

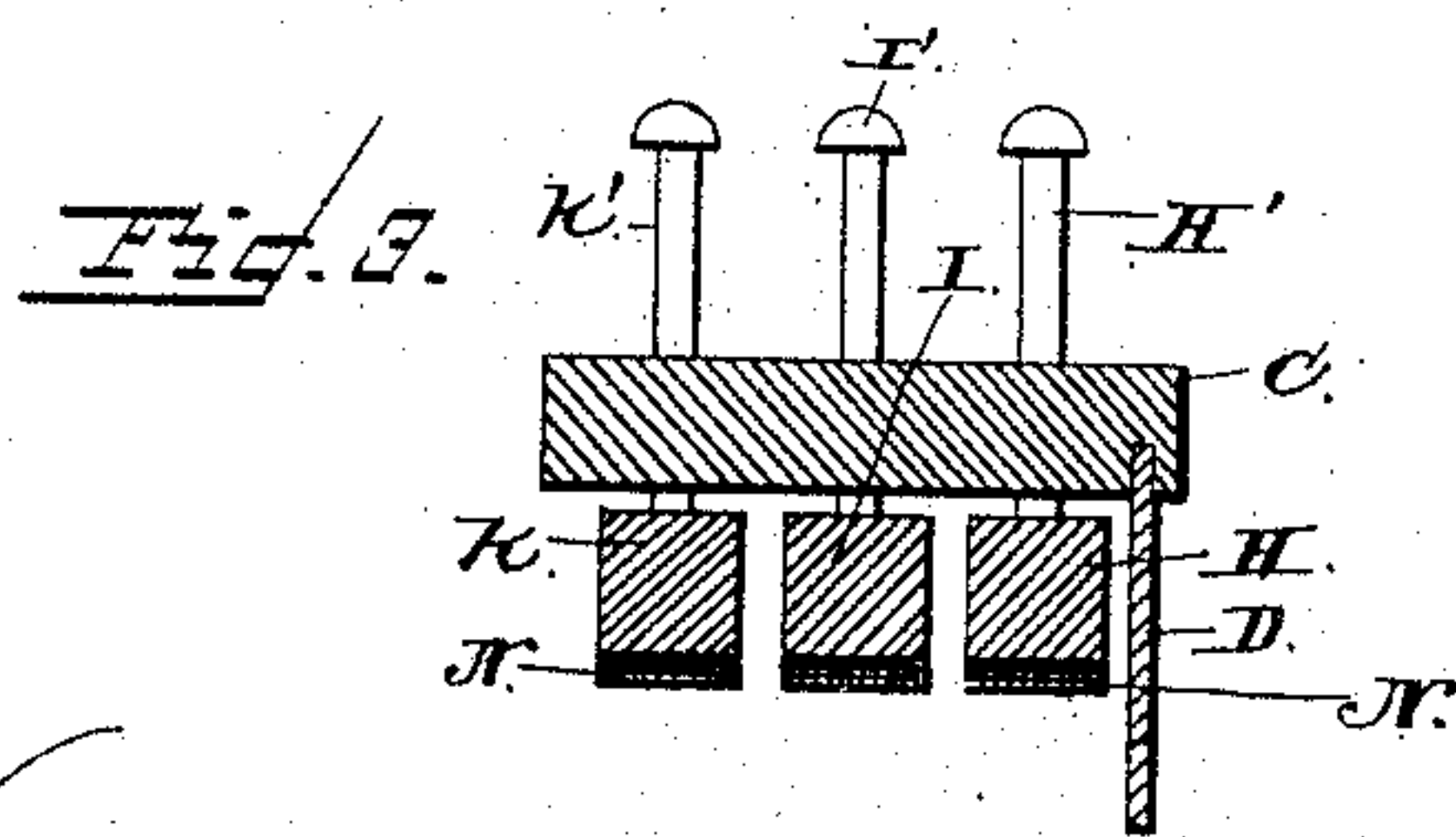
