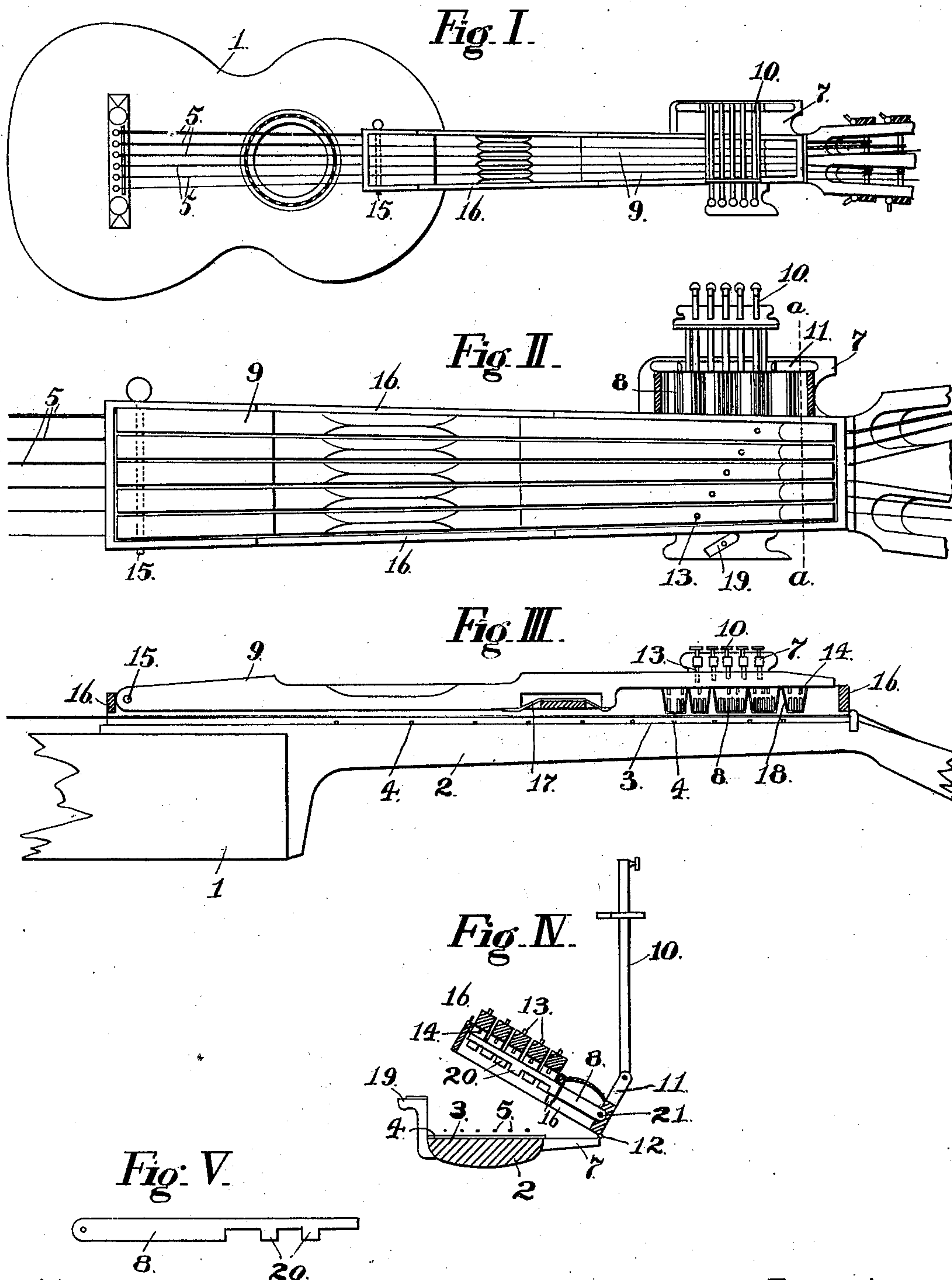


No. 757,251.

PATENTED APR. 12, 1904.

J. E. BERGLUND.
MUSICAL INSTRUMENT.
APPLICATION FILED DEC. 29, 1903.

NO MODEL.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHAN E. BERGLUND, OF SAN FRANCISCO, CALIFORNIA.

MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 757,251, dated April 12, 1904.

Application filed December 29, 1903. Serial No. 187,012. (No model.)

