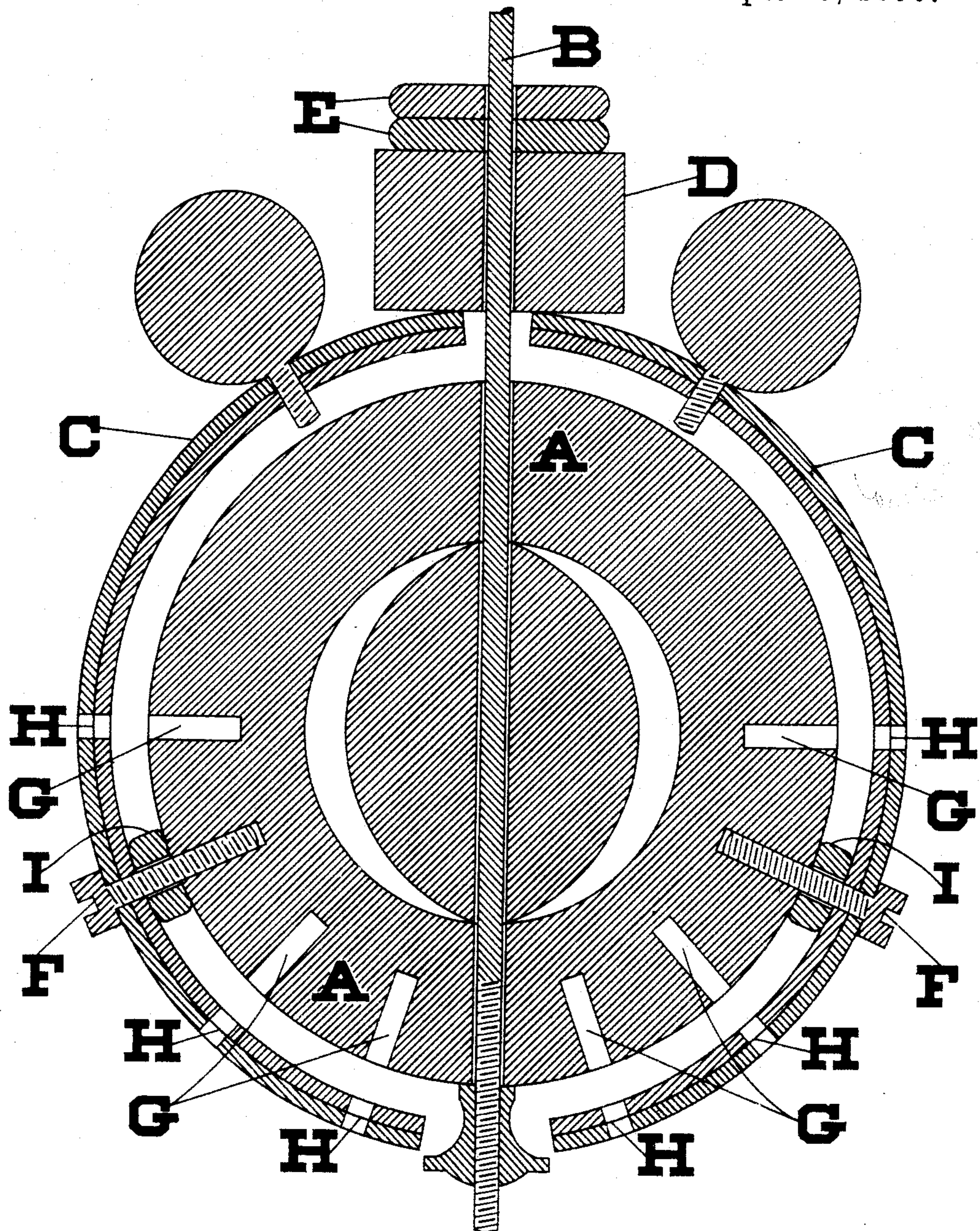


(No Model.)

G. P. REED.
CLOCK PENDULUM.

No. 436,941.

Patented Sept. 23, 1890.



Witnesses:

Walter S. Coffin.
Ernest E. Johnson.

Inventor:

George P. Reed

UNITED STATES PATENT OFFICE.

GEORGE P. REED, OF MELROSE, MASSACHUSETTS.

CLOCK-PENDULUM.

SPECIFICATION forming part of Letters Patent No. 436,941, dated September 23, 1890.

Application filed November 6, 1889. Serial No. 329,409. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. REED, a citizen of the United States, residing at Melrose, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Clock-Pendulums, of which the following is a specification.

In the accompanying drawing, A represents a clock-pendulum ball. B represents the rod. C represents a compound laminar curved plate or bar or segment. D represents a movable weight. E represents movable and adjustable disks or wheels applied directly to and around the pendulum-rod.

The laminar curve C is fastened to the pendulum-ball A by means of the screws F. The pendulum-ball has a series of holes G, drilled and tapped, of the right size to admit the screws F. The laminar curve also has a series of holes H made to coincide with the holes G in the pendulum-ball.

The screws F are provided with a collar I, made to go freely thereon and to apply between the laminar curve and the pendulum-ball A, so that the screws F may be turned fully in and leave the amount of space between the laminar curve and the pendulum-ball corresponding to the thickness of the collar I. It is plain that by removing the fastening-screws F from one hole to another in the pendulum-ball the distance from the end of the laminar curve to the point of fastening will be correspondingly changed. Weight D is applied to and around the pendulum-rod B, so as to move freely thereon, the bottom or lower part of this weight resting upon the free-acting ends of the laminar curve, so that the changing temperature will cause the free ends of the curve to move upward or downward, and so cause the weight D to move in an opposite direction to the movement caused by expansion or contraction of the rod, thus compensating therefor.

It is evident that by changing the position of the fastening-screws F, as provided by the

different holes G in the pendulum-ball, the amount of action given to the free ends of the curve will be increased or diminished, thus effecting the desired adjustment to be obtained.

To assist and obtain a more exact adjustment, a series of disks E is applied to and directly around the rod B, and it is evident that by taking from or adding to these disks the adjustment may also be obtained.

I claim—

1. In a clock-pendulum, the combination of the ball provided with two series of holes, one on each side of the line of suspension, the laminar curved bars or plates having similarly-arranged series, the holes of the bars and ball being oppositely placed in the same plane, screws adapted to secure the plates and ball together, and the pendulum-rod, substantially as set forth.

2. In a clock-pendulum, the combination of the ball provided with a series of holes on each side of the line of suspension, the laminar curved bars or plates having two series of holes similarly placed, each hole in the bars being opposite a hole in the ball, screws adapted to secure the plates and ball together, and intermediate collars, substantially as set forth.

3. In a clock-pendulum, the combination of the ball provided with two series of holes, the laminar curved bars or plates having also two series of holes, the holes of the bar and ball being oppositely placed with respect to the line of suspension and with respect to each other, screws adapted to secure the plates and ball together, and the pendulum-rod provided with a movable weight resting on the free ends of said plate, substantially as set forth.

GEORGE P. REED.

Witnesses:

EDWARD A. HUNTING,
DANIEL B. WHITTIER.