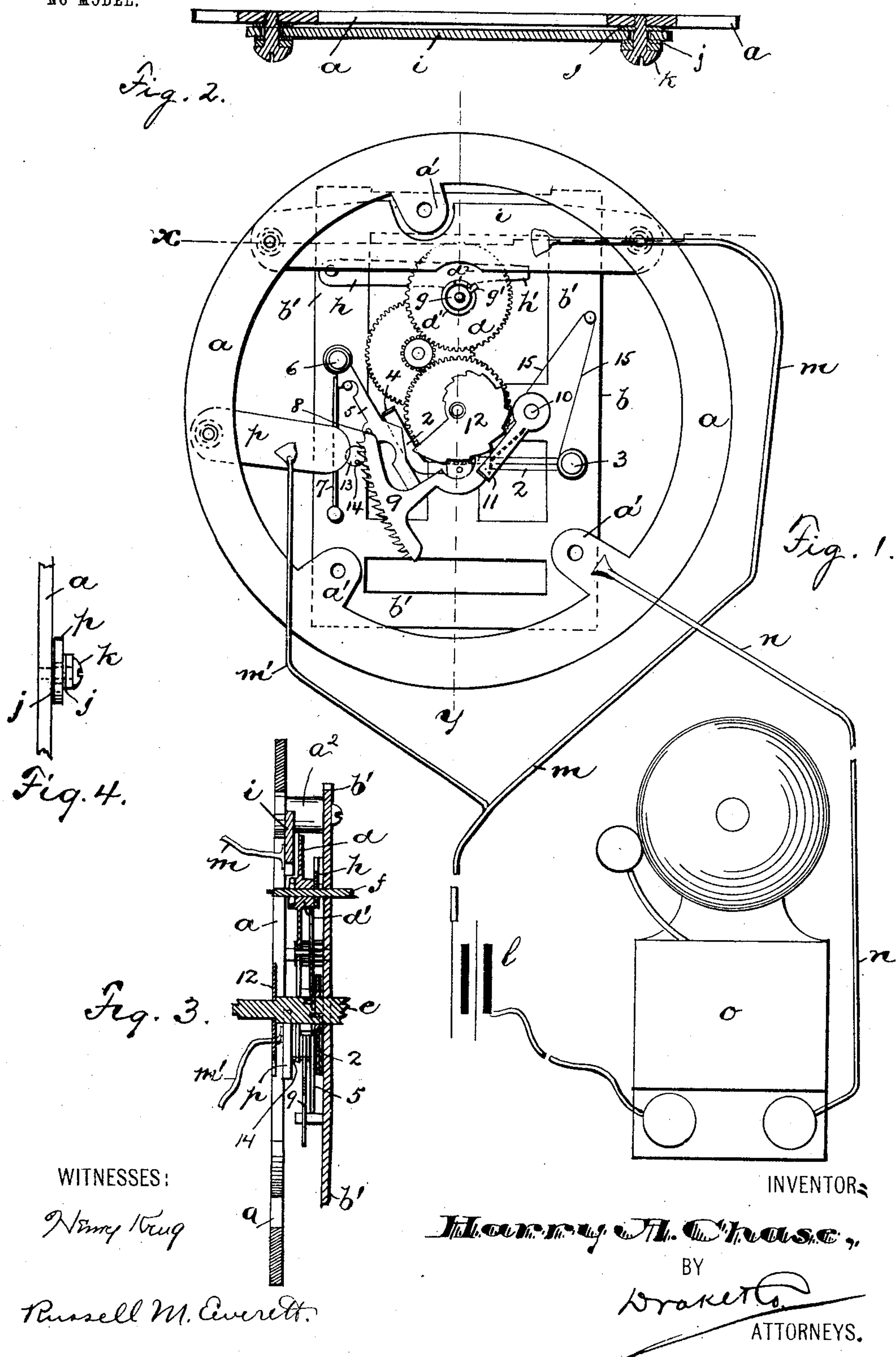


No. 751,781.

PATENTED FEB. 9, 1904.

H. A. CHASE.  
ELECTRIC ALARM CLOCK.  
APPLICATION FILED MAR. 6, 1900.

NO MODEL.





# UNITED STATES PATENT OFFICE.

HARRY A. CHASE, OF EAST ORANGE, NEW JERSEY.

## ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 751,781, dated February 9, 1904.

Application filed March 6, 1900. Serial No. 7,454. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY A. CHASE, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Electric Striking Attachments for Clocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of this invention are to provide for alarm-clocks or clocks which strike the hours a simple electrical attachment by means of which the alarm or striking of the clock may be simultaneously sounded upon electric bells in different parts of the house, to secure cheapness and simplicity of construction to provide such an attachment as can be added to an already-completed clock without requiring any change therein, and to secure other advantages and results, some of which may be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved electric striking attachment for clocks and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a front face view of my invention as applied to the works of a clock. Figs. 2 and 3 are sectional views on lines  $x$  and  $y$ , respectively, of Fig. 1; and Fig. 4 is an edge view showing the connection of a certain contact-plate to the frame of the clock.

