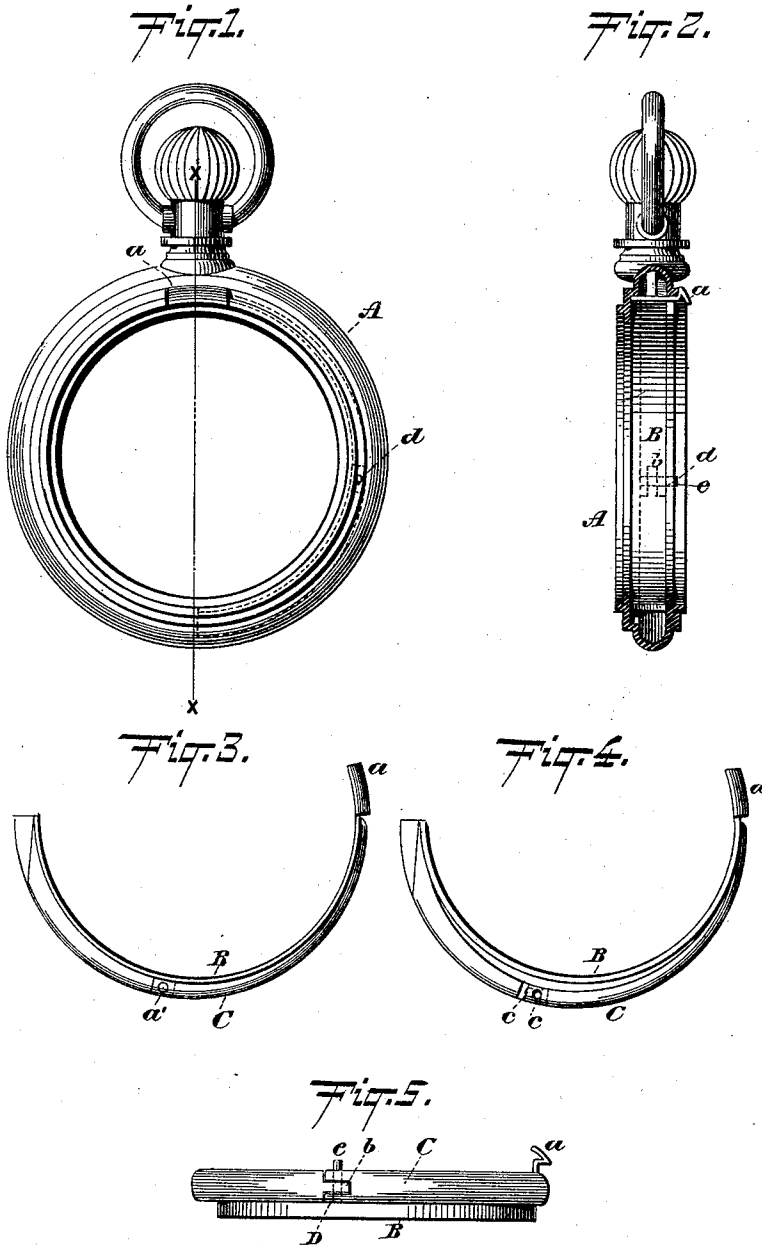


(No Model.)

W. S. RICHARDSON.
WATCH CASE SPRING.

No. 466,964.

Patented Jan. 12, 1892.



WITNESSES:
Gustave Dietrich.
William Goebel.

INVENTOR
Wm. S. Richardson
BY *George Cook*
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIS S. RICHARDSON, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE
NEWARK WATCH-CASE MATERIAL COMPANY, OF SAME PLACE.

WATCH-CASE SPRING.

SPECIFICATION forming part of Letters Patent No. 466,964, dated January 12, 1892.

Application filed July 26, 1890. Serial No. 360,055. (No model.)

To all whom it may concern:

Be it known that I, WILLIS S. RICHARDSON, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, 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 lock and fly springs for watch-cases, and more particularly to an improvement upon the watch-case spring patented to T. K. Benton June 24, 1890, numbered 430,824.

