(Model.)

A. HITT.

CLOCK WINDING MECHANISM.

No. 424,418. Patented Mar. 25, 1890.

Fig. 1.

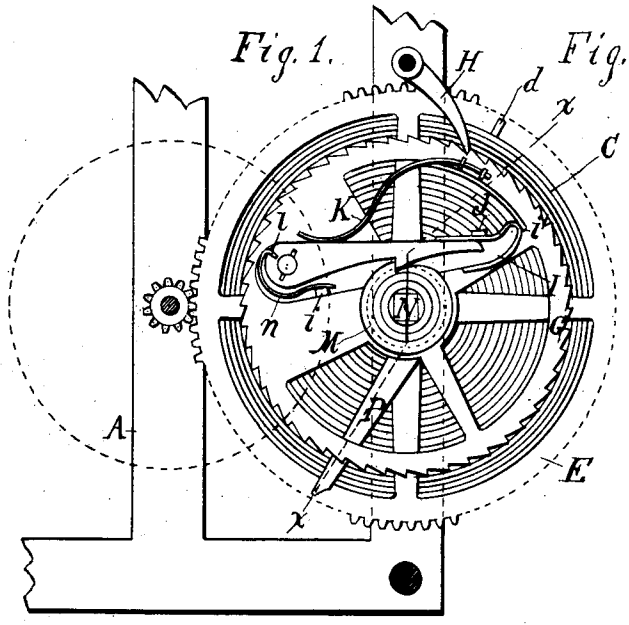


Fig. 2.

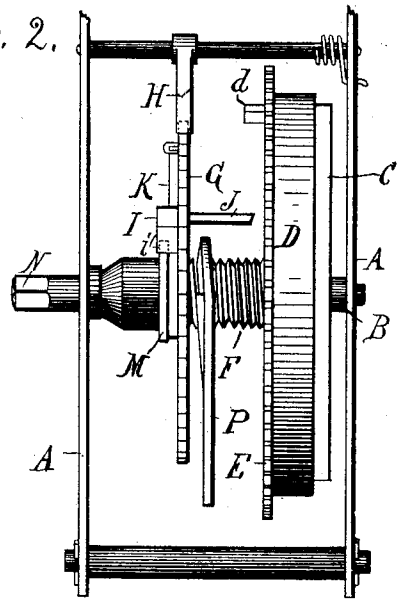


Fig. 3.

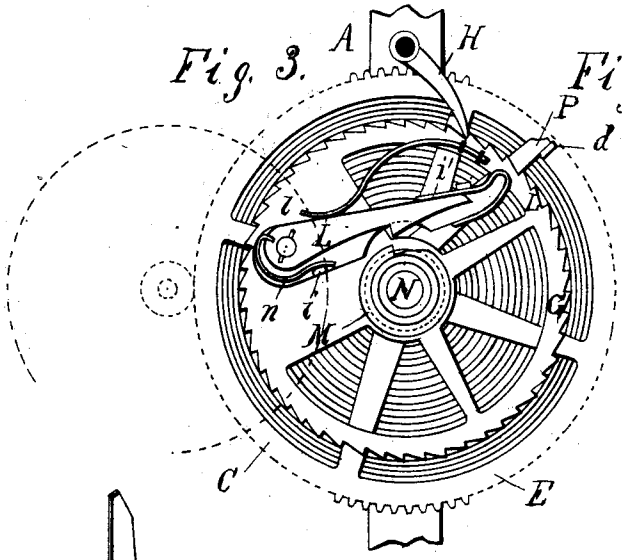


Fig. 4.

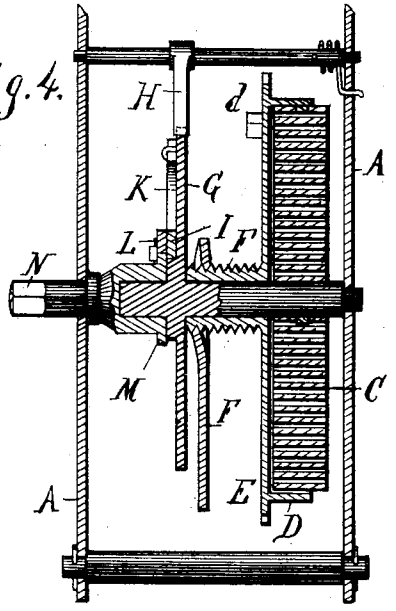


Fig. 5.

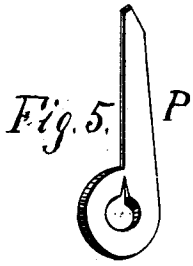


Fig. 6.

