(No Model.)

A. M. LANE.

SETTING MECHANISM FOR ALARM CLOCKS.

No. 403,274. Patented May 14, 1889.

Fig. 1.

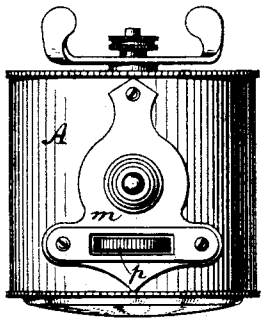

Fig. 2.

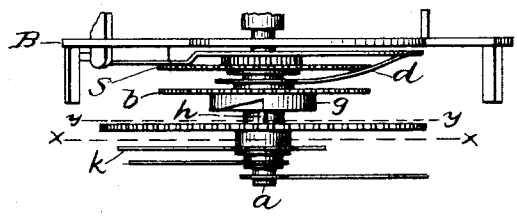

Fig. 3.

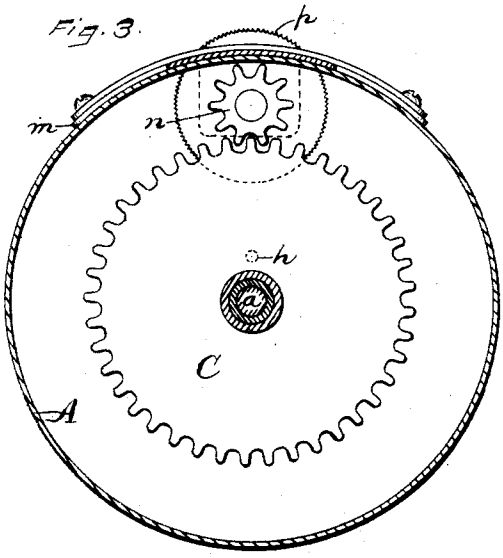

Fig. 4.

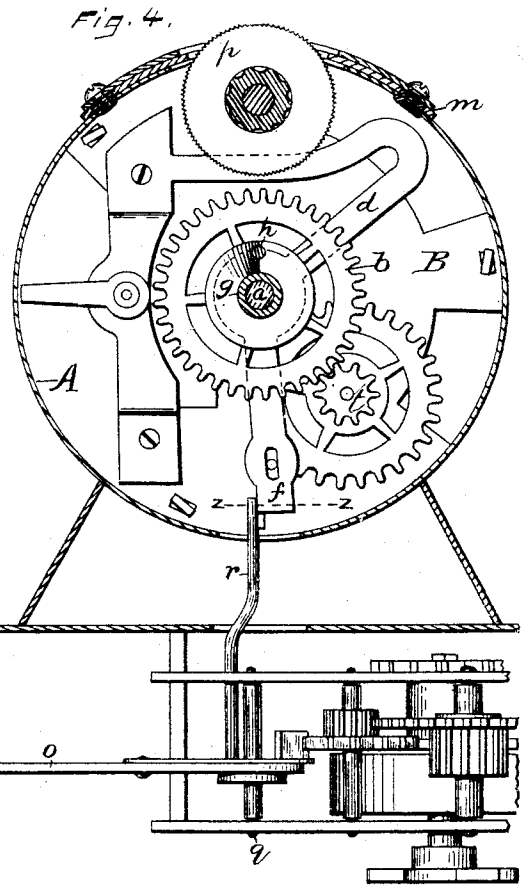

Fig. 5.

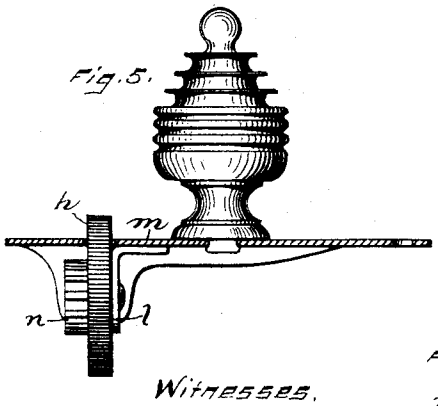

Fig. 6.

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SETTING MECHANISM FOR ALARM-CLOCKS.

SPECIFICATION forming part of Letters Patent No. 403,274, dated May 14, 1889.

Application filed July 31, 1888. Serial No. 281,583. (No model.)

To all whom it may concern:

Be it known that I, ALMERON M. LANE, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Alarm-Setting Mechanisms, of which the following is a specification.

My invention relates to improvements in alarm-setting mechanisms; and the object of my invention is to simplify the construction, thereby lessening the cost and rendering the parts more convenient to assemble and operate.

