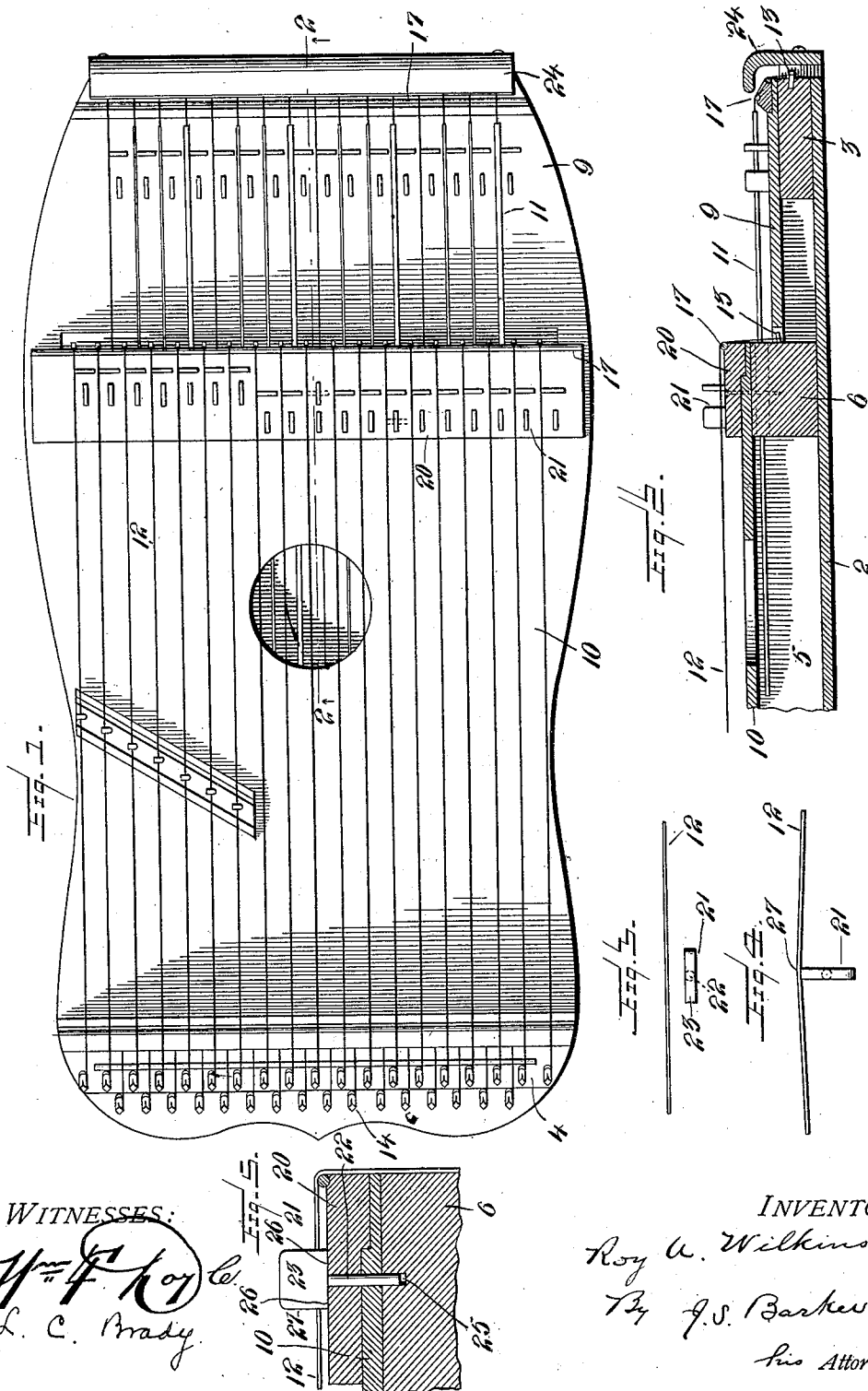


R. A. WILKINS.
 STRINGED MUSICAL INSTRUMENT.
 APPLICATION FILED SEPT. 21, 1908.

995,310.

Patented June 13, 1911.



WITNESSES:

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STRINGED MUSICAL INSTRUMENT.

995,310.

Specification of Letters Patent. Patented June 13, 1911.

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To all whom it may concern:

Be it known that I, ROY A. WILKINS, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented new and useful Improvements in Stringed Musical Instruments, of which the following is a specification.

This invention relates to stringed instruments, particularly those of the zither type, and has for its object to improve the same by providing means by which the tone or pitch of each string may be varied a determined degree, that degree being one-half a tone. The pitch-changing means are so constructed and arranged that each string may sound its natural tone, or the sharp or the flat thereof, accordingly as the parts are adjusted. This permits a performer to readily play any piece of music regardless of the key in which it may be written.

The invention also permits the introduction of "accidentals" in the performance of any piece of music where they are required. I have represented my invention as being applied to an instrument that, in its main features, is similar to the one patented by me May 17, 1904, Patent No. 760,288, although it is not limited in its useful applications to that particular instrument.

In the drawings, Figure 1 is a top plan view of the instrument. Fig. 2 is a central longitudinal sectional view of the tail end of the instrument. Figs. 3, 4, and 5 are detail views on a larger scale.

