

(No Model.)

N. J. FELIX.
WATCH CASE SPRING.

No. 372.018.

Patented Oct. 25, 1887.

fig. 1.

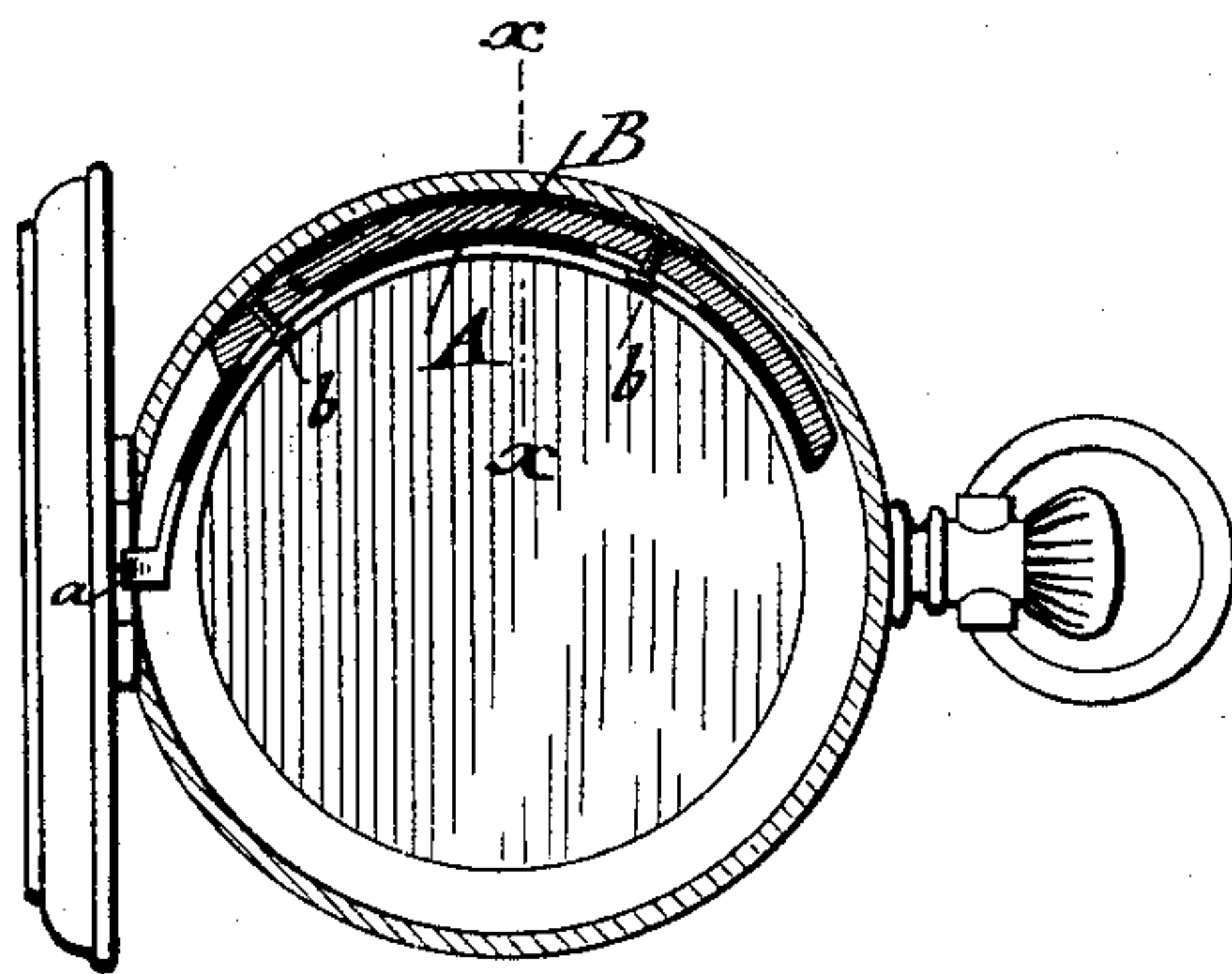


fig. 2.

