form of construction applied.

In Figs. 1 and 2 of the drawings, A indicates the watch-plate, up through which the balance-wheel staff *b* projects; B, the balance-wheel; C, the hair-spring, and D the regulator, arranged to embrace, by its curbs or pins *c c*,
30 an outer coil of said spring, and fitted to work by its eye *d* on the cock or bridge E.

Rigidly attached, as by rivets *e* or otherwise, to the under side of the regulator, is the device for holding the hair-spring of the watch
35 in position, and for preventing the coils of the spring not embraced by the curbs from catching. This device is in the form of a bent spring, G, the free end of which covers or closes the lower end of the opening between
40 the regulator-pins, whereby the coil of the spring embraced by said pins is prevented from being jarred out, and the other coils of the spring are prevented from being entan-

gled with the pins. By simply pressing down the device or spring G, however, sufficiently
45 for the purpose, the coil of the hair-spring which the curbs or pins *c c* are designed to control may readily be entered within or removed from between the regulator-pins, as required, without disturbing the regulator-pins,
50 that should be rigid attachments to the regulator.

Instead of the device or spring G being a rigid attachment to the regulator, as shown in Figs. 1 and 2, and being adjustable in a
55 downward direction to expose the opening between the outer or lower ends of the pins *c c*, it may, as shown in Figs. 3 and 4, be pivoted to the regulator, as at *e'*, to swing laterally in the manner of a button, for the purpose of enter-
60 ing or removing the controllable coil of the spring within or from between the pins *c c*, and may be retained in a closed position on the exposed ends of said pins, either by forming its inner end with a notched or depressed
65 part arranged to spring over the ends of the pins, or by making said inner end with a projection arranged to drop into notches in the ends of the pins, or, as shown in the drawings,
70 by making the opposite or outer end of the device G with a teat or projection, *f*, arranged to spring into a notch or countersunk hole, *g*, in the under side of the regulator.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—
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The combination, with the regulator D and its curbs or pins *c c*, of the spring G, attached to the regulator, and constructed or arranged to close by its tension on or against the under or exposed ends of the regulator-pins, essen-
80 tially as and for the purposes described.

GEORGE F. JOHNSON.

Witnesses:

WM. H. DAY,

M. O. SOUTHWORTH.