

(No Model.)

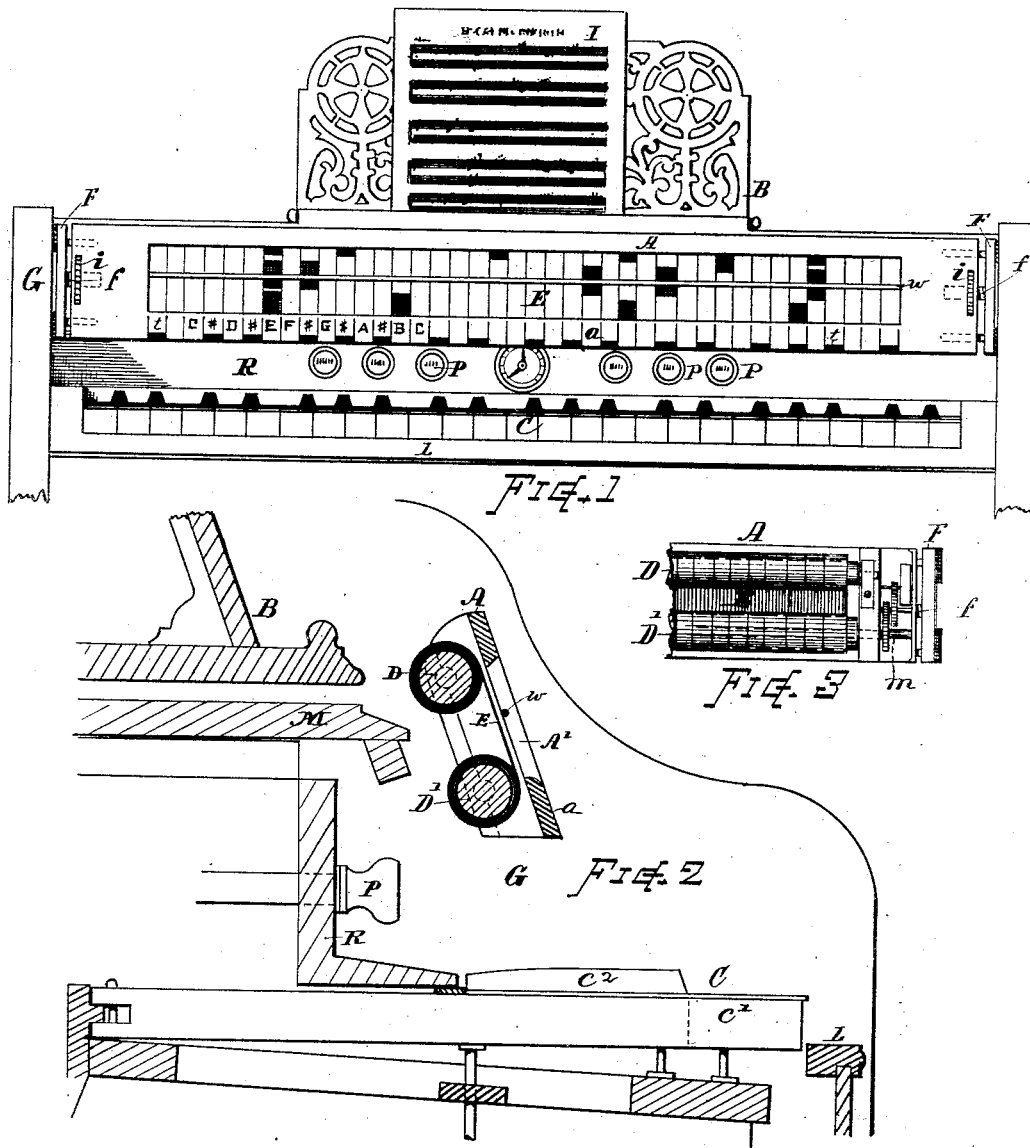
2 Sheets—Sheet 1.

E. P. CARPENTER & M. S. WRIGHT.

KEY INDICATOR FOR MUSICAL INSTRUMENTS.

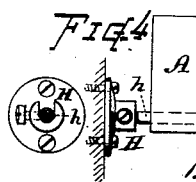
No. 347,686.

Patented Aug. 17, 1886.



WITNESSES.

*S. R. Barton*  
*Geo. M. Rice 2<sup>d</sup>*



INVENTORS.

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(No Model.)