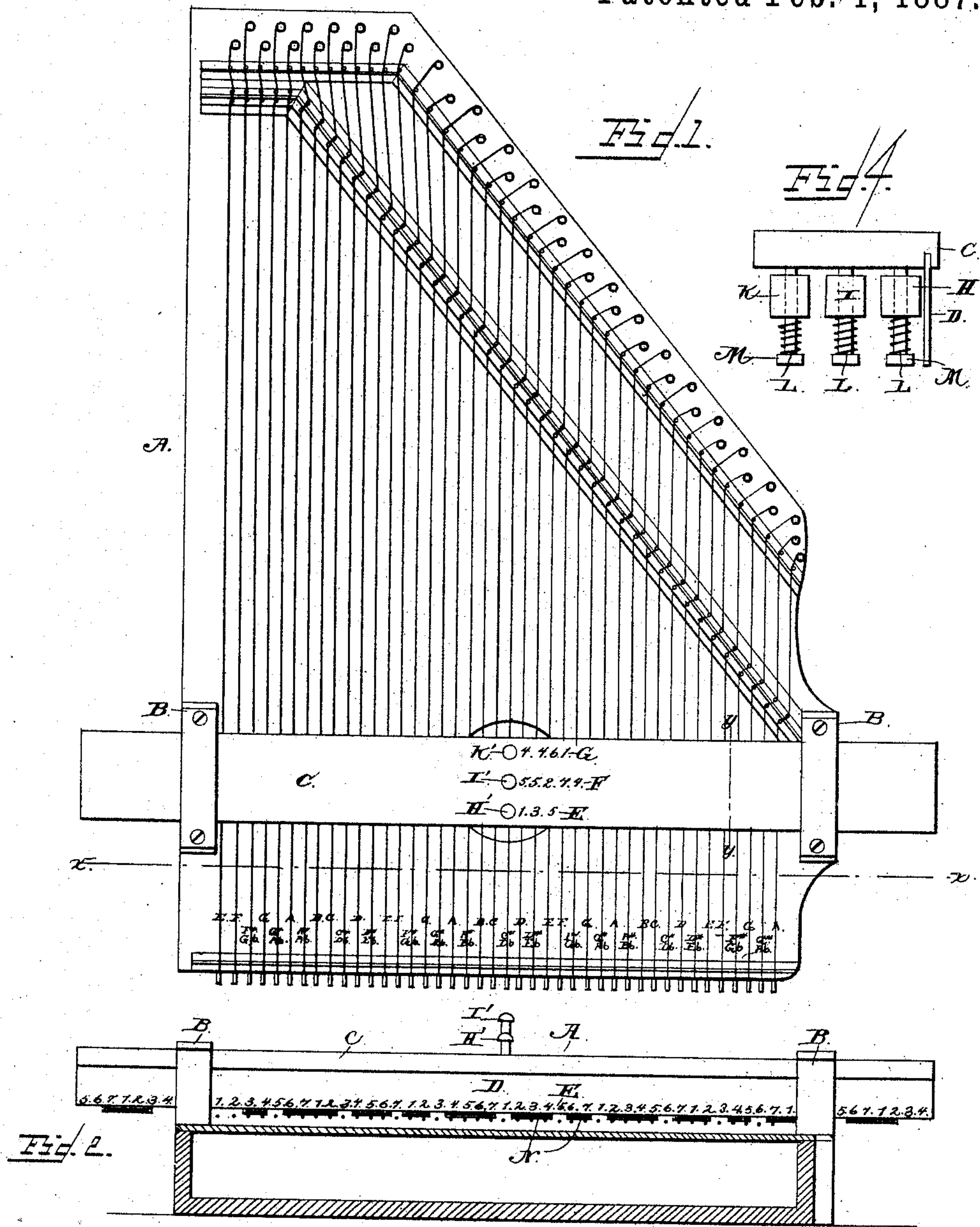
(No Model.)