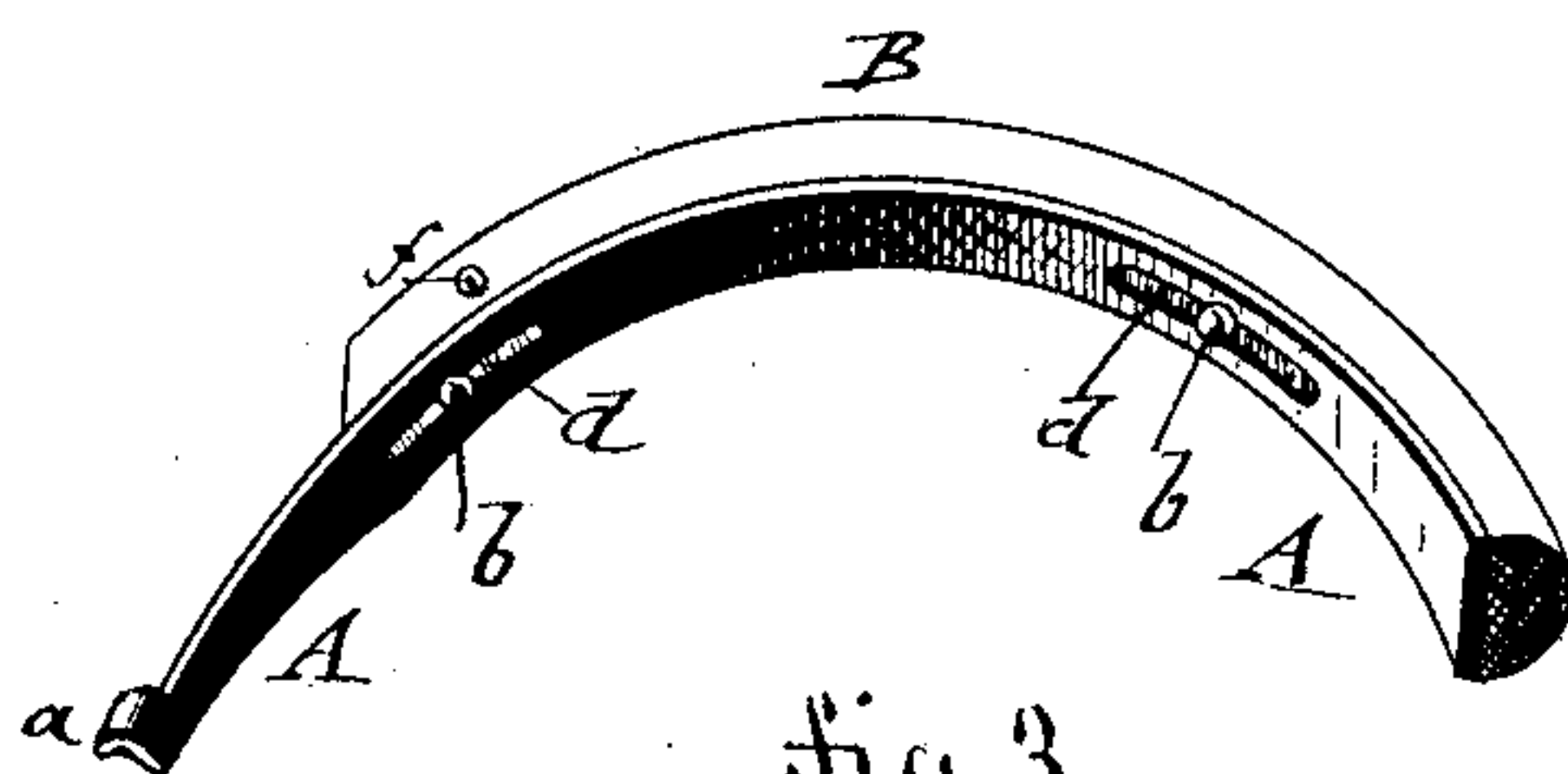


fig. 3.

