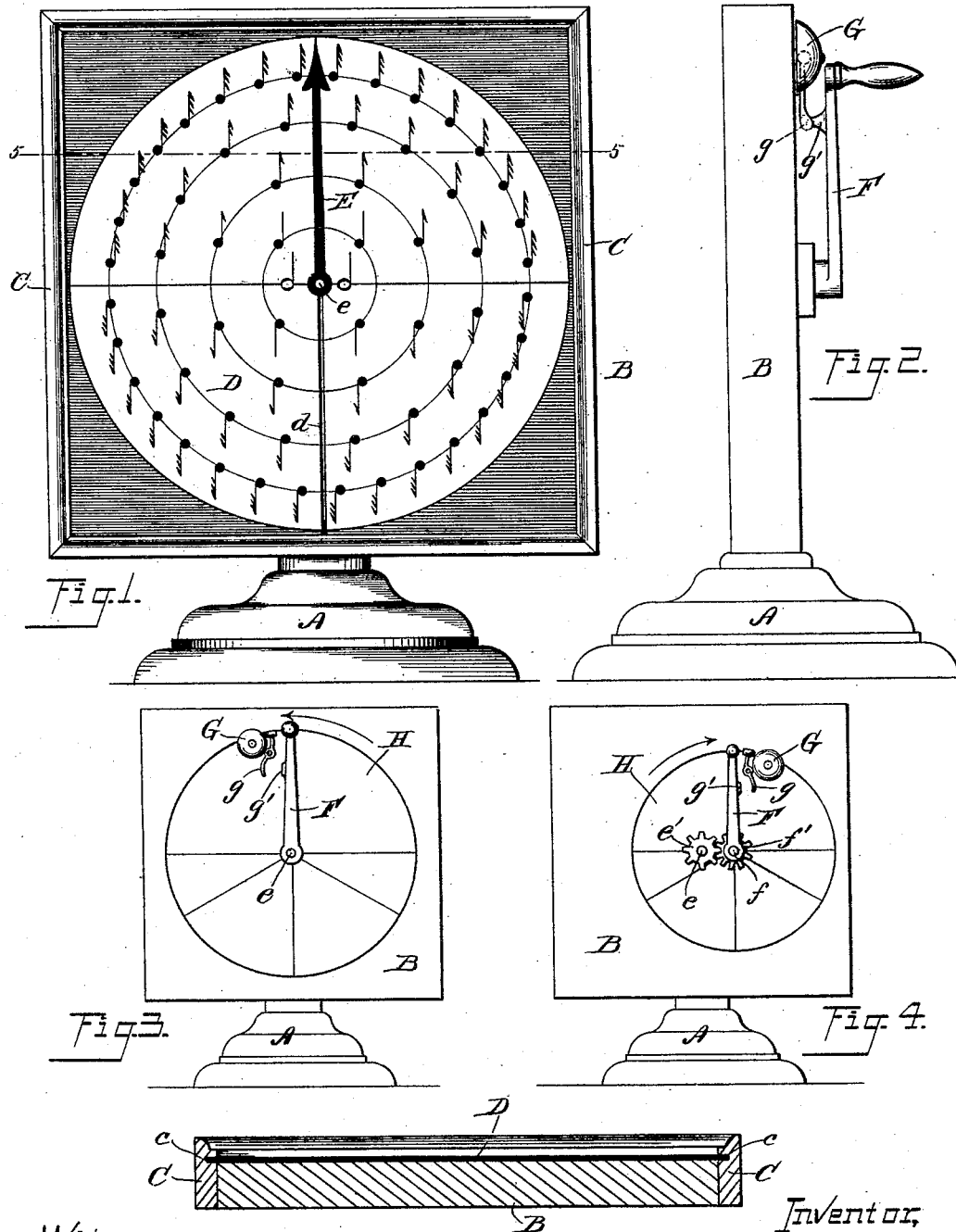


(No Model.)

P. O'CARROLL.
NOTE INDICATOR.

No. 523,545.

Patented July 24, 1894.



Witnesses.
E. W. Smith.
M. M. Wiles.

Inventor,
Patrick O'Carroll,
By John E. Wiles.
Attorney

UNITED STATES PATENT OFFICE.

PATRICK O'CARROLL, OF MILWAUKEE, WISCONSIN.

NOTE-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 523,545, dated July 24, 1894.

Application filed August 7, 1893. Serial No. 482,526. (No model.)

To all whom it may concern:

Be it known that I, PATRICK O'CARROLL, a citizen of the United States, residing at Milwaukee, county of Milwaukee, State of Wisconsin, have invented a certain new and useful Improvement in Note-Indicators; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to new and useful improvements in metronomes, and relates more particularly to an improved note indicator adapted for operation by hand.

The various features of my invention will be hereinafter fully described and pointed out in the appended claims.

In the accompanying drawings illustrating my invention: Figure 1 is a front elevation of my improved note indicator. Fig. 2 is a side elevation of the same. Fig. 3 is a rear elevation of the same on a smaller scale than Figs. 1 and 2. Fig. 4 is a similar view illustrating a somewhat different form of construction. Fig. 5 is a horizontal sectional view taken on line 5—5 of Fig. 1.

Referring by letter to said drawings, A designates a suitable base which may be of any desired or convenient form.

B designates a vertically disposed board which is conveniently made of square or rectangular form, and is secured edgewise upon the upper side of the base A.

