

(No Model.)

C. G. ZIMMERMANN.
MUSICAL INSTRUMENT.

No. 471,370.

Patented Mar. 22, 1892.

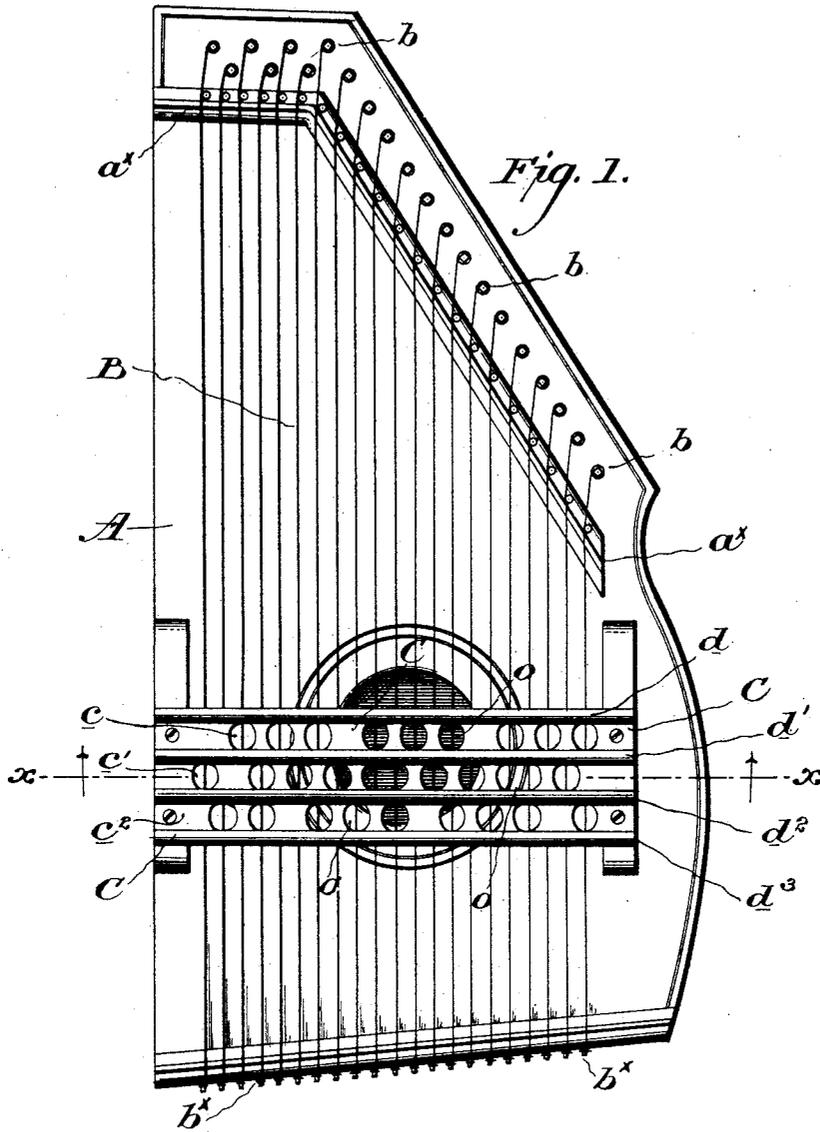


Fig. 1.

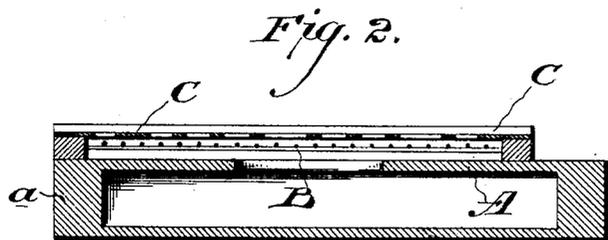


Fig. 2.

WITNESSES:

H. Taylor
C. H. Beck

INVENTOR:

C. G. Zimmermann
By his atty
Shawbridge & Taylor

UNITED STATES PATENT OFFICE.

CHARLES GUSTAV ZIMMERMANN, OF PHILADELPHIA, PENNSYLVANIA.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 471,370, dated March 22, 1892.

Application filed January 12, 1892. Serial No. 417,798. (No model.)

