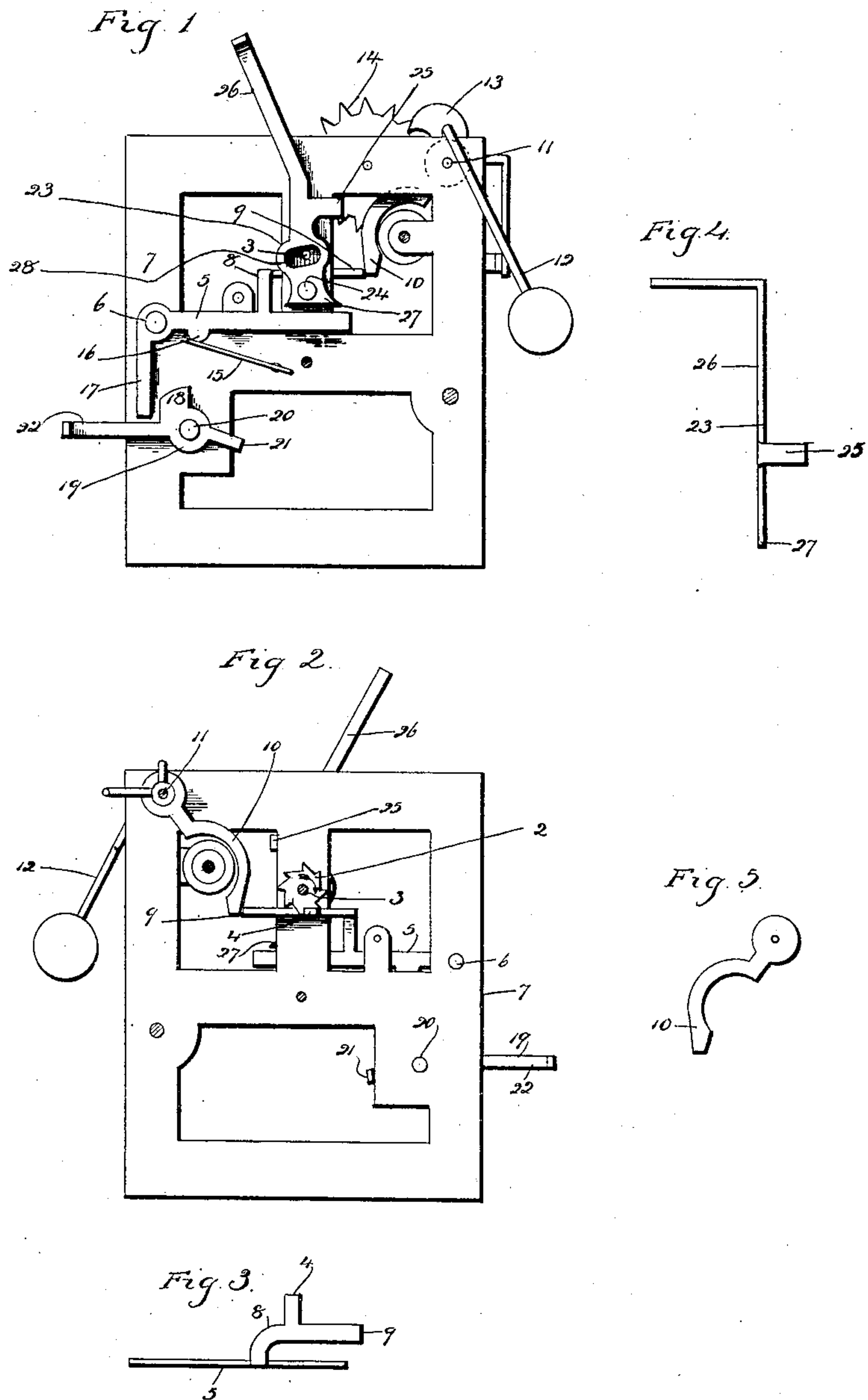


No. 891,098.

PATENTED JUNE 16, 1908.

W. E. PORTER.  
ALARM CLOCK.

APPLICATION FILED APR. 27, 1908.



Witnesses  
C. J. Reed.  
C. L. Weed

Wilson E. Porter  
Inventor  
by Seymour T. Earle  
Attys

# UNITED STATES PATENT OFFICE.

WILSON E. PORTER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO NEW HAVEN CLOCK CO.,  
OF NEW HAVEN, CONNECTICUT, A CORPORATION.

## ALARM-CLOCK.

No. 891,098.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed April 27, 1908. Serial No. 429,542.

*To all whom it may concern:*

Be it known that I, WILSON E. PORTER, a citizen of the United States, residing at New Haven, in the county of New Haven 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 letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a view in rear elevation of a convertible alarm-clock constructed in accordance with my invention. Fig. 2 a view thereof in vertical section looking to the front or inner face of the back movement plate. Fig. 3 a detached view of the intermittent alarm-lever. Fig. 4 a detached view of the cut-out lever. Fig. 5 a detached view of the vibrating-arm depending from the verge-arbor.

My invention relates to an improvement in that class of alarm clocks which are convertible for sounding an intermittent alarm or a long alarm, according to the pleasure of the owner, the object being to provide for this purpose an extremely simple, convenient and reliable mechanism composed of few parts and not apt to be deranged.

