

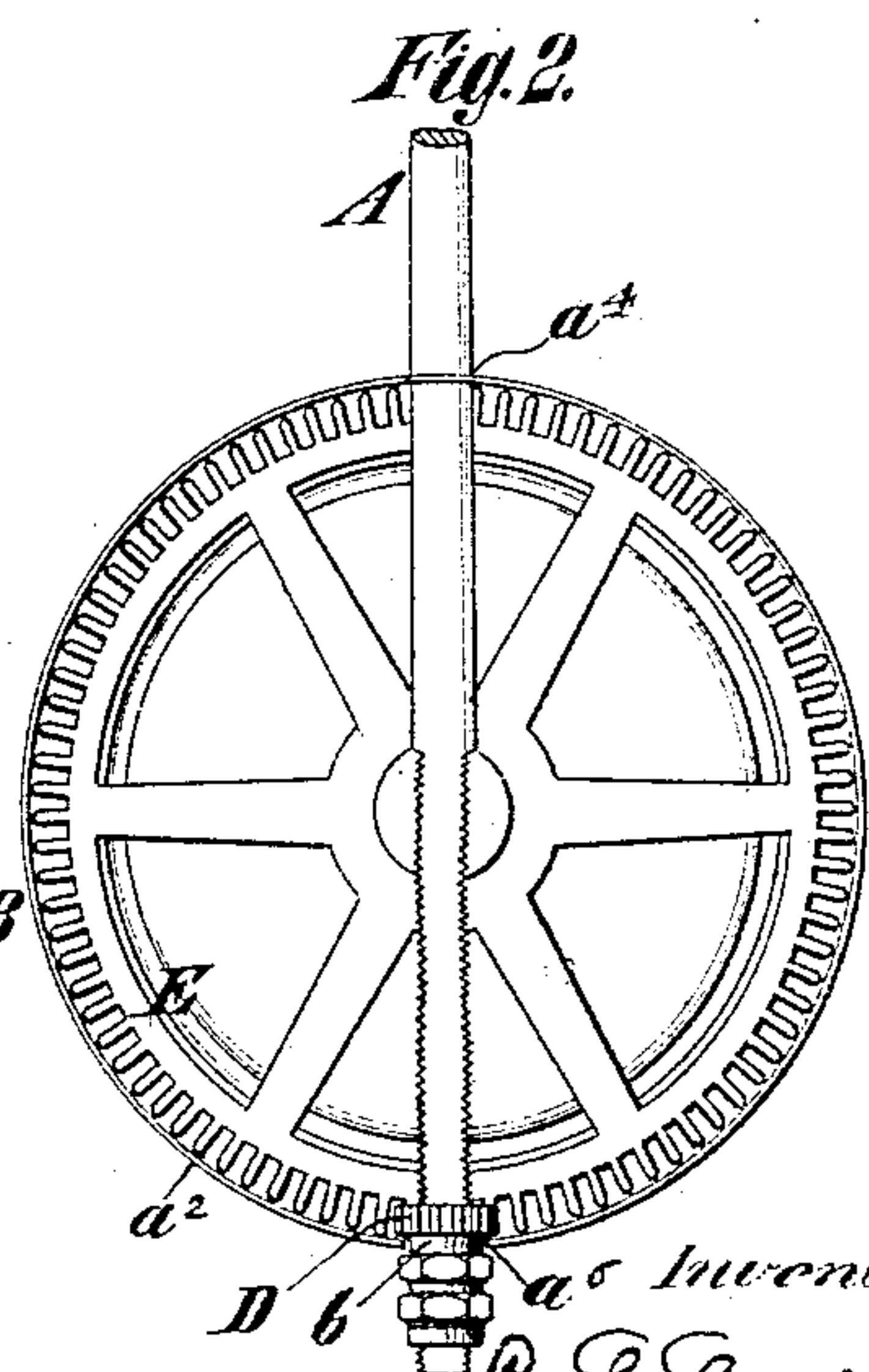
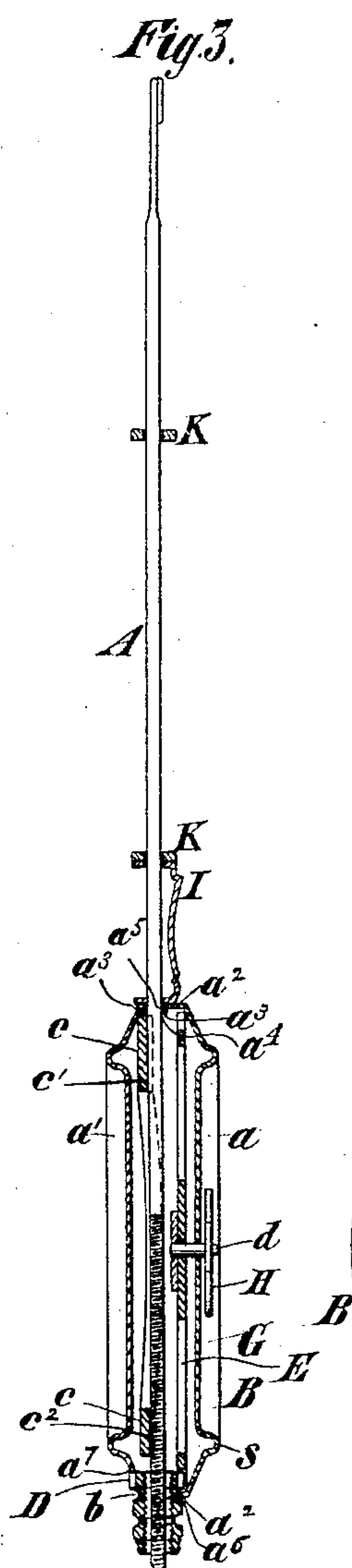
