

P. SIMPSON.
MUSICAL TIME INDICATOR.
APPLICATION FILED AUG. 6, 1909.

952,370.

Patented Mar. 15, 1910.

FIG. 1.

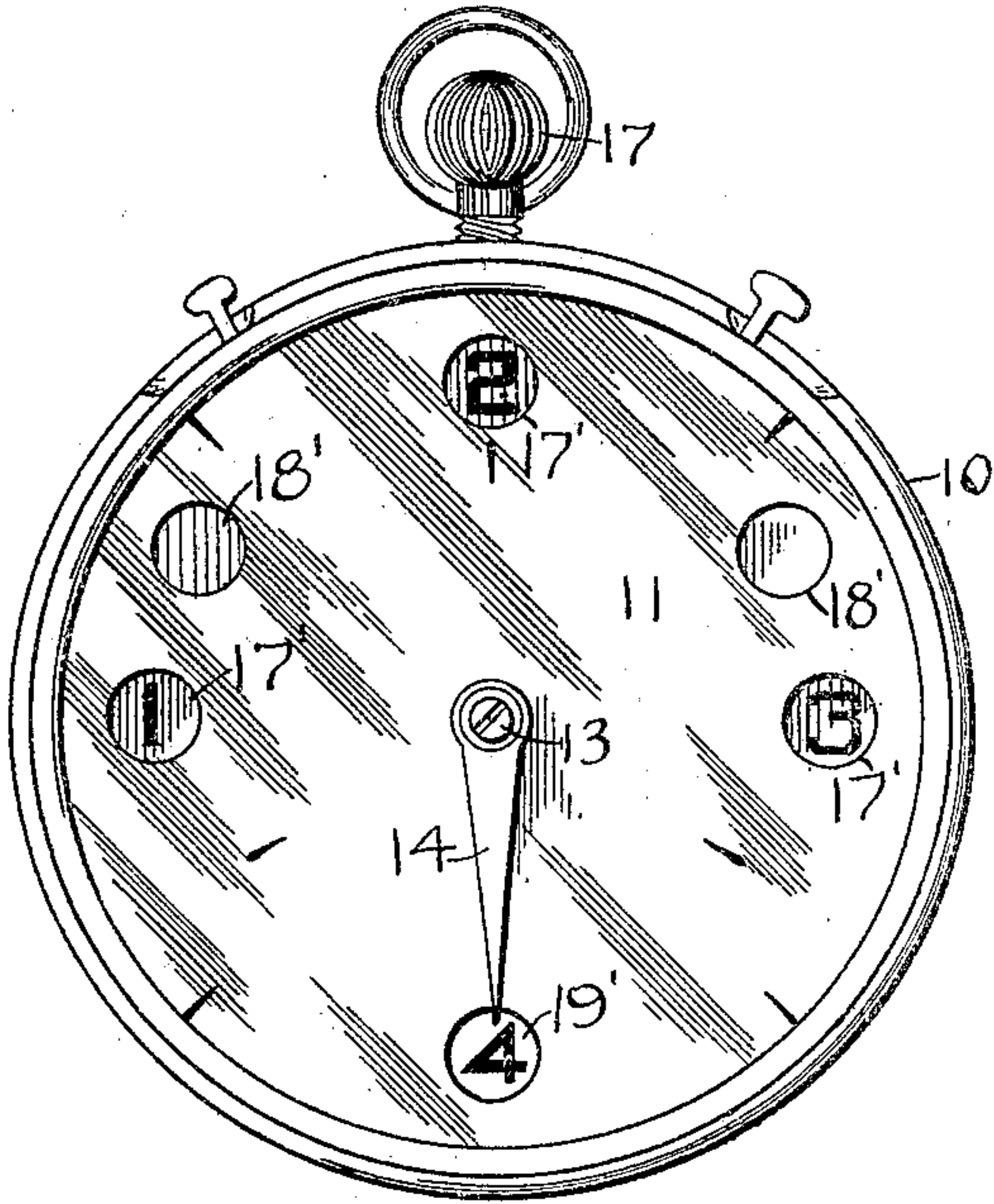


FIG. 2.

