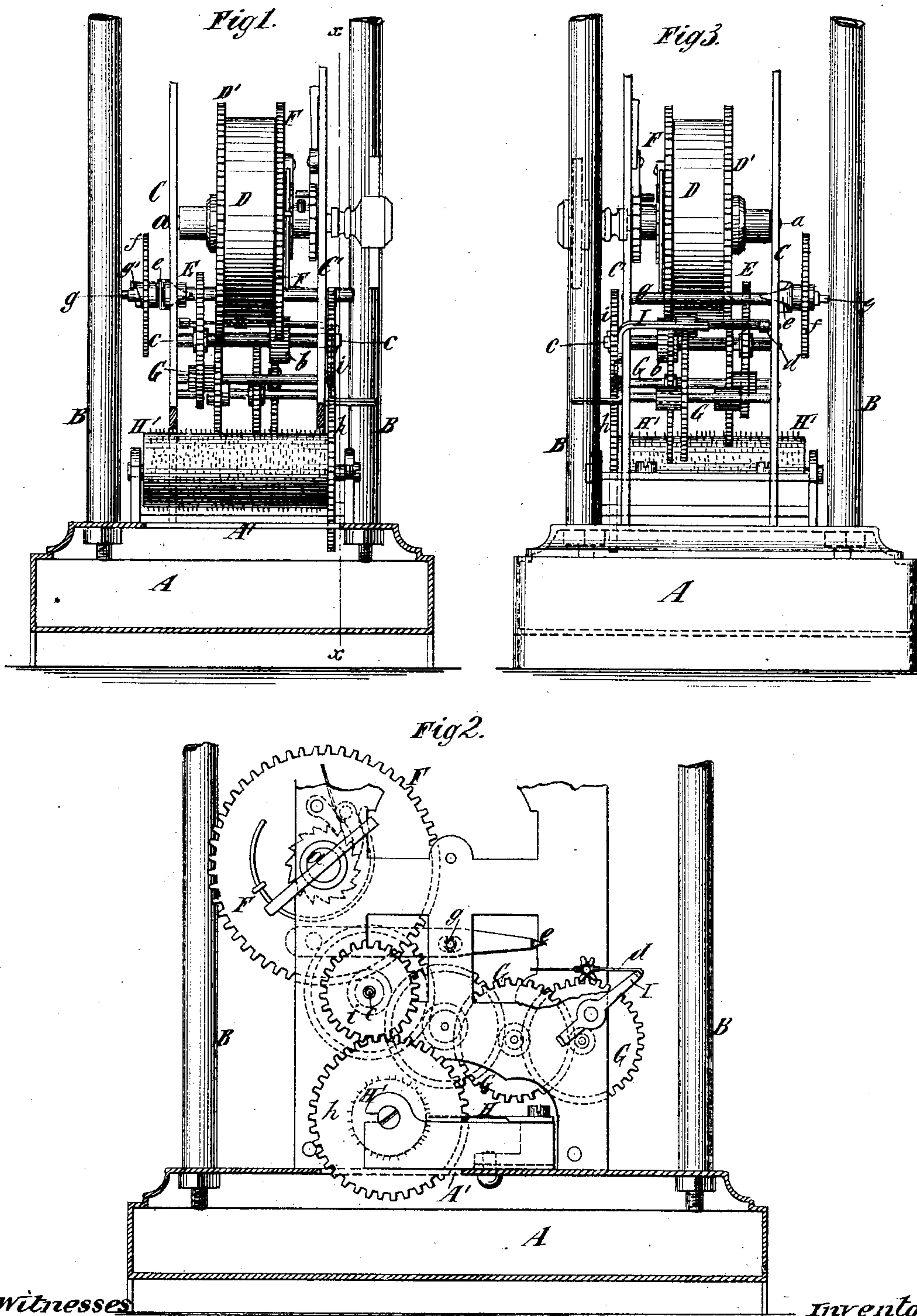


(No Model.)

H. J. DAVIES.  
Clock Striking Mechanism.  
No. 238,863. Patented March 15, 1881.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## CLOCK STRIKING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 238,863, dated March 15, 1881.

Application filed January 24, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY J. DAVIES, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Time-Pieces and Clocks, of which the following is a specification.

The object of my invention is to so combine a musical device for producing a tune with a time-piece or clock that, in addition to its function as a time-indicator, the time-piece or clock will impart motion to the said device, and particularly to provide an alarm time-piece or clock which will at a predetermined time impart movement to a musical device and play a tune as an alarm, instead of ringing a bell, as in the ordinary alarm-clocks.

My invention consists in the combination, with a time-piece or clock, of a device, preferably consisting of a barrel provided with pins and a series of spring-tongues, for producing a musical tune, and mechanism for actuating said device, deriving motion from the time-piece or clock.

The invention also consists in the combination, with a clock-movement and a clock-case constructed with a hollow closed base, of a musical device for producing a tune, arranged upon said closed base, and mechanism for imparting motion from the clock-movement to the said device. The base of the clock-case preferably has an opening in its top, and the musical device is arranged immediately above and closes said opening.