W. G. STEVENSON.

HARP.

No. 356,803.

Patented Feb. 1, 1887.



Witnesses
M. G. Fowler
J. C. Garner

Inventor
Wm. G. Stevenson
By *his* Attorneys
C. A. Howard

UNITED STATES PATENT OFFICE.

WILLIAM G. STEVENSON, OF MORENCI, MICHIGAN.

HARP.

SPECIFICATION forming part of Letters Patent No. 356,803, dated February 1, 1887.

Application filed September 24, 1886. Serial No. 214,454. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. STEVENSON, a citizen of the United States, residing at Morenci, in the county of Lenawee and State of Michigan, have invented a new and useful Improvement in Harps, of which the following is a specification.

My invention relates to an improvement in harps; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide an apparatus by means of which the chords may be produced mechanically by the performer for a piece of music written in any key, and this object I attain by the construction hereinafter described and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of a harp provided with my improvements. Fig. 2 is a sectional view of the same, taken on the line *x x* of Fig. 1. Fig. 3 is a sectional view at right angles to Fig. 2, and taken on the line *y y* of Fig. 1. Fig. 4 is an end view of the plate C.

A represents a harp of the required shape, which is provided with strings that are tuned by chromatic steps, same as a piano. Under the strings of the harp, and on the sounding-board thereof, near its base, are inscribed the letters of the musical alphabet, as follows: C^{C#}, D^{D#}, E, F^{F#}, G^{G#}, A, B^{A#}, B.

On opposite sides of the harp, and at a suitable distance from the lower side thereof, are projecting ears or keepers B, in which slides and is secured an endwise moving plate, C, which is supported at a suitable distance from the strings. The said plate is provided on one side with a depending flange or plate, D, on which are inscribed a series of numbers, E—1, 2, 3, 4, 5, 6, 7—indicating the notes of the diatonic scale. On the upper side of the plate C, near the center thereof, are inscribed three or more series of figures, E F G, &c.

H I K, &c., represent cross-bars, which are secured under the plate C, and are arranged respectively under the series of figures E F G, &c. From the ends of the plate C depend vertical rods L, which have heads on their lower extremities, and the said rods pass through the ends of the cross-bars. Coiled

springs M bear between the heads and the lower sides of the cross-bars and serve to move the latter normally upwardly against the under side of the plate C and out of contact with the strings. On the lower side of each cross-bar are secured a number of pieces of felt or other suitable material, forming projecting tongues N, that are adapted to bear upon certain of the strings, so as to render them mute, and only allow those strings which are arranged intermediate in the spaces between said tongues, and which form the chord indicated by the cross-bar, to be sounded when the thumb of the performer is swept over the strings.

H' I' K', &c., represent vertical rods or keys, which extend through openings in the center of the plate C, and have their lower ends connected to the vertically-moving cross-bars, the upper ends of said rods or keys being provided with buttons, as shown.

The operation of my invention is as follows: If a piece of music is to be played which is written, say, in the key of G, the plate C is moved laterally in the keepers B until the figures 1 on the flange-plate D are directly over the strings, underneath which are the letters G. If the first note of the air or soprano is a note with which the bar marked 1 3 5 will form a correct chord, the performer with his left hand depresses the key H', which lowers the cross-bar H and causes the tongues or pieces of felt thereon to bear upon all of the strings, excepting those corresponding to the notes Do, Mi, and Sol; then with the thumb or finger of the right hand he sweeps quickly across all of the strings from the base upward, striking the note of the air or soprano last and most distinctly, thus playing the air or soprano and correct accompanying chord. The remaining bars are operated in like manner, when they form correct chords with the notes of the air or soprano. If a piece written in any other key than G is to be played, the plate C is moved so as to cause the figures 1 on the flange-plate D to come directly over the strings, underneath which is the key-letter of the piece of music to be played. By thus making the plate C laterally movable across the strings of the harp, and providing it with presser-bars having tongues or pieces of felt to render the necessary strings mute, the air

or soprano of any piece of music with correct accompanying chords can be played readily in any key.

A little practice will render it possible for any person, even though unacquainted with music, to correctly render a musical composition written in any key.

Having thus described my invention, I claim—

10 1. The combination, with the harp, of the plate C, movable endwise across the strings, and the presser-bars secured to and movable with the said plate, the said presser-bars indicating different chords and being adapted
15 to bear upon certain strings to render them mute, substantially as described.

2c 2. The combination, with the harp, of the plate C, movable endwise across the strings, and the independently-movable presser-bars to bear upon the strings, the said presser-bars being attached to the plate C and movable therewith, substantially as described.

3. The combination, with the harp, of the

plate C, movable endwise over and across the strings, with the depending flange-plate D, 25 inscribed with a series of numbers, E, indicating the notes of the diatonic scale, and the presser-bars indicating different chords movable with the plate C, and adapted to bear upon certain strings to render them mute, for the 30 purpose set forth, substantially as described.

4. The combination of the harp having the keepers B, the plate C, movable lengthwise in the keepers and extending across the strings, the presser-bars movable with the plate C, and 35 the springs to normally raise the said bars out of contact with the strings, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 40 presence of two witnesses.

WILLIAM G. STEVENSON.

Witnesses:

F. WHALEY,

D. B. MORGAN.