N° 67

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HURT & WRAY
Birmingham
19th CENTURY FLOORSTANDING MAHAGONY REGULATOR

Circa 1840
H. 206 cm (81 in)

Signed Hurt & Wray, Birmingham

BIBLIOGRAPHY: Derek Roberts, *Precision Pendulum Clocks, The quest for Accurate Timekeeping,* Shiffer Books Publishing, 2003, pages 96-97.


HURT & WRAY.
BIRMINCHAM.


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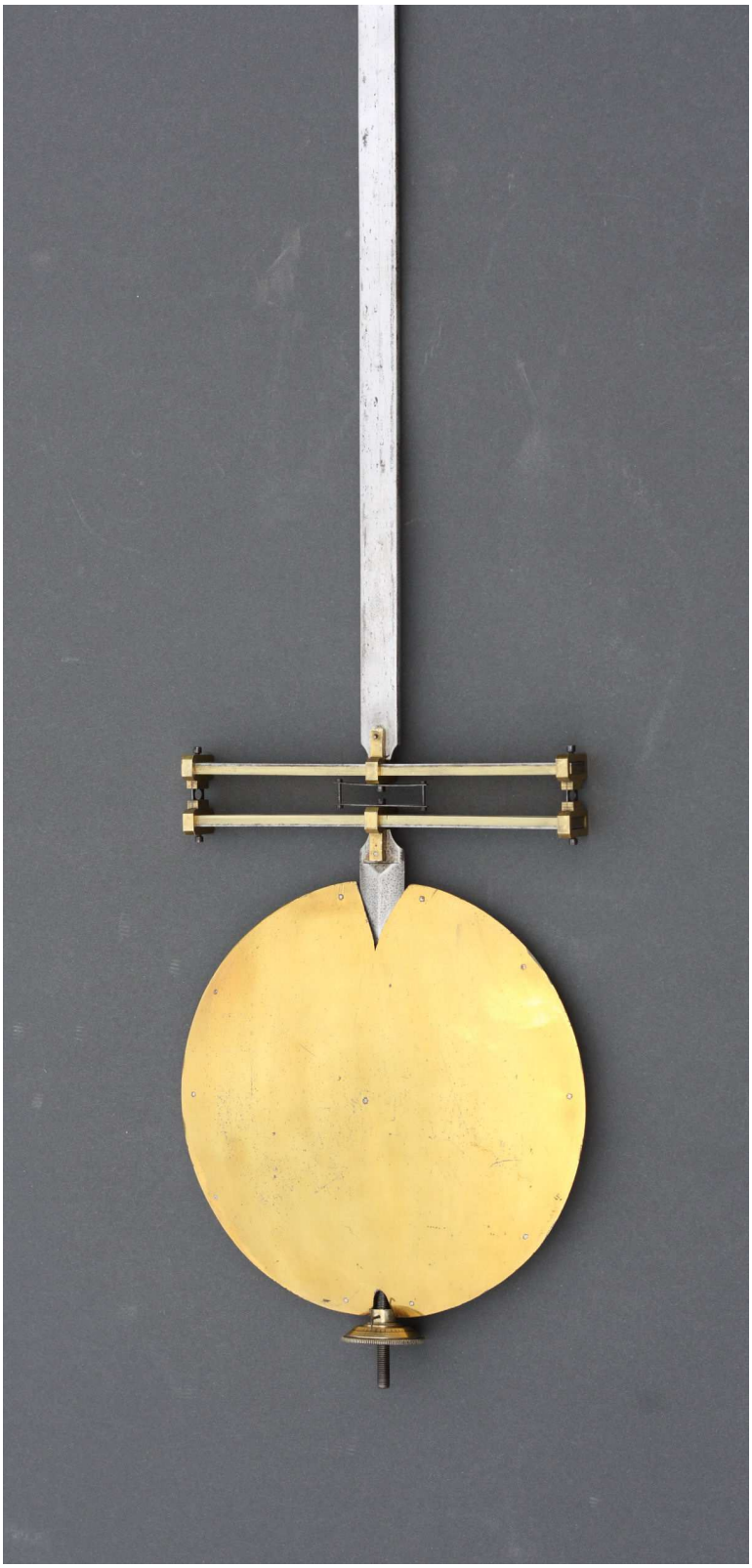
HURT & WRAY.
BIRMINCHAM.



