(No Model.)

F. M. WAKEMAN.

PENDULUM ADJUSTMENT FOR CLOCKS.

No. 449,016. Patented Mar. 24, 1891.

Fig. 2.

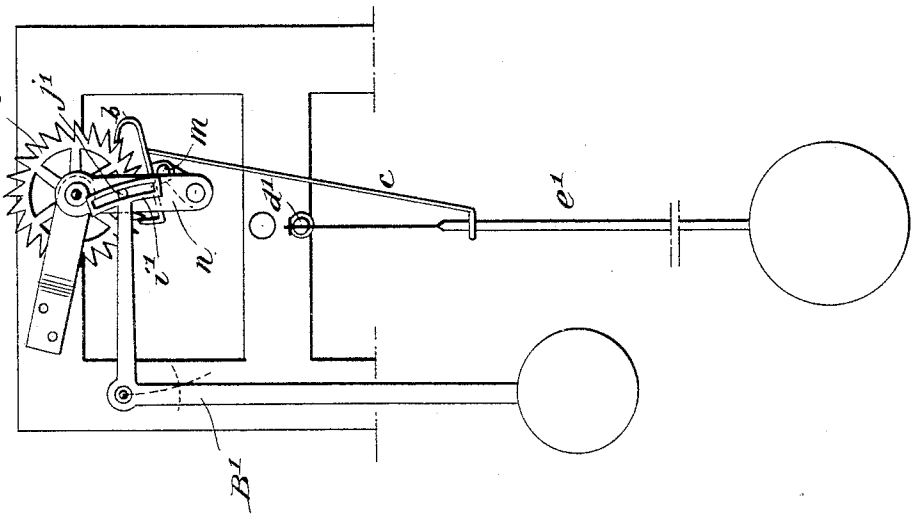
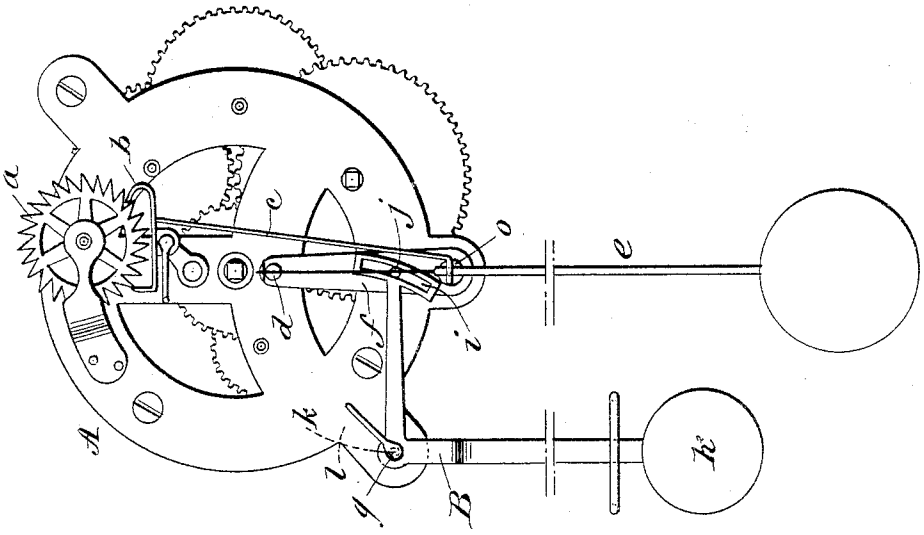


Fig. 1.



WITNESSES:

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FRANK MERWIN WAKEMAN, OF NANTUCKET, MASSACHUSETTS.

PENDULUM ADJUSTMENT FOR CLOCKS.

SPECIFICATION forming part of Letters Patent No. 449,016, dated March 24, 1891.

Application filed October 21, 1890. Serial No. 368,796. (No model.)

To all whom it may concern:

Be it known that I, FRANK MERWIN WAKEMAN, of Nantucket, in the county of Nantucket and State of Massachusetts, have invented a new and Improved Pendulum-Adjuster, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a front elevation of my improved pendulum-adjuster, and Fig. 2 is a modification of the same.

Similar letters of reference indicate corresponding parts in both views.

The object of my invention is to provide a simple and effective device for automatically adjusting a clock-pendulum to keep the same in beat when the clock is in different positions.

My invention consists in the combination, with the escapement, the pallets, the guide-wire, and the pendulum, of a pivoted arm for supporting the pendulum or pallets, and a weighted lever provided with a cam for moving and holding the pendulum or pallets, all as will be hereinafter more fully described.

The clock-movement A is provided with the usual scape-wheel *a*, pallets *b*, and guide-wire *c*. The split stud *d*, which receives the pendulum-rod *e*, is supported by an arm *f*, which is pivoted to the frame of the clock-movement at a point opposite the connection of the guide-wire *c* and the pendulum-rod *e*. To the frame of the movement at one side of the pendulum is pivoted a right-angled lever B upon the clamping-screw *g*. The longer arm of the said lever extends downwardly, and is provided at its lower end with a weight *h*. The shorter arm projects over the face of the movement and over the pivoted arm *f*, and is provided at its free end with a slotted cam *i*. In the arm *f* is inserted a stud *j*, which projects into the slot of the cam *i*. The curvature and inclination of the cam are arrived at by drawing the arc *g k*, (shown in dotted lines,) with *j g* as a radius, then intersecting the arc *g k* by an arc *l*, drawn from the center of *g*, with a radius equal to *o j*, and drawing the arc of the link from the intersection of the arcs *g*, *k*, and *l*, with *g j* as a radius. The longer arm of the lever B is offset to carry the weight *h* out of the path of the pendulum.

In the modification shown in Fig. 2 the pallet-stud *m* is supported by an arm *n*, pivoted on an axial line with the arbor of the scape-wheel *a*. In the said arm is inserted a stud *j'*, and to the frame of the movement is pivoted an angle-lever B', carrying at the free end of its shorter arm a cam *i'*, which is similar to the one already described, but inclined in the opposite direction. In this case the pendulum-rod *e'* is received in the stud *d'*, projecting from the face of the movement in the usual way.

In the case of the device shown in Fig. 1, as the clock is inclined in one direction or the other, the tilting of the lever B moves the arm *f*, through the engagement of the cam *i* with the stud *j*, so as to always keep the clock in beat. In the device shown in Fig. 2 the same result is secured by the movement of the arm *n* by the engagement of the cam *i'* with the stud *j'*.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the pallets and pendulum-rod of a pendulum-clock, of an angled weighted lever provided with a cam adapted to move the point of suspension of the pendulum or pallets, substantially as specified.

2. In a pendulum-adjuster, the combination, with the pendulum-rod, of a pivoted suspension-arm having a stud projecting from the face thereof, and an angled weighted lever provided with a slotted cam, substantially as specified.

FRANK MERWIN WAKEMAN.

Witnesses:

WM. J. LONG,

WILLIAM A. SMITH.