With these ends in view my invention consists in a convertible alarm-clock having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, I employ a star-like intermittent alarm wheel 2 fixed upon an arbor 3 driven by the time-train of the clock, which may be of any approved construction and is not shown. The teeth of the said wheel, which turns from right to left, ride over the forwardly extending finger 4 of an intermittent alarm lever 5 pivoted by a stud 6 upon the rear or outer face of the back movement plate 7. The said lever 5 is formed with an arm 8 bent forward from its upper edge into a horizontal plane and having offset from it the finger 4 aforesaid, as well as a detent 9 which coacts with the lower end of a vibrating arm 10 depending from the verge arbor 11 and also carrying the bell-hammer 12 and the verge 13 which coacts with the escape-ment-wheel 14 of the alarm train which may

also be of any approved construction and is not shown. A spring 15 secured to the plate 7 engages with a lug 16 on the lower edge of the lever 5 and exerts a constant effort to lift the same so that its finger 4 will be pressed against the teeth of the wheel 2 and so that its detent 9 will be lifted into position to coact with the lower end of the vibrating arm 10. The lever 5 is also furnished with a depending arm 17 coacting with a cam 18 formed upon a converting-lever 19 hung upon a stud 20 in the back plate 7 and furnished with a stop-arm 21 engaging the plate 7 to limit the movement of the lever, and with an operating or handle arm 22 which projects through the back of the case in position for manual operation. The movement is also furnished with a cut-out lever 23 hung upon a stud 24 in the plate 7 and furnished with a cut-out arm 25, with a handle-arm 26 which projects through the back of the clock case in position for manual operation, and with a cut-out toe 27 for engagement with the intermittent alarm-lever 5. When the said arm 26 of the lever 23 is thrown from left to right, the toe 27 engages with the lever 5 and depresses the same enough, against the tension of the spring 15, to clear the finger 4 from the teeth of the wheel 2. At the same time the arm 25 of the lever 23 is jammed against the vibrating arm 10 so as to put the verge 13 and bell-hammer 12 "out of commission", as it were. The lever 23 is formed with a clearance slot 28 for the clearance of the arbor 3 on which the wheel is mounted.

When the clock is set for sounding an intermittent alarm, the parts will be in the positions shown in Figs. 1 and 2. Now as the wheel 2 is turned from left to right by the time-train, its teeth will ride over the finger 4 of the yielding lever 5 which is constantly pressed upward by the spring 15. Normally the finger 9 of the said lever will be engaged with the extreme lower end of the vibrating arm 10 but as the wheel 2 rotates its teeth coacting with the finger 4 will depress the lever 5 sufficiently to clear the finger 9 from the vibrating-arm 10 thus releasing the alarm train to the action of its spring. The alarm will now be sounded until the action of the time-train has revolved the wheel 2 sufficiently to carry the tooth at the time engaged with the finger 4 beyond the left hand edge of the said finger at which time the spring 15



will immediately lift the lever 5, whereby its finger 9 will be reengaged with the arm 10 and the alarm stopped, the finger 4 being at the same time lifted between the teeth of the wheel 2 which as it continues to be revolved from left to right by the time train, will gradually depress the lever 5 until the arm 9 is again pushed downward out of engagement with the arm 10 for another sounding of the alarm over the interval covered by the time required for the time-train to revolve the wheel 2 enough to cause the tooth at this time engaged with the arm 4, to ride over the same. In this way an intermittent alarm will be sounded until the spring of the alarm train runs down.

To convert the clock from an intermittent alarm clock to a long alarm clock it is only necessary to depress the arm 22 of the converting lever 19, whereby the cam 18 thereof will be engaged with the arm 17 of the lever 5 and the same swung downward against the tension of its spring 15 so that its fingers 4 and 9 will be carried downward away from the wheel 2 and vibrating arm 10. The clock will now act as a long alarm clock just as though it were not provided with any intermittent alarm mechanism. By swinging the cut-out lever 23 from left to right by its handle arm 26 its cut-out arm 25 will engage with the vibrating arm 10 and so locks the verge 13 into the escapement-wheel 14 and cut out the alarm mechanism of the clock from operation either as an intermittent or as a long alarm.

I claim:—

1. In an alarm-clock convertible for sounding an intermittent alarm or a long alarm, the combination with an alarm-wheel driven by the time-train of the clock, of a vibrating-arm carried by the verge-arbor of the alarm-train of the clock, an intermittent alarm-lever provided with a finger for engagement

by the said wheel and with a detent for engagement with the said vibrating-arm, and a converting lever adapted to coact with the intermittent alarm-lever for forcing it into a retired position in which it does not function with the alarm-wheel and vibrating arm.

2. In an alarm-clock convertible for sounding an intermittent alarm or a long alarm, the combination with an alarm-wheel driven by the time-train of the clock, of a vibrating-arm carried by the verge-arbor of the alarm-train of the clock, an intermittent alarm-lever coacting with the said wheel and vibrating-arm, and a converting lever provided with a cam for coaction with the said intermittent alarm-lever, whereby the same is forced into a retired position in which it does not coact with the said wheel and vibrating-arm.

3. In an alarm-clock convertible for sounding an intermittent alarm or a long alarm, the combination with an alarm-wheel driven by the time-train of the clock, of a vibrating-arm carried by the verge-arbor of the alarm-train of the clock, an intermittent alarm-lever having a finger for coaction with the said wheel and detent for coaction with the said vibrating-arm, a converting lever engaging with the said intermittent alarm-lever for retiring the same so that it will not coact with the said wheel and vibrating arm, and a cut-out lever coacting with the said vibrating-arm and intermittent alarm-lever for preventing the clock from sounding either an intermittent alarm or a long alarm.

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

WILSON E. PORTER.

Witnesses:

GEORGE DUDLEY SEYMOUR,  
CLARA L. WEED.