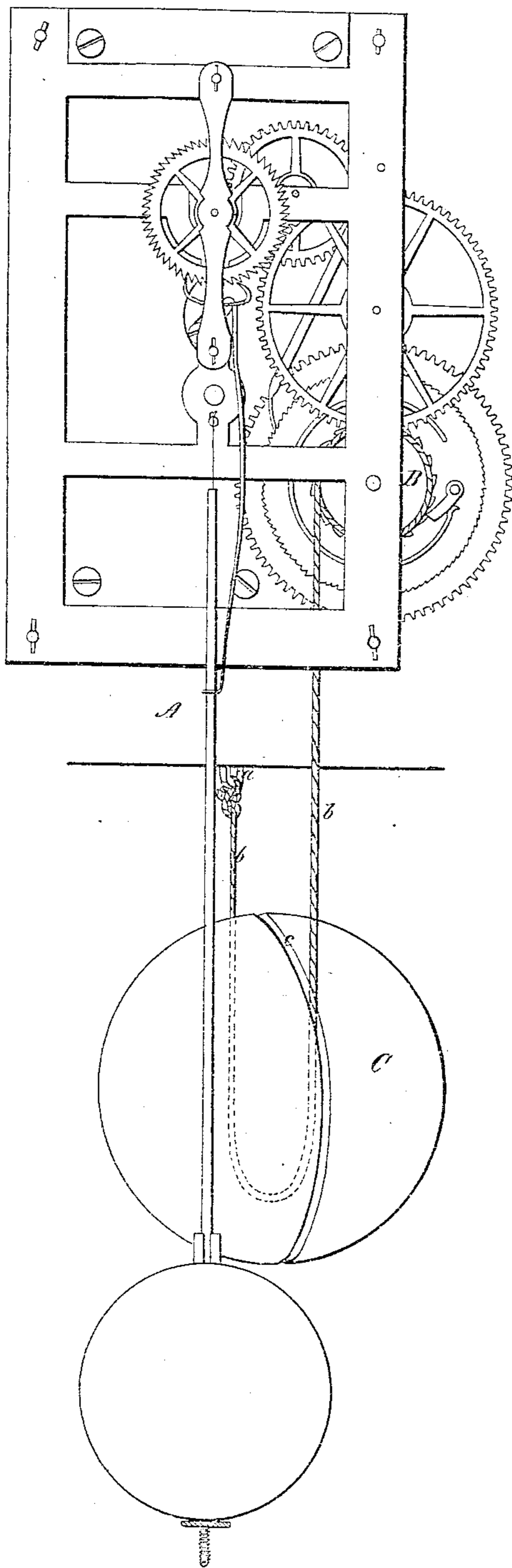


R. F. Bond

Clock.

N^o 27,684.

Patented Apr. 3, 1860



Witnesses:

Thos. R. Roach
W. B. Edgerton

Inventor:

R. F. Bond

UNITED STATES PATENT OFFICE.

RICHARD F. BOND, OF CAMBRIDGE, MASSACHUSETTS.

CONSTRUCTION OF CLOCK-WEIGHTS.

Specification of Letters Patent No. 27,684, dated April 3, 1860.

To all whom it may concern:

Be it known that I, RICHARD F. BOND, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Method of Suspending Clock-Weights, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification, in which is represented a clock-movement with my improvement attached.

The ordinary manner of hanging the weight which drives the machinery of a clock, is to pass the cord beneath a pulley to the axle of which the weight is suspended. This causes a considerable amount of friction on the axle of the pulley which necessitates the use of a larger weight than would otherwise be required. This increase of weight produces additional friction through the whole movement. It has therefore long been a desideratum to dispense with the pulley. This end I have attained in my improved method of suspending clock weights, which I will now proceed to describe so that others skilled in the art may understand and use my invention.

In the said drawings A is the frame of the clock, to the lower part of which at *a* is secured one end of the cord *b* the other end of which is attached to the going barrel B in the customary manner. In the loop of this cord I suspend the weight C which is a sphere or ball of metal in which is formed a groove *c*, cut in from the periphery at its greatest diameter toward the center, sufficiently far to keep the ball steady on the cord. This groove is formed by placing the ball in a lathe and turning out the groove; the bottom of the groove is turned smooth and true, so that the cord rests upon it as

shown by the dotted lines in the drawings, and as the weight falls it rolls over on the cord, making its revolutions on an axis passing through the center of the sphere at right angles to the groove *c*.

Care should be taken to cut the groove *c* over the middle of the length of the axis around which the ball is to revolve, that the weight of metal on one side of the groove may be equal, or nearly so to that on the other side.

I have described my improved weight as made in the form of a sphere as that is the one which I prefer, but it may be made of other forms without departing from the spirit of my invention, for example, the groove *c* may be cut in the middle of the length of a cylinder which would then revolve on its axis on the cord in a manner similar to the sphere.

By the above method of suspending the weight, I am enabled to dispense with the pulley usually employed, avoiding the friction of the pulley on its axle, and the liability to wear and breakage.

Under certain circumstances I intend to make the weight hollow and inclose a portion of quicksilver within it for the purpose of keeping the center of gravity always below the center of the weight.

What I claim as my invention and desire to secure by Letters Patent is:

The improved clock weight herein described, having a groove around its circumference for the reception of the cord, as set forth for the purpose specified.

RICHD. F. BOND.

Witnesses:

GEO. B. HARRIS,
J. MORTON CLINCH.