2 Sheets—Sheet 2.

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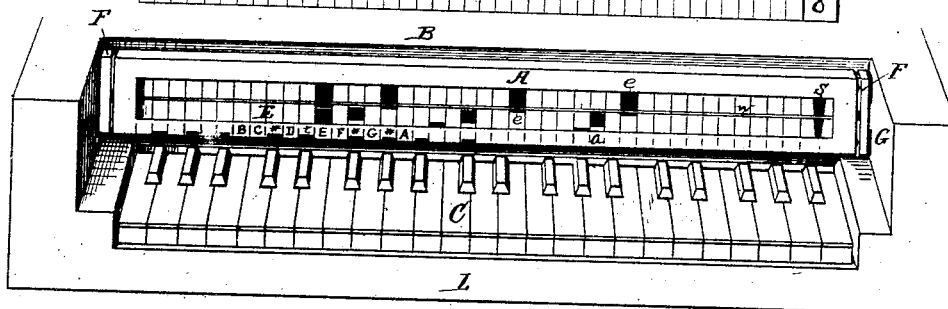
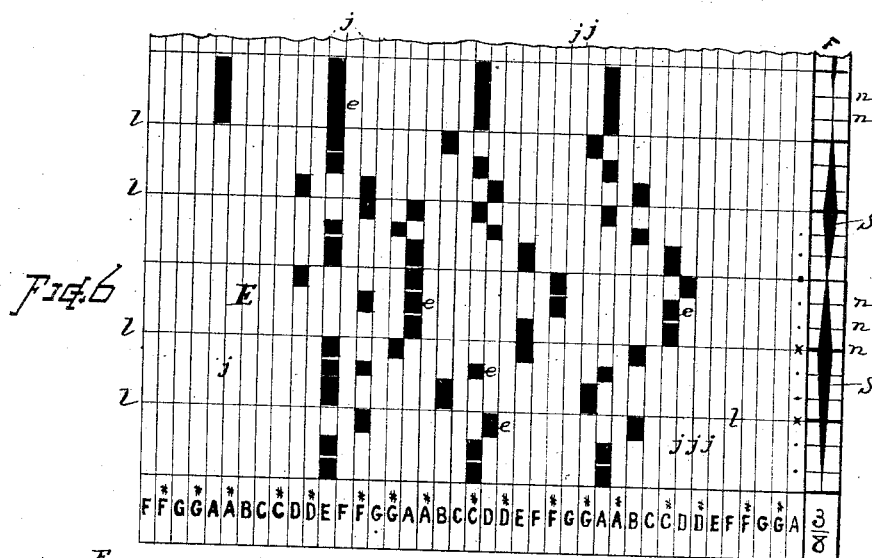
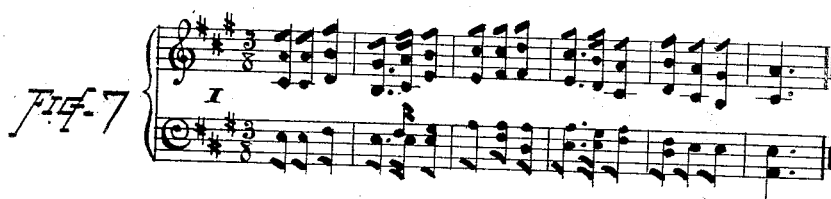


Fig. 5

WITNESSES

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# UNITED STATES PATENT OFFICE.

EDWIN P. CARPENTER AND MORRIS S. WRIGHT, OF BRATTLEBOROUGH, VERMONT, ASSIGNORS TO ALICE P. CARPENTER, OF FOXCROFT, MAINE.

## KEY-INDICATOR FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 347,686, dated August 17, 1886.

Application filed April 19, 1884. Serial No. 125,521. (No model.)

*To all whom it may concern:*

Be it known that we, EDWIN P. CARPENTER and MORRIS S. WRIGHT, citizens of the United States, both residing at Brattleborough, in the county of Windham and State of Vermont, have invented certain new and useful improvements in Key-Indicators for Manual Musical Instruments; and we declare the following to be a description of our said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of our present invention is to provide a portable apparatus for use in connection with manual musical instruments for indicating the proper keys to be depressed in accordance with the notes of any designated piece of music; also the time, expression, duration of tones, and such other features of the musical composition as may be desired, said apparatus being adapted for ready and convenient attachment to any organ, piano, or other manual, when desired, and which can be manufactured and sold as an independent apparatus or attachment.