In the manufacture of the spring referred to above I have noticed that after the spring has been finished and inserted in the watch-case a part or portion of the stiffness of the spring and its uniformity of action are lost or destroyed by reason of the back piece being severed or separated, the said spring being thus constructed in order to allow of its easy and ready insertion into the watch-case. The object of my invention is to overcome this defect, to preserve the stiffness and uniformity of action in the spring, and at the same time utilize the feature of the sectional back piece. To accomplish these ends I construct my improved watch-case spring with a spring proper, having secured thereto a back piece severed at some portion of its length, the adjacent ends of said back pieces being so constructed that they may be locked, joined, or secured together after the spring has been inserted into the watch-case, the pin utilized in securing the ends together serving also to hold the spring in its proper position within the case-center.

To more fully describe my invention, reference is had to the accompanying drawings, in which—

Figure 1 is a view of a watch-case center containing my improved spring, the latter being shown in dotted lines. Fig. 2 is a view in cross-section of the same, and Figs. 3, 4, and 5 are detail views.

As the construction of my improved form of spring is substantially the same when employed either as a fly or lock spring, I have deemed necessary to show it in one form only—namely, as constructed to be used as a lock-spring, it differing from the fly-spring only in having an engaging-catch instead of the fly-

lip, this difference being well understood by those skilled in the art.

A represents the usual and common form of construction of watch-case centers employed in hunting-case watches, and is provided with the usual internal groove or recess for containing the lock and fly springs.

B represents the spring proper, made in one piece and of tempered or elastic sheet metal, and is provided on its engaging end with the common form of catch or snap *a*.

C is the back piece, made of brass or other suitable metal and in the form of an arc of a circle to conform to the shape of the spring and the diameter of the case-center, and is rounded on its outer side to properly fit and fill the internal recess formed in the latter. This back piece C is severed or separated at some point *a'* in its length, in order that the ends of the finished article may be sprung together to reduce the arc thereof and allow it to be easily and readily inserted in the case-center without scratching or injuring the latter. The adjacent ends of this sectional back piece C are formed into a suitable joint, the one I prefer and the one shown in the drawings being a tongue-and-groove joint; but I would have it understood that I do not limit my invention to this particular form or construction of joint, as other forms (as, for instance, the ordinary lap-joint) may be employed with good results, the only requisite being that the joint shall be of such construction or form that the adjacent ends of the sections may be pinned or otherwise secured together after the spring has been inserted within the case-center. In the form of joint shown in the drawings the tongue *b*, formed in the end of one of the sections of the back piece, is provided with a hole *c*, which, when the spring is in its normal shape, registers with the openings or holes *c* in the sides of the groove D, formed at the end of the other section of the back piece C. These holes *c*, made in the adjoining ends of the sections, register with a hole *d*, made in the case-center, which receives a pin or screw, the latter passing down through the hole *d* in the case-center and through the hole *c*, formed in the joint, the said screw or pin *e* thereby performing two functions—that of holding the spring in

its proper position and against displacement in the case-center and also locking the joint made in the back piece C. By means of this construction the ends of the back piece C are
5 united and the latter virtually converted into a solid piece, rendering the proper stiffness to the spring and causing a uniform action throughout its length, the same as though said back piece were made solid throughout.

10 It is obvious that the joint in the back piece C may be made at any point in the length of the latter, and also that, if desired, a second pin or screw may be used to more securely fasten the finished spring to the case-center.

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

1. As an article of manufacture, a watch-case spring consisting of a spring proper having
20 attached thereto a sectional-jointed back piece.

2. A watch-case spring constructed with a spring proper and a sectional back piece se-

cured to the former, the adjacent or free ends of the latter being joined or secured together, 25 substantially as described.

3. A watch-case spring consisting of a spring proper made of a single piece of metal and having secured to the back thereof a back
30 piece severed at some portion of its length and having its adjacent or severed ends pinned or otherwise secured together, substantially as described.

4. A watch-case spring consisting of a spring proper B, a sectional back piece C, the adja- 35 cent ends of the latter being joined by a pin or screw passing through the watch-case center, substantially as described.

Signed at New York, in the county of New York and State of New York, this 22d day of 40 July, A. D. 1890.

WILLIS S. RICHARDSON.

Witnesses:

HERMAN GUSTOW,
FRED. C. RIECKERS.