2 Sheets—Sheet 1.

J. C. SIMONTON.

Device for Teaching Musical Transposition.

No. 197,497. **Patented Nov. 27, 1877.**

Fig. 1.

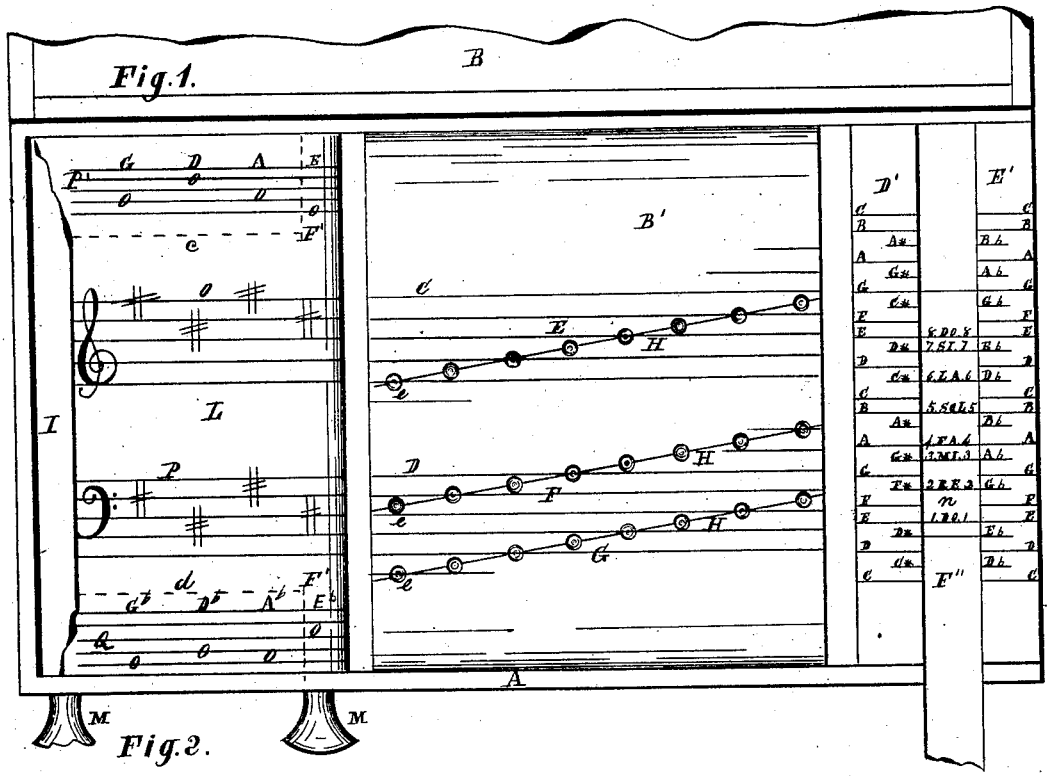

Fig. 2.

