

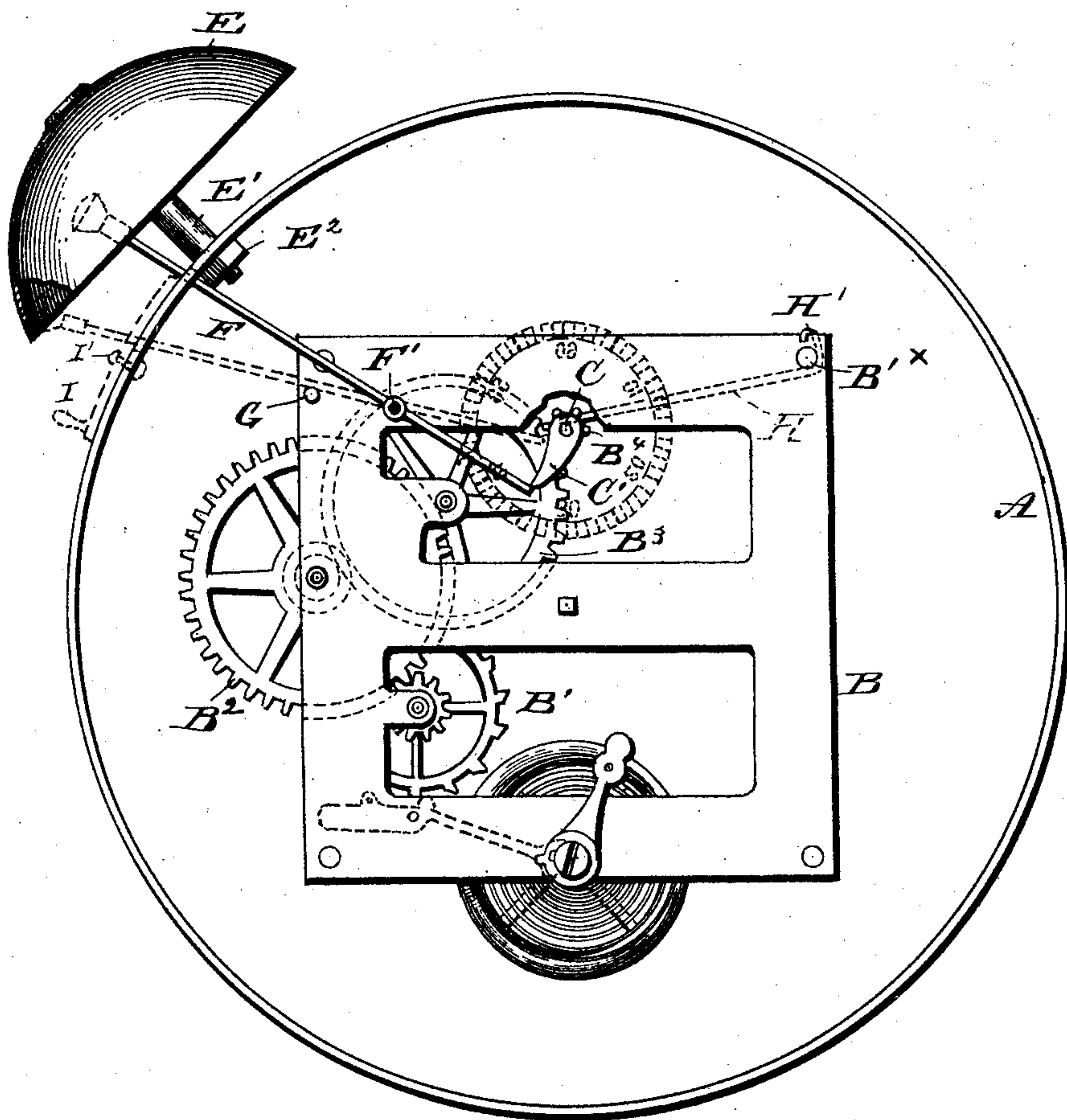
(No Model.)

J. F. BEYERLE.

STRIKING CLOCK FOR TIMING WATCHES.

No. 370,038.