In said drawings,  $a$  indicates the frame of a small round alarm-clock of a kind in common use, though it will be understood that my invention can be applied equally well to other forms of clocks. Said frame  $a$  is of iron and has tongues  $a'$ , with studs  $a^2$ , to which the works  $b$  of the clock are attached.

In connection with the alarm mechanism is

a large gear-wheel  $d$ , to which motion is imparted in any usual manner, said gear-wheel being loose upon a shaft  $f$  and having a hub  $d'$  hollow at its front end to receive a disk  $g$ , fast on the shaft  $f$ . Said disk has a radial finger  $g'$ , which overlies the edge of the hollow hub end, and said edge is notched at one point, as at  $d^2$ , to admit the said finger  $g'$ . A leaf-spring  $h$ , fixed upon the adjacent side plate  $b$ , tends to hold the gear-wheel  $d$  outward toward the front end of the shaft  $f$ , and said spring projects past the shaft, as at  $h'$ . Under normal conditions the finger  $g'$  rides upon the edge of the hub  $d'$ , and the gear-wheel  $d$  is thereby depressed against the power of the spring  $h$ , and said spring is also depressed, so that its projecting end  $h'$  serves as a detent for the alarm-striking apparatus, all as is common in clocks. When the proper time arrives for the alarm to sound, the wheel  $d$  has been turned by the clock-movements so that the finger  $g'$  coincides with and drops into the recess  $d^2$ , and said wheel  $d$  and the spring  $h$  are thrown forward, releasing the usual ringing apparatus.

In carrying out my invention I provide a contact-plate  $i$ , adapted to lie against the inner face of the frame  $a$ , parallel to the gear-wheel  $d$ . Said plate is rigid and at its opposite ends is furnished with any suitable means for removably and adjustably clamping to the frame  $a$  of the clock, such as those hereinafter described. This plate I preferably arrange to extend from one point of the circular frame to another, like a chord of a circle. The contact-plate itself is a good conductor of electricity, preferably iron, and so is the frame  $a$ ; but the ends of the plate are insulated from the frame by means of washers  $j$ , of non-conductive material, arranged at either side of the plate, and the perforations in said plate to receive the holding-screws  $k$  being considerably larger than the screws. To the said contact-plate  $i$  I connect one wire,  $m$ , leading from a battery  $l$  or other source of electric current, the other wire,  $n$ , being connected to the frame  $a$ , and thus in circuit with the works of the clock. The wires composing said circuit may be of any length, and one or more electric bells  $o$  of any desired type may be inserted.

The contact-plate  $i$  is so disposed that the



gear-wheel  $d$  in its normal depressed position rotates out of contact with said plate. When, however, the finger  $g'$  enters the notch  $d^2$ , the wheel  $d$  is thrown forward into contact with the plate  $i$ , completing the circuit and causing the bell or bells to ring continuously until either the current is switched off or the gear-wheel  $d$  again depressed.

It will be noted that my invention is very simple in construction and can be cheaply supplied all ready to apply to a clock. Furthermore, its application to a clock is easy and does not require any special construction or reconstruction of the clock. At the same time the device is effective and reliable in action.

Having thus described the invention, what I claim as new is—

1. In an alarm-clock, the combination with a dial-frame  $a$ , and works  $b$ , provided with a rotary wheel also having a back-and-forth movement longitudinally of its axis, of a rigid strip or flat bar of conductive material inserted flatwise between the said works and dial-frame and extending across a marginal portion or segment of said wheel parallel thereto, said strip or bar lying wholly at one side of the axis or shaft of said wheel and presenting to a limited portion of the wheel a contact-surface adapted to be directly engaged by the side surface of the wheel at one limit of its back-and-forth movement and effect a scrap-

ing contact due to the rotation of said wheel which contact-point does not change position, insulated clamping means for removably securing said bar to the dial-frame, circuit-wires connected at one end to said bar or strip and at the other end to the clock-works, and an alarm and a source of electric energy in said circuit.

2. The combination of a frame, a shaft or axis mounted in said frame, a rotary wheel adapted to slide longitudinally of said axis, a leaf-spring projecting from said frame and engaging said wheel to slide the same on its axis, an insulated rigid contact strip or bar extending across a marginal portion or segment of said wheel parallel thereto, said strip or bar lying wholly at that side of the axis of the wheel at which the leaf-spring exerts pressure on the wheel and presenting to a limited portion of said wheel a contact-surface adapted to be directly engaged by the side of the wheel and provide a contact which does not change position, and circuit-wires connected to said strip or bar and to the clock-works.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of February, 1900.

HARRY A. CHASE.

Witnesses:

CHARLES H. PELL,  
C. B. PITNEY.