To all whom it may concern:

Be it known that I, JOHAN EMIL BERGLUND, a citizen of the United States, residing at San Francisco, county of San Francisco, and State of California, have invented certain new and useful Improvements in Musical Instruments; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to string musical instruments, especially guitars, and to certain improvements therein, as hereinafter illustrated and explained.

The improvement consists in a triple series of levers for playing chords disposed in different planes—namely, transverse damper-levers to act upon the strings, long longitudinally-disposed levers to engage and depress the damper-levers, and transverse key-levers above said long levers for operating the latter—the whole mounted in a hinged frame attached to the keyboard by which they can be raised from the strings.

The object of my invention is to produce musical chords, especially in playing accompaniments, that will be exact, harmonious, and dispense with the care, effort, and skill otherwise required in fingering such instruments and to permit free access to the strings for tuning without removing parts.

To these ends I provide devices as illustrated in the drawings herewith, forming a part of this specification, as follows:

Figure I, a plan view of a guitar provided with my improvements; Fig. II, an enlarged plan view of the keyboard with the chord mechanism raised; Fig. III, an edge view of Fig. II, partially in section, with the finger-keys in their operating position. Fig. IV is a cross-section on the line *aa* in Fig. II. Fig. V is a side view of one of the damper bars or levers.

In stringed instruments such as guitars, banjos, and the like when employed for playing accompaniments it is difficult to produce with the fingers exact or harmonious chords, for the different keys also demand a high degree of trained skill. Mechanical appliances to produce chords when employed obstruct the

strings and render tuning inconvenient. To obviate these impediments, I provide devices as now to be described.

The body of the instrument 1 is of the usual construction, having a neck or finger-board 2 and keyboard 3, with frets 4 beneath the strings 5. At the side of the neck or finger-board 2 is formed a ledge 7, to which is hinged the part 11, and on this is pivoted the chord-producing mechanism, consisting of the contact or damper levers 8, the operating-levers 9, and key-levers 10, the whole swinging on a hinge at 12, as shown in Fig. IV. The operating-levers 9 are provided on top with pins 13, against which the key-levers 10 bear when pressed down, also a series of pins 14, that bear upon the damper-levers 8, such pins being arranged for the chords in some particular key. These levers 9 can be removed and others substituted for different keys by withdrawing the pin at 15, where these levers are hinged to the side bars 16. The various levers are held out of contact by retractile bands or springs, as shown at 17 and 18 in Fig. III, and, as indicated in Fig. IV, the whole can be instantly raised and turned back, leaving the strings 5 clear for tuning, the usual latches, as at 19, being arranged to hold the parts in proper position when adjusted for playing.

The contact or damper levers 8 are preferably serrated metal bars of thin section disposed in groups, as shown in Fig. III, each having one or more contacts 20, arranged to produce (I) chords when pressed down in proper groups by either of the operating-levers 9, the latter having a series of pins 14, that bear on the required damper-levers 8.

The operating-levers 9 are made long to extend over the body of the instrument and are there pivoted so the contact-pins 14 on their bottom sides will describe an arc of inconsiderable curvature, and thus act within the narrow space occupied by the damper-keys 8. These levers are supported by the side bars 16, pivoted at 21 to the part 11, as shown in Fig. IV.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a stringed musical instrument, chord-

producing devices, consisting of transverse damper-levers to act upon the strings, long operating-levers longitudinally disposed over these, having pins to contact with the several
5 damper-levers, and transverse key-levers above said operating-levers to operate the latter, substantially as specified.

2. In a stringed musical instrument, a triple series of pivoted levers for playing chords,
10 namely, transverse damper-levers to act upon the strings, long operating-levers longitudinally disposed, having pins to engage said damper-levers and depress the same, transverse key-levers above said operating-levers
15 with means to engage the latter, means to automatically raise said damper-levers after depression, and a movable hinged frame in which said triple series of levers are movably carried, substantially as specified.

20 3. In a stringed musical instrument, in com-

bination with the main body and neck or finger-board, a movable frame hinged to the side of said finger-board, and a triple series of pivoted levers for playing chords, mounted in said frame, whereby the levers can be turned
25 back for tuning the strings, or applied for operating the same, said levers consisting of transverse dampers to act upon the strings, longitudinal operating-levers to engage the damper-levers, and transverse key-levers to
30 operate the said longitudinal levers, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHAN E. BERGLUND.

Witnesses:

ALFRED A. ENQUIST,
M. L. JONES.