(No Model.)

C. A. WILMS.

HAIR SPRING FOR WATCHES.

No. 294,833. Patented Mar. 11, 1884.

Fig. 1.

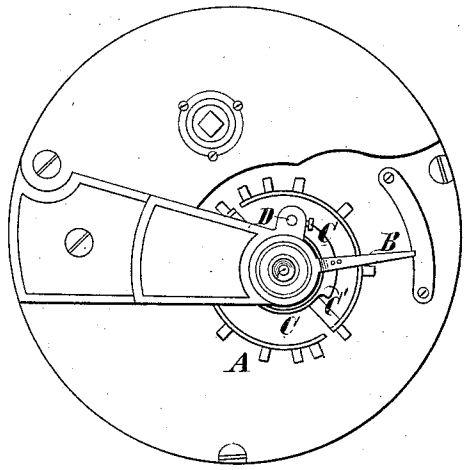
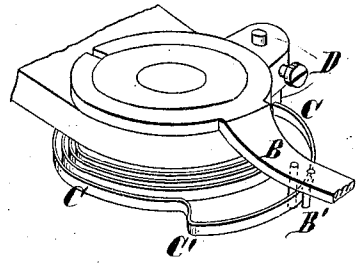


Fig. 2.



Attest:
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N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES AUG. WILMS, OF ST. LOUIS, MISSOURI.

HAIR-SPRING FOR WATCHES.

SPECIFICATION forming part of Letters Patent No. 294,833, dated March 11, 1884.

Application filed December 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. WILMS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Watches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a back view, and Fig. 2 an enlarged detail perspective view.

My invention relates to the hair-spring of watches, &c.; and it consists in forming a bend or kink in the outer end of the spring, as and for the purpose hereinafter fully described and set forth.

Referring to the drawings, A represents the balance-wheel, and B the regulator, of a watch of ordinary construction.

C represents the hair-spring, and D the post to which its outer end is secured.

B′ represents the pin or pins that connect the regulator to the spring.

With hair-springs as heretofore ordinarily or universally formed there has been great trouble arising from one of the coils—generally the second coil from the outside—engaging the pins B′ or post D when the watch is jarred or shaken by the owner jumping out of a vehicle and on like occasions, or when it is handled roughly. This tightens the spring, and of course results in the watch running two or three hours a day too fast. For the purpose of obviating all danger of this kind, I form a kink or bend, C′, in the outer coil of the spring, preferably just back of the clamp of the regulator, as shown. The kink is made in the side of the spring, as distinguished from its edge, and it will be readily seen that the pins B′ and also the post D are thus so far removed from the second coil of the spring that all danger of the spring engaging them, as above mentioned, is avoided. Another advantage arising from this improved form of spring is that it can be easily connected to the post and regulator, owing to the outer coil being removed from the body of the spring.

I claim as my invention—

1. A hair-spring for watches, &c., having a kink or bend formed in the side of the outer coil, substantially as and for the purpose set forth.

2. A hair-spring for watches, &c., having a kink or bend formed in the side of its outer coil back of the point of attachment of the regulator, substantially as and for the purpose set forth.

CHARLES AUG. WILMS.

In presence of—

GEO. H. KNIGHT,

SAML. KNIGHT.