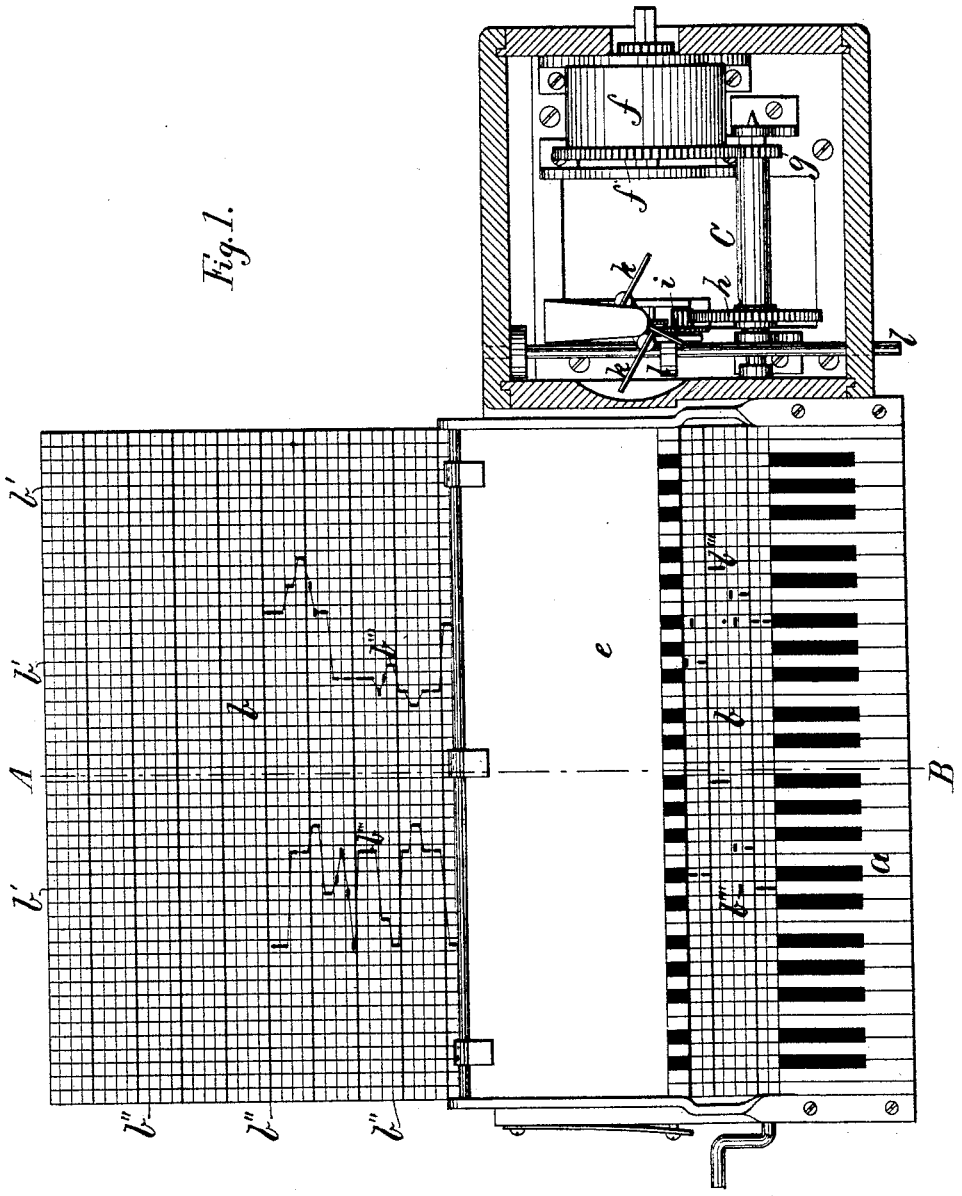
2 Sheets—Sheet 1.

G. WOODS.

Note-Indicator for Musical-Instruments.

No. 210,888. Patented Dec. 17, 1878.

Fig. 1.



Witnesses:
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Willis E. Flint

Inventor:
George Woods
by Alban Andrén
his atty.

2 Sheets—Sheet 2.

G. WOODS.

Note-Indicator for Musical-Instruments.

No. 210,888. **Patented Dec. 17, 1878.**

Fig. 3.

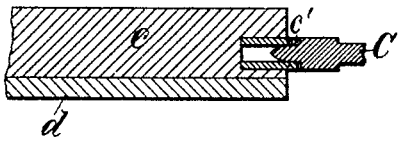
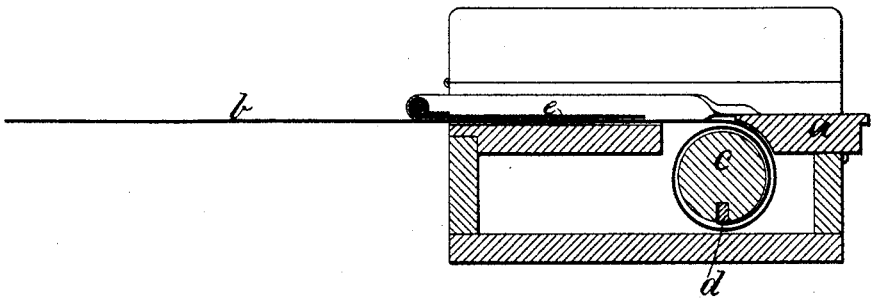


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE WOODS, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN NOTE-INDICATORS FOR MUSICAL INSTRUMENTS.

Specification forming part of Letters Patent No. **210,888**, dated December 17, 1878; application filed March 18, 1878.

