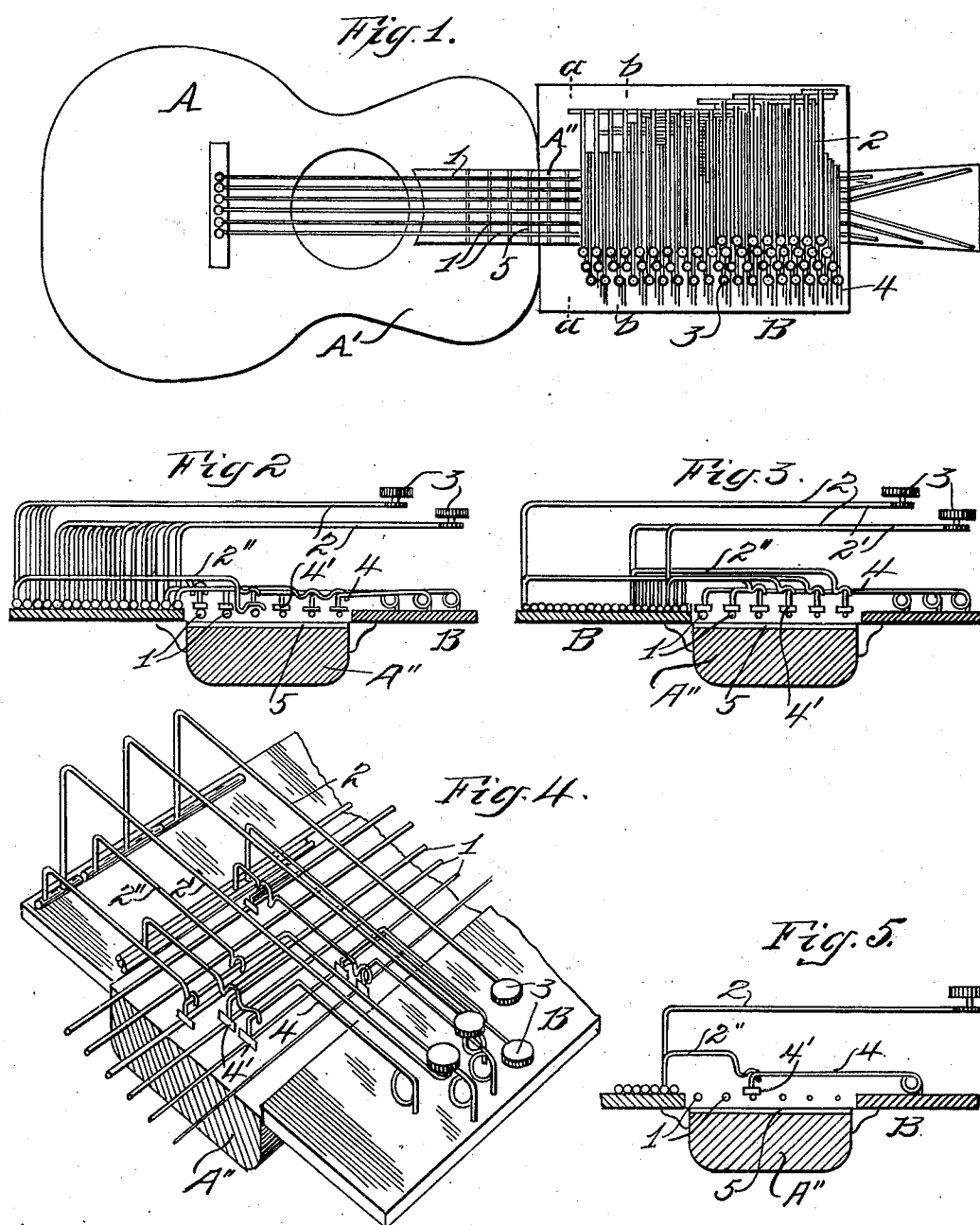


No. 756,743.

PATENTED APR. 5, 1904.

G. VERRECCHIO.  
MUSICAL INSTRUMENT.  
APPLICATION FILED JULY 3, 1903.

NO MODEL.



Witnesses,  
L. N. Wheeler,  
Etelka Serckv.

Inventor,  
Giovanni Verrecchio;  
By his Attorney, Cha. H. Davids.

# UNITED STATES PATENT OFFICE.

GIOVANNI VERRECCHIO, OF NEWARK, NEW JERSEY.

## MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 756,743, dated April 5, 1904.

Application filed July 3, 1903. Serial No. 164,107. (No model.)

*To all whom it may concern:*

Be it known that I, GIOVANNI VERRECCHIO, a subject of the King of Italy, residing at Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Musical Instruments, of which the following is a specification.

My invention pertains to musical instruments, and especially to those which, like the guitar, have a resonant body, a neck, musical strings, and means for tuning the latter.

The object of my invention is to provide a keyboard for such instruments, and thereby enable a player to obtain an improved harmonic result therefrom.

In the drawings, Figure 1 is a top plan view of a guitar to which my invention is attached. Figs. 2 and 3 are transverse sectional views through the lines *a a* and *b b*, respectively, in Fig. 1. Fig. 4 is a perspective view relatively similar to Figs. 2 and 3; and Fig. 5 is a transverse sectional view relatively similar to Figs. 2 and 3, but showing certain single elements of the invention and more fully illustrating the manner by which they are contacted by or attached to one another.

Reference characters are relatively alike throughout the drawings.

