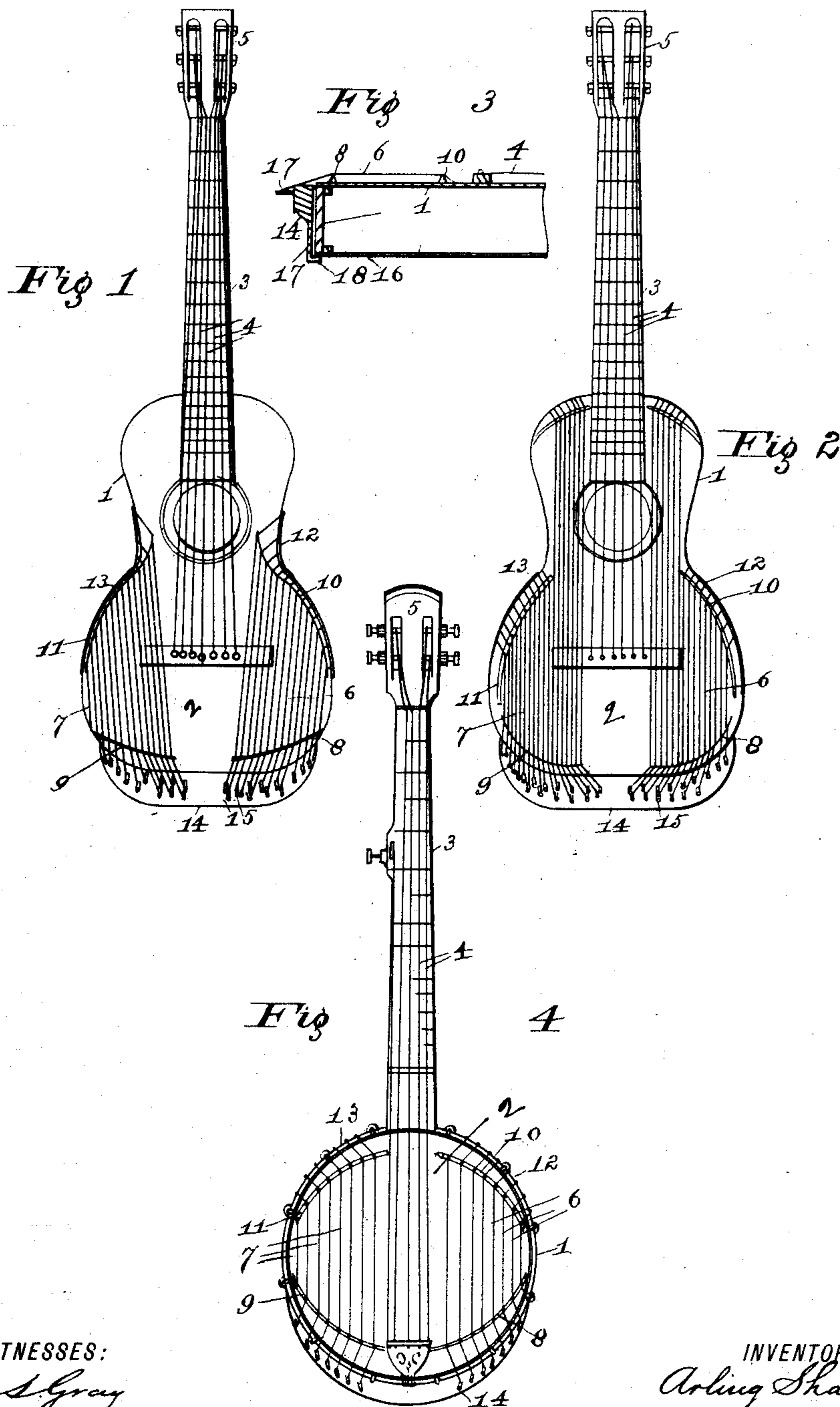


(No Model.)

A. SHAEFFER.  
STRINGED MUSICAL INSTRUMENT.

No. 421,033.

Patented Feb. 11, 1890.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## STRINGED MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 421,033, dated February 11, 1890.

Application filed January 28, 1889. Serial No. 297,853. (No model.)

*To all whom it may concern:*

Be it known that I, ARLING SHAEFFER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Stringed Musical Instruments, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a novel and useful improvement in stringed musical instruments of that class which have a body carrying a sounding-board or other vibrating surface and a neck projecting therefrom carrying the finger-board and a wrest-bar or head, which class is represented by the guitar, banjo, mandolin, &c.

It is well known to all performers on such instruments that the proper manipulation of the strings for an arpeggio or broken chords is a difficult task; that in very many cases the notes of an arpeggio to be harmonious and effective, to chime in melodiously and fall naturally and easily in with the air, and to add grace, beauty, or emphasis thereto must follow each other in rapid succession and in the proper sequence, oftentimes in the quickest possible musical time, the which requires great experience and perfect familiarity with the key-board, great skill and tact in the application of such knowledge and experience, and much manual dexterity and ability to finger the strings rapidly and correctly, that the strings may be pressed down at the proper frets or at the correct points between frets in a quick sequence. Comparatively few performers succeed in mastering these essentials, such failure rendering it quite impossible for the average and sometimes even for otherwise quite good performers to render an arpeggio passage in the proper manner or to give thereto the harp-like effect, which is the function and the beauty of the arpeggio.

