(Model.)

S. S. COLT.

ALARM CLOCK.

No. 313,656. Patented Mar. 10, 1885.

Fig: 1.

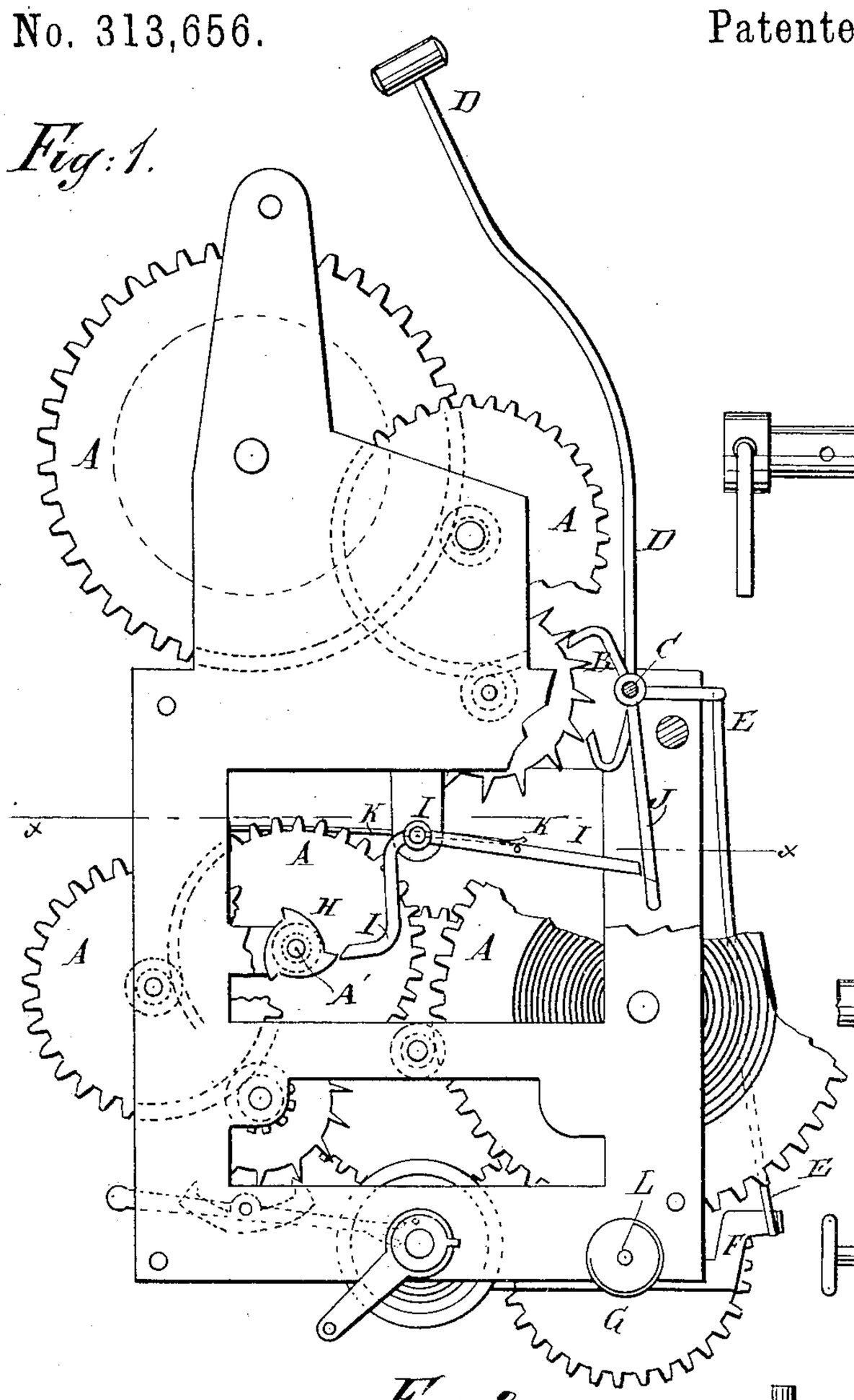


Fig: 2.

