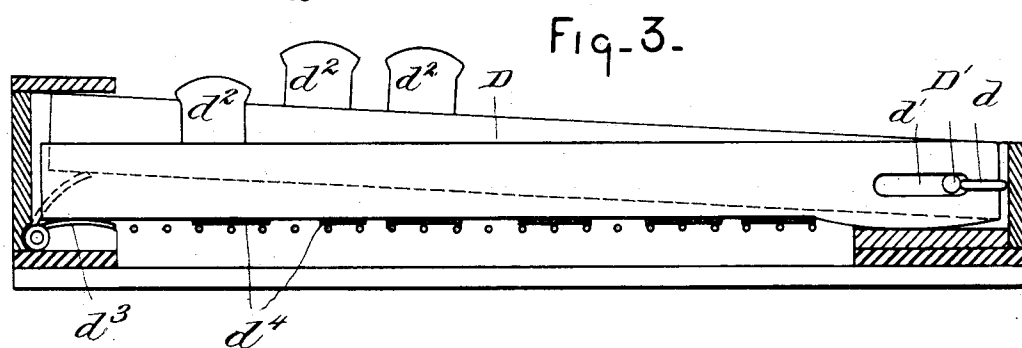
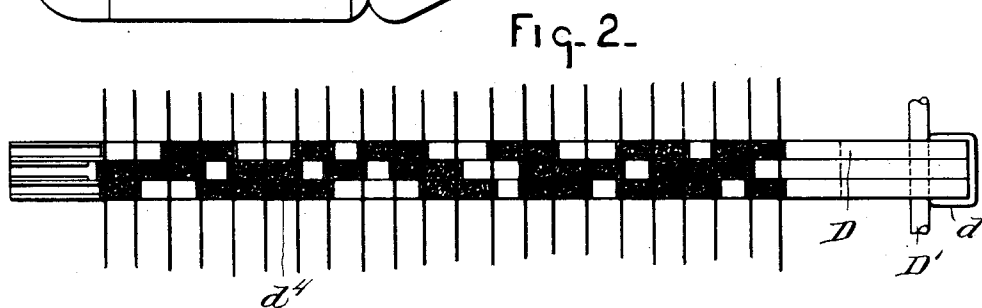
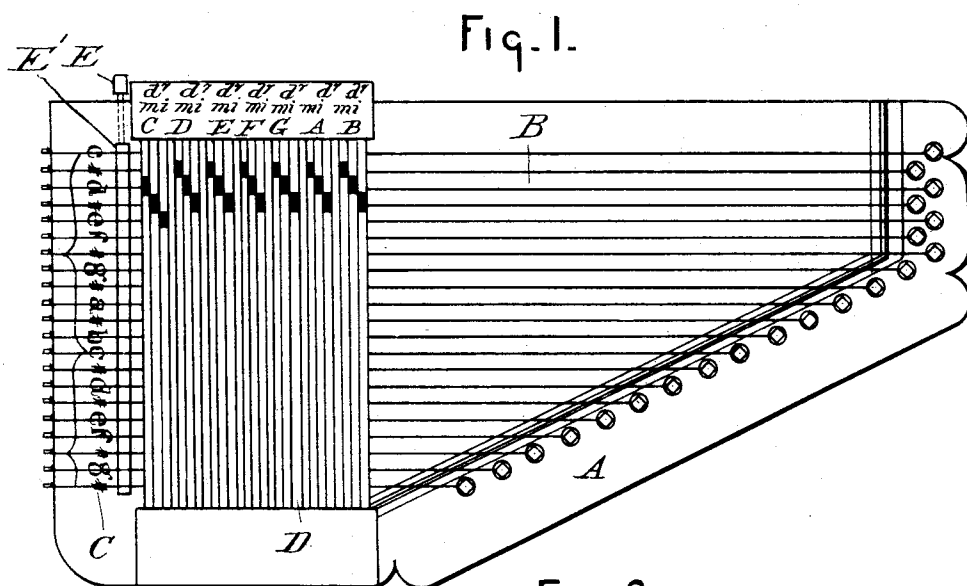


(No Model.)

J. L. DE GOOD.
MUSICAL INSTRUMENT.

No. 445,978.

Patented Feb. 10, 1891.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOSEPH L. DE GOOD, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
LUCIUS A. RANDALL, OF SAME PLACE.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 445,978, dated February 10, 1891.

Application filed September 20, 1890. Serial No. 365,582. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH L. DE GOOD, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Musical Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

In the drawings, Figure 1 is a plan view of a musical instrument embodying my invention with the dampers corresponding to one of the scale letters shifted to produce chords in that letter half a step higher. Fig. 2 is an inverted view showing the arrangement of the dampers or mufflers with respect to the strings. Fig. 3 is a longitudinal section through one of the dampers.

