

(No Model.)

L. GAGNAUX.

AUTOMATIC CHECK FOR MUSIC BOXES.

No. 359,146.

Patented Mar. 8, 1887.

Fig. 1.

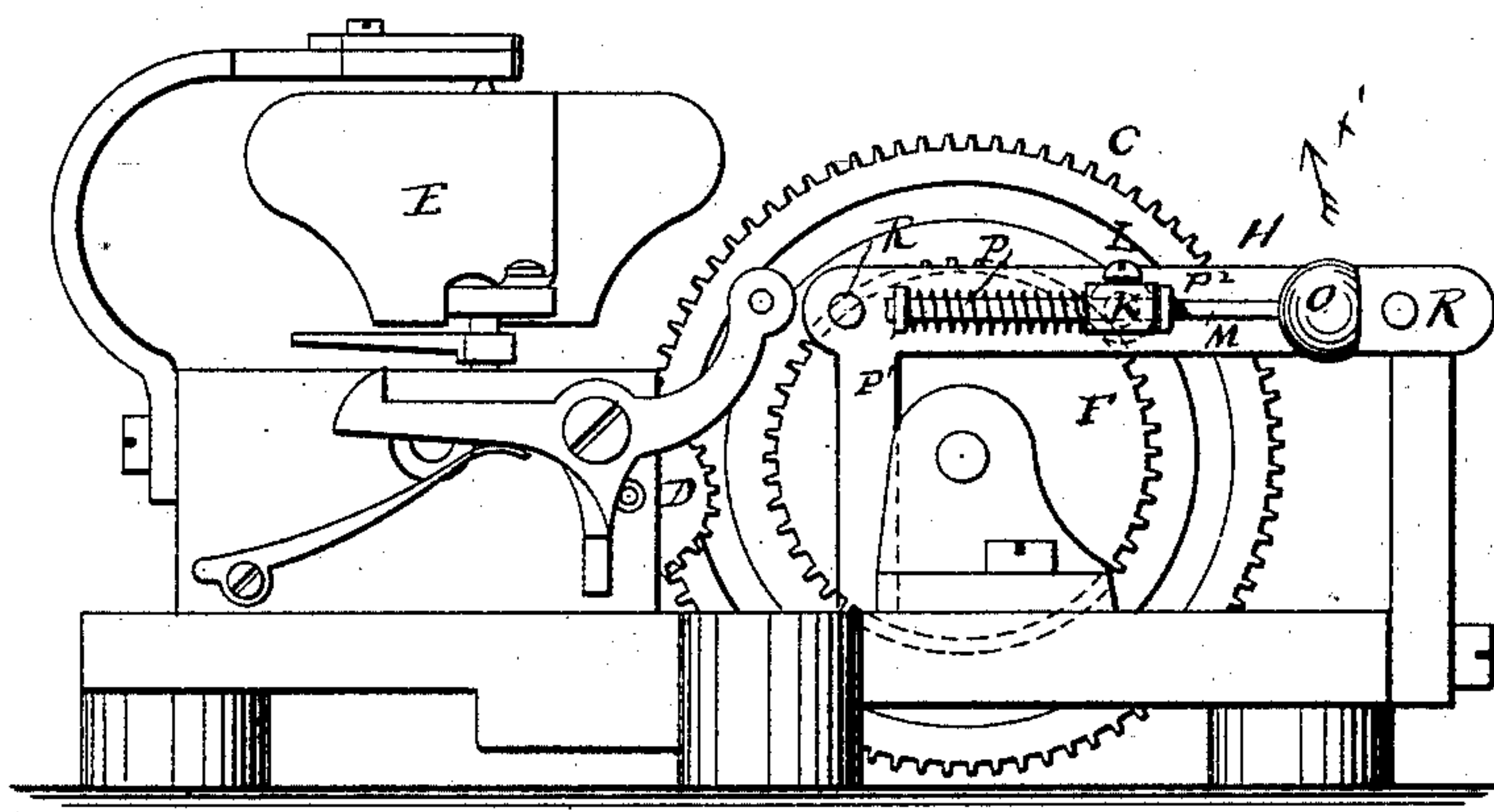


Fig. 2.

