No. 688,272. Patented Dec. 3, 1901.

W. T. TRUAX.

BRIDGE FOR STRINGED INSTRUMENTS.

(Application filed Apr. 1, 1901.)

(No Model.)

Fig. 1

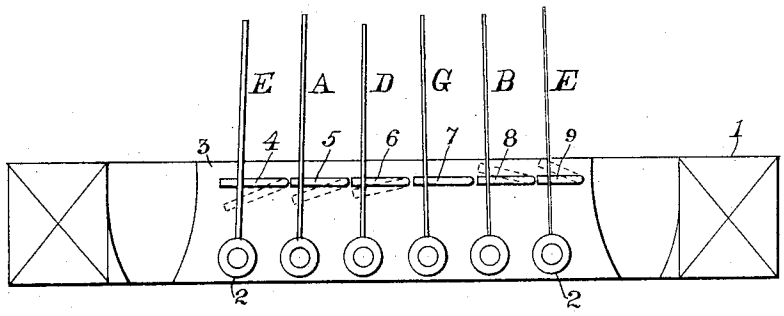


Fig. 2

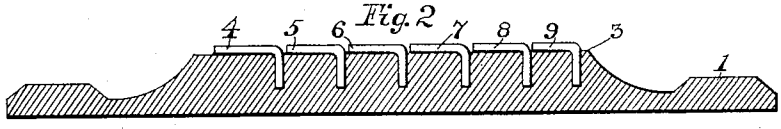


Fig. 3

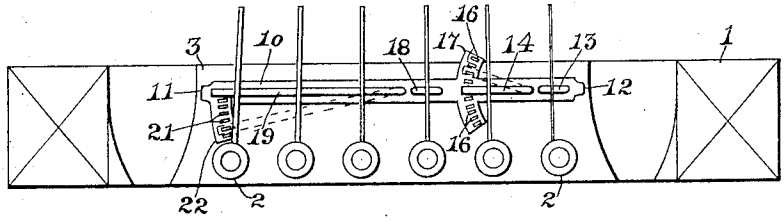


Fig. 4

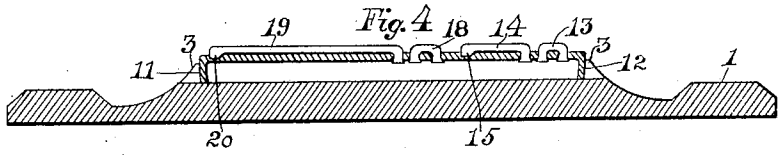
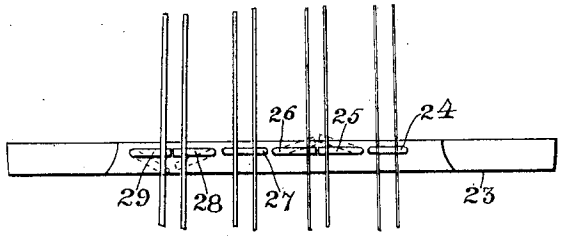


Fig. 5



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM THOS. TRUAX, OF BATTLECREEK, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE COPARTNERSHIP OF WILLIAM THOMAS TRUAX, J. WORTH ALLEN, AND SAMUEL SIEGEL.

BRIDGE FOR STRINGED INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 688,272, dated December 3, 1901.

Application filed April 1, 1901. Serial No. 53,907. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS TRUAX, a citizen of the United States, residing at Battlecreek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Bridges for Stringed Instruments; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to bridges for stringed instruments, and belongs to that particular class of bridges whereon the point of support of each string may be varied with respect to the others.

With the ordinary straight bridge a fretted instrument—for example, a guitar—is inaccurate with reference to the tones produced by stopping the strings upon the frets. The notes sounded by the strings when pressed down by the fingers on a given fret should bear certain tonic relations to the notes of the same strings vibrating throughout their full lengths from the bridge to the support at the tuning-pegs. It is found that the true tones which ought to be emitted when the strings are stopped at the various frets are frequently not given off when the bridge is straight and all the strings are equal in length. A favorite method of curing this defect is to provide each string with its own movable support upon the bridge by means of which it may be lengthened or shortened. It does not always follow that the bridge adjustment determined for any string will remain unchanged upon replacing that string by another of the same kind. Usually a new adjustment must be made.

My invention has for its object the production of a bridge or bridge attachment having pivoted supports movable horizontally, by the use of which the vibrative length of each string may be sufficiently extended or diminished to rectify the musical error stated.

Each constituent element of my invention is described in detail and its individual office, together with the mode of operation of the whole, fully explained hereinafter.