The object of my invention, therefore, is to so arrange or construct a musical instrument of the class referred to that an arpeggio may be played thereon or the notes of a chord struck in quick succession in even the most rapid sequence without any previous experience thereasto, without any difficulty, and without any experience—an improvement readily applied to either old or new instru-

ments and as either a fixed or a removable part thereof, of simple construction, as durable as any other portion of the instrument, easily used, and reliable; to which ends the invention consists in attaching to or combining with such an instrument and its regular strings one or more extra sets of strings, representing the arpeggio of the regular strings, located upon the body of the instrument and above the sounding-board or vibrating surface and on one or both sides of the regular strings, and, further, in the features and arrangements necessary thereto, all as more particularly hereinafter described and claimed.

In the drawings are illustrated several embodiments of my invention, in which drawings—

Figure 1 is a top view of a guitar with the invention applied thereto in one way; Fig. 2, a similar view with the invention applied in a different way; Fig. 3, a central longitudinal view of part of a guitar; Fig. 4, a top view of a banjo with the invention applied thereto.

In the figures, the reference-numeral 1 indicates the body of the musical instrument; 2, the sounding-board; 3, the finger-board; 4, the regular strings, and 5 the wrest-bar or head, all of the usual construction and arrangement of such parts in the particular type of instrument in which they occur. In addition thereto one or more extra sets of strings are provided in practising my invention, two such sets 6 and 7 being herein shown. These extra strings are located above the sounding-board, and are secured by any suitable fastening devices, such being herein exemplified by the metal or other strips 12 13, fastened to the body 1 and receiving and retaining one end of the strings, and by the wrest-bar or head 14, secured to the body and carrying the wrests or pins 15 for the other ends of the strings.

Bridges 8, 9, 10, and 11 are placed at the proper points upon the sounding-board or vibrating surface 2 to sustain the extra strings at the proper height. These strings may be arranged at an angle relatively to the regular strings, as in Fig. 1, or parallel thereto, as in Fig. 2. When only one set is used—say set 6, as most convenient to the right hand—it should be tuned in the chord the air or piece to be performed is to be played,

or in the chord most generally or likely to be used by the special performer. When two are used, one should be tuned as just set forth and the other be tuned in one of the three chords likewise played in.

With an instrument thus arranged, when an arpeggio passage is reached the performer is not under the necessity of moving the fingers along the key-board, of watching to see when the proper frets or inter-fret spaces are reached, or of using any care or skill or of fingering, a simple sweep across the appropriate extra set of strings rendering the passage more effectively than could the most skilled performer. In addition, the extra sets of strings add to the effect of any playing on the regular strings. Harmoniously tuned and located above the sounding-board or vibrating surface affected by the regular strings, they partake by sympathy of the vibrations of such regular strings and add to the volume of the sound and to the limpidity and harmony thereof.

It is evident that many different forms of mechanical devices for securing and maintaining in position these extra sets of strings may be used without departing from the spirit of the invention. For instance, the extra wrest-bar or head may be permanently secured to the body by any suitable means, or it may be adjustably secured thereon, or it may be detachably secured thereto, an instance of detachable or temporary securement being shown in Fig. 3, wherein the wrest-bar 14 is formed of wood, metal, or other material capable of securely holding the pins 5. From it depend at suitable points arms or straps 17, turned at their outer ends 18 to take upon the back 16 or the back edge of the body of the instrument. In such case the tension of the extra strings in one direction and the resistance thereto of the part or end 18 will hold the wrest-bar in position until they are loosened and it be designedly removed. Again, while four separate bridges are shown, they may be united to form one or two or three bridges, and they may be secured in any desired way to the sounding-board of a guitar, or may simply be placed loosely thereon and held in position by the tension of the strings. In case of a banjo, however, they should be placed loosely on the head—in effect, a sounding-board—and should touch thereon at as few points as is consistent with affording proper support to the strings, to which end they

should have projecting feet, (as has the ordinary banjo-bridge,) at intervals lifting the body of the bridge above the head. No matter, however, what changes may be made in the string securing and supporting devices, the objects of the invention will be attained, its spirit preserved, and it carried into effect if one or more extra sets of strings be attached to or combined with an instrument of the kind noted; and it is further evident the string securing and maintaining devices may be made and sold in sets separately from the instrument, to be attached thereto thereafter. It is to be noted, also, that these extra strings may be so arranged or tuned as to give an arpeggio or similar movement either upon a diatonic or a chromatic scale.

Having thus described my invention, what I claim is—

1. A musical instrument of the class referred to having one or more extra sets of strings secured upon the exterior of the body thereof and over the sounding-board or equivalent vibrating surface, substantially as set forth.

2. A musical instrument having a body, a sounding-board or equivalent vibrating surface, a projecting neck carrying the finger-board and wrest-bar, a regular set of strings, and one or more extra sets of strings secured upon the exterior of the body and extending over the said sounding board or surface.

3. The combination, with a musical instrument of the class referred to, of an extra wrest-bar, one or more extra string-retaining devices, and one or more extra bridges for supporting extra strings upon the exterior of the body and over the sounding-board or equivalent vibrating surface, substantially as set forth.

4. A set of additional devices for a musical instrument of the class noted, consisting of an extra wrest-bar, one or more string-retaining devices, and one or more bridges, all adapted to be attached to or placed upon the exterior of the body of the instrument and support extra strings over the sounding-board or equivalent vibrating surface thereof, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ARLING SHAEFFER.

Witnesses:

Z. F. WILBER,  
O. E. ADAMS.