The frame of the instrument comprises a bottom sounding board, 2, a tail end piece, 3, the head end piece or tuning pin support, 4, side frame pieces, 5, and an intermediate brace or cross piece, 6, the latter serving also as the tail piece for the upper set of strings.

The instrument illustrated is provided with two sets of strings, a set, 11, arranged in groups to sound chords, and employed in playing the accompaniment of the piece of music being performed, and another set, 12, on which the air is played, the strings of the latter set being preferably arranged to give the tones of the diatonic scale. Adjacent to the strings, 11, and between the frame pieces, 3 and 6, is located an upper sounding board 9, while between the frame piece 6 and the head piece 4 is arranged the top sounding board 10, lying below the strings 12.

13, 13 indicate the hitch pins for the

strings and 14, 14, the tuning pins. The strings pass over bridges, 17, located in the usual manner near the ends of the respective strings. A hand rest, 24, is provided, this being preferably supported by the tail piece, 3.

Adjacent to the tail end of the upper set of strings, 12, and extending across the instrument above the upper sounding board, is a fret-board or strip 20. It has a rabbet engagement with the sounding board, 10, which lies between it and the cross frame piece. These three parts are secured together preferably by screws, and are further held in close contact by the tension of the strings, 12.

21 indicates adjustable fret-pins, each so mounted that when turned to one position it will engage with and fret one of the strings, and when turned to another will entirely disengage the string. Each pin consists of a stem, 22, adapted to be seated in a hole, 25, formed in the fret strip and of a depth sufficient to extend through the sounding board and a short distance into the cross piece, 6; and a flat head, 23. The side edges of this head are substantially parallel with the longitudinal axis of the stem, about which the fret pin turns, and are adapted to be brought into engagement with the string adjacent to which the pin is set; this arrangement insuring a good engagement with the string when the head of the pin is turned into fretting position even should the pin from any cause be longitudinally moved in its seat from its proper or normal position. The head, 23, on either side of the stem, 22, is formed with shoulders, 26, that are adapted to rest closely upon the fret strip, 20, when the pin is in place. This, in connection with the seating of the stem in the hole, 25, insures an intimate connection of the pin with the sounding board and frame of the instrument which is so important in a fretting device in order to insure a full and clear tone when the string is fretted. The pin is so mounted and its head is of such shape that when turned, as indicated in Fig. 3, it is entirely free from the string with which it is associated, while when turned to the position indicated in Fig. 4, one of its edges, 27, engages the string which is thereby fretted. There are preferably two sets of fret-pins and the instrument is tuned so that the strings will give the tones of the diatonic scale when fretted by the first set of pins, that is, the

set nearest the bridge. When this is done the turning of any pin into the position indicated in Fig. 3 will lower the tone of the string a semitone, that is, will flat the natural tone of that string; while if the second fret pin of that string be turned into engaging position the tone will be raised a semitone.

The pins, 21, are so located as to be easily reached and manipulated and the heads 20 are so shaped that engagement with the string is quick and positive. This makes it possible for the performer to instantly manipulate any pin as where the introduction of an accidental is required, and by reason of the ready engagement of the pin with the string, as described, the momentary humming or buzzing of the string against the edge of the fret, which occurs in some fretting devices now in vogue, is avoided.

As stated, when two sets of frets are employed it is usual to tune the instrument with all the frets of the first set in engagement with their respective strings. Then by the manipulation of one or more of the frets the instrument can be adjusted to play in any key, as will be readily understood by musicians. In Fig. 1 the frets are represented in full lines as being set for the key of F, while the changed positions for the key of G are indicated in dotted lines.

The strings, 11, of the second set are provided with fretting devices similar to those described.

A single set only of frets embodying my present invention may be used, in which case the strings will be tuned with the frets turned out of engagement, the whole length of string from bridge to bridge vibrating to give the natural tone. Then the frets will be employed to shorten the strings and sharp the tones given thereby, as may be required.

What I claim is:

1. In a stringed musical instrument, the combination with the strings, of fretting means for the individual strings each comprising a stem seated in the frame work of the instrument, and a head arranged to be grasped by the performer for adjustment and having a side edge substantially parallel with the axis about which the pin turns that engages with the string when the pin is turned.

2. In a stringed musical instrument, the combination with the framework including the sounding board, and the strings, of fretting devices for the individual strings each comprising a stem seated in a socket in the frame of the instrument, a flat head arranged adjacent to a string, the head being adapted to be grasped by the performer for adjustment of the device, and having shoulders resting closely upon the framework, and a side edge adapted to engage with the string when the device is turned into a particular position.

3. A stringed musical instrument having a case with a cross frame piece and a sounding board supported thereon, strings arranged to cross the sounding board, and fretting devices for the strings in two sets, the devices for each string being arranged, one to raise the tone given by the open string a semitone, and the other a full tone, each device comprising a stem seated in the said cross piece, and a flat head adapted to be grasped by the performer to turn the device and having side edges arranged to engage the string when the head is turned crosswise relative thereto.

ROY A. WILKINS.

Witnesses:

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