

UNITED STATES PATENT OFFICE.

CARL AUGUST PAILLARD, OF GENEVA, SWITZERLAND.

ALLOY.

SPECIFICATION forming part of Letters Patent No. 367,159, dated July 26, 1887.

Application filed February 24, 1887. Serial No. 228,664. (No specimens.)

To all whom it may concern:

Be it known that I, CARL AUGUST PAILLARD, a citizen of Switzerland, residing at Geneva, in the canton of Geneva, Switzerland, have invented certain new and useful Improvements in Alloys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a metallic alloy, and is composed of the metals hereinafter described, or their equivalents, and is useful in the mechanic arts, and especially in the manufacture of watches, chronometers, and other time-pieces.

The object of my invention is to produce an alloy which will be unoxidizable and only slightly magnetic and dilatable.

In the manufacture of watches and other time-pieces it is essential, in order to secure perfect regularity and uniformity of movement, that some parts of the mechanism shall be unoxidizable, non-magnetic, and non-dilatable; but an alloy possessing these characteristics and properties is expensive—too expensive to be used or employed in the construction of the entire watch or other time-piece.

I have found by experiment that the alloy hereinafter described and claimed can be successfully employed in the manufacture of watches and time-pieces for all of the parts not required to be non-magnetic and hardly dilatable, as it is not perceptibly affected by ordinary magnetic or other disturbing causes or influences. The cost of its production is also such that it can be profitably and economically used for all of the ordinary parts of watches and for the mechanism of the cheaper

grades of watches, where perfect uniformity and regularity of movement under all circumstances is not required.

This alloy is composed of the following metals, in about the proportions stated, viz: palladium, fifty to seventy-five parts; copper, twenty to thirty parts; iron, five to twenty parts.

As palladium melts only at a very high degree of heat—much higher than the other metals of which this alloy is composed—I prefer to follow the following process in forming said alloy, although it is possible that it may be formed by other processes:

I take about one-half of the palladium to be used in forming the predetermined quantity of alloy and put the same with the other metals to be used in a clay crucible, adding thereto a small quantity of borax and powdered charcoal, and subject the same to heat until all of said metals are melted. I then add the remaining part of the palladium to the molten mass and subject the entire mass to heat until all of the palladium is melted. I then pour the entire molten mass into any suitable mold, and when it is cooled it is ready for use.

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

An alloy composed of palladium, fifty to seventy-five parts; copper, twenty to thirty parts; iron, five to twenty parts, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CARL AUGUST PAILLARD.

Witnesses:

ARCH. HANNAFORD,
LS. BORNAUD, Fils.