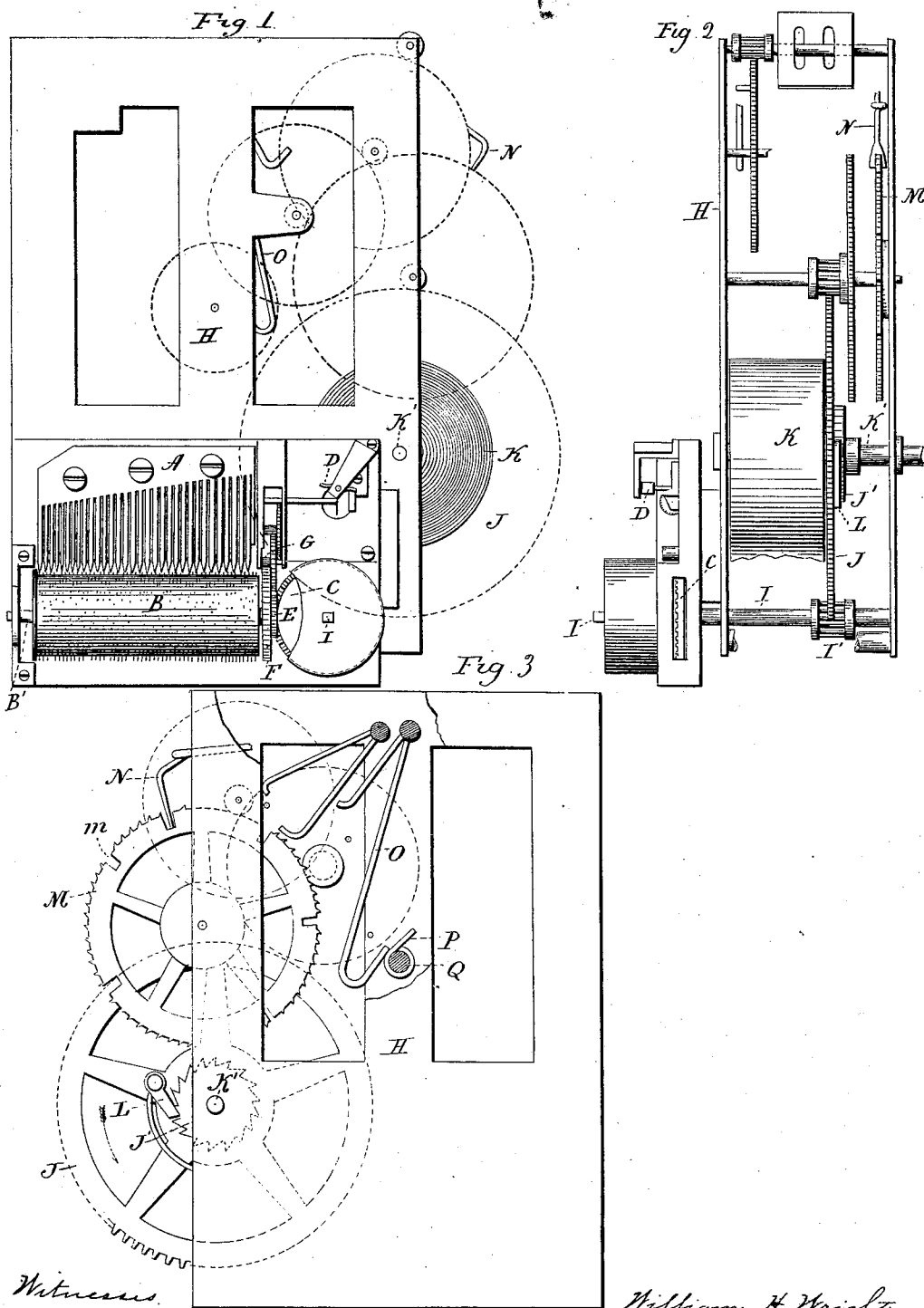


(No Model.)

W. H. WRIGHT.
MUSICAL CLOCK.

No. 566,956.

Patented Sept. 1, 1896.



Witnesses.

J. H. Thompson
Lillian D. Kellogg

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UNITED STATES PATENT OFFICE.

WILLIAM H. WRIGHT, OF BRISTOL, CONNECTICUT, ASSIGNOR TO THE
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MUSICAL CLOCK.

SPECIFICATION forming part of Letters Patent No. 566,956, dated September 1, 1896.

Application filed February 27, 1893. Serial No. 463,810. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WRIGHT, of Bristol, in the county of Hartford and State of Connecticut, have invented a new Improvement in Musical Clocks; and I do hereby declare the following, when taken in connection with 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 front elevation of a clock-movement constructed in accordance with my invention; Fig. 2, a side view thereof, looking toward the music-train; Fig. 3, a broken rear view showing the music-train and the mechanism by which the same is released and stopped.

My invention relates to an improvement in musical clocks, the object being to produce a simple and inexpensive clock not liable to derangement.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claim.

