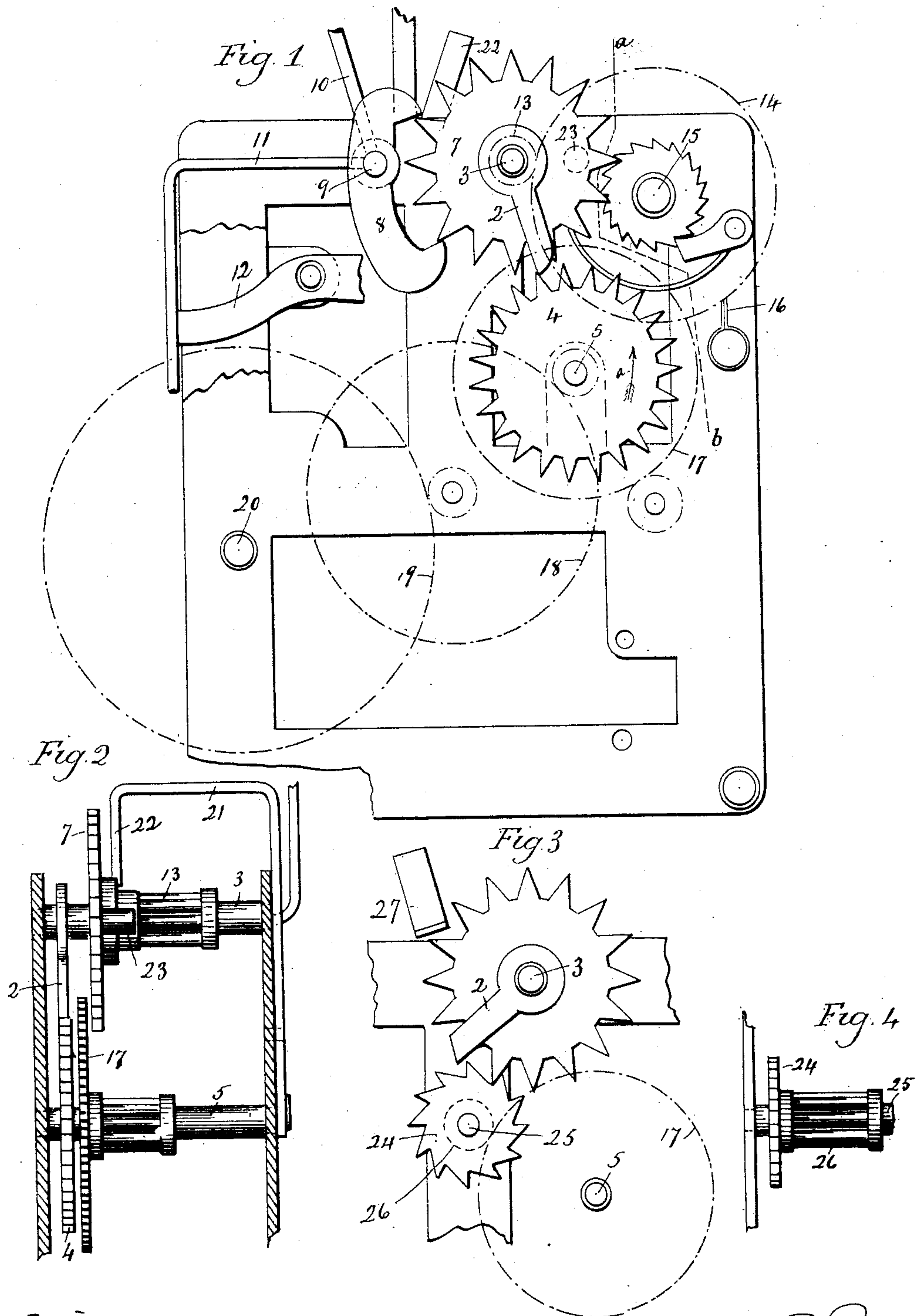


No. 830,526.

PATENTED SEPT. 11, 1906.

W. E. PORTER.
INTERMITTENT ALARM CLOCK.
APPLICATION FILED JAN. 8, 1906.



Witness.
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UNITED STATES PATENT OFFICE.

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INTERMITTENT ALARM-CLOCK.

No. 830,526.

Specification of Letters Patent.

Patented Sept. 11, 1906.

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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 Intermittent Alarm-Clocks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals 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 partial view in front elevation of my improved intermittent alarm-clock with the front movement-plate removed; Fig. 2, a broken view in vertical section on the line *a b* of Fig. 1; Fig. 3, a broken view showing one of the modified forms which the invention may assume; Fig. 4, a detail broken view showing the alarm-wheel of the modified construction.