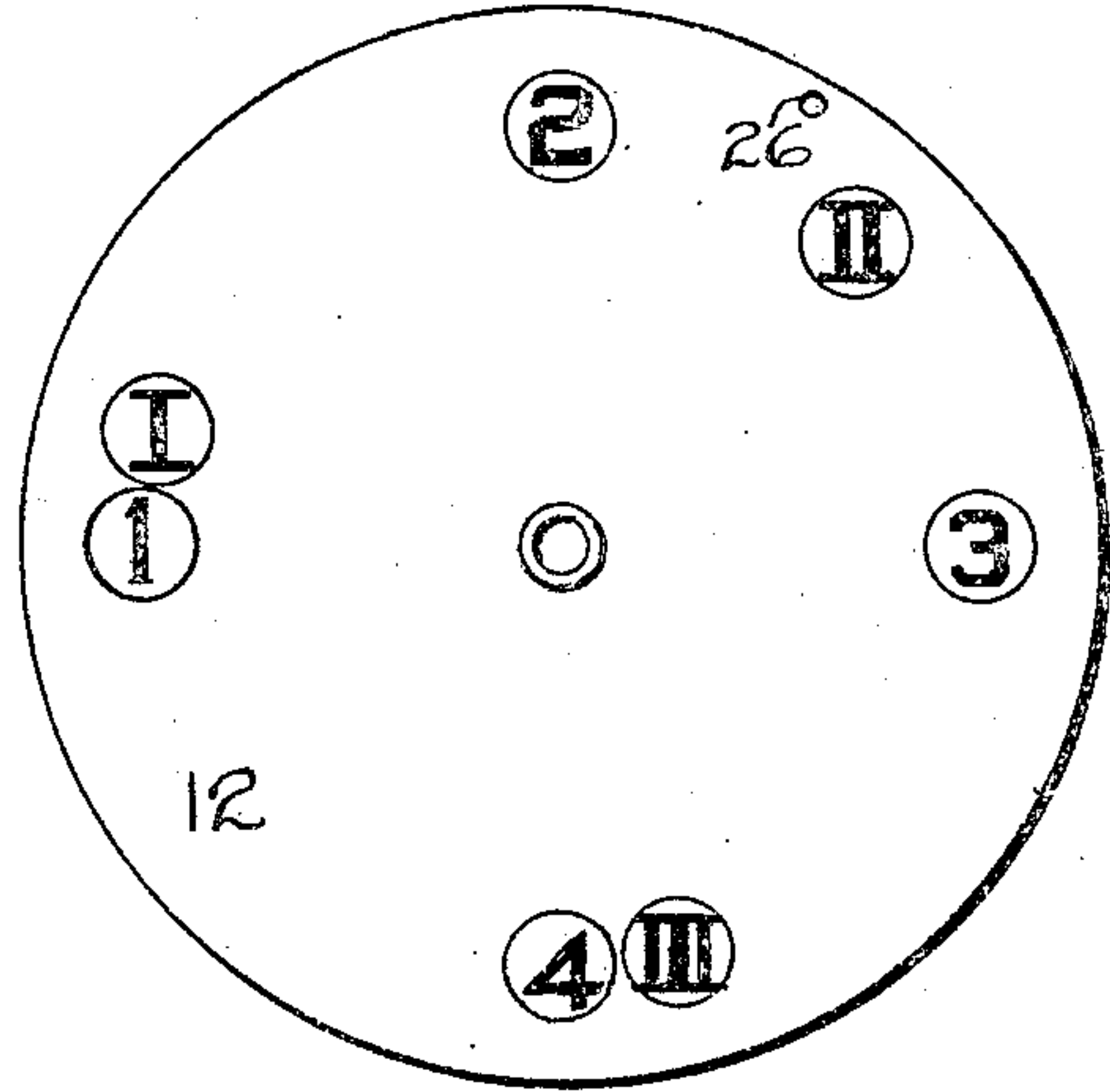


FIG. 3.