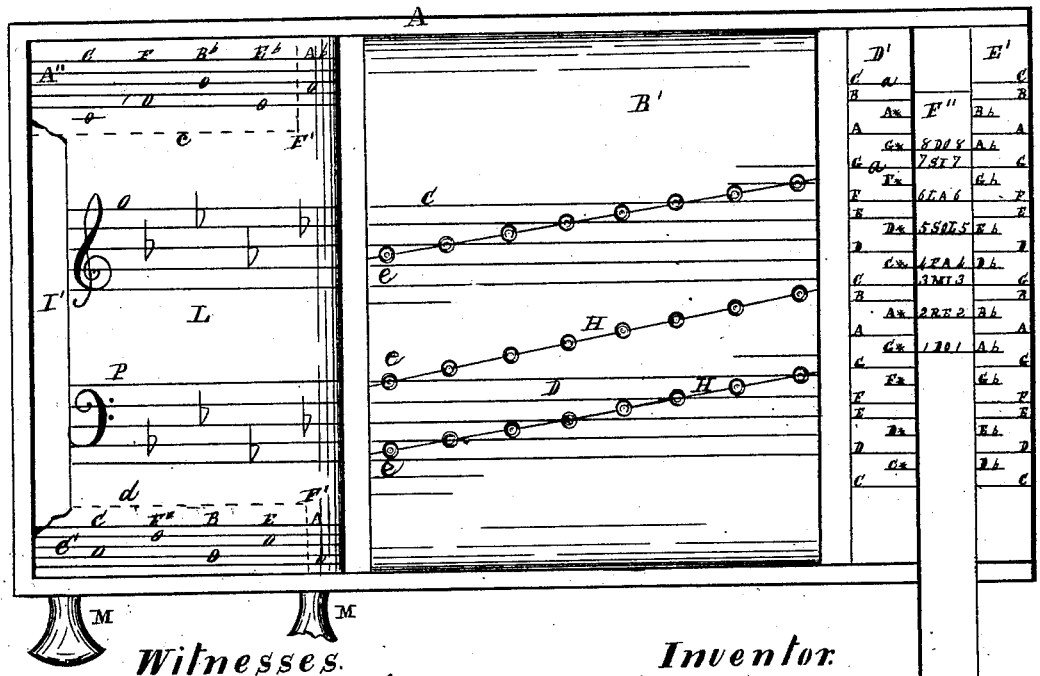

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Fig. 3.

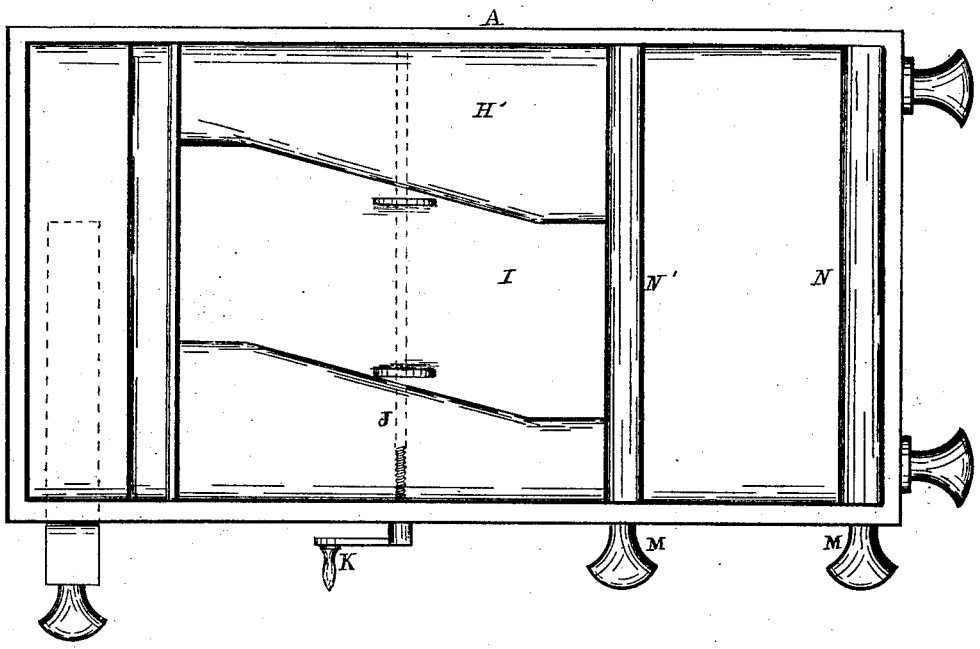
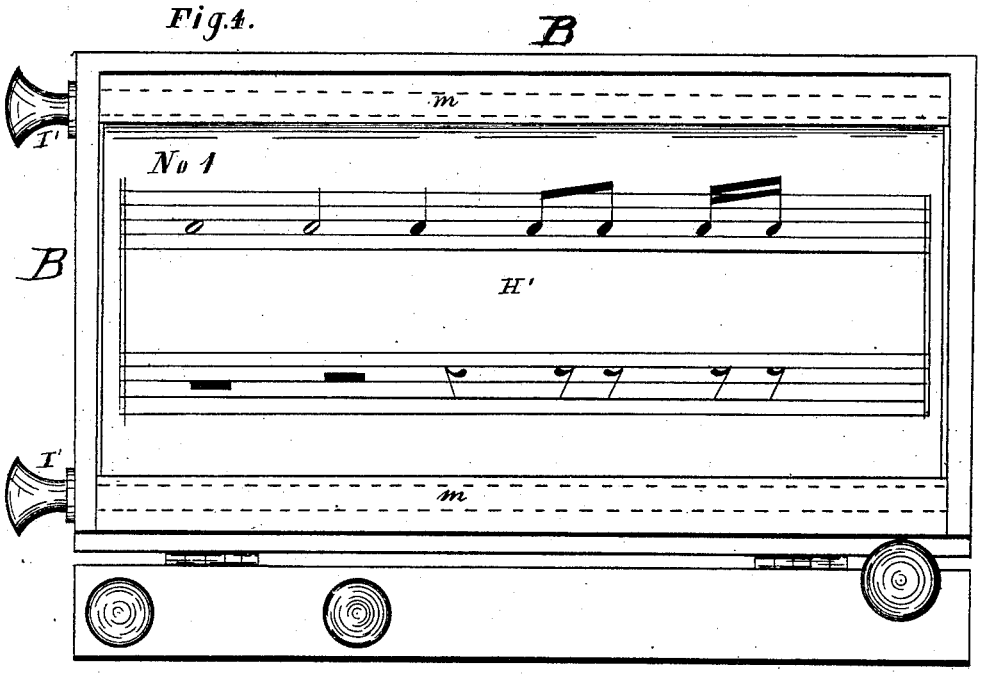


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

J. CHESTER SIMONTON, OF TIRO, OHIO.

IMPROVEMENT IN DEVICES FOR TEACHING MUSICAL TRANSPOSITION.

