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BRIDGE FOR STRINGED MUSICAL INSTRUMENTS

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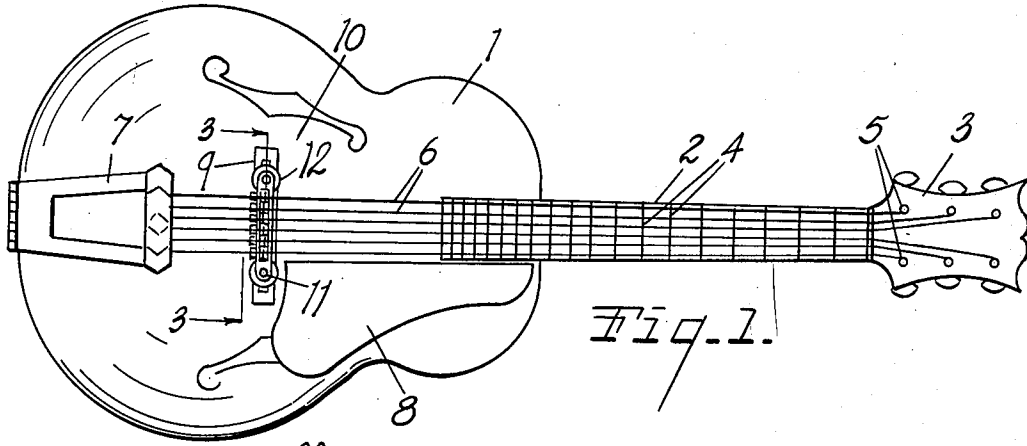


Fig. 1.

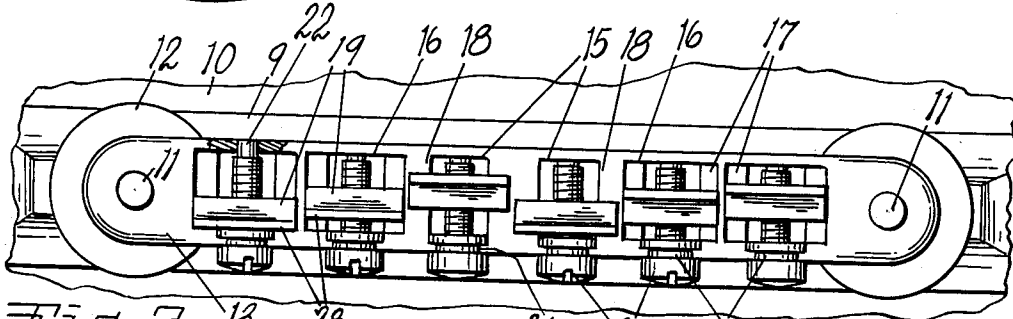


Fig. 2.

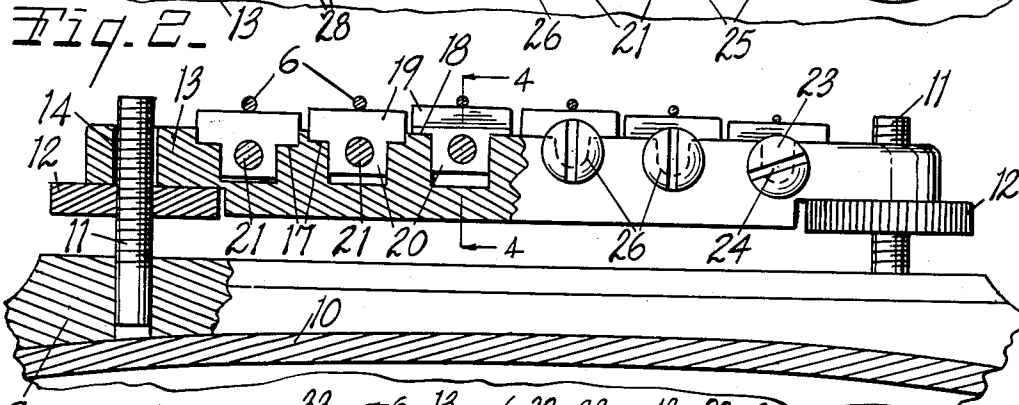


Fig. 3.