19TH CENTURY FLOORSTANDING MAHOGANY REGULATOR
CIRCA 1840

With unusual tri-coloured dial and Ritchie's compensation to the pendulum, signed *Hurt & Wray, Birmingham.*

Gothic-inspired case with lancet top over brass inlays of quatrefoils over a lancet topped glazed trunk door to a panel base to a plinth and bracket feet.

12" circular silvered dial with concentric minute hand and red digits, enclosing subsidiaries for running seconds (in green) and Roman hours (in yellow), signed in red upper case lettering across the dial centre, the weight driven movement with substantial shouldered plates united by five cannon-barrel pillars, with maintaining power and high-count pinions, endstones on both sides of every arbor, the deadbeat escapement with jeweled pallets and long crutch to a pendulum with steel rod split by two horizontal bi-metallic bars and central spring section screwed to the main rod and also the lozenge section to take the weight of the large heavy brass-faced bob and graduated rating nut, the small brass weight suspended on a caged pulley.

Weekly winding with original winding key, precision with an error of less than 10 seconds a month.

Height: 206cm (81 in).

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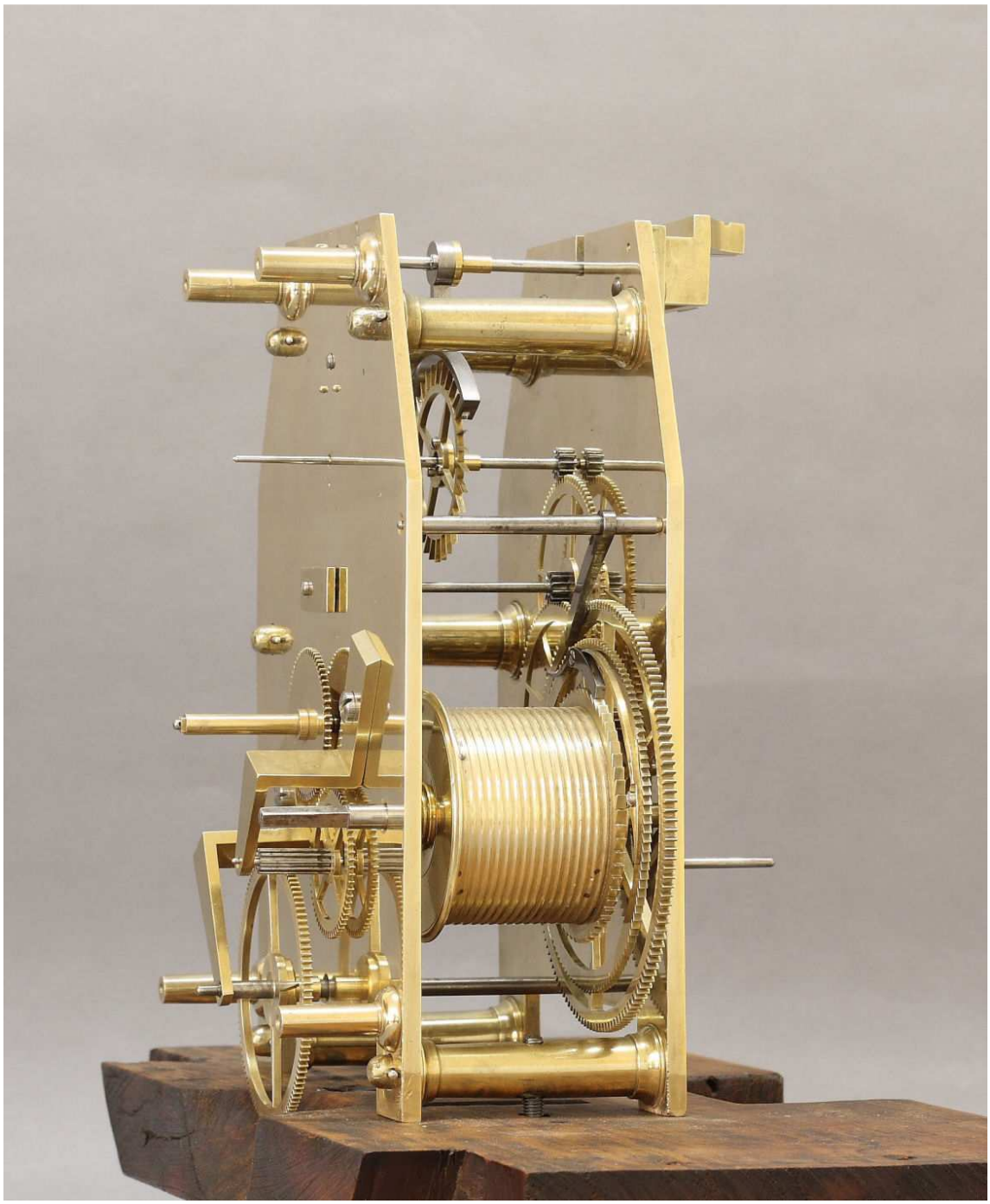
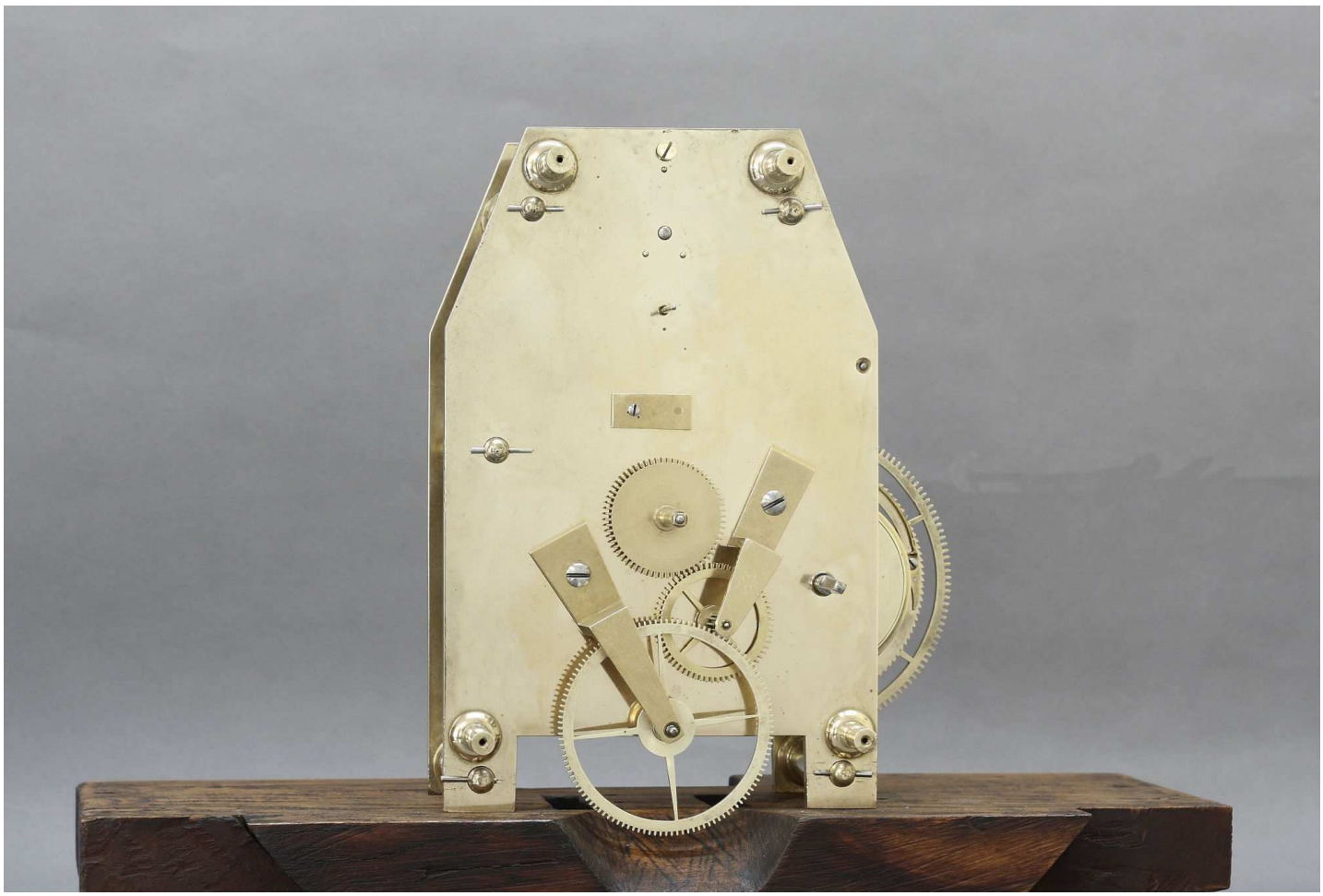
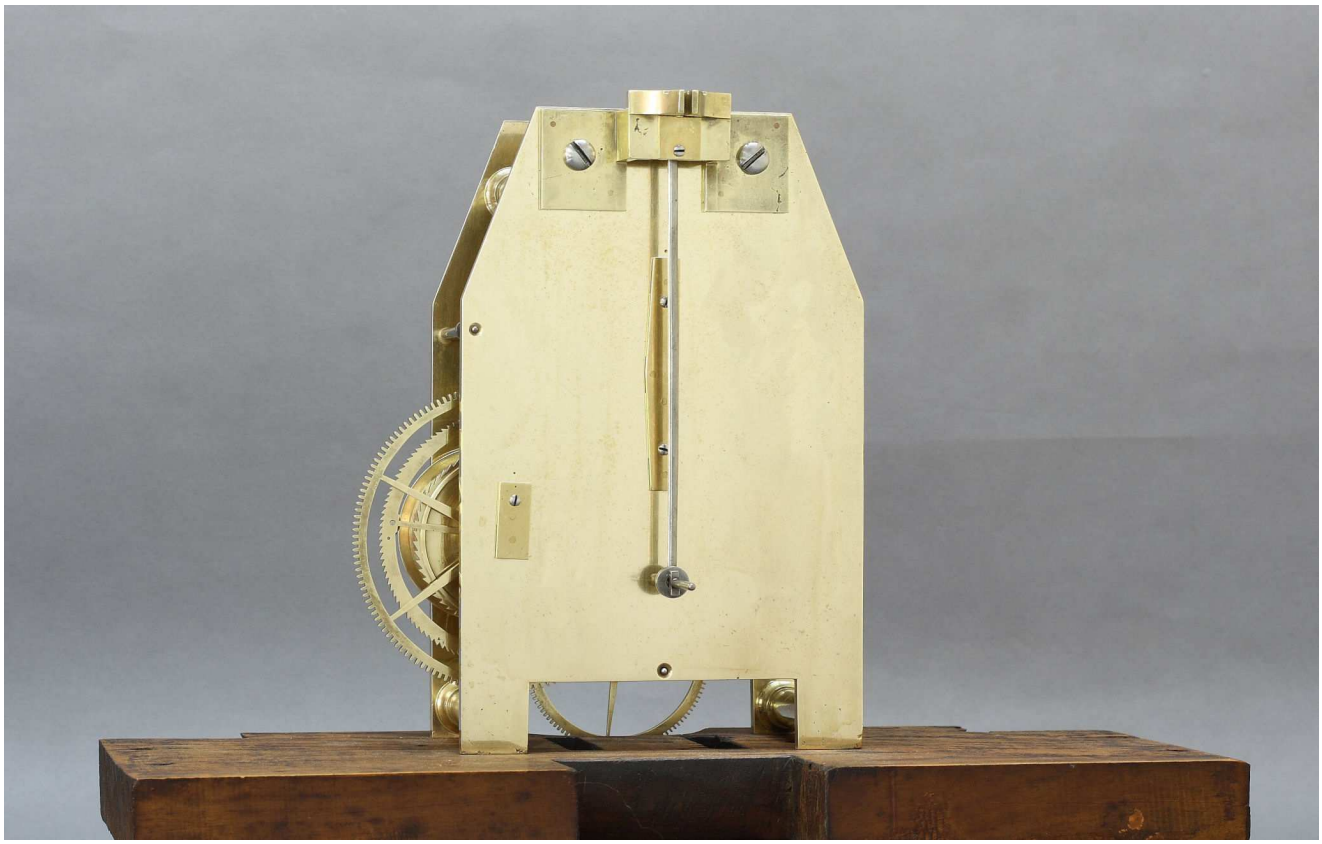
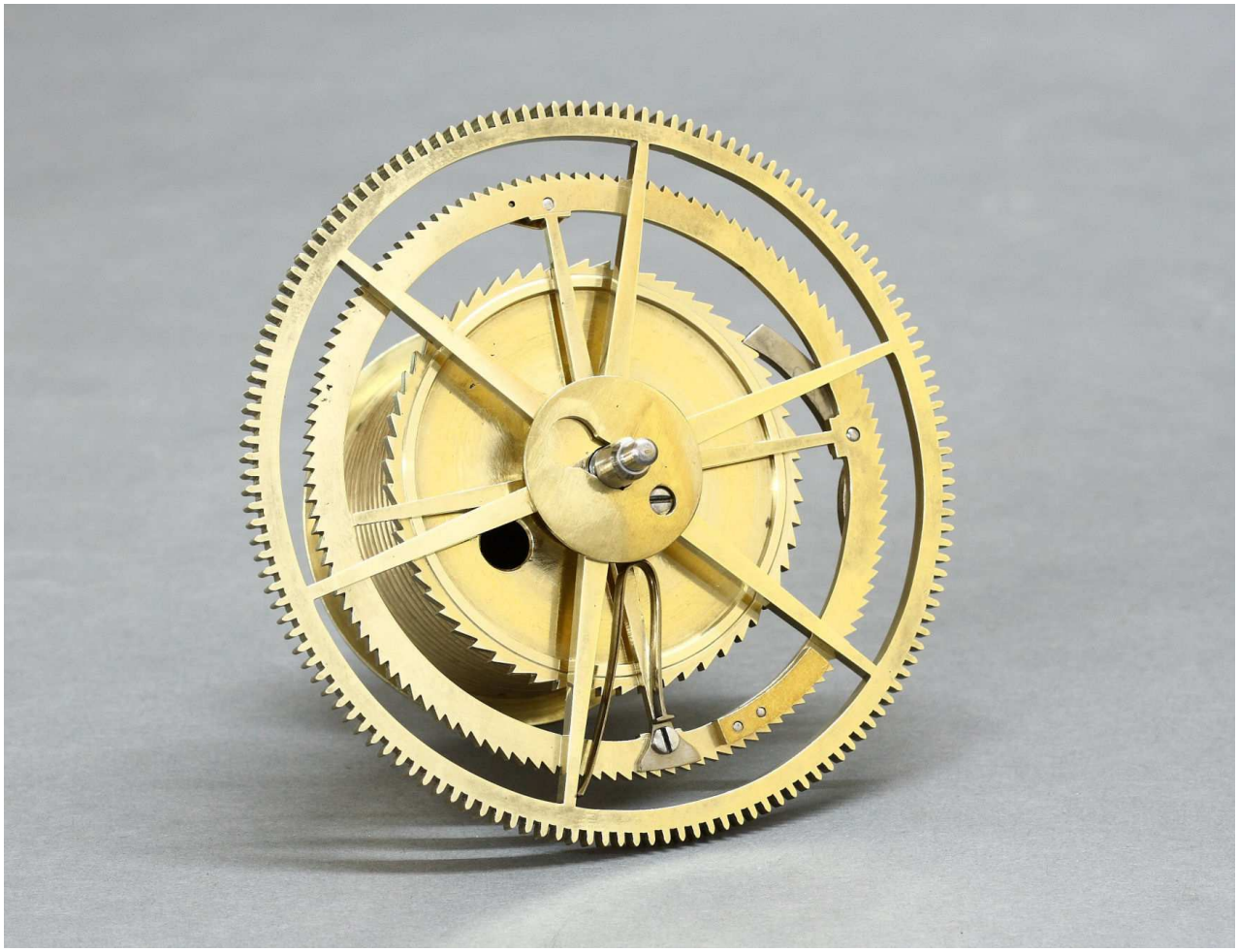
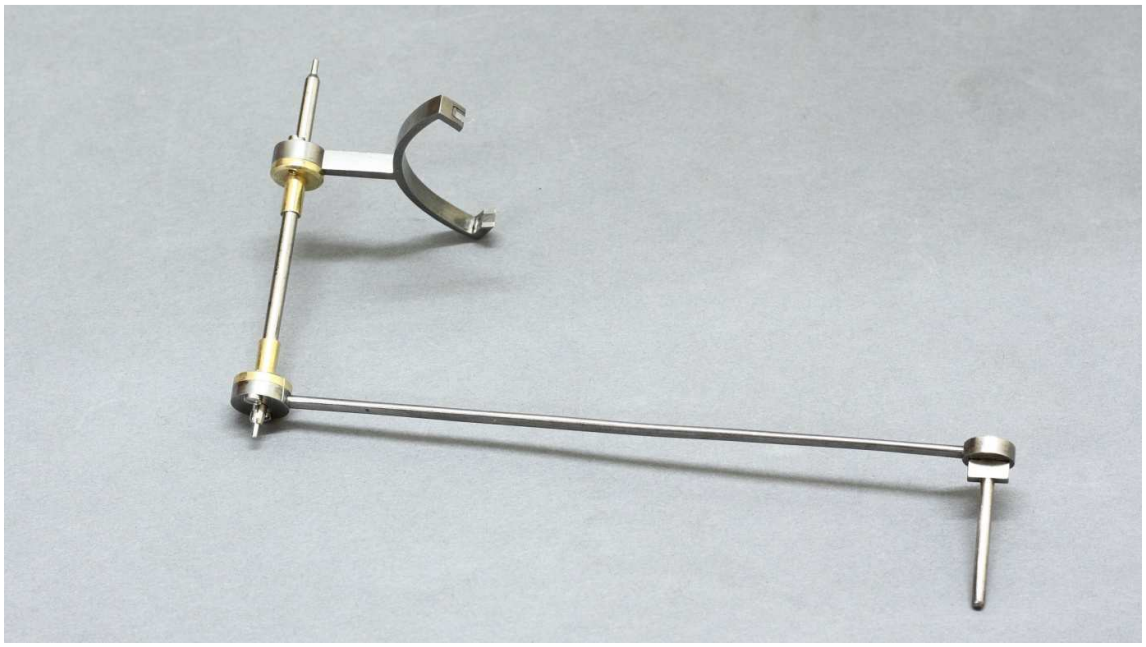
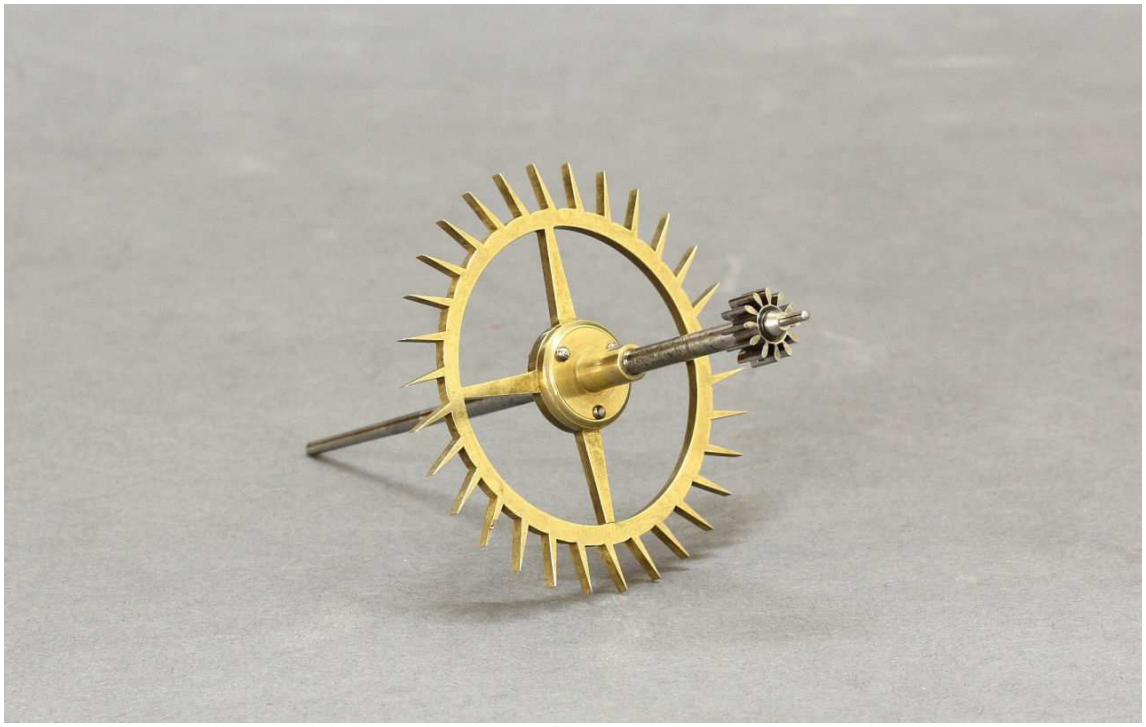