As herein shown, I employ a small music-box of ordinary construction and comprising a comb A, a drum B, a main driving-wheel C, having face-teeth, and a fan D, the said wheel C meshing into a pinion E, mounted on the shaft B' of the drum, and the said shaft also carrying a wheel F, meshing into a pinion G, which drives the usual train of gears connected with the fan, which controls and regulates the speed of the drum. The parts mentioned are mounted upon a bed-plate A'. (Shown in Figs. 1 and 2.) The said bed-plate A' is attached directly to the back-plate H of a clock-movement of ordinary construction, as herein shown, except as modified, as will be described, for the application of my improvement. This modification consists, in part, in providing it with what I shall term a "music-arbor" I, the same being furnished with a lantern-pinion I', which is meshed into by the main wheel J of the music-train, which is driven by a heavy volute spring K, the said train corresponding very nearly to the ordinary strike-

train of a striking-clock. The forward end of the music-arbor I projects through the said back plate H for the attachment of the main driving-wheel C, before mentioned, of the music-box. The ratchet-wheel J', which is mounted on the main arbor K' of the music-train, has its teeth cut in the opposite direction from the teeth of the corresponding wheel of an ordinary strike-train, and thereto the pawl L, which is carried by the wheel J, is reversely arranged. By this construction the music-train is driven backward, so to speak, or in the opposite direction from which an ordinary strike-train is driven. I construct the music-train to be driven backward, so that the drum C of the music-box may be rotated in the usual direction. The said music-train contains a playing-wheel M, corresponding to the count-wheel of a strike-train and having its gains or notches *m* arranged with respect to each other with reference to the time required by the music-box to play its tunes. These gains are taken into by a playing-wire N, forming a member of an ordinary lockwork mechanism, which need not be particularly described more than to say that it contains a lift-arm O, the lower end of which is engaged by a rotatable arm P, mounted on the center arbor of the clock, the said arbor forming a member of the time-train, which may be of any ordinary construction and is not therefore shown. The said lockwork mechanism is constructed to "warn" in the usual manner for striking-clocks.

It will be apparent from the foregoing description that the playing of the music-box takes the place of striking the hours, the music-train being released on the hour for playing in the same manner that the strike-train is released on the hour for striking. The music-box will therefore play a tune every hour, or, for that matter, it might be arranged to play more than one tune, and, if desired, it might be arranged to play every half-hour or every quarter-hour.

I do not limit myself to the particular mode described of driving the drum of the music-box from the music-train, for obviously that may be varied. If preferred, I might locate

the music-box on the front of the clock-movement, but the construction shown will probably be more convenient in most cases.

By driving the drum by a train forming a part of the clock the music-box may be made to play without attention to the clock much longer than it could be made to play if it had its own small driving-spring. Thus, a clock constructed in accordance with my invention, if an eight-day clock, will play eight days. Furthermore, by organizing my music-box with the clock-movement I secure compactness and simplicity of construction and reduce the liability of derangement to the minimum.

By means of my invention I am enabled to use an ordinary striking-clock movement by modifying the strike-train very slightly, as described, whereby it is caused to run backward. I can thus utilize practically the same movement throughout for striking or musical clocks. By arranging an ordinary strike-train to run backward, and thus converting it into what I call a "music-train," the drum of the box is driven in the right direction for its application to the back plate of the movement. I also utilize, as it will be observed, the ordinary lockwork of an ordinary strike-train for releasing and stopping the performance of the music-box mechanism, instead of the delicate mechanism usually organized with the music-box for that purpose. I therefore secure reliability of operation and freedom from derangement by my construction. Furthermore, by means of a music-wheel substantially corresponding to the count-wheel of a strike-train I am enabled to employ boxes which require varying lengths of time for the performance of their tunes, the divisions of the music-wheel being made with reference to the length of the tunes.

I would therefore have it understood that I do not limit myself to the exact construction shown and described, but hold myself at liberty to make such changes and alterations

as fairly fall within the spirit and scope of my invention.

I am aware, however, that it is not broadly new to connect a music-box containing a comb and a drum with the time-movement of a clock, so that it will be at predetermined times released for playing.

I am also aware that it is old to actuate a music-box mechanism directly from one of the springs of a clock-movement, the ordinary driving-spring of the music-box being dispensed with.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a musical clock, the combination with the movement-plates thereof, the said plates being adapted to have a time-train mounted between them; of a music-train also mounted between the said movement-plates and including a "music-wheel" constructed with reference to the music to be played, a music-arbor mounted between the said plates and carrying a pinion which is meshed into by the main wheel of the music-train, a music-box bed-plate attached directly to one of the said movement-plates, a music-box drum and a music-box comb secured to the said bed-plate, driving connections interposed between the said music-arbor and the said music-box drum, and starting and stopping devices organized independently of the said music-box bed-plate and music-box drum and comb and mounted between the said movement-plates for operation by the time-train, and constructed and adapted to release and stop the music-train and hence the music-box drum, substantially as described.

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

WILLIAM H. WRIGHT.

Witnesses:

JOHN J. JENNINGS,
ROGER S. NEWELL.