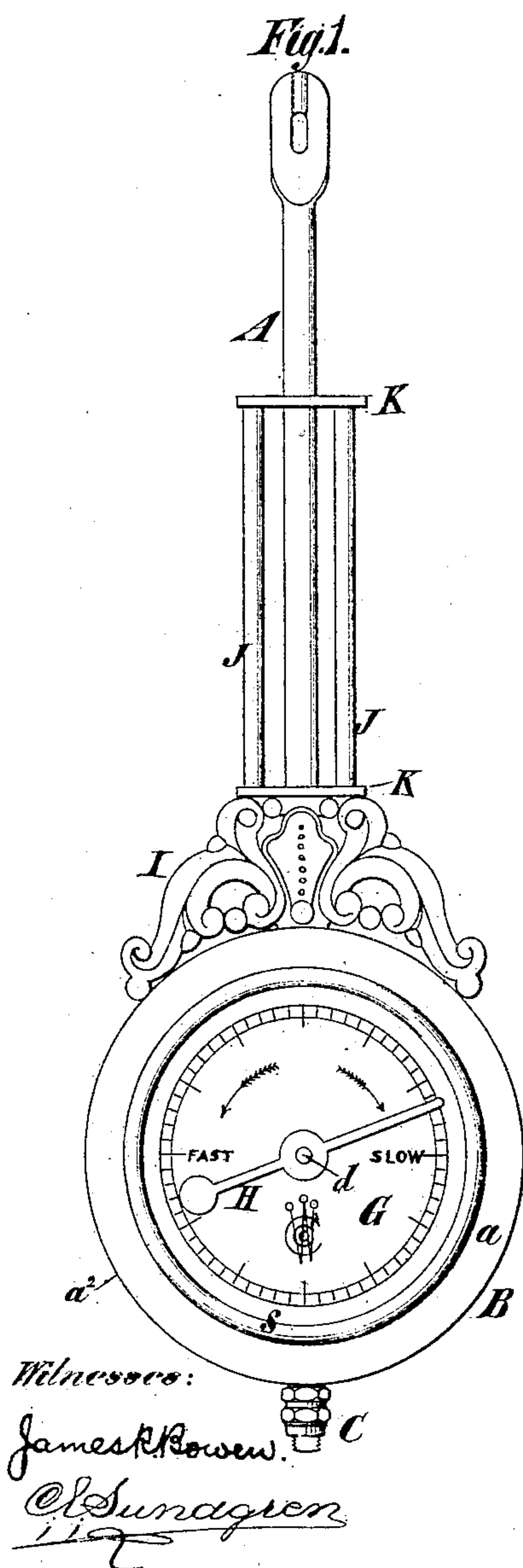
(No Model.)