Specification forming part of Letters Patent No. **197,497**, dated November 27, 1877; application filed August 21, 1877.

To all whom it may concern:

Be it known that I, J. CHESTER SIMONTON, of Tiro, in the county of Crawford and State of Ohio, have invented a certain new and Improved Apparatus for Teaching Music; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawings, making a part of the same.

Figures 1 and 2 are plan views, in different positions, of the apparatus referred to. Fig. 3 is a view of the under side. Fig. 4 is a sectional view.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to music; and the object of the invention is to facilitate the imparting of a knowledge of music by illustrating the same by certain movable notes arranged in relation to the musical staff, so that the learner may easily and readily ascertain the key-note in the several transpositions of the scale, also the several notes respectively affected by flats and sharps in consequence of such transpositions, all of which may be seen and read on the face of the apparatus; the construction of which and the operation of the same are as follows:

The aforesaid apparatus consists of a box, A, of which B, Fig. 4, is the cover. In said box is secured a tablet, B′, on which are drawn the staffs C and D, occupying the middle portion of the box, as shown in the drawings. On said staffs are arranged, respectively, scales or series of notes, E, F, and G. The notes of each series are connected to each other by a cord or wire, H, or by other equivalent means, the ends of which reach to the ends of the tablet, where they are made fast to the upturned ends of a slide, I, Fig. 3, arranged to slide upon the under surface of said tablet reciprocally by means of the screw J, actuated from the outside of the box by a crank, K. At one end of the tablet B′ alluded to is an apron, L, Figs. 1 and 2, the ends of which are, respectively, secured to rollers arranged transversely in the box, and which are operated from the outside by the knobs M. Said rollers, having wound upon them the ends of the apron, are shown at N and N′, Fig. 3. By means of said rollers the apron is made taut, and wound and unwound upon them, for a purpose presently shown.

On the face of the apron are drawn the staffs O and P, Figs. 1 and 2, corresponding to the staffs C and D of the tablet, and which, in fact, may be considered as a continuation of them. On said staffs O and P are arranged, in proper relation, the sharps and flats, respectively, of four transpositions of the scale by sharps and flats.

Over the staff O, Fig. 1, is a staff, P′, having above it the four letters G D A E—the four key-notes of four transpositions by sharps. Below the staff P is a staff, Q, having above it the four letters G-flat, D-flat, A-flat, E-flat—the four key-notes of four transpositions of the scale by flats—to correspond with the four transpositions of the scale by sharps.

Over the staff O, Fig. 2, is a staff, A″, above which are the letters C, F, B-flat, E-flat, and A-flat of four transpositions by flats. Below the staff P, Fig. 2, is a staff, C′, above which are the letters C, F-sharp, B, E, and A of four transpositions by sharps, to correspond with the four transpositions above by flats. Further reference will be made to this apron and staffs.

On the opposite end of the tablets B′, above referred to, are two scales, D′ and E′. The letters on the longer lines of said scales indicate the whole tones and half-tones, unaffected by sharps or flats. The letters on the shorter lines indicate such tones as are affected by sharps in the several transpositions by sharps. The scale E′ corresponds to the scale D′ in character and letter, but relates to the transpositions of the scale by flats. Between the two scales D′ and E′ is a slide, F″, having thereon the numerals and syllables used in musical notation.

The practical operation of the above-described invention is as follows: In practice the staffs P Q and the staffs A″ and C′ are hid by a covering, with the exception of so much as will show one letter and note at F′.

The aforesaid covering is represented as torn away from the part I, in order that the staffs may be seen.

The position of the apparatus as represented in Fig. 1 shows the fourth transposition of the scale by sharps. To attain this position, and to ascertain what letters are affected by the sharps in this fourth transposition of the scale, let it be supposed that this transposition is not shown, but required to be shown.

To this end, move the apron L, by means of the rollers, so as to bring all the sharps into sight, as shown in Fig. 1. This movement will bring the letter E above the staff P′ at F′. The other letters, G D A, will be hidden by the covering indicated by the dotted line *c*. The letter E, thus shown at F, is the key-note of the fourth transposition of the scale by sharps.