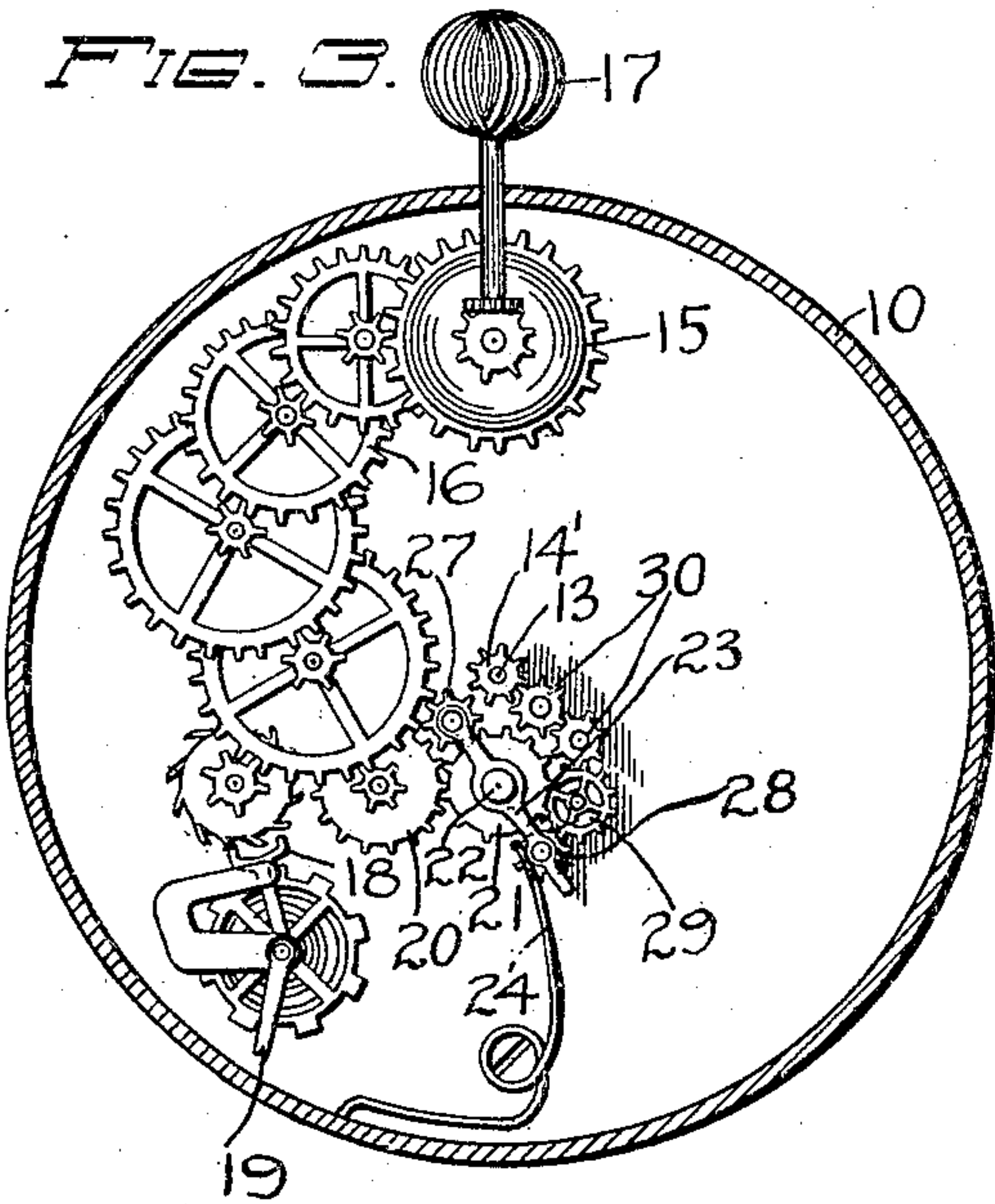
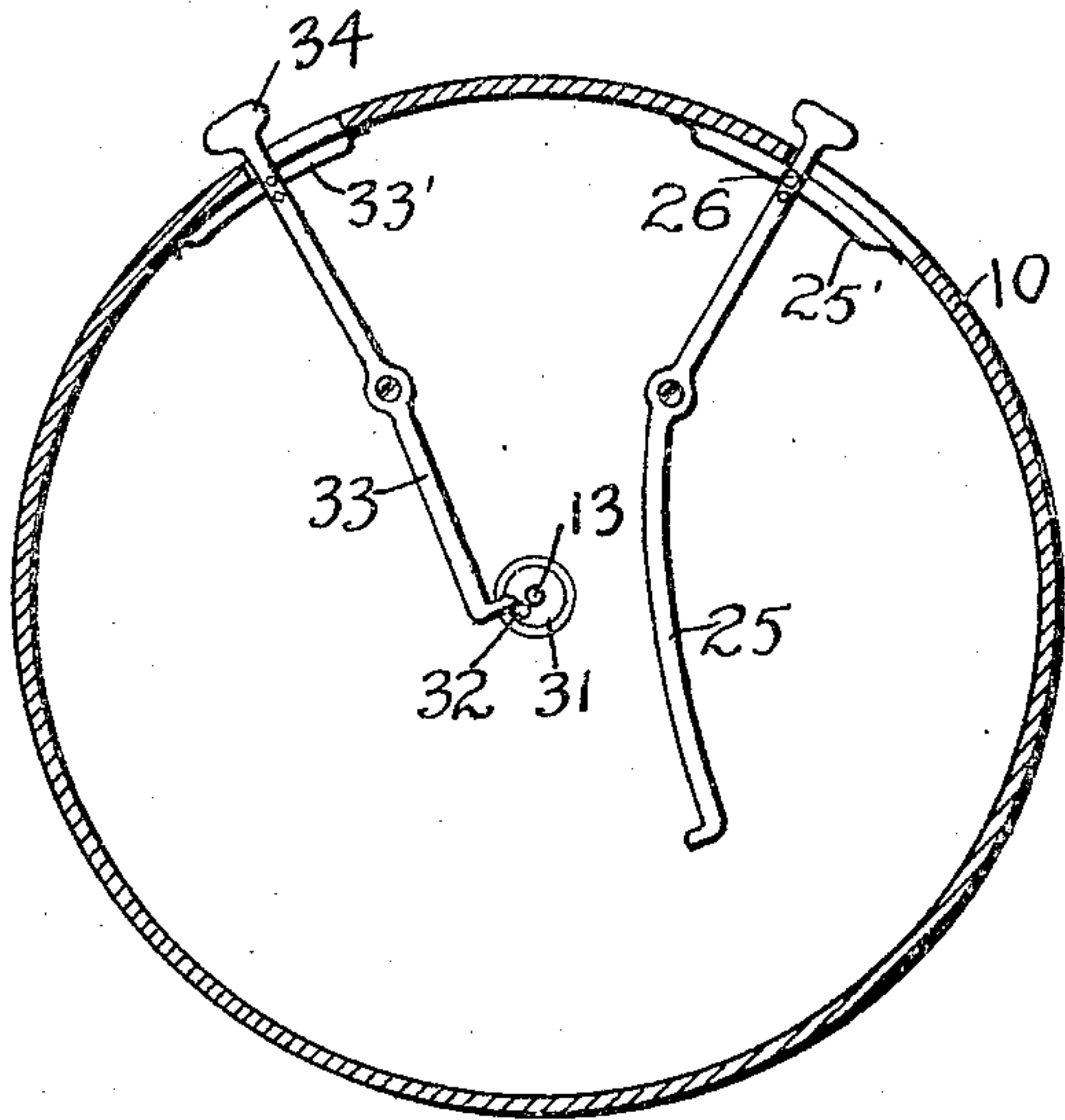