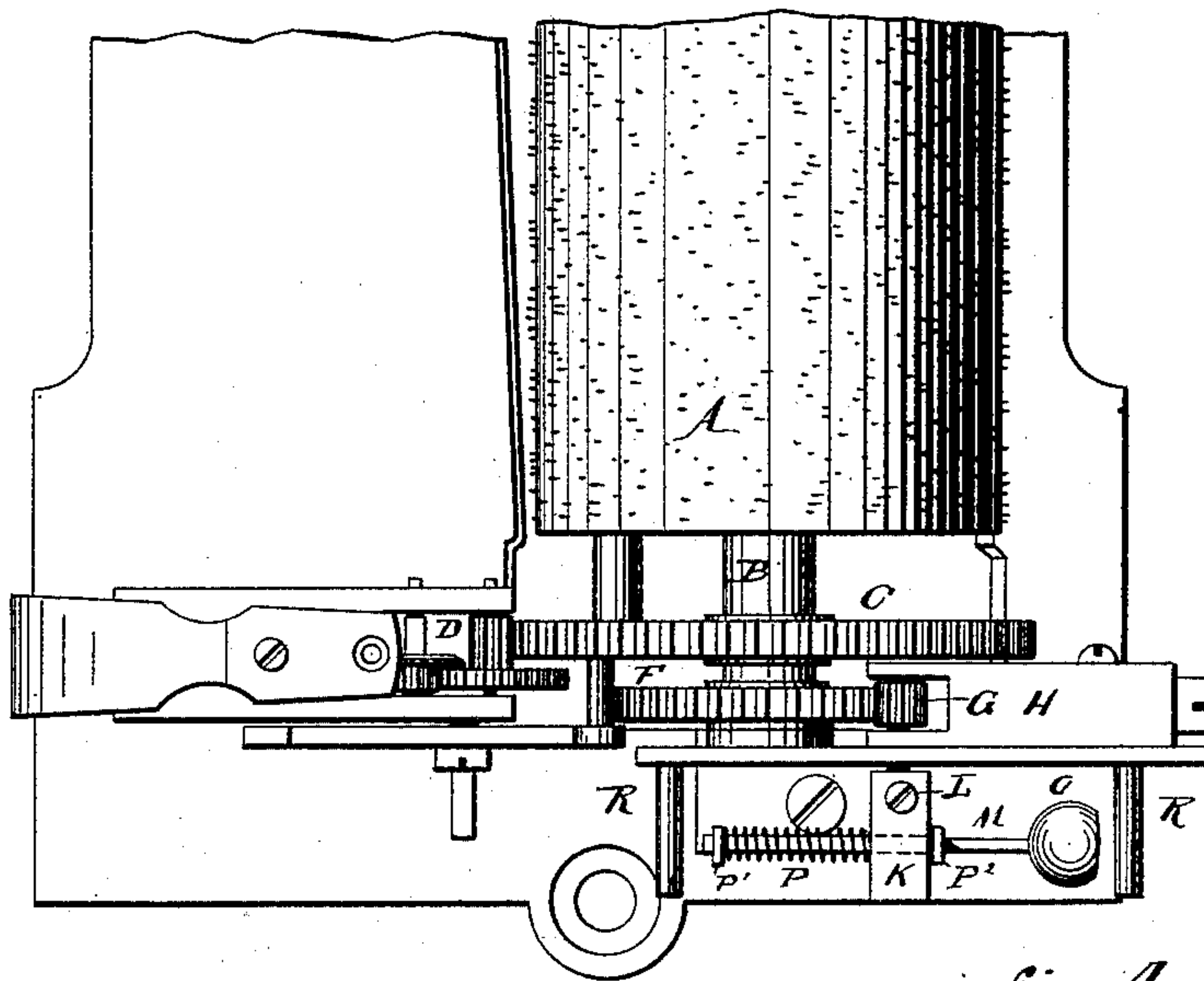


Fig. 3.