To this end our invention consists in an indicating sheet and apparatus, the nature whereof is herein illustrated and described, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a front view of the manual and music-desk of an organ, showing our improved key-indicator in position thereon. Fig. 2 is a vertical transverse section of the organ-manual, music-desk, and indicator apparatus on larger scale. Fig. 3 is a back view of one end of the indicator apparatus. Fig. 4 shows a side and face view of an attaching device which may be used for supporting the indicator apparatus in some instances. Fig. 5 is a front view showing the relation of the indicator-sheet and manual-keys. Fig. 6 is a view of the indicator-sheet, and Fig. 7 shows the written music corresponding to that on the indicator-sheet as exhibited in Fig. 6.

Our key-indicating apparatus consists of a roll or sheet of paper, or other suitable fabric, having delineated or marked thereon in color, and at lateral intervals corresponding to the

width of the key-spaces, a series of spots or indicating-marks representative of the tones in a piece of music, which are successively brought into view through a suitable opening in a bar or supporting-frame, which is placed across the front of the instrument above the manual in such position that the color-spots or indicating-marks range with the respective keys, and denote which keys are to be depressed. This sheet is preferably mounted on a roll mechanism operated by a suitable motor in a manner to impart a forward traveling action or movement thereto, and the continuance in view of the respective colored spots denotes the length of time any corresponding key is to be held depressed for giving the proper duration of tone.

In referring to parts, A denotes a frame or open-faced bar provided with means for its support on the front of the instrument, and adapted for occupying a position between the music-desk B and the manual C, as indicated. Within said frame are mounted rolls D D', which carry the indicating-sheet E. The face of the lower part, *a*, of the frame A is marked off in spacings corresponding to the width of the key-spacings in the manual, and these several divisions bear letters corresponding with and denoting the tones of the reeds or sounding devices governed by the keys of the instrument, as C, C $\sharp$ , D, D $\sharp$ , &c. The position of the black keys may also be marked on said bar *a*, if desired, by a readily distinguished spot or mark, as at *t*. One of the rolls, D, serves as a spool for the indicating sheet, while the other, D', serves as a winding-roll for drawing forward the said sheet across the opening A' of the bar. Said latter roll may be provided with or connected to a motor properly arranged for giving the impelling force for carrying forward the sheet at a regular or regularly-intermittent speed, as desired. Said motor may be a spring arranged within the roll D' in the manner similar to a curtain-roll, or it may be a coil and train of gears arranged at the end of the frame A, and operating in connection with the roll-axis, for giving rotary action to the roll D, as indicated at *m*, Fig. 3. The roll D is made detachable, so that it can be taken out of the frame and replaced for changing the indicator-sheets E for different pieces of music, the roll

D' being fitted with hooks or equivalent fastening devices for detachably connecting the end of the sheet E thereto. The ends of the frame A are provided with adjusting-pieces 5 F, fitted with screws *f* and hand-nuts *i*, by means of which the support is rendered extensible, as said pieces F can be moved out or in. By pressing said pieces F outward against the cheeks G of the instrument the 10 indicator apparatus is retained in position thereon. The outer faces of the extensible end pieces, F, may be cushioned with felt or other suitable soft material, so as not to scratch or mar the finished surfaces on the cheeks G.

15 Another method of supporting the apparatus is illustrated in Fig. 4. In this a socket-piece, H, of metal is attached to the cheek G, for receiving the end of a stud, *h*, projecting from the end of the frame A, as shown. This 20 latter method of support is adapted where the apparatus is especially fitted to any particular instrument; but the former-described method is preferred where the apparatus is intended to be used on any one of several 25 classes of instruments, as it gives adjustability in length of the bar A for fitting between the cheeks G, and allows of slight variation laterally to bring the spacings of the indicator to accurately coincide with the keys of the manual.

30 Any other suitable means of supporting the frame A may be employed, if desired—as, for instance, by hanging it upon the front of the music-desk B by a cord, or by backward-turned hooks that will catch over the beading along the front of the desk.