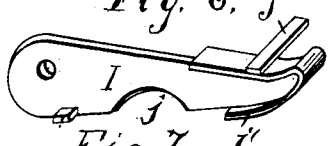
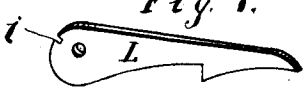


Fig. 7.



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UNITED STATES PATENT OFFICE.

ADRIAN HITT, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF ONE-HALF TO AUGUSTA A. THOMPSON, OF SAME PLACE.

CLOCK-WINDING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 424,418, dated March 25, 1890.

Application filed January 11, 1888. Serial No. 260,458. (Model.)

To all whom it may concern:

Be it known that I, ADRIAN HITT, a citizen of the United States, and a resident of Jersey City, Hudson county, New Jersey, have invented certain new and useful improvements in Clock-Winding Mechanism, of which the following is a specification.

My invention relates especially to devices for preventing overwinding of clocks, and has for its object the provision of mechanism whereby overwinding and consequent breaking of the parts is rendered impossible.

To attain the desired end, my invention consists, essentially, in so constructing the parts of the winding mechanism that when the actuating spring or cord is fully wound up the key-post will be thrown out of engagement with the spring or cord shaft and permit a continued movement of the key-post, while said shaft remains stationary, all of which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, Figure 1 is a front elevation of my improved winding mechanism, showing the position of the parts before winding. Fig. 2 is a side view thereof. Fig. 3 is a front view showing the position of the parts when the spring is fully wound up and the ratchet holding the key-post to the spring-shaft is released. Fig. 4 is a sectional view at line *x x* on Fig. 1. Fig. 5 is a perspective view of the tripping-bar upon the threaded sleeve on the spring-shaft. Figs. 6 and 7 are enlarged views of the controlling ratchet-pawls.

Like letters of reference indicate corresponding parts.

A is the main frame wherein are journaled the parts of the clock-movement in any approved manner.

B is the spring-shaft, the spring C being secured within a barrel D. The driving-wheel E is secured to and forms the inner end of the barrel D, and is provided with a screw-threaded sleeve F, through which the shaft B passes. Secured to spring-shaft B beyond the sleeve F is a ratchet-wheel G, wherewith engages a pawl H. To the front of wheel G is pivoted a finger I, provided with a stop *i* at its rear end and a projecting guard *i'* at the front end.

J is a bar secured to the front end of finger I and extending at right angles thereto. Finger I is cut away at *j*, and is normally held down against the hub of wheel G by a spring K. Upon the same pivot which supports finger I is located a ratchet-pawl L, adapted and arranged to normally engage with a notched disk M, secured to the hollow hub of the key-post N. A spring *n*, engaging with the heel of the ratchet L at *l* and with stop *i* on finger I, forces the ratchet out of engagement with the disk M when finger I rises.

P is an arm perforated for the purpose of fitting over sleeve F, and so bent as to travel in the screw-thread thereon. *d* is a stop fixed to the outer face of the spring-barrel, against which arm P strikes when the spring is fully wound up.

When constructed and arranged in accordance with the foregoing description, the operation of my device is as follows: The winding-key being applied to the key-post and force applied to wind up the spring, the wheel G, secured to the spring-shaft, will be carried around, as it is held in engagement with the hub of the key-post by the ratchet L, as plainly indicated in Fig. 1 of the drawings. The spring-shaft revolves within a sleeve F, and when bar J strikes against the arm P said arm will be carried around the sleeve F in the thread thereon and will travel toward the spring-barrel until the spring is fully wound up, when arm P will come in contact with the stop *d* on the spring-barrel, throwing up finger I, carrying pawl L out of engagement with disk M, as represented in Fig. 3, and permitting the key-post to revolve independently. As the spring runs down the sleeve F will revolve, while the wheel G and key-post remain stationary, and the arm P will be carried back to its original position, the pawl and finger falling back, as in Fig. 1. By the use of the finger I in connection with the ratchet L the proper movement of said ratchet is nicely regulated, and it will be held out of contact with disk M, when the motor-

spring is wound up, and the arm J on the finger I will not interfere with its proper action.

Having now described my invention, what I claim as new therein, and desire to obtain by Letters Patent, is—

1. In a winding device of the character herein specified, the combination, with the spring-barrel, of the spring-shaft and key-post, each having a movement independent of the other, substantially as shown and described.

2. The combination, with the spring-barrel having a stop upon its inner face, and a screw-threaded sleeve through which the spring-shaft passes, of a loosely-turning arm playing on said screw-threaded sleeve, a ratchet-wheel secured to the spring-shaft, a pawl and finger pivoted on the face of the ratchet-wheel, said finger being provided with an arm controlling the movement of the arm upon the screw-threaded sleeve, and an independent key-post provided with a notched disk wherewith the said ratchet engages, substantially as shown and described.

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