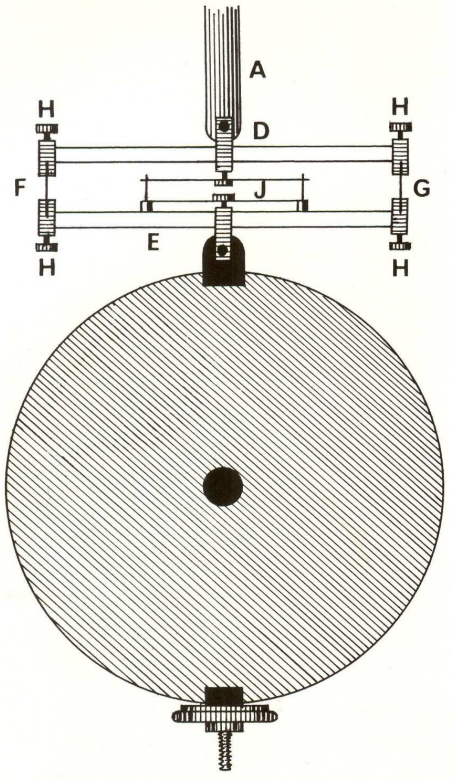


DAVID RITCHIE'S laid his design together with an actual example, before the Adelphi Society in 1812 and as a result received a reward of twenty guineas.

How it works: D and E are two bimetallic bars with the upper surface of D and the lower surface of E of steel and the other parts of brass. Because the brass has a higher coefficient of expansion than steel, it will cause the bars, as the temperature rises, to curve inwards at the center and thus counteract the lengthening of rod A.

The bars are linked together by F and G into which the bars slide. By slackening off the locking screws H these components can be slid in our out, thus varying the effective length of the bimetallic bars and the compensation being achieved.

To absorb some of the weight of the bob, two interlinked steel springs J are screwed, one to the bottom of the rod and the other to the bob.



Drawing byDavid Ritchie - Temperature-cCompensated pendulum.

OTHER FLOOR-STANDING REGULATOR

WITH DAVID RITCHIE'S COMPENSATED PENDULUM

Thwaites & Reid regulator, London
Early 19th C.

Detail from the pendulum of the Thwaites & Reid regulator.