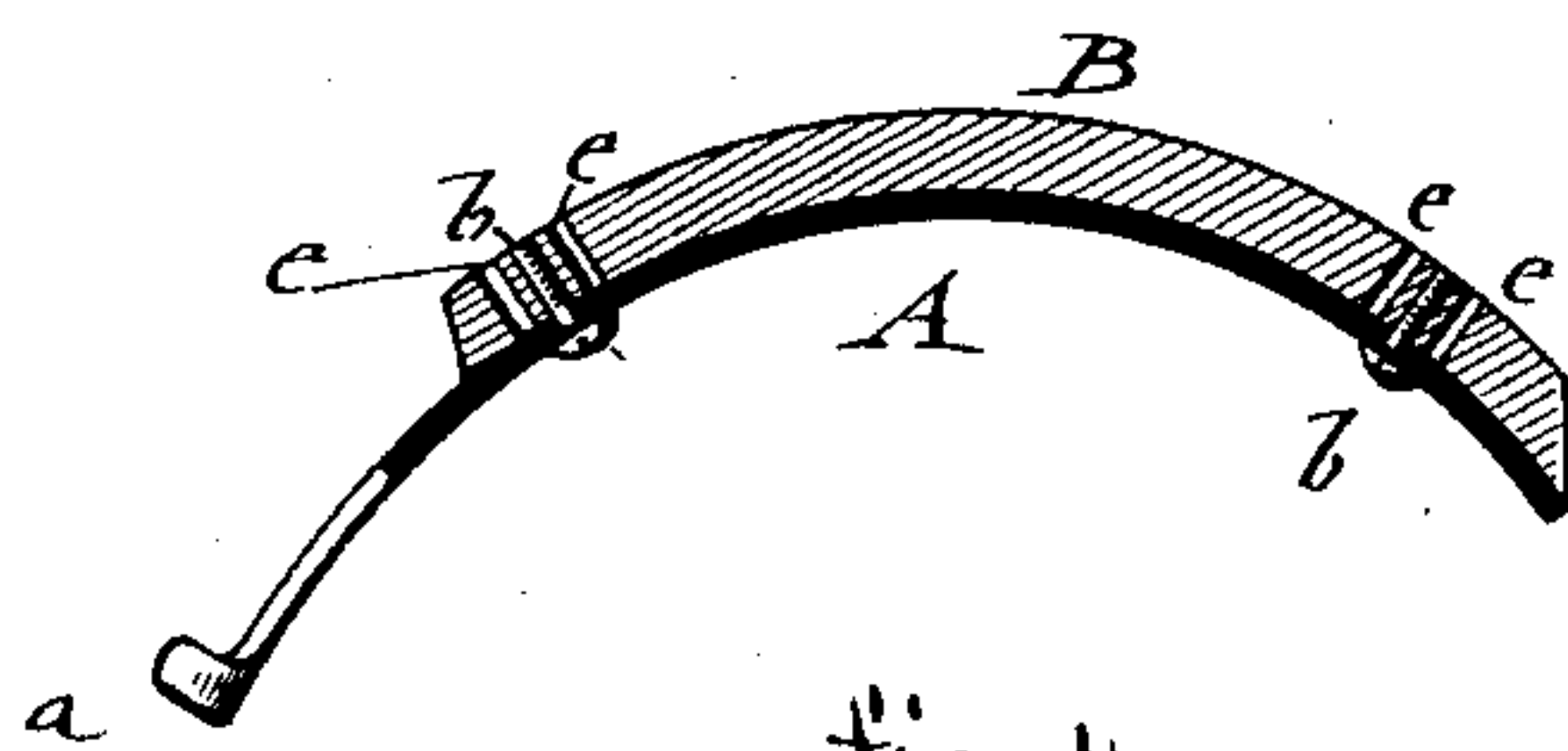
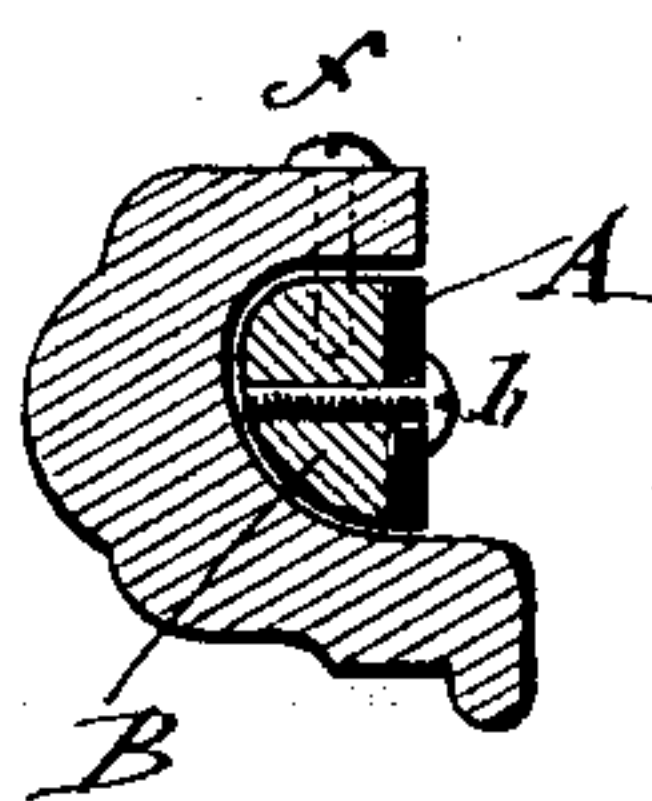


fig. 4.



