

(No Model.)

F. A. LANE.

MECHANISM FOR REGULATING CLOCKS.

No. 308,265.

Patented Nov. 18, 1884.

Fig. 1

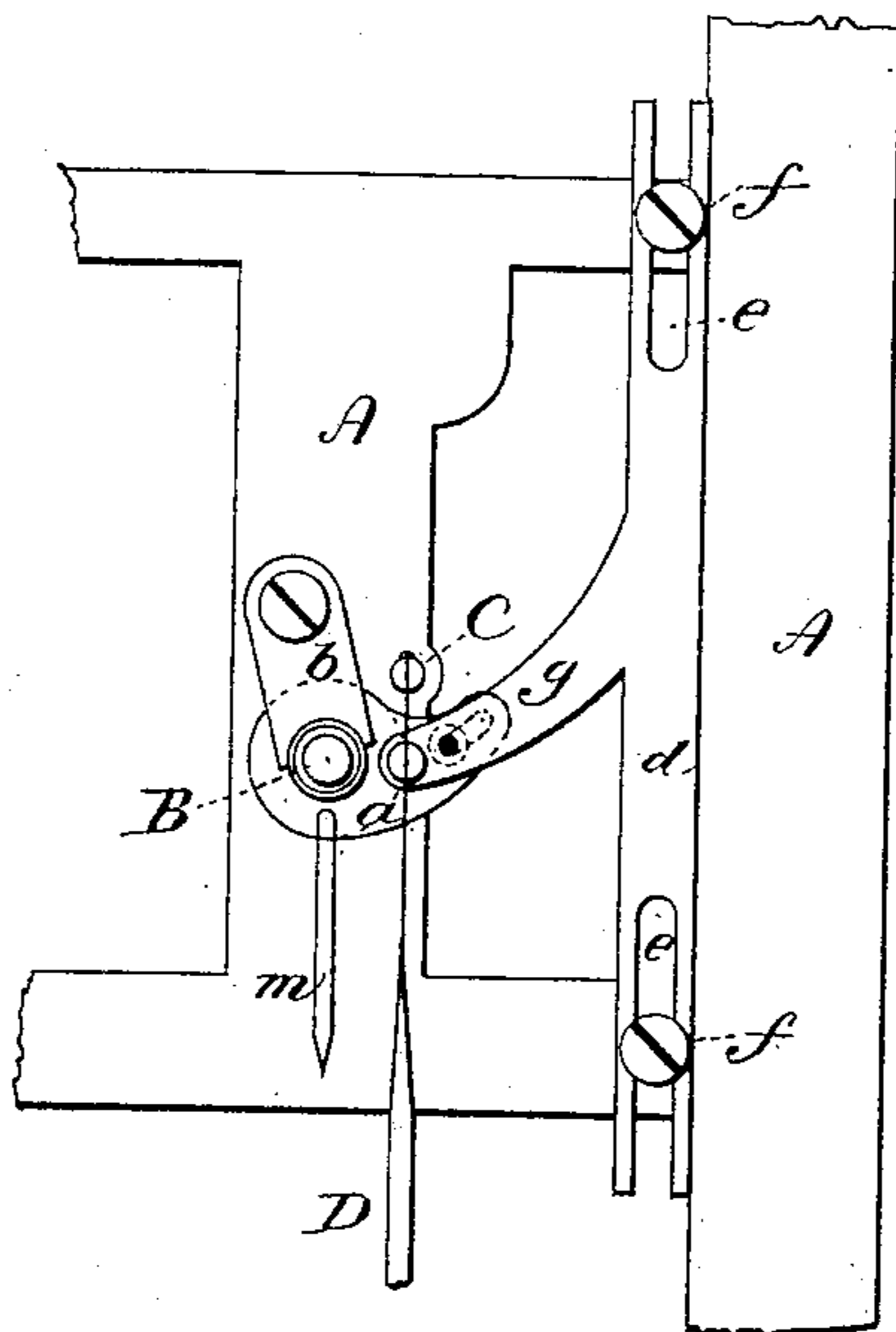


Fig. 3

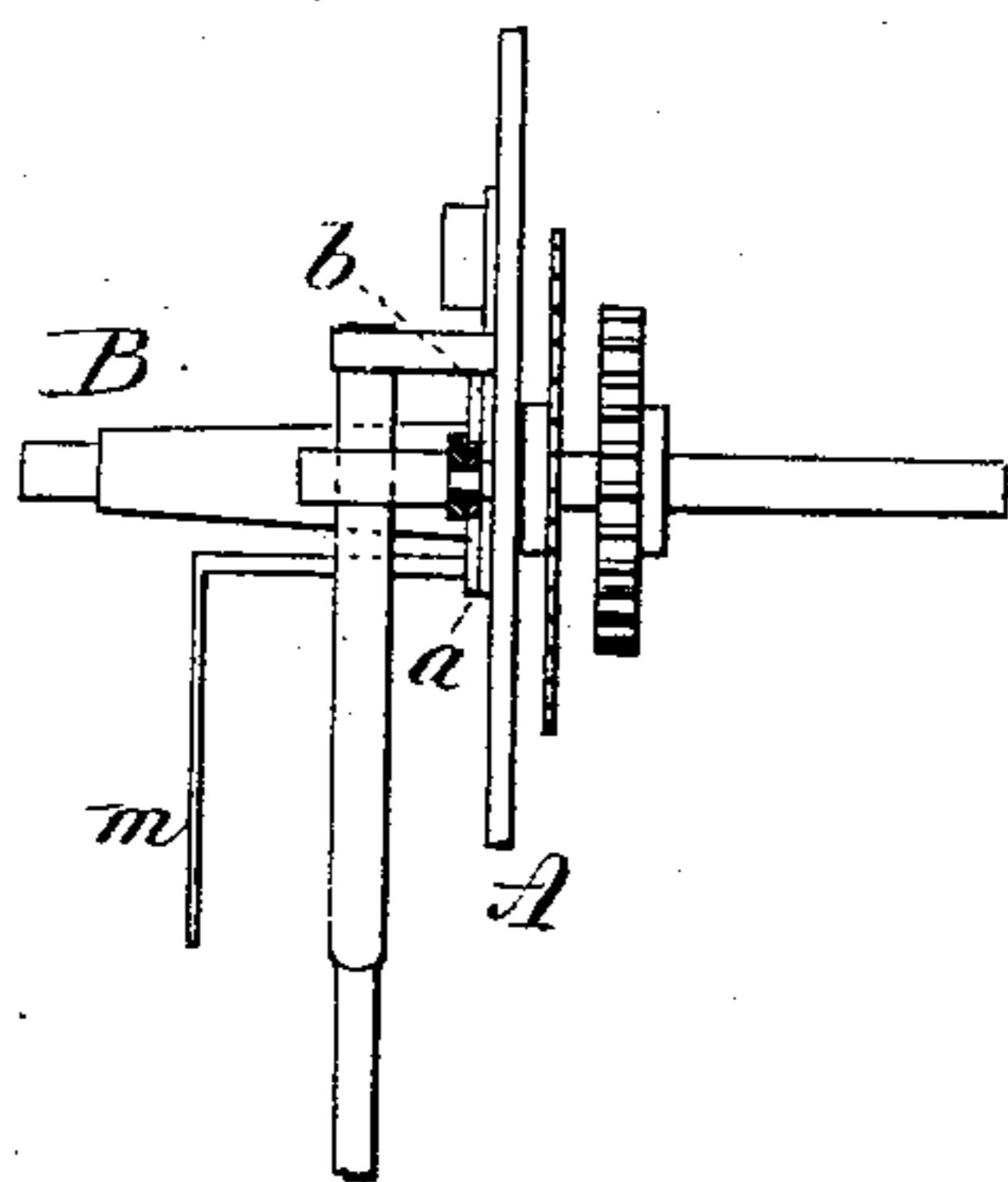