It is the purpose of my invention to provide a stringed instrument—such as a harp, zither, dulcimer, or the like—with means whereby the player may at will damp or muffle all those strings which are out of harmony with or which do not enter into the production of the various chords of the particular scale-letter in which the music he is playing is written; also, in means whereby the series of dampers corresponding with the chords of any particular scale-letter may be shifted bodily so as to expose the strings corresponding with the similar chords half a step higher; also, in combining into groups of three the dampers corresponding with the common chord or chord of one, the dominant seventh, and the relative minor for each letter of the scale, and all connected together so that they shall all be shifted to produce a chord a half-step higher when either one of them is shifted. To this end A represents the supporting-frame and B the strings. Those strings are preferably arranged in accordance with the chromatic scale—that is to say, in the same order and presenting the same notes or tones as are found in a piano.

At C is represented the letters and musical signs indicating the tones or notes of the va-

rious strings. This of course may or may not be employed.

D represents a group of three dampers. They are suitably held together at d , so that any longitudinal movement of one in a direction across the strings will cause a corresponding movement of all the said group of three. At d' they are provided with longitudinal slots, through which projects a pivot-rod D' .

d^2 represents suitable keys or finger-pieces whereby each of the said dampers may be independently depressed into contact with the strings.

d^3 is a suitable spring or equivalent beneath the damper adapted to restore it to its upper or normal position free from the strings when the finger is removed. At d^4 this damper is provided with a series of muffles arranged upon the lower edge of the damper, and designed, when the damper is depressed, to come into contact with the strings.

There is a group of three dampers corresponding with each of the letters of the scale, and each group of three dampers is made to correspond with the three important chords—viz., the common chord, the dominant seventh, and the relative minor—and the muffles upon the lower edge are designed in each instance to cover or muffle all those strings out of harmony with or which do not enter into the production of the corresponding chord. Thus we may presume the right-hand damper D to correspond with the common chord or chord of one in the scale of G. Its muffles d^4 are so arranged as to damp or muffle all the strings not utilized in producing this common chord or chord of one, and so with the muffles of each of the other dampers.

By shifting any group of three dampers longitudinally of their length in a direction across the strings, as shown in Fig. 1, with that group corresponding with the scale of C, the muffles will be brought into contact with a different set of strings, so that the chord produced will be a half-step higher.

This instrument is designed more particularly for use in church or Sabbath-school music, or in accompaniments for the voice or any instrument, and may also be used as a solo instrument. With an instrument provided with

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this apparatus a player is enabled to produce any required chords. If the player sees fit to pick the strings, there is nothing to prevent his operating the instrument in that way; 5 but if he lack the skill necessary to so play upon the instrument he can, by depressing the proper dampers, muffle all the strings not required for the accompanying chords and can, by sweeping the strings, as in playing 10 the guitar or zither, bring out just the chords required without introducing the tones from any strings out of harmony therewith. Thus if there is being sung a song written in the scale of G the operator may, by manipulating 15 the three dampers of the group corresponding with G, accompany the voice and change from one chord to another, as required, to follow the proper music.

While it is always convenient that the different members in each group of three shall 20 move simultaneously when shifting to produce a chord a half-step higher, yet they may be moved independently into their new position, and as I am the first, so far as I am aware, to 25 provide a damper with such a shifting movement I would have it understood that they may be shifted either individually or as a group.

E is a damper designed to muffle all the 30 strings simultaneously, and a key or lever E' may be located within convenient access of the player, whereby he may bring the same into action whenever for any reason he wishes to muffle all the strings.

35 What I claim is—

1. The combination, with a stringed instrument, substantially as described, of a group of three pivoted, swinging, and lengthwise- 40 movable dampers corresponding with each of the letters of the scale, said dampers provided with mufflers adapted to damp or muffle all the strings not utilized in producing the corresponding chord, and said dampers corresponding, respectively, to the common chord 45 or chord of one, the dominant seventh, and the relative minor chords, substantially as set forth.

2. The combination, with a stringed instrument, substantially as described, of dampers arranged transversely across its strings, there 50 being a group of three dampers corresponding with each letter of the scale, said dampers in each group provided with a series of mufflers, one for the common chord or chord of one, one for the dominant seventh, and one 55 for the relative minor chords, each said group of three adapted to be shifted longitudinally in a direction across the strings, whereby they are caused to muffle the requisite strings and produce a series of chords a half-step higher, 60 substantially as set forth.

3. The combination, with the strings of the triple groups of dampers D, each said group engaged at their heels to prevent relative longitudinal displacement of its members and 65 engaged by a longitudinal slot-and-pivot connection, whereby they may be shifted longitudinally through a limited distance, and springs or equivalent whereby each member 70 of the group may be independently depressed into contact with the strings and restored again to its position free from the strings, substantially as set forth.

4. The combination, with a stringed instrument, substantially as described, of dampers 75 provided with mufflers arranged transversely across the strings and adapted to muffle the strings out of harmony with the chord to be produced, said damper provided with means whereby it may be shifted longitudinally to 80 produce a chord a half-step different from the chord produced when in its initial position, substantially as set forth.

5. The combination, with a stringed instrument, of the dampers D and a common damper 85 E and means for bringing said last-named damper into action at the will of the operator, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

JOSEPH L. DE GOOD.

Witnesses:

MARION A. REEVE,
WELLS W. LEGGETT.