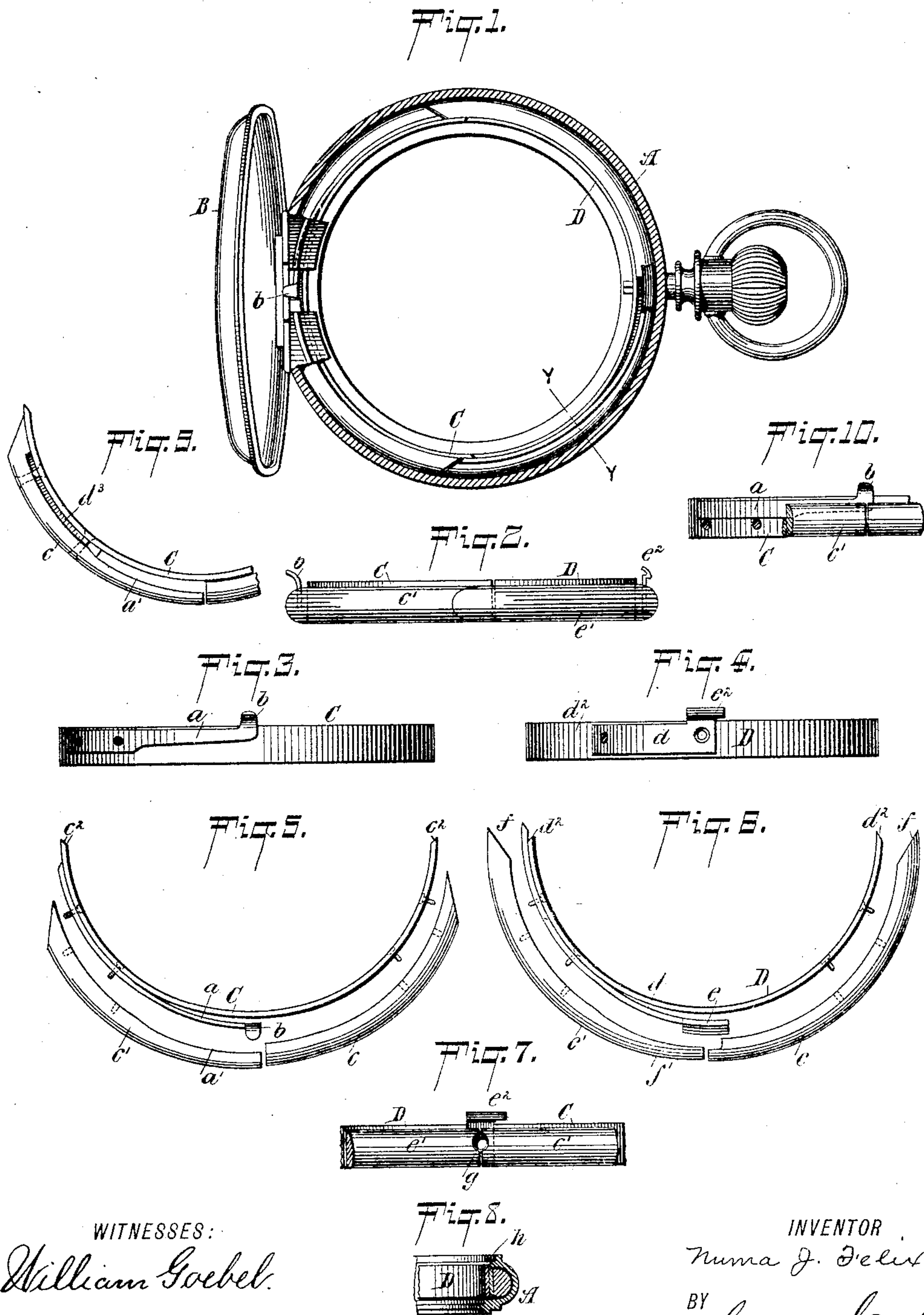


(No Model.)

N. J. FELIX.
WATCH CASE SPRING.

No. 455,436.

Patented July 7, 1891.



WITNESSES:
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NUMA J. FELIX, OF BROOKLYN, NEW YORK.

WATCH-CASE SPRING.

SPECIFICATION forming part of Letters Patent No. 455,436, dated July 7, 1891.

Application filed March 12, 1891. Serial No. 384,716. (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 Watch-Case Springs, of which the following is a specification.

My invention relates to an improvement in watch-case springs, the object of the same being to provide an article of this character which shall be simple and economical in construction, which shall be retained in its proper position within the case-center without the necessity of pinning or screwing it thereto, and which by reason of its construction and arrangement may operate as a dust-band for the watch-case and at the same time provide a seating for the movement.