The indicator-sheet E is made of paper or suitable thin flexible fabric, and has delineated upon its surface rows of colored spots or 40 marks *e*, disposed in proper order, substantially as shown, to correspond with the positions of the notes or tones in a piece of music. (See Figs. 6 and 7.) The lateral positions of said marks range with the lateral spacings of 45 the keys and indicate the particular tones to be sounded, while their longitudinal positions indicate the time when such tones are required. The length of the spots *e* denotes the duration of the tones. The sheet E may also be divided 50 into spaces by longitudinal lines *j*, according to tones, and, if desired, the symbols of the several tones may be printed on the first end of the sheet, to facilitate the proper placing of the sheet in the apparatus. Said sheet E can also 55 be provided with transverse lines *l*, to indicate the measures or bars of the music. Lines *n* or dots to denote the time-beats are marked on the sheet E, and such shorter lines may be varied in appearance to denote the accented and 60 unaccented beats.

In addition to the masses of color indicating the tones, lines or portions of color are delineated on the sheet, as at S, for showing the swell or expression to be given the music. 65 Such expression-marks are herein shown as along the border of the sheet, but, if preferred,

might be introduced among the tone-indicating spots *e*. The delineations may be in dark color on a light-colored sheet, or in light color on a dark sheet, as preferred. The several 70 classes of spots and lines may be each of a different color, if desired.

In Figs. 1 and 2 we have shown the position which the indicating apparatus would occupy on an ordinary reed-organ, where a row 75 of stops, P, require the space in front of the brace or name board R.

In Fig. 2, C' C' denote the keys, L the lock-rail, and M the fall-board. The indicator apparatus is here placed at sufficient height to 80 permit access to the pulls P beneath it. If there are no pulls P in the brace, or if it is not desired to draw the stops, then the key-indicator may be placed directly down to the manual, as indicated in Fig. 5.

85 The opening A' in the bar or frame can be of any desired width to reveal a portion of the sheet E corresponding to the length of a single note, more or less, according to the preference of the player. In the present instance 90 it is shown as of considerable width, and is divided by a rod, *w*, which gives an upper division for showing what notes are to follow those being played.

In the operation of our key-indicating ap- 95 paratus the pupil has the sheet of written music I upon the desk B, and a corresponding index-sheet, E, in the apparatus, which is located between said desk and the manual C, and in such position that the sight naturally 100 passes across it in looking from one to the other. The eye, readily catching the color of the spots *e* on the sheet E as revealed through the space A' above the respective keys, instantly perceives which key or keys to de- 105 press in order to give the respective notes of the music without the usual mental calculation which a beginner has to exercise to determine the proper key or location of any tone on the manual, thus avoiding the hesitancy and mis- 110 takes ordinarily encountered by a person unaccustomed to playing, and enabling the young player to more quickly attain a knowledge and handling of the manual-keys. The player 115 depresses the key when the edge of the spot *e* reaches the edge of the bar *a*, (or the rod *w*, if preferred,) and holds the key until said spot disappears behind said bar, the time required for the sheet to move such distance being the proper duration of the tones. 120

We are aware that an apparatus has heretofore been patented wherein a movable-sheet having marks for indicating the notes or keys is employed in combination with a manual or key-board, and we do not, therefore, herein 125 make claim, broadly, to include such apparatus. Our apparatus is, however, of different and improved construction, and is also a portable article manufactured and sold separate from the instruments, and adapted to be 130 used on any organ or piano, and it embraces improvements of a practically valuable nature.

What we claim as of our invention, and desire to secure by Letters Patent, is—

1. The frame-bar A, adapted to extend across the manual in front of the name-board on a piano or organ, provided with devices for temporarily sustaining it in position thereon; and the upper and lower horizontal rollers, D and D', journaled at their respective ends in bearings attached to said bar, combined with an indicating-sheet, E, such as described, mounted on said rollers to wind from one to the other, and a motor connected with said bar and rollers, substantially as and for the purpose set forth.
2. The combination, with the music-indicating sheet E and its supporting-bar A, having the opening A', of the rod or wire w, substantially as and for the purpose set forth.
3. The combination, with the bar A, having

the central opening, A', the winding-roll D', music-roll D, and music-indicating sheet E, of the end pieces, F, doweled to said bar, the set-screws f, and nuts i, substantially as shown and described.

4. The portable indicator-supporting frame A, the lower portion, a, of which is divided by lines into spaces corresponding with the width of manual-keys, and having marked or printed thereon the tone-indicating letters of a musical scale, (or scales,) substantially as shown and described.

Witness our hands this 16th day of April.  
A. D. 1884.

EDWIN P. CARPENTER.  
MORRIS S. WRIGHT.

Witnesses:

WILLIAM S. NEWTON,  
HARRY W. LEONARD.