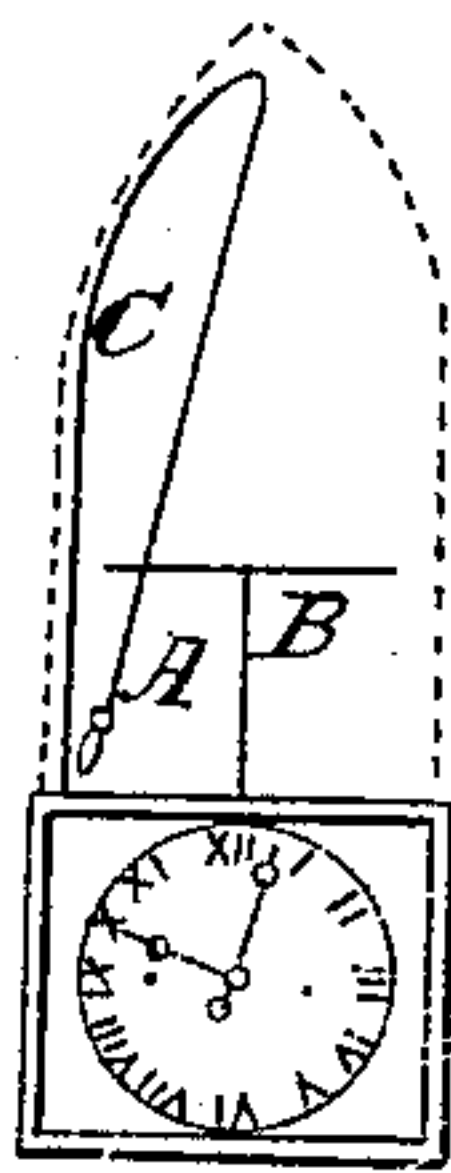


J. C. BRIGGS.

Mode of Regulating Clocks, &c., by Pendulums.

No. 13,451.

Patented Aug. 21, 1855.



UNITED STATES PATENT OFFICE.

JOHN C. BRIGGS, OF CONCORD, NEW HAMPSHIRE.

APPLICATION OF THE CONICAL PENDULUM TO TIMEKEEPERS.

Specification of Letters Patent No. 13,451, dated August 21, 1855.

To all whom it may concern:

Be it known that I, JOHN C. BRIGGS, of Concord, in the county Merrimack, the State of New Hampshire, have invented a
5 new and Improved Mode of Regulating Clocks and Timepieces by Pendulums; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings
10 and to the letters of reference marked thereon.

The nature of my invention consists in causing the pendulums of clocks to oscillate in circles or ellipses, the motion being kept
15 up by spindles coming up from below within the circumferences described by the pendulum balls.

The accompanying drawing represents a clock regulated after my mode.

20 A, is the pendulum oscillating in a circle or ellipse.

B, is the spindle coming up within the circumference of oscillation and keeping up the motion of the pendulum by acting directly upon some part of the pendulum itself
25 by means of a horizontal arm attached (to the spindle) or its top (the spindle's) bent over. This spindle is attached to, or a prolongation of, the vertical shaft of the last
30 or fastest wheel of the gearing of the clock

and having a motion as many times faster than the ordinary crown wheel of a clock as there are teeth in the crown wheel; this is true for pendulums of the same length.

C, is a post standing out of the way of the
35 oscillations of the pendulum with its top bent over so as to form a suitable support, for the pendulum, vertical to the center of oscillation and from which the pendulum is suspended.
40

By this arrangement the operation of the clock is noiseless. It does not tick. There is no reciprocating motion. The friction of the ordinary crutch is avoided, and when
45 the wheels stop, from some little catch, or sticking, the momentum of the pendulum in going around will carry the wheels with it and start them again of itself. It is therefore less liable to stop than ordinary clocks.

What I claim and desire to secure by Letters Patent is—
50

The combination of a rotary or conical pendulum with a spindle and its arm in the manner, and for the purposes, substantially as described.

Concord February 20th 1855.

JOHN C. BRIGGS.

Witnesses:

O. A. CLOUH,

CHARLES H. HAM.