Of the accompanying drawings, throughout which like numbers and letters designate like parts, Figure 1 represents a plan view of a bridge embodying my invention, and Fig. 2 a vertical section of the bridge. Fig. 3 represents a plan view of my invention constructed as an attachment capable of being placed upon a bridge already on a guitar or mandolin, and Fig. 4 is a vertical section of the form shown in the third figure. Fig. 5 is a plan view of my invention arranged as a mandolin-bridge.

Considering the drawings, numeral 1 marks the bridge-piece of a guitar, upon which toward the rear the strings E, B, G, D, A, and E are secured in the customary manner to anchors or stubs 2. Near the front the bridge-piece possesses a raised portion 3, and upon this raised part the ridge of metal or wood constituting the actual support for the strings is customarily secured by sinking it partly in the bridge-piece. Instead of this usual ridge I provide the bridge-piece with a line or series of metal arms designated 4, 5, 6, 7, 8, and 9. In Fig. 2 it will be noted that each of these arms has a horizontal portion resting upon the bridge-piece and a vertical portion extending downwardly into the substance of the bridge-piece. About this vertical portion each division of the series turns and may be moved either before or behind the normal line of the series. Referring to Fig. 1, it will be seen that the points of support of the strings may be advanced or withdrawn, as indicated by the broken lines.

Fig. 3 shows the plan of my invention in the form of an attachment capable of being placed upon any guitar-bridge as they are now usually made. In this form the base for the arms consists of a metal strip 10, bent down at the ends, as shown in Fig. 4, the bent or downwardly-projecting tips being marked 11 and 12. In replacing an ordinary bridge by my invention the metal or wood ridge, already mentioned as forming the actual support for the strings, is taken out and the tips 11 and 12 forced into the slot, thus holding the attachment securely upon the bridge-piece.

In Figs. 3 and 4 a somewhat different con-

struction is illustrated from that appearing in the first two figures. Number 13 marks a fixed staple-form support for the string E, while for the next string B the arm 14, movable as previously explained, is provided. In Fig. 4 it will be noted that the free end of arm 14 possesses a downwardly-projecting lug 15 and that this lug is adapted engage certain indentations or recesses 16 16 (see Fig. 3) in the surface of the strip 10 and in the surface of the extension 17 of the strip. The next string G is upheld upon a fixed bridge portion 18 similar to that marked 13, and the remaining three strings are borne by the long arm 19, provided at its free extremity with a lug 20, adapted to engage the indentations 21 in the face of the strip and in the extension 22 adjacent. It will be understood from this form of my invention that I do not confine myself to a bridge having a pivoted arm for each string, but may construct them having both fixed supports and movable supports, as described. The fixed supports are given those strings which experience has shown require little, if any, longitudinal change. When the movable arms are applied to the ordinary wooden bridge-piece 1 of a guitar, (see Fig. 1,) the lugs may either be omitted, as they are in the figure, or, if included, indentations for them to engage are formed in the surface of the bridge-piece.

Fig. 5 shows a plan of a bridge-piece for use with mandolins. The base or wooden portion is marked 23. The first support at the right is fixed and designated by number 24. The next two supports are the arms 25 and 26, and it will be observed that their free ends lie toward each other. By means of this arrangement the two strings tuned and struck together may, if necessary, be lengthened or shortened independently of each other. Next upon this form of bridge is the fixed support 27, and finally the two arms 28 and 29, arranged in the same way as arms 25 and 26 and for the same purpose.

I am aware that it is not new to construct bridges for fretted stringed instruments upon which the points of supports may be moved for each string, and I do not claim that feature broadly.

What I claim, and seek to secure by Letters Patent of the United States, is—

1. In a bridge for stringed instruments, the combination of a bridge-piece adapted to be fixed in position upon an instrument, and, as supports for the strings and in contact with them, arms each pivoted at one of its ends to the said bridge-piece and movable thereon in a horizontal plane, substantially as described.

2. A bridge for stringed instruments having, as supports for the strings and in contact with them, arms each pivoted at one of its ends and movable in a horizontal plane, and devices adapted to retain the arms in one or the other of several predetermined positions, substantially as described.

3. In a bridge attachment for stringed instruments the combination of a base 10 having the terminal bent tips, and, as supports for the strings and in contact with them, arms each pivoted at one of its ends and movable in a horizontal plane on the said base, and devices adapted to retain the arms in one or the other of several predetermined positions, substantially as described.

4. In a bridge attachment for stringed instruments the combination of a base adapted to be secured upon the bridge-piece of an instrument, fixed string-supports, string-supports consisting of arms each pivoted at one of its ends and movable in a horizontal plane on the said base, and devices adapted to retain the arms in one or the other of several predetermined positions, substantially as described.

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

WILLIAM THOS. TRUAX.

Witnesses:
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LIBBIE ALTMAN.