With these ends in view my invention consists in certain novel features of construction and combination of parts, as will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a watch-case center having my improved spring contained therein, a portion of the center being broken away to expose the spring. Fig. 2 is a side view of the spring detached from the case. Figs. 3 and 4 are side views of the two sections of the spring with the back pieces removed. Figs. 5 and 6 are top views of the spring with the back pieces separated. Fig. 7 is a view showing the opening in the spring and back pieces for the passage of the stem. Fig. 8 is a sectional view taken on the line *y y* of Fig. 1. Figs. 9 and 10 are modifications.

A represents a watch-case center of ordinary construction, having hinged thereto a lid or back B.

C represents that part or portion of the spring commonly known as the "lift" or "fly-spring," and is constructed of a narrow band of metal and curved to conform to the shape of the watch-case center. This part or portion of the spring extends about half-way round the watch-case center, as shown in Fig. 1 of the drawings. To this spring C is riveted or otherwise secured a small auxiliary spring *a*, the free end of the latter having formed thereon a lip *b* for engaging with the lid B of the case and raising the same when re-

leased by the catch-spring. To the outer side of this spring C is secured the back pieces *c c'*, the said back piece *c* being screwed, riveted, or otherwise secured to the spring near its outer end and the back piece *c'* being also secured to the spring C near its outer end, and having its opposite end resting or bearing on or against the small auxiliary spring *a*, a portion of the back piece *c'* being cut away, as shown at *a*, in order to impart a smooth flush surface to the outer sides of the back pieces *c c'*, the spring *a* of course extending out or away at its free end a certain distance from the spring C in order to allow of its being moved toward it when pressed inwardly by the closed lid of the watch-case. The inner adjacent ends of these pieces *c c'* fit closely together when the spring is in position in the case-center; but by being formed of two pieces, as shown and above described, the ends of the spring C are allowed to be slightly pressed toward each other, thereby reducing the arc of the circle and permitting the same to be readily and easily inserted in the watch-case center. It will be noticed from Figs. 1 and 5 that in this part C of the spring the back pieces *c c'* do not extend entirely out to the ends of the spring C, and are beveled for the purpose, as will be hereinafter described.

D represents that part of the spring known and referred to as the "catch-spring," which is constructed of metal bent in the form of a semicircle of slightly smaller diameter than that of the part C. To this part D is also secured a small auxiliary spring *d*, the free end of which has formed thereon a catch *e*, as in springs of ordinary construction adapted to engage with the lid or back of the case-center and lock it in its closed adjustment. To this spring D and near the ends thereof is screwed, riveted, or otherwise secured the ends of two back pieces *e e'*, extending out beyond the ends of the part D, Fig. 1, and beveled, as shown at *f*. The back piece *e'*, near its inner end, is slightly cut away, as shown at *f'*, and bears upon the spring *d*, which latter extends outwardly at its free end a short distance from the spring D to allow of a slight inward movement when it is desired to release the lid or back of the watch-case. By this construction and arrangement of parts a flush outer surface is imparted to

the back pieces *e e'*. A portion of the inner adjacent ends of the pieces *e e'* is cut away to provide a hole or opening *g* to allow of the passage of the stem.

- 5 When the parts C D of the spring are inserted in the case-center, the beveled ends of the back pieces *c c'* and *e e'* fit closely together, as do also the extreme ends of the parts C D, beveled in opposite directions, as
 10 shown at *c² d²*, and the part D of the spring being slightly larger in diameter than the part C and also slightly larger in diameter than the center of the case, is slightly compressed, and locks both itself and the part C in its
 15 proper position in the case-center without the necessity of pinning it thereto, this construction also imparting to the spring proper a practically continuous and smooth inner surface, as shown in Fig. 1 of the drawings.
 20 The parts C D of the spring proper are slightly greater in width or height than their respective back pieces, which latter fill the inner space of the case-center and allow the springs C D to act as a dust-band for the
 25 case-center, and providing on their upper edges a seating *h* for the watch-movement, as shown in Fig. 8.

In securing the back pieces to the springs the rivets or screws pass through the auxiliary springs and into the said back pieces; but, if desired, the back pieces may be secured directly to the spring, as shown in Figs.

9 and 10, in which instance the back piece will be provided with a slot or recess *d³*, into which the auxiliary spring is set, and in which it is kept in place by the spring and back piece. By thus arranging the parts it will be understood that in case the auxiliary spring should break it may be lifted out of the recess *d³* and another inserted without the necessity of removing the parts C or D.

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

1. In a watch-case spring, the combination, with the spring proper having an auxiliary spring attached at one end thereto, its free end extending out from the spring proper and having a lip or catch formed thereon, of back pieces secured to the spring proper, the free end of one of said pieces being cut away for the reception of said auxiliary spring, substantially as described.

2. In a watch-case spring, the combination, with the springs C D, of the auxiliary springs *a d* and the back pieces *c c'* and *e e'*, having their ends beveled, substantially as described.

Signed at New York, in the county of New York and State of New York, this 9th day of March, A. D. 1891.

NUMA J. FELIX.

Witnesses:

GEORGE COOK,
WILLIAM GOEBEL.