(No Model.)

N. J. FELIX.

WATCHCASE SPRING.

No. 493,260. Patented Mar. 14, 1893.

Fig. 1.

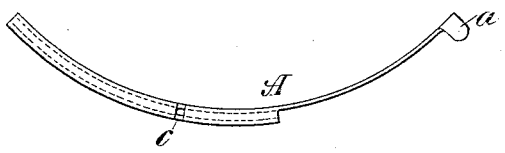


Fig. 2.

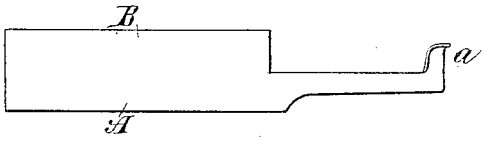


Fig. 3.

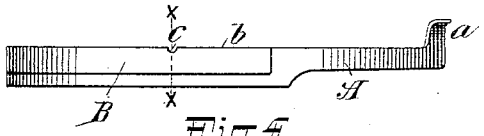


Fig. 4.

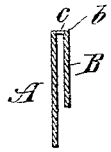


Fig. 5.

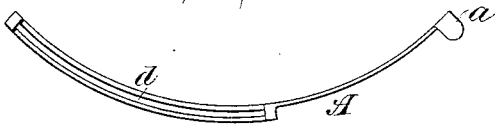
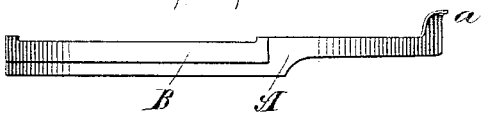


Fig. 6.



WITNESSES:

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NUMA J. FELIX, OF BROOKLYN, NEW YORK.

WATCHCASE-SPRING.

SPECIFICATION forming part of Letters Patent No. 493,260, dated March 14, 1893.

Application filed November 24, 1891. Serial No. 412,983. (No model.)

To all whom it may concern:

Be it known that I, NUMA J. FELIX, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Watchcase-Springs, of which the following is a specification.

My invention relates to an improvement in watch case springs, the object thereof being to provide an article of this character so constructed that the hole or opening therein for the reception of the end of the retaining pin or screw, may be formed by filing instead of drilling, the latter process or method being one which requires a considerable amount of time, rendering the operation of "springing cases" very slow and expensive.

With this and other ends in view, my invention consists in certain novel features of construction as will be hereinafter fully described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a plan view of my improved form of spring. Fig. 2 is a front view of the blank thereof. Fig. 3 is a side or front view of the finished spring. Fig. 4 is a sectional view taken on the line *x*—*x* of Fig. 3. Fig. 5 is a plan view of the modification, and Fig. 6 a front view of the latter.

A represents the spring proper, formed of thin sheet metal and curved to conform to the diameter of the case into which it is to be inserted, one end thereof being provided with a lip or projection *a* adapted to fit against the back or lid of a watch case and raise the same when released by the lock spring. The spring A is made from a blank of such width that the upper portion may be bent or curled over as shown in Figs. 2 and 3, forming the spring proper A and a flap or flange B, the latter in width being equal or nearly so to that of the spring A. After the flap has been bent or turned over, the upper edge *b* thereof is slightly filed off, leaving the same square and slightly decreased in thickness.

In securing the spring into the case, it is simply necessary to mark on the upper edge *b* the spot where the pin or screw hole is to be formed, and then by means of a small round or three cornered file, an opening *c* may be easily formed therein by filing crosswise of the upper edge until the thin metal thereof is cut through, a process much quicker and simpler than is the case of other springs of ordinary construction, wherein the hole or opening is drilled.

Instead of filing a small hole or opening as above described, nearly the entire length of the upper edge of the spring may be filed through as shown in Figs. 5 and 6 of the drawings, thereby forming an elongated slot *d* therein, whereby the necessity of any further cutting or drilling is overcome, and all the care necessary to be taken in having the small openings in the spring and case center register, be obviated as is fully explained in Letters Patent No. 290,761, granted to me December 25, 1883. It will be of course understood that the flap may be turned over upon either side of the spring, but I prefer to fold it over on the outer side thereof in order to have the latter when inserted into a case present a finished and unbroken surface. I would also have it understood that although I have shown my invention as applied to a fly spring, it is equally well adapted to be used in connection with a lock spring, rendering it much stiffer and stronger than is the case with springs of the ordinary construction.

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

The herein-described watch case spring, made from a single piece of metal and so bent as to form the main portion A, the top portion *b* and the flap B, the lip or projection *a* at one end of the spring and the opening *c* formed in the top portion *b*, substantially as and for the purpose described.

Signed at New York, in the county of New York and State of New York, this 19th day of November, A. D. 1891.

NUMA J. FELIX.

Witnesses:
GEORGE COOK,
WILLIAM GOEBEL.