My invention relates to an improvement in intermittent alarm-clocks of the type shown and described in my prior patent No. 580,056, dated April 6, 1897, the object being to produce a simple and reliable construction in which the number of parts is reduced to the minimum and in which the alarm-train assists rather than handicaps the time-train during the period of sounding the alarm.

With these ends in view my invention consists in the construction and combination of parts hereinafter described, and pointed out in the claims.

In carrying out my invention as shown in Figs. 1 and 2 of the drawings I locate a stop-finger 2 upon the forward end of the escapement-wheel arbor 3 of the alarm-train in position to engage with the teeth of a crown-like alarm-wheel 4, mounted upon the forward end of the arbor 5 of the third wheel of the time-train. Barring the said finger 2 and the said wheel 4, the alarm and time trains may be of any approved construction. As shown, the arbor 3 is provided with an escapement-wheel 7, coacting with a verge 8 on a verge-arbor 9, carrying a hammer 10 and a stop-wire 11, which latter engages with the usual alarm-let-off spring 12. The arbor 3 is provided with a pinion 13, meshed into by a main wheel 14, mounted upon the alarm-winding arbor 15, to the inner end of which the alarm-spring 16 is secured. The said

arbor 5 of the time-train carries a third wheel 17, driven by a second wheel 18, driven by a main wheel 19 on a winding-arbor 20. As shown, the clock is provided with a shut-off lever 21, having a stop-arm 22 for coaction with a stop-pin 23 in the crown-wheel 7.

When in the operation of the clock the time-train has released the let-off spring 12 and the same has sprung out of engagement with the stop-wire 11, the power of the alarm-spring 16 will be thrown upon the stop-finger 2, which by its engagement with one of the teeth of the alarm-wheel 4 exerts an effort to turn the same in the direction of the arrow *a*, in which it is being turned by the time-train. Now as the wheel 4 revolves it will release the finger 2 and permit the alarm to be sounded until the finger has completed or nearly completed one revolution, when it will be re-engaged with one tooth of the wheel 4. Then the power of the alarm-train will again be exerted by the finger upon the wheel 4 to turn the same in the direction in which it is being rotated by the time-train. As soon as the said wheel has been sufficiently revolved to release the finger 2, the alarm-train will run and sound the alarm during the period required for the finger 2 to make nearly a complete revolution, when it will be engaged with another tooth of the wheel 4, and so on. In this way the alarm will continue to be sounded until the alarm-spring has run down or until the alarm-train is shut off by means of the shut-off lever 21.

It is not necessary that the stop-finger carried by the escapement-wheel arbor of the alarm-train should engage with a wheel carried by the arbor of the third wheel of the time-train, as shown and described. Thus in the modified construction shown by Figs. 3 and 4 the alarm-finger 2 coacts with the teeth of a small star-like alarm-wheel 24, mounted upon the forward end of a special arbor 25, introduced into the time-train and driven by a pinion 26, meshed into by the third wheel 17 thereof. This arbor 25 may be viewed as a seconds-hand arbor and may, if desired, be provided with a seconds-hand. In this construction the cut-off lever 21 is furnished with a finger 27, arranged to be engaged directly by the finger 2 instead of by a pin 23 in the escapement-wheel 7. Of course, if desired, the finger 2 might be mounted on an arbor of the alarm-train ro-

tating at a slower speed than the arbor 3 of the escapement-wheel thereof, this being merely a question of the length of the intermission between the soundings of the alarm.

5 In view of the modifications suggested and of others which may obviously be made I would have it understood that I do not limit myself to what I have herein shown and described, but hold myself at liberty to make
10 such departures therefrom as fairly fall within the spirit and scope of my invention.

I claim—

1. In an intermittent alarm-clock, the combination with an alarm-train including
15 an escapement-wheel, a verge and a bell-hammer; of an alarm-finger mounted upon an arbor of the said alarm-train, a time-train, and an alarm-wheel driven by the said time-train and located in position to have its
20 teeth engaged by the said alarm-finger which it periodically releases and arrests for the intermittent sounding of an alarm by the said hammer under the control of the said escapement-wheel and verge, the said finger tend-
25 ing to rotate the said alarm-wheel in the di-

rection in which the same is rotated by the time-train.

2. In an intermittent alarm-clock, the combination with an alarm-train including
30 an escapement-wheel, a verge and a bell-hammer; of an alarm-finger mounted upon the arbor of the said escapement-wheel, a time-train, and an alarm-wheel mounted upon the arbor of the third wheel of the said
35 time-train and engaged by the said alarm-finger which it periodically releases and arrests for the intermittent sounding of the alarm by the said hammer under the control
40 of the said escapement-wheel and verge, the said finger tending to rotate the said alarm-wheel in the direction in which the same is rotated by the time-train.

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

WILSON E. PORTER.

Witnesses:

CLARA L. WEED,
GEORGE D. SEYMOUR.