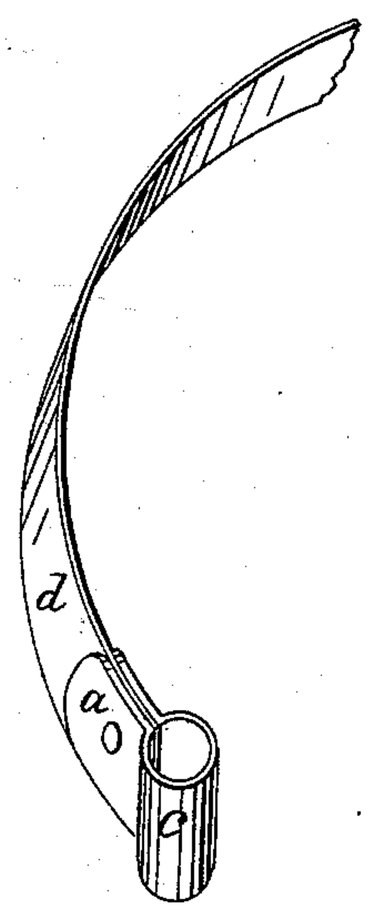
W. BARNES.

Tempering Clock Springs.

No. 59,943. Patented Nov. 27, 1866.



Witnesses:

E. W. Blish

Jeremy W. Blish

Inventor:

Wallace Barnes

United States Patent Office.

IMPROVED METHOD OF TEMPERING CLOCK SPRINGS.

WALLACE BARNES, OF BRISTOL, CONNECTICUT.

Letters Patent No. 59,943, *dated November* 27, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WALLACE BARNES, of Bristol, county of Hartford, and State of Connecticut, have invented certain new and useful improvements in the mode or process of manufacturing Clock Springs; and I do hereby declare that the same is described and represented in the following specification and drawings, so as to enable others skilled in the art to produce or make the same therefrom.

The nature of this improvement will be understood from the specification and drawings.

The object desired to be attained thereby, is to produce a spring from a poorer quality of metal, and, at the same time, render a spring of given dimensions more effective for use, and more merchantable as an article of trade. And to effect this object, the springs are first hardened in the common way. Then, after the hardening process, they are placed between metal plates having their surfaces (one or both) corrugated or perforated, so as to allow the tempering fluid to flow freely between the coils of the spring and the plates, and immersed in molten lead or its equivalent, for the purpose of drawing the temper, or, in other words, for the purpose of producing the required temper to the spring, and also to produce a true, even position of the edge of the spring relative to all parts of the coil. The advantage of this operation, or result thereof, is to produce a greater amount of effective and prolonged action of a spring of equal dimensions, and to avoid the otherwise great amount of friction or obstruction to the mechanism of a clock, &c., when compared with those now in use. Then the spring is polished and blued in the ordinary way. After the above is accomplished, a clasp, *a*, having a sleeve formation, *c*, is rivetted to the outer end of the spring, *d*, instead of coiling the end thereof, as in the old way. The advantage gained by the use of this process will be apparent. The spring can be finished complete its entire length, hardened, tempered, polished, and blued, before the clasp is attached thereto. The clasp may be made of any desirable metal, and secured on each side of the end of the spring by rivets between the two parts of the clasp, thus protecting the end of the spring where it is liable to break or give way, and thereby provide a more perfect sleeve, by means of which it (the spring) is held more perfectly in its desired place. It also produces a more merchantable article. I believe I have thus shown the nature and process whereby I produce this improvement.

What I claim, therefore, and desire to secure by Letters Patent, is—

The mode or process in the manufacture of springs for clocks, &c., substantially as described.

WALLACE BARNES. [L. S.]

Witnesses:

E. M. BLISS,

JEREMY W. BLISS.