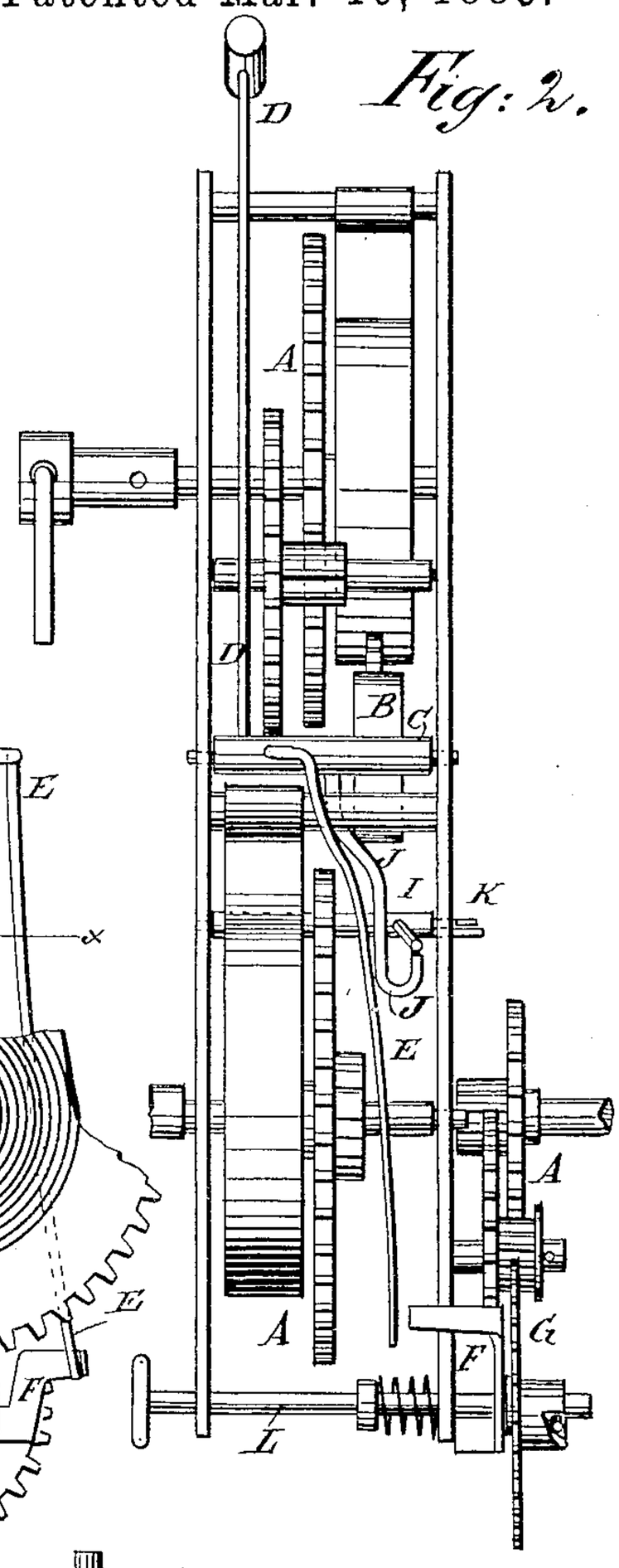
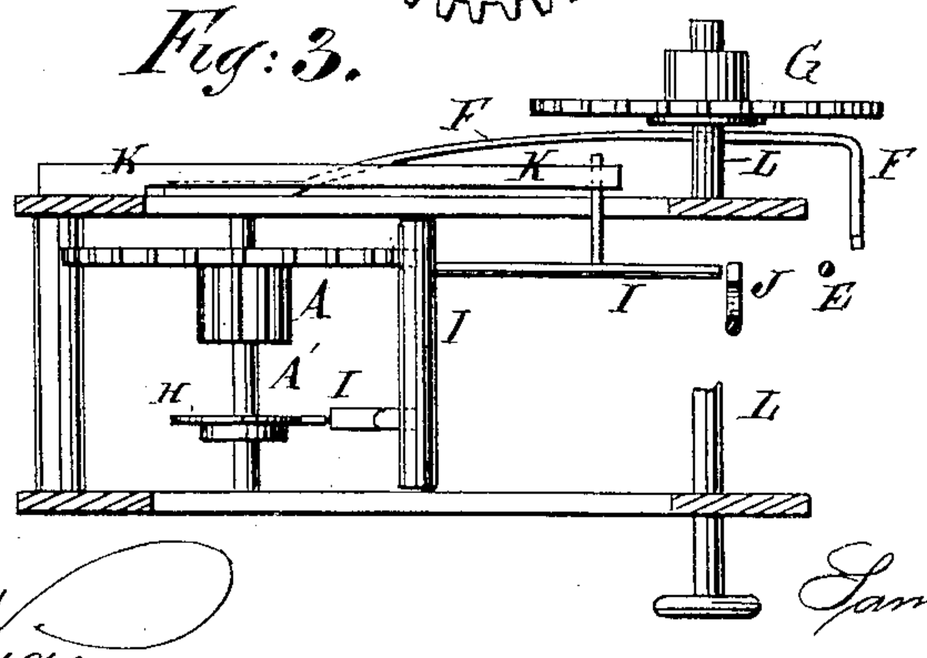


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL S. COLT, OF ORANGE, NEW JERSEY.

ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 313,656, dated March 10, 1885.

Application filed September 12, 1884. (Model.)

To all whom it may concern:

Be it known that I, SAMUEL S. COLT, of Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Alarm-Clocks, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a rear elevation of a clock-works to which my improvement has been applied, parts being broken away. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional plan view of the same, taken through the line *x x*, Fig. 1, parts being broken away.

The object of this invention is to provide alarm-clocks constructed in such a manner that the alarm will be sounded intermittently at regular intervals after a fixed time.

The invention consists in an alarm-clock constructed with a cam-wheel connected with the clock-works and operating a bent lever, which is held down by a spring to engage with a stop-hook attached to the shaft of the alarm-escapement, whereby the alarm will be made to sound intermittently at regular intervals of time, as will be hereinafter fully described.

A represents clock-works provided with an ordinary alarm attachment, of which attachment B is the escapement, the shaft C of which carries the hammer D and an arm, E, which is released from the holding-spring F at the time set for the alarm to be sounded by the outward movement of the wheel G, in the usual manner.

To a shaft, A′, of the clock-works A is attached a cam-wheel, H, having three (more or less) tripping points or cams, according to the time required by the said shaft to make a revolution and the interval of time required between the alarms. In the illustration given the shaft A′, carrying the cam-wheel H, makes a revolution in six minutes, and the cam-wheel H has three tripping-points, so that the alarm will be given at intervals of two minutes.

I is a bent lever, which is journaled to the frame of the clock-works A with its forward end resting against the tripping-points of the cam-wheel H. The rear end of the bent lever I projects into such a position as to engage with a hook, J, attached to the shaft C of the alarm-escapement B.

To the frame of the clock-works A is attached one end of a spring, K, the free end of which rests upon a pin attached to the rear arm of the bent lever I, or is otherwise connected with the said arm, so as to tend to hold the said rear arm of the bent lever I down upon the stop-hook J, and thus hold the alarm-escapement B from moving.

With this construction, when the spring-hook F moves outward at the fixed time and releases the arm E of the alarm-escapement B, the alarm will not be sounded until a tripping-point of the cam-wheel H operates the bent lever I and raises the rear arm of the said bent lever from the stop-hook J, when the alarm will be sounded. As the forward end of the bent lever I drops from the tripping-point of the cam-wheel H the rear arm of the said bent lever I is forced down by the spring K into contact with the stop-hook J and stops the alarm until the bent lever I is again operated by the next tripping-point of the cam-wheel H, and so on till the alarm-spring has run down or the alarm is stopped by turning the shaft L to draw the wheel G, that controls the spring-hook F, inward, so as to cause the said spring-hook to engage with the stop-arm E of the escapement.

As this improvement is entirely new in clocks, I would like to state the superiority of the cam over other devices. In my experimenting I have used a pin fixed to the pinion-gear of shaft A′ of clock, so as to be parallel with said shaft, so that as said shaft revolved, the pin would come in contact with the end of lever I and cause it to raise and release alarm-hook J. After said pin had passed the end of lever I the said lever would fall to shaft A′ and cause the alarm to stop by the straight end of lever I coming in contact with stop-hook J; but by this device it takes too long to raise lever I sufficiently to release stop-hook J. I have also used a pin fixed at right angles to the shaft A′, so as to come in contact with lever I and move it sidewise, and thus release alarm. The result was the same as the pin fixed parallel to said shaft. I also

use an independent shaft to carry my lever, so as it can be placed in any part of clock.

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

In an alarm-clock, the combination, with the clock-works A and the alarm-escapement shaft C, of the cam-wheel H, having tripping-points and mounted on the shaft A′ of said clock-works, the bent lever I, the stop-hook J, and the spring K, substantially as herein shown and described, whereby the alarm will be made to sound intermittently at regular intervals of time, as set forth.

SAMUEL S. COLT.

Witnesses:

JAMES T. GRAHAM,

EDGAR TATE.