Fig. 2

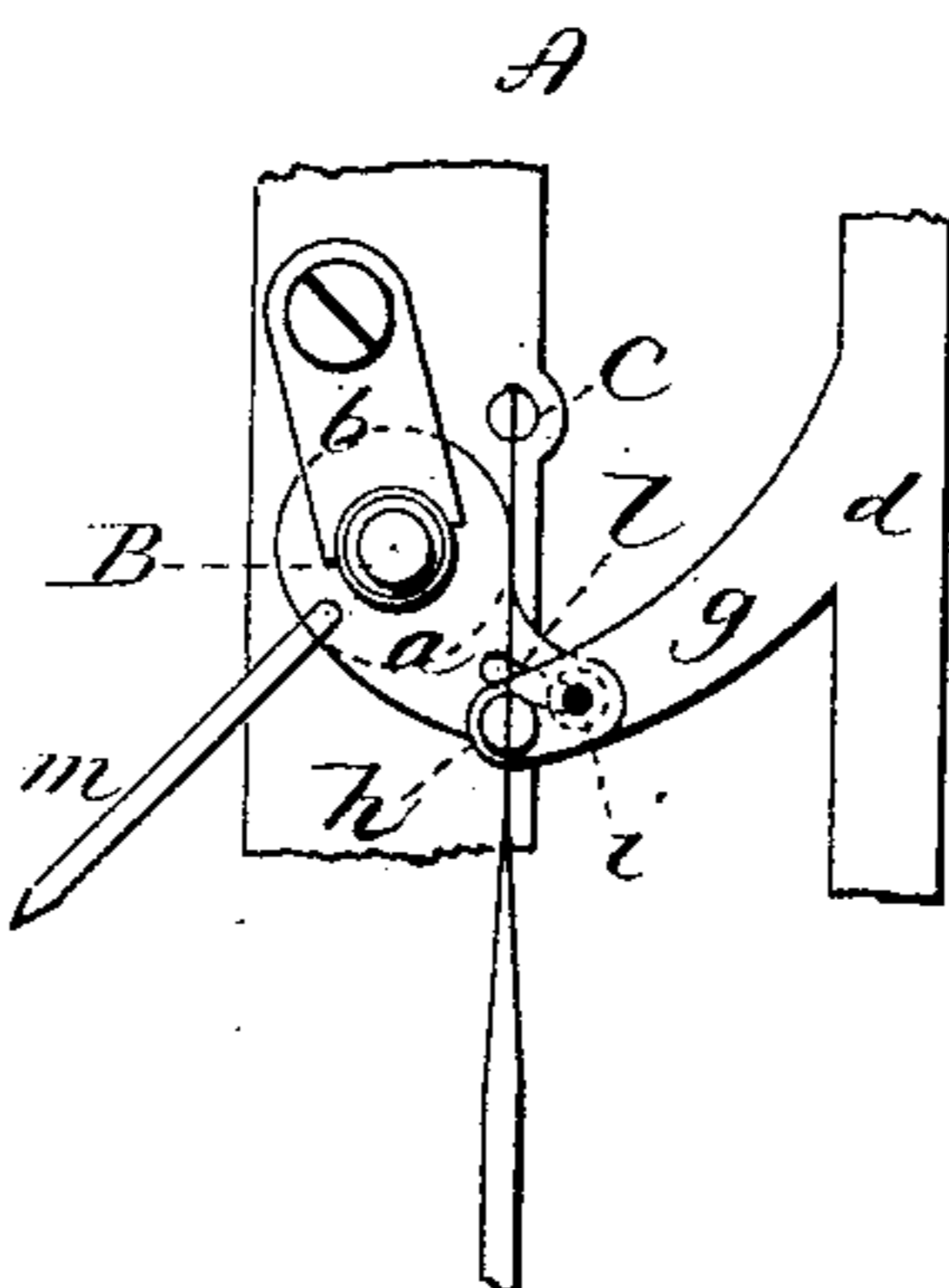


Fig. 4



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UNITED STATES PATENT OFFICE.

FRED A. LANE, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE NEW HAVEN CLOCK COMPANY, OF SAME PLACE.

MECHANISM FOR REGULATING CLOCKS.

SPECIFICATION forming part of Letters Patent No. 308,265, dated November 13, 1884.