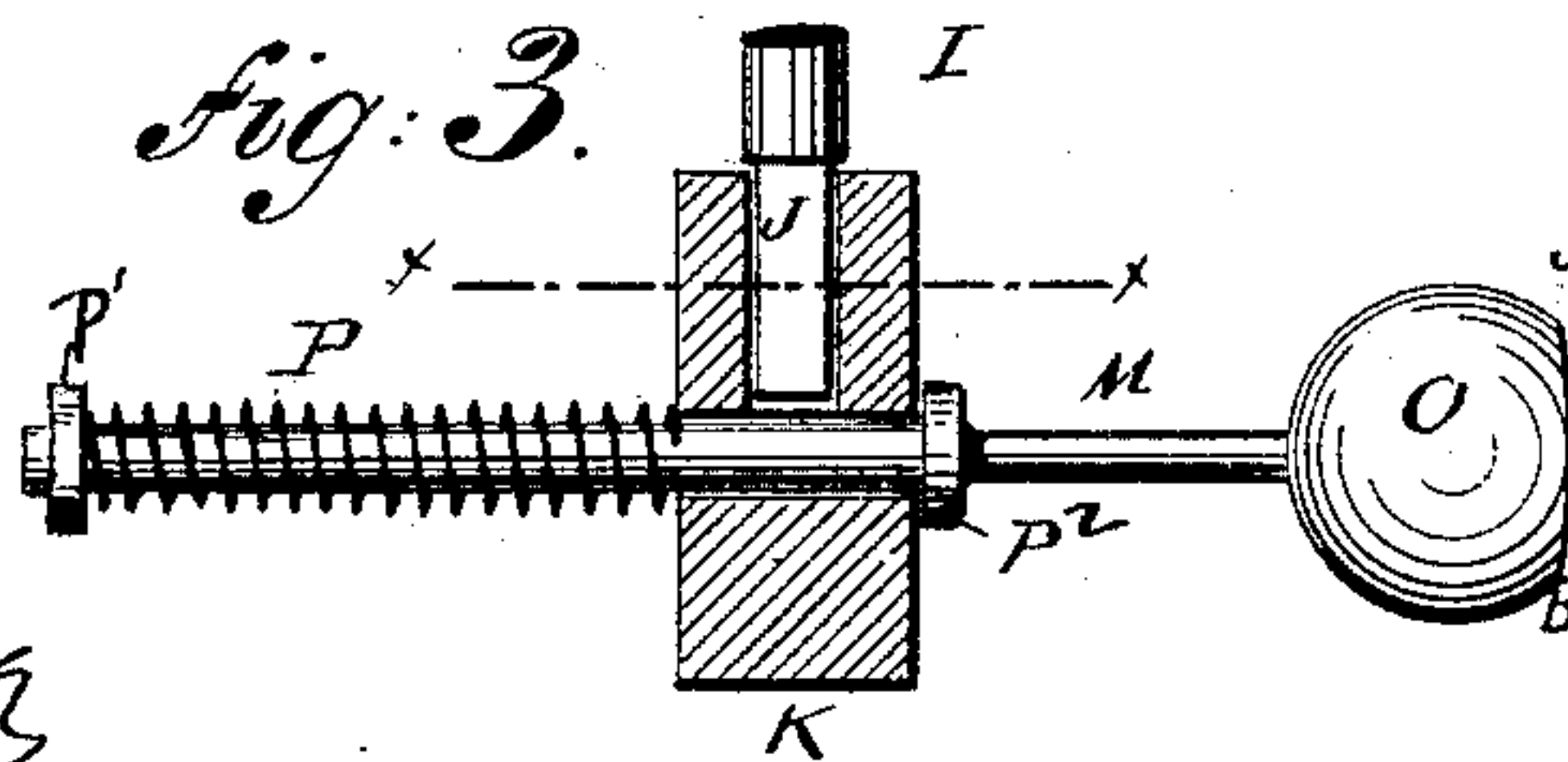


Fig. 4.



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AUTOMATIC CHECK FOR MUSIC-BOXES.

SPECIFICATION forming part of Letters Patent No. 359,146, dated March 8, 1887.