C. S. LEWIS.

PENDULUM.

No. 290,186.

Patented Dec. 11, 1883.



# UNITED STATES PATENT OFFICE.

CHARLES S. LEWIS, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE  
WATERBURY CLOCK COMPANY, OF SAME PLACE.

## PENDULUM.

SPECIFICATION forming part of Letters Patent No. 290,186, dated December 11, 1883.

Application filed June 26, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES S. LEWIS, of Waterbury, in the county of New Haven and State of Connecticut, have invented a certain  
5 new and useful Improvement in Means for Indicating Adjustments of Pendulums, of which the following is a specification.

The object of this improvement is to produce a simple means for indicating the extent  
10 to which a clock-pendulum is adjusted.

In the accompanying drawings, Figure 1 is a front view of a pendulum embodying my improvement. Fig. 2 is a back view of the pendulum with the rod broken off and the  
15 back part of the case and the weight of the bob removed, and Fig. 3 is a transverse vertical section of the pendulum.

Similar letters of reference designate corresponding parts in all the figures.

20 A designates the rod of the pendulum. It may be made of brass or other suitable material, and, as shown, is of an ellipsoidal cross-section. The bob B of the pendulum has a case which, preferably, will be made of ornamental sheet metal. It is shown as made of  
25 two parts,  $a$   $a'$ , which are of circular form. Both parts may be ornamented with beads, other ornamental figures, or embossing. The front part,  $a$ , has a dial, G, delineated upon or  
30 affixed to it, and, as here shown, it has a central portion surrounded by a bead,  $s$ , on which the dial may be delineated or mounted. The front part,  $a$ , has at the back a deep rim,  $a^2$ , and the back part is fitted into this rim. Preferably the back part has a rim,  $a^3$ , which fits  
35 snugly within the rim  $a^2$  of the front part. The parts are held together merely by friction. The rod A passes through a slot,  $a^4$ , in the rim  $a^2$  of the front part, and the rim  $a^3$  of the back part is provided with a notch,  $a^5$ , to accommodate the rod. The lower portion of the rod A is  
40 externally screw-threaded and has fitted to it a nut, C. In the exterior of this nut is a circular groove,  $b$ , which engages with the edges of notches  $a^6$   $a^7$  in the rims of the parts  $a$   $a'$ .  
45 When the nut is turned, it rises or descends along the rod, and, owing to its engagement with the parts  $a$   $a'$  of the bob-case, the bob moves with it. This is a simple way of constructing a bob and providing for its adjust-

ment. In the case of the bob is an annular weight,  $c$ , which may be made of lead or other suitably-heavy material, and is provided with recesses  $c'$   $c^2$  to accommodate the rod A. To the upper end of the nut C is secured a toothed  
55 pinion, D, which is contained within the case of the bob. It is turned when the nut is turned.

E designates a toothed wheel which is arranged within the case of the bob. The pinion D engages with the wheel, and when  
60 turned imparts motion to it. This wheel is rigidly mounted on a shaft or arbor,  $d$ , that is supported in the front part,  $a$ , of the case.

An index finger, H, is rigidly secured at the front end of the shaft or arbor  $d$ . When the  
65 nut C is turned, the bob is raised or lowered, and the wheel E is rotated so as to cause the index-finger to travel around the dial and indicate the extent to which the bob has been moved. This will render it easy to adjust the  
70 bob to a nicety.

It will be observed that the weight is at one side of the pendulum-rod, and the dial and the toothed wheel E are at the other side of the rod within the case  $a$   $a'$ .  
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The manner of securing the parts of the bob-case together by friction renders the bob simple and cheap, and enables the case to be readily taken apart to afford access to the devices inclosed in the case.  
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Above the bob an ornament, I, made of sheet metal is arranged. It is slipped on the rod A and rests on the upper part of the bob. It is surmounted by bars J connected by cross-pieces or bars K, which are slipped on the rod.  
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What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a screw-threaded pendulum-rod, of a bob fitting on said rod and having an inclosing-case, a non-rotary dial, a  
90 nut fitting said rod, a shaft supported by the front of the case and concentric with the dial, an index-finger mounted on said shaft and moved thereby over the dial, a gear-wheel also mounted on the shaft, and a pinion connected with the nut and engaging with the gear-wheel, substantially as specified.  
95

2. The combination, with a screw-threaded pendulum-rod and a bob adapted to be adjusted along the same and having a case made  
100



of two parts, of a nut applied to the rod for adjusting the bob, and having a circular groove with which the two parts of the case engage, substantially as specified.

- 5 3. The combination of a screw-threaded pendulum-rod, a nut fitting thereon, a bob fitting the rod and comprising an inclosing-case and a weight arranged in the case on one side of said rod, an index-finger and gear-wheel on

the opposite side of the rod, a dial on the exterior of the case, and a pinion secured to the nut, and engaging with said gear-wheel, substantially as specified.

CHARLES S. LEWIS.

Witnesses:

FREDK. HAYNES,  
T. J. KEANE.