

G. HENINGER.
Clock Pendulum.

No. 62,330.

Patented Feb. 26, 1867.

Fig. 1.

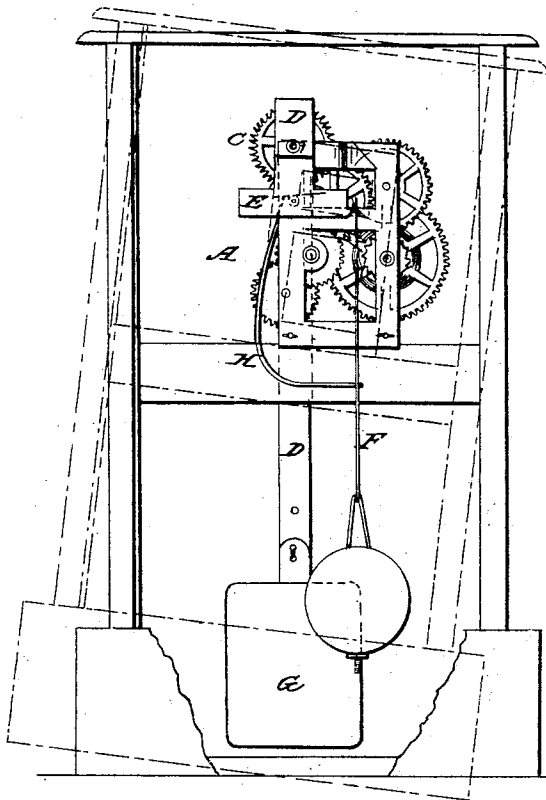
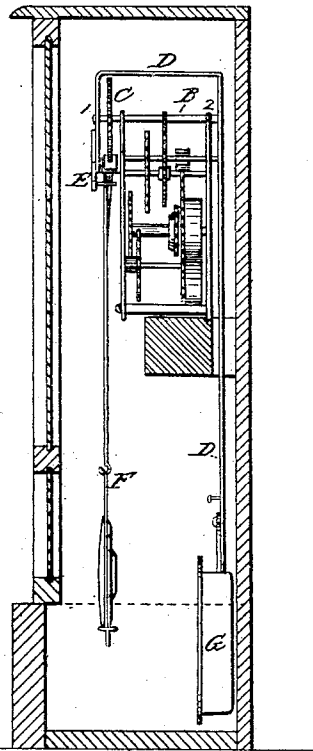


Fig. 2.



Witnesses:
A. B. Peyton.
John A. Dodge

Inventor:
George Heninger
By Baldwin Son
att'y

United States Patent Office.

GEORGE HENINGER, OF LENA, ILLINOIS.

Letters Patent No. 62,330, dated February 26, 1867.

IMPROVEMENT IN SUSPENDING PENDULUMS OF CLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE HENINGER, of Lena, in the county of Stephenson, and State of Illinois, have invented a new and useful Improvement in Clocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a front elevation of a clock to which my improvement is attached; and

Figure 2 is a side elevation of the same.

In all pendulum clocks used before my improvement it is indispensable to their proper movement that they should stand perfectly level, for if permitted to incline in the least to either side the pendulum cannot beat truly; and as in popular use it is not infrequent for clocks to be placed in positions where they are not perfectly plumb, they of course cannot keep time, even if they will go at all, and consequently many good clocks are condemned. Now it is the object of my invention to so construct pendulum clocks as that a considerable inclination to either side will not prevent them from keeping accurate time; and to this end my improvement consists in suspending, concentrically with the verge of the escapement-wheel of a pendulum clock, a balance-lever having the pendulum attached to one end and a counterbalancing weight to the other, to allow the clock to be set out of plumb without disturbing the regular movement of the pendulum.

The clock A may be actuated by a spring or weight through the regular train; the verge B of the escapement-wheel C having its arbors secured in proper bearings in the frame. Around these bearings I secure hollow studs 1 and 2, and solder or otherwise secure them to the frame, or the studs may themselves pass through the frame plates of the clock and constitute the bearings for the arbors of the escapement verge; but in either mode of construction the studs should be of the same diameter, and their perimeters truly concentric with the verge bearings. Upon these studs I hang a bent lever, D, so as to allow it a free vibration on the studs; the lever may be in the shape of a flat-bar with a T-shaped bed, E, on its front end, on the side of which I suspend the pendulum F in any of the most approved methods, and connect it with the escapement by the wire H. The rear portion of the lever D is elongated, and in this example passes down behind the clock-work and has suspended to it a weight, G, sufficient to balance the pendulum, and when the clock is at rest the pendulum will always be parallel with the long arm of the lever D. The weight need not necessarily be suspended behind the clock-work, but it is manifestly there least liable to interrupt the motions of the pendulum.

The operation is apparent, for when the clock is tilted sideways, as shown in red lines in fig. 1, the lever D, influenced by the weight G, will turn on its bearings and carry the pendulum with it without interrupting its beat; for however, within moderate limits, the clock may be tilted, the pendulum will be necessarily always plumb, and must beat in uniform relation to the escapement.

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

1. Rendering pendulum clocks capable of keeping accurate time when out of plumb by the method described, suspending a balance-lever concentrically with the escapement-wheel to operate the pendulum as set forth.
2. Balancing the pendulum by a weight, substantially as and for the purpose set forth.
3. The combination of the lever D with the weight and pendulum, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name.

GEO. HENINGER.

Witnesses:

C. ROUSH,

L. M. GRIGSBY.