FIG. 4.



WITNESSES:

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MUSICAL TIME-INDICATOR.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PHILIP SIMPSON, a subject of the Czar of Russia, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Musical Time-Indicators, of which the following is a specification.

This invention relates to musical time indicators, its object being to provide a device which shall indicate time for musicians and be operated by clockwork and may be so adjusted as to beat a faster or slower time as may be desired, as will be more fully described in the accompanying specification, set forth in the claims and illustrated in the drawings, where:

Figure 1 is a view of the outer face of the device. Fig. 2 is the view of the dial. Fig. 3 is an interior view showing the escapement mechanism. Fig. 4 is a similar view showing the locking and shifting mechanism.

The primary object of this invention is to shift certain mechanism which will cause the device to indicate $\frac{1}{4}$ time or $\frac{3}{4}$ time by simple means controlled on the outside of the case of the indicator.

The indicator may be arranged within a case 10 about the size of a watch or it may be larger. The outside of the case is provided with a stationary face 11 beneath which is a rotating dial 12 containing the figures 1, 2, 3 and 4 at points equi distant from each other and near the edge of the dial and the Roman numerals I, II, III, also equi-distant from each other but the initial number being a short distance from the Arabic number 1. In the center of the face is journaled the arbor 13 of the hand 14 which sweeps around the face for the various times and on this arbor 13 is a pinion 14' which is driven by a spring within the drum 15 and through the clockwork 16. The dial and face have an eyelet connecting same which holds them together and permits the dial to rotate, and through this eyelet the arbor 13 passes. The spring drum is wound by means of the usual stem 17 and the clockwork is provided with an escapement mechanism 18, the latter having a regulator 19.