Application filed June 30, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRED A. LANE, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Devices for Regulating Clocks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view of so much of a clock-frame as is necessary to illustrate the invention; Fig. 2, the same parts, showing the regulating device as moved downward from the position seen in Fig. 1; Fig. 3, a side view; Fig. 4, a face view of the cam detached.

This invention relates to an improvement in device for regulating that class of clocks in which a pendulum is employed, the object being to apply the regulating mechanism at the center shaft, and so that it may be operated by a pointer on the dial; and the invention consists in a cam arranged upon the center shaft, having a pointer extending outward, and so that the cam may be turned independent of the center shaft, combined with a vertical slide constructed with an arm extending toward the cam, the cam and arm in slotted connection, whereby the rotation of the cam imparts a corresponding vertical movement to said slide, the arm carrying a stud to embrace the spring portion of the pendulum and ride up and down thereon, accordingly as the cam moves the slide, and as more fully hereinafter described.

A represents so much of the frame of the clock-movement as is necessary for the illustration of my invention; B, the center shaft; C, the stud to which the pendulum-rod D is hung in the usual manner, the pendulum-rod reduced into the form of a flat spring at its upper end, also, in the usual manner. Around the center shaft I place a cam, *a*, but entirely free of the shaft, simply turning thereon as a center of motion. The cam lies close upon the frame, and is held in place by an arm, *b*, secured to the frame at one side, but so as to overlap the cam, as shown, and also so as to

create sufficient friction upon the cam to prevent its accidental rotation. At one side of the center shaft is a vertical slide, *d*, guided by slots *e* therein, working over studs or screws *f*, and so as to be moved freely up and down. From the slide *d* an arm, *g*, extends toward the center. This arm carries a stud, *h*, similar to the stud C, upon which the pendulum is hung, and so as to embrace the thin or spring portion of the pendulum-rod, and move freely up and down thereon, and substantially in a vertical line through the stud C. The arm *g* extends over the face of the cam, and in the arm is a stud, *i*, which passes through a cam-shaped slot, *l*, in the cam *a*, which so couples the cam with the arm that a movement imparted to the cam is communicated to the slide *d*, through the slot in the cam and stud on the arm. To the cam a pointer, *m*, is applied, by which the cam may be conveniently turned upon its axis. This pointer should extend outside the dial, but inside the time-pointers, and so as not to interfere with their rotation. To regulate the clock the pointer is turned in one direction to move the slide downward—say as from the position in Fig. 1 to that in Fig. 2—or in the opposite direction to return it, the downward movement practically shortening the pendulum, and the upward movement practically lengthening it.

I am aware that a vertical slide has been arranged upon a clock-frame carrying a stud arranged to embrace the thin portion of the pendulum-rod below the stud by which the rod is suspended, but in such construction the slide has been made in the form of a toothed rack with a pinion on the center shaft working into said rack, and so that by the rotation of the pinion the rack will be correspondingly moved; but as the center shaft and the pendulum-stud are so near together, only a pinion of small diameter can be employed, and in such construction nearly a full rotation of the pinion is required to produce the maximum adjustment or regulation, whereas by my invention, and which I have thus fully described, I am enabled to make the connection between the slide and the cam at so great a distance from the center that a slight movement of the cam

will impart a considerable movement to the slide.

Again, my invention reduces the cost of such adjustment in that the cam and slide may be struck by dies complete from sheet metal, whereas the rack and pinion require to be cut—
an expensive element in the manufacture of clocks.

I claim—

10 The herein-described device for regulating clocks, consisting of the cam *a*, arranged upon the center shaft projecting therefrom, and provided with a pointer, *m*, combined with the

vertically-guided slide *d*, constructed with an arm, *g*, projecting therefrom over the cam, 15 the cam and arm, the one constructed with a slot, *l*, and the other with a corresponding stud, *i*, to couple the cam with the slide, and the arm *g*, also provided with the stud *h*, having a slot to embrace the pendulum-rod below 20 its point of suspension, substantially as described.

F. A. LANE.

Witnesses:

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