In the accompanying drawings, Figure 1 is a plan view of a clock which embodies my invention. Fig. 2 is a plan view of parts of said clock-movement and parts of the alarm setting and releasing mechanism. Fig. 3 is a vertical section of a clock-case, its center shaft, and a front elevation of the setting-wheels, the plane of section being indicated by the line *x x* of Fig. 2. Fig. 4 is a vertical section of said clock-case and movement on the line *y y* of Fig. 2, together with a side elevation of the principal parts of an alarm-movement underneath the case. Fig. 5 is a vertical section of the detachable cap with a side elevation of the alarm-setting button and pinion mounted thereon, and Fig. 6 is a transverse section of the connecting-rod and releasing-arm, the plane of section being indicated by the line *z z* in Fig. 4.

A designates the clock-case, which is cylindrical in form and contains within it a clock-movement of a well-known construction.

B designates the front plate of this clock-movement, upon the front of which I arrange the alarm setting and releasing mechanism.

To the movement-plate B, I secure a peculiar-shaped spring, *d*, most clearly shown in Fig. 4, which spring extends downwardly around the center shaft, *a*, and terminates at its lower end in the holding and releasing arm *f*. This spring, at the point where it surrounds the center shaft, *a*, bears against the cam-wheel *b* with a constant tendency to press said wheel forward. Upon the front of this cam-wheel *b*, I form a side-acting cam, *g*, Figs. 2 and 4.

s, Fig. 2, designates one of the ordinary dial-wheels—viz., the hour-wheel—and it is attached to the back end of the hour-socket, while the hour-hand is attached to the front end of said socket, all as in ordinary clock-movements. The cam-wheel *b* is mounted so as to slide on the hour-socket, and its teeth correspond with those of the dial-wheel *b*. The pinion *t*, Fig. 4, meshes into and drives both of the wheels *s* and *b*, so that the cam *g* revolves with the hour-wheel.

In front of this cam-wheel *b*, I arrange a setting-wheel, C, said wheel being provided upon the side which faces the cam *g* with a trip-pin, *h*, Figs. 2 and 4, said pin also being shown by a broken circle in Fig. 3. The hub of this wheel C extends forward through the clock-dial, and is provided with the alarm-setting pointer *k*. On the upper part of the clock-case, and pivoted to a lug, *l*, on a detachable cap, *m*, I arrange a setting-button, *p*, upon the side of which is a pinion, *n*, that meshes into the teeth of the setting-wheel C, whereby, by turning the setting-button *p* the alarm-pointer *k* may be set as desired to bring the pin *h* into position to slip off the shoulder of the cam *g* at any predetermined time. The cap *m* is attachably and detachably secured to the clock-case by means of screws, an opening being left in the top of the clock-case so that the setting button and pinion can be conveniently put in place from the outside.

It should be noticed that the axis of the setting button and pinion is parallel to the center shaft, *a*, thereby enabling me to thus connect the setting-button with the setting-wheel.

The alarm-striking mechanism may be of any ordinary construction, and I consider it unnecessary to fully illustrate and describe the same. I prefer to secure this alarm mechanism within the base immediately under the clock, so that its hammer-lever *o*, Fig. 4, swings upon a vertical pivot, *q*. Projecting upwardly from a part of the hammer-lever is a vertical connecting-rod, *r*, that extends up into the clock-case by the side of the holding and releasing arm *f*. This connecting-rod *r* vibrates laterally from right to left when the hammer is oscillated by the alarm-movement. When the pin *h* bears upon the plain face of the cam *g*, the holding and releasing arm *f* of

the spring *d* is held within the path of the rod *r*, as most clearly shown in Fig. 6, so that said hammer-lever is held and prevented from operating. When the time-movement indicates the time for which the alarm is set, the pin *h* slips off the shoulder of the cam *g*, thereby throwing the holding and releasing arm *f* forward out of the path of the rod *r* on the hammer-lever, as indicated by the broken lines in Fig. 6, so that the hammer-lever is released and free to operate under the influence of the alarm-movement.

I claim as my invention—

1. In an alarm-clock, the combination of the shouldered cam *g*, revolving with the hour-wheel and sliding on the hour-socket, the setting-wheel C, having the pin *h* for engaging said cam, and the setting pinion and button mounted on an axis which is parallel with the center shaft, substantially as described, and for the purpose specified.

2. In an alarm-clock having a setting-wheel, as at C, the detachable cap *m*, bearing a lug and having pivoted thereon the setting pinion and button for engagement with the setting-wheel, substantially as described, and for the purpose specified.

ALMERON M. LANE.

Witnesses:
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