Meshing with the gear wheel 20 of the clockwork, is a wheel 21 mounted on a stud 22 and this stud also carries a lever 23 which is forced in one direction by a spring 24 which bears against it, but it may be thrown in the other direction by means of a

lever 25 shown in Fig. 4, and the rocking of this lever is intended to provide a means for shifting the lever 23 so that a different speed may be given the hand 14 and at the same time, the lever 25 shifts the dial 12 through a connection with the pin 26 passing through a hole in the dial and which secures the two together and cause them to move in unison.

At each end of the lever 23 are pinions 27 and 28 which mesh with the wheel 21 and are continually driven by it. While occupying the position shown in Fig. 3, the pinion 28 also meshes with a gear wheel 29 driving a train of gears 30 connecting with pinion 14' and which so gear the speeding of the clockwork that the hand 14 is driven around the face 11 at the speed of four seconds for each revolution.

When the lever 25 is shifted on its pivot, it presses against the lower end of lever 23 and throws it backward against the action of the spring 24, disconnecting pinion 28 from 29 and throwing pinion 27 in gear with the pinion 14'. The speed with which the clockwork now drives pinions 27 and 14' carries the hand around the clock at the speed of three seconds to each revolution.

In order to stop the device, the arbor 13 carries a disk 31 from which projects a pin 32 and swinging in the path of this pin is the lower end of a lever 33 with a knob 34 at its outer end, and while the lever occupies the position shown in Fig. 4, the mechanism is locked and by shifting the lever 33, it is removed from the path of the pin and the clockwork is free to operate.

In the stationary face 11, openings 17' are provided for the Arabic or $\frac{1}{4}$ time numerals while openings 18' are provided for the $\frac{3}{4}$ time numerals, while a common opening 19' exhibits the last number of each series of numerals.

The device makes a compact and simple device which is easily transported or carried about the person. It can be cheaply constructed and is substantial and reliable.

It is obvious that the construction and arrangement of the various parts are not limited to the forms shown in the drawings, but may be changed without departing from the essential features above described.

The levers 25 and 33 are provided near the upper ends with the flat sliding springs 25' and 33' respectively which not only cover the slots through which the levers play but hold the levers at certain points in conse-

quence of the tension put upon their resting points.

What I claim as new and desire to secure by Letters Patent is:

5 1. In a musical time indicator, the combination of a shifting dial, of a hand, clockwork, means operated by the clockwork for driving the hand by different intermittent movements, and shifting means between
10 same and the clockwork for changing the movement.

2. In a musical time indicator, the combination of a case having a perforated face, a dial beneath the face and having plural sets
15 of figures, clockwork, a hand, intermittent driving means for the hand, and a lever interposed between the clockwork and the driving means to vary the speed of the latter.

3. In a musical time indicator, the combination with a case having a perforated face,
20 of a shifting dial behind the face, an arbor carrying a hand, clockwork rotating the arbor, intermittent driving means in the clockwork, and a lever with a pinion at each
25 end to be shifted to operate the intermittent means at different speeds.

4. In a musical time indicator, the combination with a case having two sets of perforations in its face, of a dial behind the face
30 with two sets of numerals and arranged to display one set of numerals at a time through the perforations, clockwork, a rocking lever to stop the clockwork, a gear wheel, a swinging lever on the arbor of the gear wheel,
35 pinions at the end of the lever, a hand with

a pinion and a train of gears interposed between the pinion on the hand and one of the pinions on the lever, and adapted to be thrown on the gear when the lever is shifted.

5. In a musical time indicator, the combination with a case having a perforated face,
40 of a dial behind the face and bearing numbers to be displayed through the perforations of the face, a rocking lever with pinions at each end, clockwork driving the pinions, a hand with a pinion, a train of gears
45 connected with the pinion, and a lever adapted to shift the rocking lever so as to connect one of its pinions with the train of gears or with the pinion of the hand. 50

6. In a musical time indicator, the combination with a perforated face, of a dial with numerals to be shown through the perforations, a hand to sweep over the face and having a pinion, a train of gears connected
55 with the pinion, a rocking lever with pinions at each end and adapted to mesh with the pinion of the hand or the train of gears, clockwork driving the pinions, and a lever adapted to shift the dial and throw the pinions on the rocking lever in mesh with the
60 train of gears or with the pinion on the hand.

In testimony whereof I affix my signature in presence of two witnesses.

PHILIP SIMPSON.

Witnesses:

JOS. R. STEIN,

JAMES F. DUFFAMEL.