WITNESSES:

For. N. Rosenbaum.
Carl Karp

INVENTOR

Nathan J. Felix
BY
Gordon Paegemer
ATTORNEYS.

UNITED STATES PATENT OFFICE.

NUMA J. FELIX, OF BROOKLYN, NEW YORK.

WATCH-CASE SPRING.

SPECIFICATION forming part of Letters Patent No. 372,018, dated October 25, 1887.

Application filed December 18, 1886. Serial No. 221,911. (No model.)

To all whom it may concern:

Be it known that I, NUMA J. FELIX, 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.

This invention relates to a watch-case spring which has the advantage that it can be readily fitted into the case to the exact position required by the hinged lid; and the invention consists of a watch-case spring having a shank of uniform thickness and a lip or catch at one end of the same, said shank being attached by screws to an arc-shaped supporting-piece of metal of the same height as the shank. The spring is adjusted on the supporting-piece in any suitable manner so as to set the lip into its proper relative position to the hinged front of the case.

In the accompanying drawings, Figure 1 represents a horizontal section of a watch-case with my improved spring shown in position in the same. Fig. 2 is a perspective view of my improved watch-case spring; Fig. 3, a horizontal section of a modified form of the same; and Fig. 4, a vertical transverse section on line *x x*, Fig. 1, drawn on a larger scale.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a watch-case spring which is stamped out of spring-steel of the uniform thickness and provided at its tapering end with a lip or catch, *a*, according as the same is used for opening or locking the hinged lid of the case. The shank of the spring A is made of uniform height and is attached at two or more points by screws *b b* to an arc-shaped supporting-piece, B, of suitable metal, which corresponds to the diameter and shape of the watch case center, and which is made of the same height as the shank of the spring. The spring A extends along the entire face of the supporting-piece B, and can be adjusted on the same, either by means of slots *d* in the shank of the spring A, through which the fastening-screws *b b* pass, or by means of transverse screw-holes *e* in the supporting-piece B, into which holes the fastening-screws *b b* are screwed, as shown in Fig. 3. By either construction the lip or catch *a* can be exactly adjusted to the position of the lid, so as to exert its full force thereon.

My improved construction of watch-case

springs has the advantage that the spring portion can be stamped up from spring-steel of uniform thickness, while the supporting-piece serves as a filler for the center, dispensing thereby with the tedious and expensive work of making the spring by hand from the steel blanks. The springs can also be more rapidly repaired by simply detaching the spring from the supporting-piece and attaching thereto a new spring. The supporting-piece corresponds in shape to the watch-case center and is rolled to the proper curvature, so that it can be accurately fitted to a given size of watch-case centers. The spring is inserted into the center and attached in the usual manner by a fastening-screw, *f*, which passes through one flange of the center into the supporting-piece B. As the shank of the spring is extended along the entire surface of the supporting-piece B and attached thereto at two or more points, a reliable connection between the spring and supporting-piece is obtained, so that the full force of the spring can be exerted by the lip or catch at the tapering end on the lid.

I do not claim in this application a watch-case spring composed of an arc-shaped supporting-piece, a shell-opening having a lip or catch at one end, and a shank equal in height to the supporting-piece and extended along the entire length of the same, and screws by which the shank of the spring is attached to said supporting-piece, as this is shown and claimed in a prior application filed by me on March 9, 1886, No. 194,575, to which reference is made.

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

A watch-case spring consisting of a supporting-piece fitted in the watch-case center, a spring of uniform thickness, the shank of which extends along the face of the supporting-piece and is of equal height therewith, fastening-screws for connecting the spring to the supporting-piece, and means, substantially as described, for adjusting said spring on the supporting-piece, as set forth.

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,
MARTIN PETRY.