Referring to the drawings, A in a general way designates a musical instrument which in the form shown herein is termed a "guitar" and which has a resonant body A', a neck A," which is attached to the body, and tone-producing strings 1 1, which are attached at their respective ends to the body A' and to the neck A." To the latter is also attached a frame or board which, as shown herein, may be in two parts, which collectively are herein termed a "keyboard" B. Multiple-armed levers, herein termed "key-levers" 2 2, are fulcrumed upon the keyboard B, and an arm 2' of each of said levers extends across the strings 1 1, and a key 3 is secured to the free end thereof. The other arm or arms 2'' of each lever 2 extend either over one or over a plurality of the strings 1 1, and each is curved in either one or more places for a purpose which is hereinaf-

ter related. The concave side of each curve of said arms is also the lower side thereof.

Arms 4 4, which are preferably made of resilient wire and helically coiled in one or more turns near their fixed ends, have their fixed end portions bent to an approximate right angle with their free arm portions and fixed in the keyboard B by insertion into sockets of corresponding diameter which are formed in the latter. (See Fig. 5.) The fixed end portions of the levers 4 4 are, however, positively fixed against transverse movement only and are frictionally held in any desired position in and relatively of the sockets in the keyboard. The free end portions of the arms 4 4 are bent at right angles with the remainder of said levers, and at the extremity of each a string-contacting member 4' is fixed thereon transversely of and above a string 1 and in a parallel vertical plane with a fret 5, which is one of a number thereof which are of a commonly-used form and are fixed transversely of and in proper positions on the neck A".

The key-levers 2 2 may be operated by means of the keys 3 3, and by reason of an engagement thereof with one or more resilient levers 4, as the case may be, said key-levers may depress one or more string-contacting members 4' and cause the latter to compress one or more strings 1 between said members 4' and frets 5, which are on common vertical planes therewith. The spring action of the arms 4 will cause the members 4' to contact the strings 1 with a pressure somewhat analogous to that of a human finger, and thus the musical tones which may be produced in the usual manner from the strings 1 will be of the same quality as those produced from strings which are similarly compressed by human fingers. The arrangement and relation of the key-levers 2, arms 4, and members 4' with the frets 5 are such that by the proper operation of the keys 3 strings 1 may be compressed in such numbers and at such parts that when swept by a plectrum or by the fingers of an operator they will produce any desired musical chord.

I have not attempted to illustrate or describe herein the exact form and proportion of the several levers or other members which are comprised in my invention; but I propose to adapt them severally to their respective functional uses and requirements.

I claim as new and as my invention—

1. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; arms attached to the instrument and positioned transversely of the strings; string-contacting members attached to said levers; and key-levers having arms with concaved lower sides to embrace the arms arranged to operate said arms and the attached string-contacting members.

2. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; resilient arms attached to the instrument and positioned transversely of the strings; string-contacting members attached to said arms; and key-levers having arms with concaved lower sides to embrace the arms arranged to operate said arms and the attached string-contacting members.

3. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; arms attached to the instrument and positioned transversely of the strings; string-contacting members attached to said arms; and a key-lever having arms with concaved lower sides to embrace the arms arranged to operate a plurality of said arms and the attached string-contacting members.

4. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; arms attached to the instrument and positioned transversely of the strings; string-contacting members attached to said arms; and a plurality of key-levers having arms with concaved lower sides to embrace the arms, each of which levers is arranged to operate a plurality of said arms and the attached string-contacting members.

5. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; resilient arms attached to the instrument and positioned transversely of the strings; string-contacting members attached to said arms; and a key-lever having arms with concaved lower sides to embrace the arms arranged to operate a plurality of said arms and the attached string-contacting members.

6. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; resilient arms attached to the instrument and positioned transversely of the strings; string-contacting members attached to said arms; and a plurality of key-levers having arms with concaved lower sides to embrace the arms, each

of which is arranged to operate a plurality of said arms and the attached string-contacting members.

7. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; arms attached to the instrument and positioned transversely of the strings, and having portions bent to lie parallel to said strings; string-contacting members attached to said arms; and key-levers having arms with concaved lower sides to embrace the arms arranged to operate said arms and the attached string-contacting members.

8. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; resilient arms attached to the instrument and positioned transversely of the strings and having portions bent to lie parallel to said strings; string-contacting members attached to said arms; and key-levers having arms with concaved lower sides to embrace the arms arranged to operate said arms and the attached string-contacting members.

9. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; arms attached to the instrument and positioned transversely of the strings, and having portions bent to lie parallel to said strings; string-contacting members attached to said arms; and a key-lever having arms with concaved lower sides to embrace the arms arranged to operate a plurality of said arms and the attached string-contacting members.

10. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; arms attached to the instrument and positioned transversely of the strings, and having portions bent to lie parallel to said strings; string-contacting members attached to said arms; and a plurality of key-levers having arms with concaved lower sides to embrace the arms, each of which key-levers is arranged to operate a plurality of said arms and the attached string-contacting members.

11. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; resilient arms attached to the instrument and positioned transversely of the strings, and having portions bent to lie parallel to said strings; string-contacting members attached to said arms; and a key-lever having arms with concaved lower sides to embrace the arms arranged to operate a plurality of said arms and the attached string-contacting members.

12. A musical instrument comprising a resonant body; a neck attached thereto; strings attached to the body and to the neck; resilient arms attached to the instrument and positioned transversely of the strings, and having

portions bent to lie parallel to said strings;  
string-contacting members attached to said  
arms; and a plurality of key-levers having  
arms with concaved lower sides to embrace  
5 the arms, each of which levers is arranged to  
operate a plurality of said arms and the at-  
tached string-contacting members.

In testimony whereof I have signed my name  
to this application in the presence of two sub-  
scribing witnesses.

GIOVANNI VERRECCHIO.

Witnesses:

ETELKA DERCKS,  
CHAS. H. DAVIDS.