C. B. SIMMONS.

ALARM CLOCK.

APPLICATION FILED JULY 27, 1912.

1,046,879.

Patented Dec. 10, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

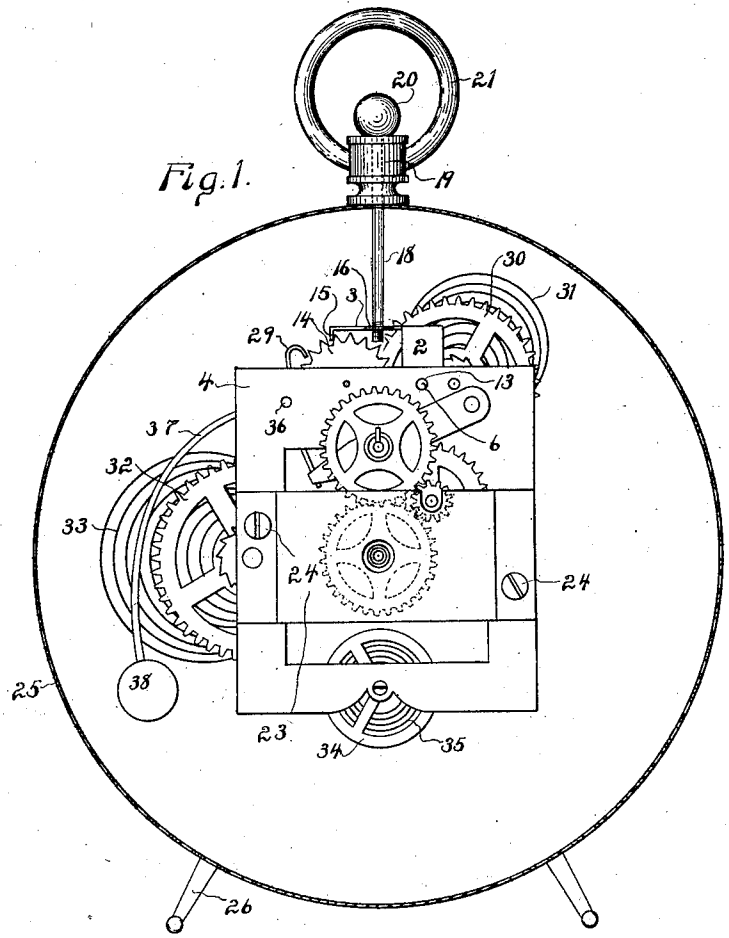
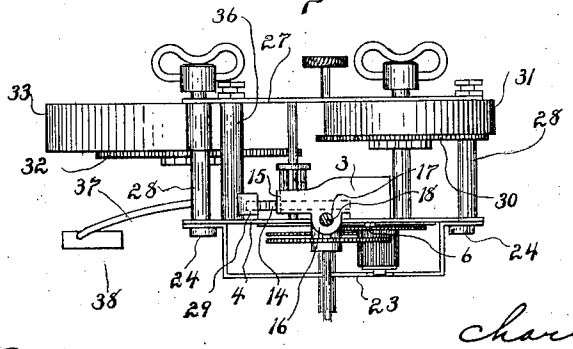


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

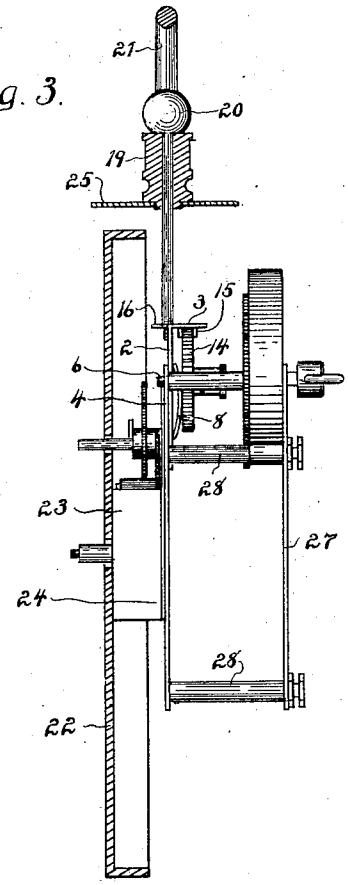


Fig. 4.

