

F. ECAUBERT.
BALANCE WHEEL FOR TIMEPIECES.
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965,508.

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Fig. 1.

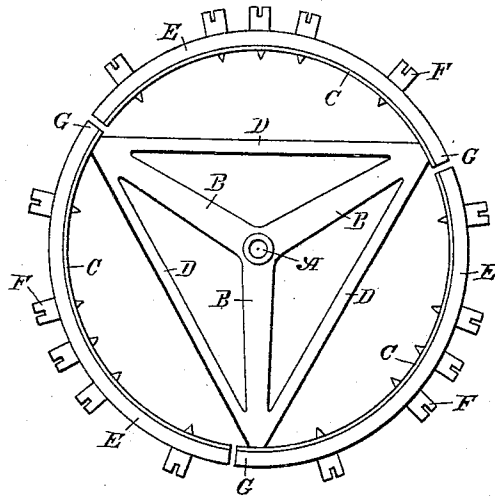
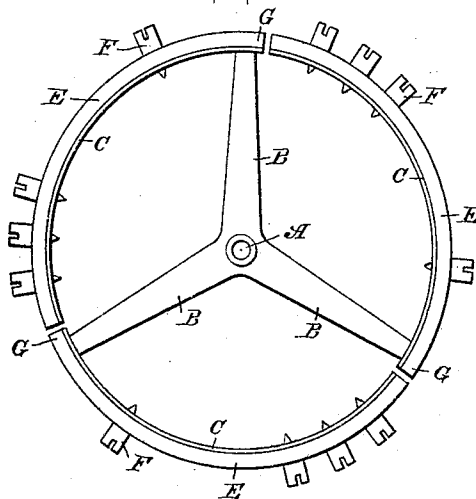


Fig. 2.



WITNESSES:

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BALANCE-WHEEL FOR TIMEPIECES.

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To all whom it may concern:

Be it known that I, FREDERIC ECAUBERT, a citizen of the United States, and a resident of borough of Brooklyn, county of Kings, city of New York, State of New York, have invented certain new and useful Improvements in Balance-Wheels for Timepieces, of which the following is a specification.

My invention has for its object the production of a balance wheel of the compensating type which is more rigid than those now in use and which is intended to overcome certain difficulties with reference to the balance of weight now encountered in time pieces by reason of the numerous positions assumed by said time pieces during use.

The invention is shown in the annexed drawings which illustrate a balance wheel constructed as to its main features in accordance with the usual rules of construction.

In the drawings Figure 1 is a top view of my balance wheel and Fig. 2 shows a modified form thereof.

This balance wheel is hung upon the central aperture A from which radiate three equidistant arms B, each one terminating in a metal arc C. The arms B are united by the cross-pieces D (omitted in Fig. 2) forming a triangular support for the circumferential compensating device C, E, of which C is usually made of steel and E of brass. The screws F are the adjusting weights inserted at their appropriate places to secure approximately correct compensation and weight. As shown in the drawing, the end of the arc C may pass beyond the point of support upon the arm B as shown, for instance, at G. The principles of operation of these devices are so well understood, that a more detailed description would appear to be unnecessary.

In my preferred form of construction shown in the drawings, the parts B, D and C are stamped from an integral piece of steel. The construction thus described obviates to a large extent variations in the running of a time piece due to the differences in the position of the weights, when a watch, for instance, is carried upright or sidewise or at an angle or laid flat upon a table.

The points of novelty of my invention

reside in the three following elements: (1) the triangular or three part or multipartite support for the compensating strips C, E, as contradistinguished from the two part system heretofore known; (2) in the use of braces, to connect the supporting arms B; and (3) in the construction of an integral compensating balance wheel comprising the three part system, the arms, braces and arcs.

Having thus described my invention, what I claim is:

1. A balance wheel for time pieces comprising three equidistant supporting arms to each of the ends of which there is attached a freely movable metal arc adapted to act as a temperature compensating device, the three arcs together constituting the entire solid portion of the periphery of the wheel, the free end of each arc being free to move toward or away from the axis of oscillation whereby the entire solid portion of the periphery of the wheel is subject to rearrangement of mass under temperature changes, and three rigid braces located within the periphery of the wheel and uniting the three supporting arms and symmetrically uniting the three supporting arms.

2. In a balance wheel, the combination of three equidistant supporting arms, three equal metal arcs springing from the ends of the supports and terminating in a freely movable end so as to constitute the entire solid peripheral portion of the wheel, three rigid braces located within the periphery of the wheel symmetrically uniting said supporting arms, all of said parts being formed of and constituting the integral metal structure.

3. A balance wheel for time pieces comprising three spokes, a rim section attached at one end to each of the spokes and having its other end freely movable and a strip of metal of greater expansibility than that comprising the rim sections attached to the outer face of each rim section, the said rim sections constituting the entire solid peripheral portion of the wheel.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FREDERIC ECAUBERT.

Witnesses:

JOHN A. KEHLENBECK,
FRANK F. KIRKPATRICK.