To all whom it may concern:

Be it known that I, GEORGE WOODS, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Note-Indicators for Musical Instruments, &c.; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in note-indicators for musical instruments, &c.; and my invention consists of movable sheet-music, in combination with a stationary index or imitation key-board, or ordinary key-board, or vice versa, and suitable mechanism for its operation.

The sheet-music is divided by means of horizontal and vertical bars or lines into fields, squares, or spaces, in which the notes are contained, and the relative position of the said notes on the sheet-music indicates its key on the musical instrument for which it is written, when it is placed in its proper position with the key-board or imitation key-board of the musical instrument, and its size indicates its length or duration during which it is to be sounded. The said bars, lines, or fields on the sheet-music may be dispensed with, and the notes printed in their relative positions on a blank sheet to equal advantage.

To explain this invention and its operation more fully, I will describe it as applied to a piano or organ, although it is equally useful for any and all other musical instruments, as well as for vocal instruction and voice-training and singing.

I will also describe the invention as provided with a stationary index or imitation key-board and movable sheet-music, although a stationary music-sheet, combined with a movable index or imitation key-board, may be used to equal advantage for various instruments or purposes, or combined with the ordinary key-board on musical instruments. This stationary index or imitation key-board is made with representations of all the different keys on the instrument, behind which index is located the rotary sheet-music roller, that is set in a rotary motion around its axis by means of any of the ordinary spring or other motors, provided with a suitable regulator, by which the proper speed is maintained, changed, and regulated, as may be desired.

To the music-roll is attached one end of the sheet-music, that is divided in vertical bands or rows in a line with the keys on the index or imitation key-board. The vertical rows on the sheet-music are divided by horizontal lines, colors, or bars in spaces representing units of time—as, for instance, each horizontal field or row or space may represent a full, half, quarter, or more or less of a note, as may be desired.

We will suppose, in the present instance, that the horizontal rows or fields on the sheet-music represent quarter-notes. In that case a note printed on the whole vertical extension of any square would represent that the key opposite has to be held down one-fourth of a full note. If one-half of the field is printed on, it would represent an eighth-note, and so on in proportion. This may also be accomplished by the marks of the notes only on a blank sheet without the aforesaid fields, rows, or spaces.

After the music-roll and sheet-music are set in motion, all that the operator has to do is to put his fingers down on those keys of the instrument that correspond with the representations on the index or imitation key-board as soon as each and any of the marks on the sheet-music approach the front edge of the index, and to retain such keys down till the edge of each mark on the sheet-music disappears behind the front edge of the stationary index.

It is immaterial what kind of marks or figures I use on the sheet-music, or whether the fields be plain or colored, or whether such fields are used at all. One and the same sheet may be used for several different instruments, or for different parts in vocal or instrumental music, by making the notes for each instrument or for each part of vocal music—such as the basso, soprano, &c.—of a distinct or different color, or of a different shape or figure

from the others. In this case one and the same sheet and one and the same index or imitation key-board can be used for several players or singers at the same time, or both, and thus insure the advantage of all keeping accurate time together. Two or more of these note-indicators may be combined and connected together by suitable mechanism and operated by one and the same motor, so as to give the correct time to each individual player or singer in choirs, schools, orchestras, &c.

On the accompanying drawings, Figure 1 represents a plan view of my improved note-indicator and sheet-music. Fig. 2 represents a cross-section on the line A B, shown in Fig. 1; and Fig. 3 represents a longitudinal section of the rotary music-roller.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a represents the stationary index or imitation key-board. *b* is the movable sheet-music, one end of which is attached to the rotary roller *c* by means of a dowel, *d*, or otherwise. *e* represents a suitable guard folded down upon the sheet-music, so as to guide it smoothly toward the front edge of the index or imitation key-board *a*. *b' b' b'* represent the vertical lines or bars or rows on the sheet-music *b*, and *b'' b'' b''* represent the horizontal lines, bars, or rows on said sheet-music. *b''' b''' b'''* represent the note-marks on said sheet-music, the vertical extensions of which note-marks indicate the length of time in which they are to be sounded, and the horizontal positions of which indicate their positions on the music-scale. C represents the driving-shaft for the roller *c*, the latter being provided with a suitable ratchet or coupling, *c'*, so that the said roller may be disconnected from the driving-shaft C when desired, and another roller with new sheet-music connected to said shaft when a new tune or piece of music is to be played.

Any desired mechanism may be used for imparting the proper rotary motion to the roller *c*.

I have in Fig. 1 shown it as consisting of an ordinary spring-case, *f*, cog-wheels *f' g h i*, fan or regulator *k*, and sliding stop *l*, in a similar manner to the mechanism used for operating music-boxes; but I do not attach any importance to this peculiar mechanism, as any of the ordinary ones may be used to equal advantage, as well as such mechanisms as are used on the spring curtain-rollers, &c.

What I wish to secure by Letters Patent, and claim, is—

1. The herein-described note-indicator, consisting of movable sheet-music, *b*, combined with a stationary index or imitation key-board or ordinary key-board, and suitable automatic mechanism for its operation, as and for the purpose set forth.

2. The herein-described sheet-music *b*, provided with note-marks *b''' b'''*, the size of which indicates their relative length or duration, in combination with an imitation key-board, or key-board, as and for the purpose set forth.

3. The herein-described sheet-music *b*, provided with vertical lines, bars, or rows *b' b' b'*, horizontal lines, bars, or rows *b'' b'' b''*, and note-marks *b''' b''' b'''*, as and for the purpose set forth.

In testimony that I claim the foregoing as my own invention I have affixed my signature in presence of two witnesses.

GEORGE WOODS.

Witnesses:
ALBAN ANDRÉN,
HENRY CHADBOURN.