Application filed January 18, 1887. Serial No. 224,678. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GAGNAUX, of Ste. Croix, in the Republic of Switzerland, have invented certain new and useful Improvements in Automatic Checks for Music-Boxes, of which the following is a specification.

The object of my invention is to provide a new and improved automatically-operating device for instantly checking the driving mechanism and pin-cylinder of a music-box in case the speed of said cylinder is increased suddenly by breaking, dislocation, or removal of parts of the flier or retarding mechanism, or by other causes.

The invention consists in the combination, with the usual comb, pin-cylinder, and driving mechanism, of a revolving shaft operated directly or indirectly from the driving mechanism, in which shaft a sliding rod is mounted, having one end weighted, whereby when the speed of the cylinder suddenly increases the shaft carrying the rod is also revolved with great rapidity, and the weighted end of the rod is thrown outward by centrifugal force and against a stop or pin, thus checking the mechanism, all as will be fully described and set forth hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 is an end view of the mechanism of a music-box provided with my improved automatic check. Fig. 2 is a plan view of the same, parts being broken out. Fig. 3 is an enlarged sectional plan view of the weighted rod and the parts carrying the same. Fig. 4 is a cross-sectional view on the line *x x*, Fig. 3.

Similar letters of reference indicate corresponding parts.

A pin-cylinder, A, of the usual construction, is mounted on a shaft, B, provided with the cog-wheels C, for driving the train D of the flier or retarder E. On the shaft B an additional cog-wheel, F, is mounted, which engages with the pinion G, mounted on a shaft, I, in a bridge, H. Said shaft has a squared end, J, projecting from the side of the bridge, on which squared end J a block, K, is held by a binding-screw, L. The block K has a transverse aperture, through which a rod, M, is passed, on

one end of which a ball or weight, O, is secured. A spiral spring, P, surrounds the rod M between one side of the block K and a collar, P', on that end of the rod opposite the one carrying the weight O. A shoulder, P², is provided on the rod M, for preventing the spring from drawing the rod M too far in one direction. Stop-pins R R project from the bridge H, as in Figs. 1 and 2, the distance between said pins being less than the length of the rod M and weight O from end to end.

The operation is as follows: When the mechanism is in motion, the rod M is revolved in the direction of the arrow *x*, Fig. 1, and as the cylinder revolves slowly the ends of the rod clear the pins R R and do not catch on the same. If for any reason whatever the speed of the cylinder increases suddenly, the ball or weight O on the rod M is thrown outward—that is, from the block K—by centrifugal force, and the spring P is compressed more or less. Thereby the rod M is projected such a distance from one side of the box that the ball or weight O strikes against one of the check-pins R, whereby the entire mechanism is stopped. The tension of the spring P prevents the centrifugal force from throwing the ball outward at the ordinary rate of speed, and the tension of this spring must be so gaged that when the speed increases beyond the limit required the centrifugal force will be sufficient to compress the spring.

It is evident that in place of the cog-wheels F the wheel C may be used for revolving the check-motion. The additional wheel F is only provided for the purpose of preventing the breaking of the teeth of the gear or retarding mechanism.

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

1. In a music-box, the combination, with the comb, pin-cylinder, and driving-gear, of a block revolved from one of the wheels of the music-box, a sliding rod in said block, and checks against which the ends of the sliding rod can strike, substantially as shown and described.

2. In a music-box, the combination, with a driving-gear, pin-cylinder, and comb, of a

block revolved from one of the wheels of the music-box, a sliding rod in said block, a weight on one end of the rod, and checks against which the weighted end of the rod can strike, 5 substantially as shown and described.

3. In a music-box, the combination, with the driving-gear, pin-cylinder, and comb, of a block revolved from one of the wheels in the box, a sliding rod in said block, a weight on 10 one end of the rod, a spring surrounding the rod on that end opposite the one carrying

the weight, and checks against which the weighted ends of the rod can strike, substantially as shown and described.

In testimony that I claim the foregoing as 15 my invention I have signed my name in presence of two subscribing witnesses.

LOUIS GAGNAUX.

Witnesses:

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