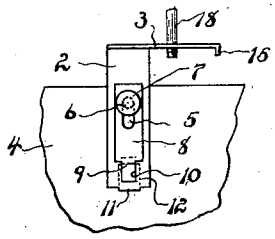


Fig. 5.

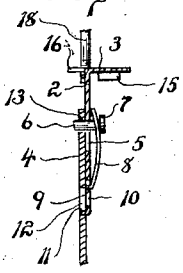


Fig. 6.

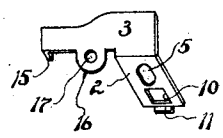
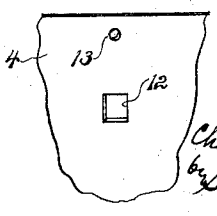


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES B. SIMMONS, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE E. INGRAHAM CO., OF BRISTOL, CONNECTICUT, A CORPORATION.

ALARM-CLOCK.

1,046,879. Specification of Letters Patent. Patented Dec. 10, 1912.

Application filed July 27, 1912. Serial No. 711,888.

To all whom it may concern:

Be it known that I, CHARLES B. SIMMONS, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Alarm-Clocks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Figure 1 a view in front elevation of an alarm-clock constructed in accordance with my invention, the case being shown in vertical section, and parts of the time and alarm trains of the movement being omitted as unnecessary for the disclosure of my present invention. Fig. 2 a plan view of the movement, shown as removed from the case. Fig. 3 a view of the movement in side elevation, showing the bell as assembled with it, parts of the movement being also omitted in this view. Fig. 4 a broken view in inside elevation of the front movement-plate, showing the application of the sliding alarm-stop thereto. Fig. 5 a view in vertical section on the line *a*—*b* of Fig. 4. Fig. 6 a detached perspective view of the sliding alarm-stop looking down upon it. Fig. 7 a broken view in perspective of that portion of the front movement-plate containing the slot for the reception of the guide-finger of the sliding alarm-stop.

My invention relates to an improvement in that class of alarm clocks generally known to the trade as "nickel alarms" from the fact that they were in the first instance put upon the market in small, cylindrical nickeled, sheet-metal cases, the object of my present invention being to provide for such clocks a simple and effective alarm-stop constructed with particular reference to instantaneously stopping the alarm, and to convenience in assembling and dismantling the clock.

In carrying out my invention as herein shown, I employ a vertically movable sliding alarm-stop made from a single piece of heavy sheet-metal and comprising a vertical arm 2 and a horizontal arm 3, the vertical arm 2 having sliding bearing upon the inner face of the front movement-plate 4, and formed near its upper end with a vertical guide-slot 5 receiving a rivet 6 mounted in the plate 4 and furnished at its rear end with a head 7 for the retention of a vertically arranged tension-spring 8 which bears upon the inner face of the arm 2 and controls the vertical movement of the stop. The said rivet 6 passes through a perforation in the upper end of the spring 8, while the lower end thereof is formed with an inwardly turned finger 9 which enters a slot 10 in the lower end of the arm 2, whereby the spring is held in position without preventing the vertical movement of the sliding alarm-stop. At its lower end the arm 2 is formed with an inwardly projecting guide-finger 11 entering a guide-slot 12 formed in the front movement-plate 4 at a point below the perforation 13 made therein for the reception of the rivet 6. Under this construction, the alarm stop is held against canting or deflection in being moved up and down against the tension of its spring 8. The offsetting horizontal arm 3 of the alarm-stop extends, as shown, from right to left directly over the alarm crown-wheel 14 and is formed with a downwardly turned finger 15 which enters directly into the spaces between the teeth of the said wheel when the stop is depressed, for instantaneously stopping the alarm-train.

