(No Model.)

N. J. FELIX.

WATCH CASE SPRING.

No. 290,761. Patented Dec. 25, 1883.

Fig. 1.

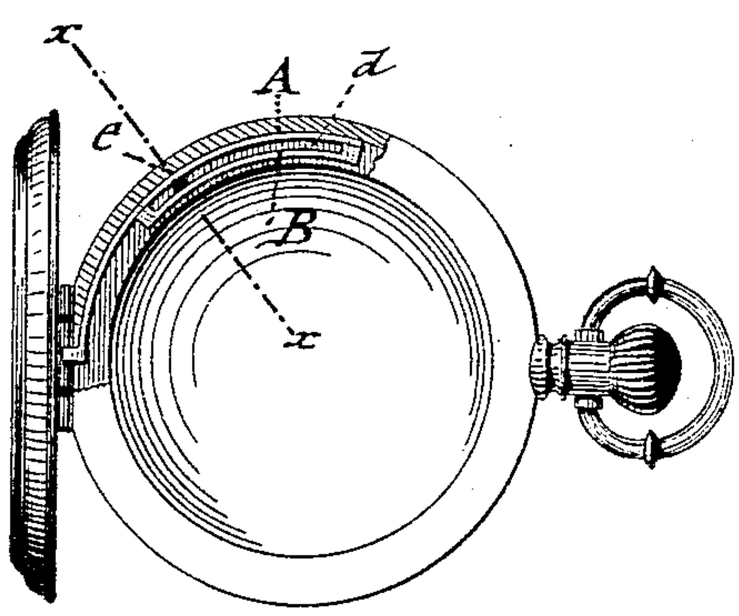


Fig. 2.

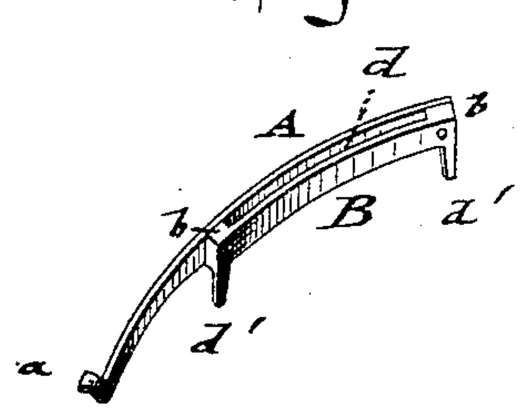
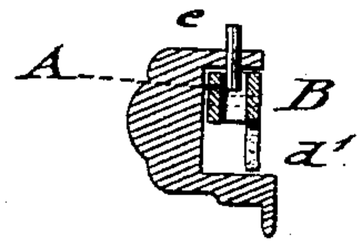


Fig. 3.



WITNESSES:

E. K. Rosenbaum.

Sidney Mamm

INVENTOR

Numa J. Felix

BY Paul Goepel.

ATTORNEY

UNITED STATES PATENT OFFICE.

NUMA J. FELIX, OF NEW YORK, N. Y.

WATCH-CASE SPRING.

SPECIFICATION forming part of Letters Patent No. 290,761, dated December 25, 1883.

Application filed November 17, 1882. Renewed October 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, NUMA J. FELIX, of the city, county, and State of New York, have invented certain new and useful Improvements in Watch-Case Springs, of which the following is a specification.

This invention has reference to an improved watch-case spring which can be set quickly into proper position in the watch-case center without requiring any special adjustment; and the invention consists of a watch-case spring composed of a main portion having a curved end lip or catch and an auxiliary portion that is attached parallel to the mainspring, and provided with downwardly-extending stays, as will be more fully described hereinafter.

In the accompanying drawings, Figure 1 represents a top view of my improved watch-case spring, shown as applied to a watch-case. Fig. 2 is a perspective view of the watch-case spring; and Fig. 3, a vertical transverse section on line *x x*, Fig. 1, drawn on an enlarged scale.

Similar letters of reference indicate corresponding parts.

My improved watch-case spring is made of two separate pieces—a main piece, A, of spring-steel, provided with a curved lip or catch, *a*, at its outer end, and an auxiliary spring-piece, B, which is equal in length and height with the body of the mainspring, and riveted or otherwise attached thereto at both ends. The auxiliary spring-piece B is provided at its ends with cheeks *b b*, that hold it at some distance from the body of the main piece A, both pieces forming between them an arc-shaped opening or slot, *d*. The auxiliary spring-piece B is further provided at both ends with downwardly-projecting supports or stays *d'*, upon which the spring is supported when placed in position. These stays are filed off at the lower ends, as required, by the height of the watch-case center, with which the spring is to be used. When the watch-case spring is placed in position in the center of the watch-case, so that its lip or catch engages the cap of the case, as shown in Fig. 1, it is secured without any further adjustment simply by means of a fastening-pin, *e*, that is passed through a hole in the rim of the watch-case center, as shown in Fig. 3. This pin engages the slot formed by the main and auxiliary pieces of the spring, and retains thereby the spring in position without requiring any special adjustment.

By the slot the number of screw-holes which were heretofore required in watch-case springs for the proper adjustment of the spring in the case are dispensed with and the spring adapted for use with any size of case, while, furthermore, by the auxiliary spring the mainspring is re-enforced and rendered stronger and more durable.

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

1. A watch-case spring composed of a main piece, A, and of an auxiliary spring-piece, B, attached to the body of the main piece, so as to form an arc-shaped slot for the retaining-pin, substantially as set forth.

2. A watch-case spring composed of a main piece, A, an auxiliary spring-piece, B, attached to the body of the main piece, and provided with end cheeks, *b b*, and downwardly-projecting supports or stays *d' d'*, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

NUMA J. FELIX.

Witnesses:

PAUL GOEPEL,

SIDNEY MANN.