A suitable molding C is arranged upon the outside of the board B and is arranged to project somewhat beyond the plane of the front surface thereof, as shown more particularly in Figs. 1 and 5, and provided along its inner faces with suitable grooves *c c* for the reception of the edges of a disk or plate D, bearing upon its face any desired musical characters or notes. A hand E is secured to a suitable shaft *e*, which projects centrally from the board B, and is arranged to rotate in a suitable bearing therein, and extends through to the rear surface of the board, where it has an operative engagement with a suitable handle or crank F.

In the particular form of construction illustrated in Figs. 1, 2 and 3, the handle or crank

F is secured directly to the end of the shaft *e* upon which the hand or pointer E is mounted, while in the form shown in Fig. 4, a suitable gear *e'* is secured to the rear end of the shaft *e*, and a similar gear *f'* is secured to a shaft *f* upon which the handle F is mounted, these gears being arranged to mesh with each other, in the manner shown, so that a rotation of the handle F in one direction will produce a rotation of the hand or pointer E in an opposite direction. In this latter form of construction the two gears *e'* and *f'* are made of the same diameters so that a partial rotation of the handle F will produce a partial rotation of the hand or pointer E, to a corresponding extent.

At a convenient point upon the back of the board B, I provide a suitable bell or other audible signal G, the clapper *g* of which extends into the path of a suitable projection *g'* upon the handle or crank F, so that in the rotation of said handle, the bell or other signal will be operated each time that said handle or crank passes a certain point in its revolution.

The disk or plate D is provided with a circular face as shown in Fig. 1, and this face may be divided into any desired number of equal spaces or segments to represent the divisions of the "measure" into "beats." The particular form shown in Fig. 1 is illustrative of the divisions of the measure for 4-4 time, in which four beats are allotted to the measure, the circular face being divided into four equal segments. The entire circle is represented by the whole note, which is equivalent to four beats, half the circle by the half note, equivalent to two beats, a quarter of the circle by the quarter note, equivalent to one beat. Upon each quarter of the circle are also printed two eighth notes, four sixteenth notes, and eight thirty-second notes, respectively the equivalents of one quarter note.

As illustrated in Fig. 1, the circular face of the disk or plate D is conveniently provided with a series of concentric circular lines upon which the different kinds of musical notes or characters are printed, these lines serving to more readily connect the notes or characters of any particular musical value with each other. As also illustrated in Fig. 1, I prefer

to provide in the disk or plate D, a vertical slot *d* which is arranged to extend upwardly from the lower edge thereof, so as to enable the said disk or plate to be readily slipped down into position in the grooves *c c*, or removed therefrom when desired, said slot being arranged to slip freely over the shaft *e* of the hand or pointer E.

If desired, the plate D may be provided upon both sides with circular faces bearing musical notes or characters expressive of the divisions of the measure for the different kinds of time, the disk or plate D being thus rendered reversible and taking the place of two separate plates or disks. As many such faces D may be provided as may be desired to express the different kinds of time, and in place of the notes, one or more of said faces may be printed with other musical characters, such as the different rests.

At the back of the board B, and concentric with the axis of the handle F, is preferably provided a suitable circular face H which is marked by radial lines or divisions to express the division of the whole circle into sections equivalent to the beats into which the measure is divided for one or more kinds of time.

It follows from this construction that the operator may, by turning the handle F in the direction indicated by the arrow, cause the hand or pointer E to rotate toward the right and by an intermittent or step by step rotation of said handle to the several divisions of the circle, may produce a corresponding step by step rotation of the hand or pointer E in front of the face D, and by properly timing the movements of the handle, the hand or pointer E may be made to express any desired divisions of the circular face representing the number of beats to the measure in any desired kind of time.

The bell or other audible signal G is preferably located at such a point as to enable it to be operated by the first movement of the handle designating the first or accented beat in the measure.

By my improved device an instructor is enabled by the operation of the handle or crank at the rear of the board B to produce a corresponding operation of the hand or pointer E in front of the face D so as to indicate, by the hand or pointer, the divisions of the measure into beats, and at the same time shows

clearly to the eye of the observer in front of the face, the exact musical value of any one or more of the musical notes or characters upon the face, with relation to the other musical notes or characters, as well as the number of beats to the measure and the relative value of the characters represented upon the face, and the beats.

My improved apparatus is exceedingly simple in its construction, and easy of operation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A note indicator comprising a suitable board or frame provided with a face, upon which are depicted representations of musical notes or characters, a hand or pointer secured upon a revoluble shaft extending centrally through said board or frame, an operating crank or handle revolubly supported in rear of said board or frame, and having operative engagement with said shaft, and an audible signaling device, also secured to the rear of said board or frame, and adapted for operation by said crank or handle, at a predetermined point in the rotation of the latter, substantially as described.

2. A note indicator comprising a suitable board or frame provided at its sides with forwardly projecting flanges, having grooves in their inner faces, a suitable plate adapted for removable engagement with said grooves, and provided with a face bearing representations of musical characters or notes, and divided into a number of equal segments, a hand or pointer secured to a shaft which is revolubly journaled in said board or frame, and arranged to extend centrally therethrough, an operating crank or handle revolubly supported in rear of said board or frame, and having operative engagement with said shaft, and a circular face upon the rear of said board or frame, arranged concentrically with respect to the axis of said crank, and provided with suitable divisions corresponding with the divisions of the first mentioned face, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

PATRICK O'CARROLL.

Witnesses:

JOHN E. WILES,
E. W. STRUT.