Patented Sept. 20, 1887.



Witnesses:

J. C. Hills,  
W. A. Duval

Inventor:

John F. Beyerle.  
E. B. Stocking  
Attorney

By

# UNITED STATES PATENT OFFICE.

JOHN F. BEYERLE, OF READING, PENNSYLVANIA.

## STRIKING-CLOCK FOR TIMING WATCHES.

SPECIFICATION forming part of Letters Patent No. 370,038, dated September 20, 1887.

Application filed March 30, 1887. Serial No. 232,983. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. BEYERLE, a citizen of the United States, residing at Reading, in the county of Berks, State of Pennsylvania, have invented certain new and useful Improvements in Watch-Timing Attachments for Clocks, of which the following is a specification, reference being had therein to the accompanying drawing.

The object of this invention is to provide an attachment for clocks for the use of watch-makers in timing or regulating watches and clocks and fitting the same with hair-springs; and the invention consists in providing a clock with a bell and mechanism for ringing the same at the commencement and ending of each minute.

Referring to the drawing, which is a rear view of a clock, the works being exposed, showing the internal mechanism, A represents the clock-casing, in which is arranged the usual clock mechanism, consisting of the frame-work B, the gears B' B<sup>2</sup> B<sup>3</sup> B<sup>4</sup>, the latter being mounted upon the second-hand shaft C, the entire train being operated by the usual main-spring.

E represents a bell mounted upon a standard, E', upon the outside of the casing, or, if desired, it may be upon the inside, and secured thereto by means of a nut, E<sup>2</sup>.

Pivoted to the frame-work B, as at F', or it may be to any other convenient part of the clock, is a hammer-rod, F, at the forward end of which is provided a hammer, the rear end of said rod extending back of the pivot F' and into the path of a cam, C', rigidly secured to and adapted to rotate with the shaft C.

By the above construction it is apparent that at each revolution of the second-hand shaft C the cam C' will be brought into contact with the tail of the rod F, depressing the same, and, passing from out of contact therewith, will allow the rod to fall by gravity, the hammer end thereof coming in contact with and ringing the bell E.

In order to secure a clear, distinct, and sharp intonation of the bell when struck by the hammer, which would not be the case should the hammer be allowed to remain in contact with the bell after making the stroke, I have provided a stop-pin, G, secured in this instance to the frame-work, which, when the hammer-rod comes in contact therewith be-

fore striking the bell, will cause said rod to spring into and fly back out of contact with said bell, thus producing the desired sharp and decisive tone.

Heretofore in timing watches it was necessary for the watch-maker to count the vibrations of the same, watching the regulator at the same time, kept for that purpose. This is impossible to do with that degree of accuracy desired; but by my invention a watch can be accurately timed in a very few minutes, the operation being to commence counting the vibrations at the stroke of the bell and cease counting at a following stroke. The watch must then, in order to be correct, have vibrated two hundred and forty, two hundred and seventy, or three hundred times, in accordance with the train of gearing employed.

A light spring, H, secured to the frame B and passing down and around the frame-post B' thereof, bears lightly upon the second-hand shaft, thus preventing any loss of motion or backlash in the rotation of the shaft.

For the purpose of throwing the bell mechanism out of operation, I pivot at I' a switch, I, which may be turned so as to prevent the hammer F from coming in contact with the bell.

The cam C' has a curved point, or, in other words, a side thereof is concaved, so that as the point of the cam passes off from the extension of the hammer the cam does not obstruct the fall of the hammer. By the expression "a cam having a curved point" I intend to distinguish or indicate that the cam has one of its sides curved or concaved, as and for the purpose just stated.

Having described my invention and its operation, what I claim is—

The combination, with the time-train B' B<sup>2</sup> B<sup>3</sup> B<sup>4</sup> of a clock, the frame B thereof, and with the case A, of the cam C', having a curved point and mounted on the shaft C of said train, the hammer F, extended beyond its pivot F' on said frame and into the path of said cam, the bell E, and switch I, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. BEYERLE.

Witnesses:

EDWARD S. KREMP,  
P. A. BUSHONG.