For the operation of the sliding alarm-stop, its said arm 3 is formed with a lug 16 having a vertically arranged threaded opening 17 receiving the threaded lower end of a long rod-like plunger 18 mounted in the ring-head 19 of the cylindrical clock-case, and furnished at its upper end with a spherical push-button 20 which is located within the ring 21 the ends of which are pivoted in the ring-head 19. The tension of the spring 8 is sufficient to support the sliding stop in its elevated position in which its finger 15 entirely clears the teeth of the crown-wheel 14. However, by inserting the finger into the ring 21 and pressing down upon the button 20, the plunger 18 is easily depressed so as to introduce the finger 15 of the sliding alarm-stop between two of the teeth of the crown-wheel 14, with the effect of instantaneously stopping the alarm. By threading the lower end of the plunger 18 into the perforated lug 16, the plunger may be readily removed and replaced which makes the assembling and dismembering of

the clock convenient so far as the alarm-stop features of the clock mechanism are concerned.

It will be noted by reference in particular to Fig. 1 of the drawings, that the sliding stop 2 and plunger 18 are not located in line with each other, their connection being provided for by forming the stop with an offsetting horizontal arm 3 which reaches over for coaction with a crown-wheel 14 located at one side of the center of the movement, and therefore not in position to be acted upon directly by the lower end of the plunger. By my improvement, therefore, I provide for utilizing a plunger mounted in the ring-head of a clock for stopping and releasing the alarm-train the crown-wheel of which is located out of line with the plunger. I also wish to call attention to the fact that under my improvement the alarm is instantaneously stopped inasmuch as the plunger acts directly upon the teeth of the crown-wheel.

My improvement, as above described, may be applied to any nickel alarm clock, the construction of which makes it feasible to apply it. As shown, my improvement is used in a "nickel alarm" clock of the type in which a large concentrically arranged bell 22 is secured directly to a bridge-like bell-carrier 23 fastened by screws or rivets 24 passing through its ends directly to the outer face of the front movement plate 44, whereby the bell is located within the circular band 25 of the cylindrical clock-case at a point directly behind the clock-dial, which is not shown. The case, as shown, is supported upon turned peg-like legs 26 which may be of any suitable construction and mode of attachment. The rear movement plate 27 is connected with the front movement plate by ordinary pillars 28. As shown, the alarm-train comprises a verge 29, a main alarm wheel 30 and an alarm spring 31, while the time-movement is provided with a main time-wheel 32, a main time-spring 33, a balance wheel 34 and a balance spring 35. The verge arbor 36 of the alarm train carries a hammer-tail 37 provided with a hammer 38 arranged in position to strike the inner face of the flange of the bell 22.

I claim:—

1. In an alarm clock, the combination with the case thereof, of a ring-head located centrally above the same, an alarm-movement located within the said case and having front and rear movement plates and an alarm-train, a sliding alarm-stop mounted upon one of the said movement-plates in position to co-act with a member of the said alarm-train and formed at its upper end with an offsetting arm, and a plunger mounted in the said ring-head and removably connected at its lower end with the said offsetting arm of the sliding alarm-stop for moving the same into its operating and retired positions whereby the alarm-train is instantaneously stopped.

2. In an alarm clock, the combination with a case having a circular band, of a ring-head arranged upon the top of the said band, an alarm-movement located within the case and having front and rear movement plates and an alarm-train arranged between the upper ends of the said plates, a sliding alarm-stop mounted upon one of the said movement plates and comprising a vertical and horizontal arm of which the latter is adapted to engage directly with the teeth of a wheel of the said alarm-train, and a plunger mounted in the said ring-head and having its lower end connected with the said horizontal arm of the said sliding alarm-stop, whereby the alarm-train is instantaneously arrested.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

CHAS. B. SIMMONS.

Witnesses:
E. E. STOCKTON,
A. H. PORTER.