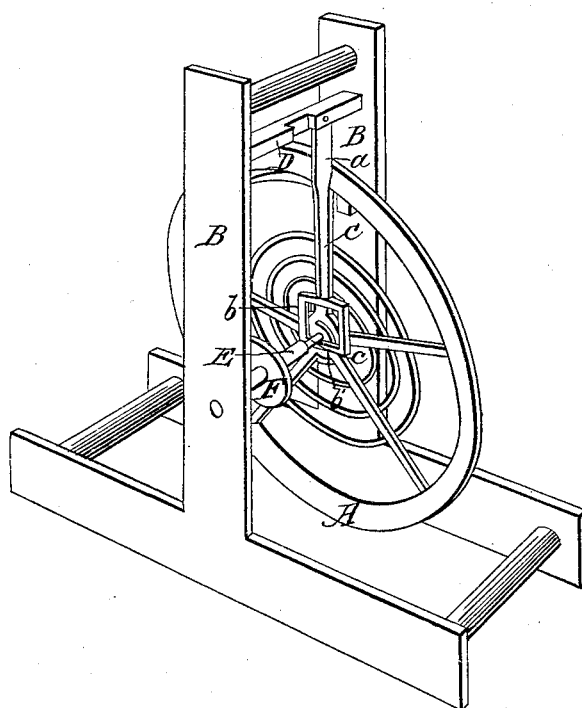


E. TERRY.

Clock.

No. 4,139.

Patented Aug. 9, 1845.



# UNITED STATES PATENT OFFICE.

ELI TERRY, OF PLYMOUTH, CONNECTICUT.

## SUSPENDING BALANCE-WHEELS OF CLOCKS.

Specification of Letters Patent No. 4,139, dated August 9, 1845.

*To all whom it may concern:*

Be it known that I, ELI TERRY, of Plymouth, in the county of Litchfield and State of Connecticut, have made a new and useful  
5 Improvement in the Manner of Lessening the Friction on Balance or Pendulum Wheels of Clocks or Timepieces; and I do hereby declare that the following is a full and exact description thereof.

10 My improvement consists in the employment of a suspension piece, which sustains the lower side of the arbor on which the balance wheel is placed, in such manner as to take off the weight of the balance wheel  
15 and its arbor from the pivots thereof. The suspension piece, which I denominate a friction preventer, is attached at its upper end to a stud, or bridge, immediately above the balance wheel; to this it may be affixed by  
20 means of a spring, in the manner of that at the upper end of a common pendulum. The length of the friction-preventer is a little greater than the semi-diameter of the balance wheel, and at its lower end it forms a  
25 stirrup, through the opening in which the balance-wheel arbor passes, and upon the lower part of which it rests; at this part, the arbor is turned down smaller than its general diameter, say to one third, and the  
30 part of the stirrup upon which it rests is formed into the segment of a circle, the curvature of which corresponds with the length of the friction-preventer.

35 In the accompanying drawing, A, is a balance wheel, having its pivots in the frame B, B. The friction-preventer is shown at C, attached at its upper end to a bridge piece, D, by its spring part, *a*; at its lower end, the

preventer is formed into a stirrup, *b*, *b*, the lower side of which, *b'*, being that which  
40 sustains the arbor, E, at the part *c*, where it is diminished in size. There may be two, or more, friction-preventers used, if desired, but I, ordinarily, employ one only, placing it  
45 so as to embrace that part of the arbor which is the center of gravity of the weight that it is to sustain; F, is a collet, or weight, put on to regulate the center of gravity; one, or both, of the pivots is to enter a slot in the  
50 frame instead of a round hole, so as to insure its free play. Under this arrangement, it will be seen that the arbor will have a rolling motion on the stirrup, *b*, the friction-  
55 preventer vibrating in obedience to this motion. If preferred, the preventer may be made inflexible, and its upper end, instead of being attached to a stationary bridge by  
60 means of a spring, may be attached to an arbor sustained on pivots, and allowing its free vibration.

Having thus, fully described the nature of my improvement in clocks, or time-pieces, and shown the manner in which my friction-  
65 preventer operates, what I claim therein as new, and desire to secure by Letters Patent, is—

The employment of a suspension piece, arranged and operating substantially in the  
70 manner of that which I have denominated the friction-preventer, for sustaining the weight of the balance wheel and its arbor, as herein fully made known.

ELI TERRY.

Witnesses:

CHAS. BYINGTON,  
SILAS B. TERRY.