Now, having thus learned the key-note of the fourth transposition, the notes are to be accordingly arranged on the staffs C and D. To this end, on operating the screw J, (see Fig. 2,) the slide I can be moved, and thereby bring the first note or notes *e* of the several octaves E, F, and G to the letter E of their respective staff, as shown in Fig. 1. The other or upper notes will, as a consequence, assume their proper places on the staffs, on which they can be read in their musical order. In this fourth transposition of the scale many of the letters must be raised by sharps to a proper relation of musical intervals. To ascertain what letters are thus to be affected or sharped is the purpose of the slide F″. To this end the slide is adjusted in its relation to the scale D′ so as to bring the line *n*, on which is seen 1, do, 1, to the line E of the left-hand column of letters. All the short lines of the scale, which are now in line with those on the slide, will be such as are sharped, and which are seen to be F-sharp, G-sharp, C-sharp, and D-sharp. The key-note will be E, (shown at F′ of the staff Q.)

To ascertain the key-note of one sharp, the apron is so wound up as to leave one sharp only in view on the staffs O and P. The letter G will now be seen above the staff O at F′, which will be the key-note of one sharp.

By means of the screw and slide the notes on the staffs C and D can be adjusted accordingly, showing the learner on what lines and spaces the notes will now appear.

To learn which note must now be sharped in this first transportation of the scale, the slide F″ is adjusted so that the line *n* will be in connection with the line G of the scale D′. This will show that the letter F is sharped, as will be seen in the column of sharped letters on the scale D′, sharp F being the same as G-flat, (seen at F′ of the staff Q.) The octaves E, F, and G are to be adjusted on their respective staffs by means of the screw, so that the learner may see their position in this first transposition. The second and third transpositions are made substantially in the same way.

A further transposition of the scale by flats is accomplished in like manner. One such transposition by flats is shown in Fig. 2. The staffs A″ and C′, in practice, are to be covered from sight, with the exception of so much of the staff as is seen at F′, at which places are seen the letters A-flat and A. The dotted lines *c d* indicate the covering whereby the staffs are, in practice, to be covered, but which in the drawings are represented as broken away in order to show the staffs and letters thereon.

To bring the flats into view, as shown in Fig. 2, the apron is moved by the rollers upon which it is wound. For convenience, the fourth transposition by flats is first considered, instead of the first, as is ordinarily done. On referring to the staff A″, it will be seen, at F′, that A-flat is the key-note of the scales of four flats.

To said letter on the staffs C and D the first notes *e* of the scale are adjusted, by the screw above alluded to. The other notes of the scale will, of course, assume their place on the staffs in proper order, as seen in said Fig. 2.

Having shown that A-flat is the key-note of the fourth transposition by flats, it is now required to show the letters affected by flats to make this transposition. This is done by adjusting the slide F″ so that the line *n*, on which is 1, do, 1, coincides with that one of the short lines of the scale E′ on which is the letter A-flat. Now, all the short lines of the scale E′ that are in line with those on the slide will indicate, by the letters thereon, the letters affected by flats, and which will be seen to be A-flat, B-flat, D-flat, and E-flat.

The first, second, and third transpositions by flats are made substantially in the same way—that is, by showing one or more of the flats on the apron, as the case may be, and the key-note will be seen at the place F′, and the letters affected by such transpositions will be known by the use of the slide, as hereinbefore explained.

The example No. 1 (shown in Fig. 4) is an illustration of the various kinds of notes and corresponding rests. Said example is written upon an apron, H′, arranged on the inside of the cover B of the box. The apron is wound upon rollers, indicated by the dotted lines *m*, and of which I′ are the knobs whereby the rollers are turned for moving the apron to bring other musical examples into sight that may be written on other parts of the apron.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The apron L, having thereon musical staffs O and P, and staffs P′ and Q, with their respective letters, notes, and characters,

and operated by the knobs M and rollers, in relation to and in combination with the tablet B′, and movable scales of notes E, F, and G, substantially as herein described, and for the purpose set forth.

2. In combination with the tablet B′ and musical staffs C D thereon, the scales of notes E, F, and G, operated by the slide I and screw J, in the manner substantially as and for the purpose set forth.

3. The combination and arrangement of the movable apron L, and characters thereon described, tablets B′, and staffs C D thereon, scales of notes E, F, and G, and scales D′ E′, and slide F″, substantially as described, and for the purpose specified.

J. CHESTER SIMONTON.

Witnesses:
W. H. BURRIDGE,
J. WATTS.