The invention also consists in the combination, with a clock comprising a time-train and an alarm-train, of a musical device for producing a tune, and mechanism for actuating said device from said alarm-train, by which motion is imparted to said device only when the alarm-train operates.

The invention also consists in details of construction to be hereinafter described.

In the accompanying drawings, Figure 1 represents a vertical section through a portion of a clock-case and side view of a clock-movement, and a musical device deriving motion therefrom. Fig. 2 represents a vertical section at right angles to Fig. 1, upon the dotted line *xx* in Fig. 1, showing a back view of the clock-movement, a portion of one of the plates of the movement being broken away; and Fig. 3

is a view of the side of the clock opposite that shown in Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

In the accompanying drawings only such parts are shown as are necessary to illustrate my invention, all superfluous mechanism being omitted for the sake of clearness.

A represents the base of the clock-case, which is made hollow, and is closed for a purpose hereinafter mentioned; and B represents the vertical portions of the case, which may be constructed in any way.

C C' designate the front and back plates of the movement, and D designates the spring-barrel, which is substantially the same as that shown and described in Letters Patent No. 188,865, granted March 27, 1877, to Henry J. and Walter D. Davies. The spring coiled within the barrel D is secured at one end to the barrel and at the other end to the barrel-arbor *a*, and hence one end of the spring imparts movement to the barrel D, and, through its attached wheel D', to the time-train E, while the other end of the spring transmits motion, through the barrel-arbor *a*, the wheel F, mounted loosely thereon, and a pinion, *b*, mounted on the arbor *c*, to the alarm-train G. All this is fully described in the above-mentioned Letters Patent, and hence a further description thereof is unnecessary.

In the alarm-train G is a fly, *d*, and the alarm-train is held against movement by a trip-lever, *e*, which obtrudes itself in the way of the said fly. The trip-lever *e* is composed of spring metal, or is acted upon by a spring, so that it has a tendency to spring outward, but is held against such outward movement by a wheel, *f*, mounted loosely upon the setting-spindle *g*, and rotating in unison with the hour-wheel. The wheel *f* has upon its hub a cam, which engages with a pin, *g'*, in the setting-spindle *g*, and at a predetermined hour the wheel *f* is released by said cam and permits the trip-lever *e* to move outward to release the fly *d*.

Below the clock-movement, but resting upon and above the base A, is a musical device for producing a tune, here shown as consisting of a barrel, H', provided with pins and a series of spring-tongues, H. The barrel H' is con-



5 nected with the alarm-train by a wheel, *h*, upon the arbor of said barrel, engaging with a wheel, *i*, upon the arbor *c*, outside the back plate, *C'*, of the movement. Hence it will be seen that whenever the alarm-train *G* is released by the trip-lever *e* moving out of the way of the fly *d*, the alarm-train moves and motion is imparted to the barrel *H'*, producing the playing of a tune.

10 It will be understood that in the movement shown the alarm is sounded once every twenty-four hours, as the clock cannot be wound without winding up the spring for the alarm-train as well as the time-train; but if it is desired to prevent the sounding of an alarm I employ a pivoted lever or stop, *I*, (shown in Fig. 2,) which may be turned from the back of the movement, so as to obtrude in the way of the fly *d* or one of the wheels of the alarm-train.

20 It will be readily seen that the musical device needs no winding up whatever, all that is necessary being to wind up the clock in the usual way.

25 The musical device might with equal advantage be connected with an alarm-train impelled by a separate spring or weight from the time-train, and the alarm-train might be released by any of the well-known devices intended for such a purpose.

30 The base *A* of the clock-case, being hollow, forms a resonant chamber, which augments the sound of the musical device, and preferably has in its top an opening, *A'*, as seen in Fig. 2, in which the musical device is placed, and which is closed thereby.

35 If desirable, the musical device, instead of being released by mechanism which may be set to cause the playing of the device at any particular time, may be released at regular intervals, and thus serve the purpose of a striking device.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a time-piece or clock, of a musical device for producing a tune, and mechanism for actuating said device, deriving motion from said time-piece or clock, substantially as specified. 45

2. The combination, with a time-piece or clock, of a musical device for producing a tune, consisting of a barrel provided with pins, and a series of spring-tongues, and mechanism, deriving motion from said time-piece or clock, for actuating said barrel, substantially as specified. 50

3. The combination, with a clock-movement and a clock-case constructed with a closed hollow base, of a musical device arranged upon said closed base, and mechanism for actuating said device, deriving motion from the clock-movement, substantially as specified. 55

4. The combination, with a clock-movement and a case constructed with a hollow base having an opening in its top, of a musical device arranged over and closing said opening, and mechanism for actuating said device, deriving motion from the clock-movement, substantially as specified. 60

5. The combination, with a clock comprising a time-train and an alarm-train, of a musical device, and mechanism for actuating said device, deriving motion from said alarm-train, substantially as specified. 65

6. The combination of the spring-barrel *D*, the barrel-arbor *a*, the wheels *D'* *F*, the arbor *c*, carrying the pinion *b* and wheel *i*, the barrel *H'*, the spring-tongues *H*, and the wheel *h* upon the arbor of the barrel, engaging with the wheel *i*, substantially as specified. 70

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Witnesses:

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