To all whom it may concern:

Be it known that I, CHARLES GUSTAV ZIMMERMANN, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain Improvements in Musical Instruments, of which the following is a specification.

My invention relates to stringed instruments such as harps, zithers, banjos, guitars, and kindred stringed instruments in which the strings are manually plucked in contradistinction to those stringed instruments, such as pianos and violins, in which the vibrations of the strings are occasioned by other means than by touch.

The object of my invention is the provision of a mechanical device by which the production of chords or of accompaniments may be rendered more rapid and certain, and, to such end the invention comprehends a bridge adapted to span, that is to say to be placed above and angularly across, the strings, and which is provided with a series of openings through which the strings may be struck and caused to vibrate.

A harp, as a type of instrument to which my invention is applicable, is represented in the accompanying drawings as embodying my invention.

In the drawings, Figure 1 is a top plan view of said harp, and Fig. 2 a transverse end sectional elevation in the plane of the dotted line xx of Fig. 1, and sight being taken in the direction of the arrows upon said line.

In the drawings, A represents the body of the harp, composed in the usual manner of a sounding board to which said letter A is applied, maintained by a suitable framing a .

B are the strings by the manipulation of which the tones are produced.

b are the usual tuning pins with which the strings at one extremity are connected, while b^x are fixed pins to which they are at their other extremities affixed.

a^x is a string bridge, herein, to distinguish it from the bridge which embodies my invention, termed a string rest.

C is my improved bridge which spans the strings as shown, and is secured at or near its extremities to the frame of the instrument. In its application it is sufficiently elevated

above the strings to permit of their free vibration without contact with it.

In the embodiment shown, the bridge is provided with three rows or series of openings o , the rows being respectively designated $c\ c'\ c''$. These openings, for greater ease of operation are by rows, separated from each other preferably by the provision of longitudinal ridges $d\ d'\ d''\ d'''$ which so divide the bridge as to in effect form it with longitudinal channels with respect to which the respective rows of openings are formed and with respect to which the finger or a picking instrument may be guided in being drawn through a given channel the striking of a particular chord. The provision of these ridges, or the formation of the bridge with channels by other means as, for instance, by grooving or "guttering" it, are not, however, of the essence of the invention, although they constitute a desirable embodiment of it. The openings of each row are intentionally formed and disposed in such manner as to expose one or more given strings the striking of which will produce given chords or harmonies, and, although the bridge may be formed with but a single row of these openings, it is yet apparent that, according to the compass of the instrument to which it is applied it may be provided with a series of rows,—in other words the number of rows of openings with which the bridge is to be provided will depend upon the number of chords the possible production of which is desired.

The bridge itself may be formed of metal, wood, papier maché, gutta percha, rubber, celluloid, ivory, bone, or any other suitable material, and may be secured to the instrument in any preferred manner.

The openings of a given row in the bridge, according to their arrangement expose certain strings and cover others and thereby, in the use of the device, insure as a result that the exposed strings when struck will be those alone to vibrate, those covered by the material of the bridge between the openings remaining silent.

It will be apparent that in playing upon an instrument provided with this bridge, one hand may be employed in connection with the rows of openings in the bridge for the production of an accompaniment while the

melody may be played upon the portions of the strings beyond the bridge,—or both melody and accompaniment may be played entirely upon the bridge through the openings
5 in it.

Having thus described my invention, I claim and desire to secure by Letters Patent:

1. In combination with the strings of a musical instrument of the class hereinbefore recited, a bridge spanning the strings and provided with one or more rows of openings through which given strings may be plucked, substantially as and for the purpose as set forth.
10

2. In combination with the strings of a musical instrument of the class hereinbefore recited, a bridge spanning the strings and pro-

vided with one or more rows of openings formed in longitudinal channels divided from each other by longitudinal ribs or ridges, substantially as set forth. 20

3. In combination with the strings of a musical instrument of the class hereinbefore recited, a bridge spanning the strings and provided with one or more rows of openings divided from each other by longitudinal ribs or ridges, substantially as set forth. 25

In testimony that I claim the foregoing as my invention I have hereunto signed my name this 5th day of January, A. D. 1892.

CHARLES GUSTAV ZIMMERMANN.

In presence of—

J. BONSALL TAYLOR,
F. NORMAN DIXON.