(No Model.)

C. F. VETTER.

MUSICAL SCALE INDICATOR.

No. 266,329. Patented Oct. 24, 1882.

Fig. 1.

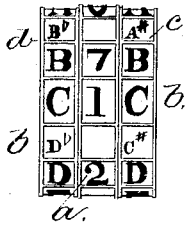


Fig. 2.

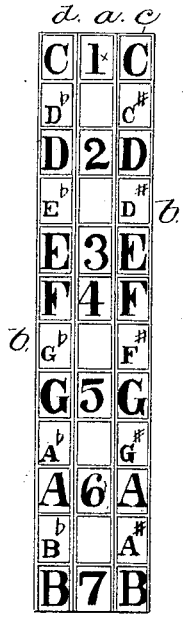
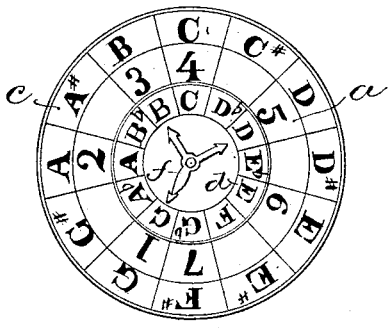


Fig. 3.



WITNESSES—

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UNITED STATES PATENT OFFICE.

CHARLES F. VETTER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO CHARLES O. HUNTER, OF SAME PLACE.

MUSICAL-SCALE INDICATOR.

SPECIFICATION forming part of Letters Patent No. 266,329, dated October 24, 1882.

Application filed January 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. VETTER, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Musical-Scale Indicators, of which the following description, in connection with the accompanying drawings, is a specification.

My invention relates to a musical-scale indicator, and is shown as embodied in a finger-ring or watch-charm, or other small ornamental article, it having for its object to enable any one to at once determine the key-note of and notes belonging to any musical scale. The musical scale consists of eight tones, having unequal intervals between them; and these are represented upon a movable portion of the indicator by seven figures arranged with spaces corresponding to the intervals between the notes of the scale—that is, the space between the third and fourth and seventh and first figures is one-half the space between the other pairs of adjacent figures corresponding to the half-tone intervals in the scale. At either side of the said movable portion, and arranged to register therewith, are indicated, in regular order, the letters representing all the notes of the chromatic scale, the series in one side having the half-tones represented as sharps, each of the note below it in the scale, while the series on the other side has the half-notes represented as the flats of the notes above them—"A-sharp," for example, of the one series registering with "B-flat" of the other series. It will thus be seen that by moving the indicating device until the figure 1 thereof is opposite the key-note of any scale desired, the other figures will be opposite the other notes which form the said scale, and that by placing the figure 1 of the scale between the letters *c* of the series of notes at either side of it the figures throughout will be opposite the notes of the natural scale, of which C is the key-note. By remembering that the fifth note of a given scale in sharps or the fourth note in flats forms the key-note of the next scale it is obvious that by merely moving the indicating device until the figure 1 thereof occupies the space last occupied by the figure 5 the notes of the next scale in sharps will be indicated; or by moving it so that figure 1 occupies the space last occupied by figure 4 the next scale in flats will be indicated.

Figure 1 shows in side view a scale-indicating device embodying this invention, it being made as a finger-ring. Fig. 2 is a side view of the same developed or cut open and laid out flat, and Fig. 3 is a side view of a modified form.

The indicating portion *a* is shown in Fig. 1 as a ring adapted to rotate in an annular groove or in the middle of the main portion *b* of a finger-ring, and is marked with figures 1 to 7, spaced in accordance with the tones of the musical scale—that is, the spaces between 1 and 2, 2 and 3, 4 and 5, 5 and 6, 6 and 7 represent full tones, and are double the spaces between the numbers 3 and 4 and 7 and 1, which represent half-tones in the scale. At either side of the said movable indicator are arranged the letters representing the entire series of notes and half-notes of the chromatic scale, one series, *c*, having the half-notes represented as sharps, and the other series, *d*, having half-tones, represented as flats, the spaces between any two of the said notes being equal to the shortest spaces between the pairs of figures on the indicating-ring *a*—that is, between 3 and 4 or 7 and 1. The same notes in the two scales are in line with one another, and the movable indicating portion can be placed with figure 1 between any pair of letters of the series at either side, the said letters representing the same note.

In the form shown in Fig. 3 the scales are indicated on a plane instead of a cylindrical surface, they being arranged in concentric circles, the indicating device *a* being capable of rotation about the center thereof.

In operation it will be seen that by placing the numeral 1 of the indicating portion in line with any letter or note-sign representing the key-note of a scale, the other figures of the said indicating device will be opposite the other notes of the scale, which may thus be at once determined.

In Figs. 1 and 2 the numeral 1 of the indicating portion is placed opposite the note-sign C, and the numerals of the indicator are opposite the notes of the natural scale.

It will be seen that the numeral 5 of the

indicator is opposite the letter G, this being the key-note of the scale of one sharp, and consequently by moving the indicator until its numeral 1 is opposite G (the position last occupied by numeral 5) the indicator will point out the scale of one sharp, as shown in Fig. 3. The numeral 5 in the position shown in Fig. 3 is opposite D, which is the key-note of the scale of two sharps, and it will be seen that the key-note and scale of any number of sharps may be readily determined by successively moving the indicator so that its numeral 1 shall occupy the position last occupied by its numeral 5. No. 4 of the natural scale is the key-note of the scale of one flat, and consequently, by successively moving the indicator so that its numeral 1 shall occupy the space previously occupied by its numeral 4, the various scales in flats are indicated.

It is obvious that instead of the letters other note-signs of the scale may be used, and that instead of having two series of note-signs a single series may be employed having in the half-note spaces both note-signs placed side by side—as, for instance, A♯ B♭.

If desired, the first, third, and fifth notes of the scale may be indicated by a suitable hand or pointer, as shown at *f*, Fig. 3.

I claim—

1. The combination, substantially as shown and described, of the two dissimilar fixed scales or indicating portions *c d* and the intermediate movable indicating-ring, *a*, the whole constituting a music-scale indicator.

2. A ring having an annular groove and series of letters or note-signs, representing all the notes of the chromatic scale at either side thereof, one series representing the half-tones as sharps and the other series representing them as flats, combined with an indicating-ring mounted to rotate in the said groove, and provided with the numbers 1 to 7, spaced in accordance with the notes of the musical scale, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES F. VETTER.

Witnesses:
G. W. GREGORY,
JOS. P. LIVERMORE.