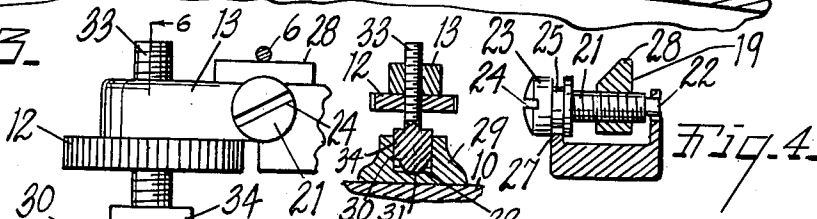


Fig. 4.

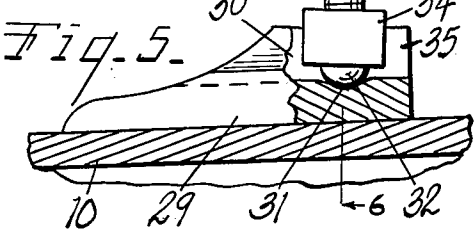


Fig. 5.

Fig. 6.

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BRIDGE FOR STRINGED MUSICAL INSTRUMENTS

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3 Claims. (Cl. 84-307)

This invention relates to improvements in bridge for stringed musical instruments.

My improved bridge is particularly adapted and designed for stringed musical instruments such as guitars and the like, although it has certain features of advantage for use in other types of stringed musical instruments.

The main objects of this invention are:

First, to provide a bridge for stringed musical instruments provided with an individually adjustable string supporting saddle for each string and one which may be adjusted without releasing the tension of the string.

Second, to provide a structure of this character in which the string rests of the saddles are disposed at one longitudinal edge of the saddle and the saddles are reversible, thereby substantially increasing the scope of adjustment of the saddles relative to the strings.

Third, to provide a bridge for stringed musical instruments having individual screw adjusted string supporting saddles which permits accurate adjustment thereof with the supported strings under tension, the saddles being supported on ways and the screws functioning merely as adjusting means, that is, they do not sustain the load on the saddles.

Fourth, to provide a bridge structure having these advantages which may be readily incorporated in instruments at the factory and which may be adapted or applied to instruments having sounding boards of various curvature as substitutes for other bridges.

Fifth, to provide a bridge for stringed musical instruments having these advantages which is capable of a wide range of adjustment to meet the requirements of the particular strings, that is, strings of different sizes and tolerance variations as well as plain strings or wound strings.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a plan view of the guitar embodying my invention, parts of the instrument being shown conventionally, as my improvements relate to the bridge structure.

Fig. 2 is an enlarged fragmentary plan view of a preferred embodiment of my invention.

Fig. 3 is an enlarged fragmentary view partially in section on a line corresponding to the broken line 3-3 of Fig. 1.

Fig. 4 is a detailed view partially in section on a line corresponding to line 4-4 of Fig. 3.

Fig. 5 is a fragmentary view of a modified form or embodiment of my invention which is employed when the bridge is designed for use on instruments having variously curved or shaped sounding boards.

Fig. 6 is a fragmentary view in section on a line corresponding to line 6-6 of Fig. 5.

In the accompanying drawing 1 represents the body of the instrument, 2 the neck and 3 the head. These parts are conventionally shown. The neck is provided with the usual frets 4 and the head with tuning pins indicated at 5. The strings 6 are of graduated sizes and are connected to the tail piece 7. These parts are conventionally shown as is also the hand rest 8. The embodiment of Figs. 1 to 4 comprises the base member 9 which is designed to fit the sounding board 10 of the instru-

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ment. The base member is provided with threaded posts 11 which have peripherally knurled supports 12 thereon for the bridge member 13 having openings 14 receiving the posts.

The bridge member is provided with a plurality of upwardly opening longitudinally spaced recesses designated by the numerals 15 and 16, the recesses 16 differing from the recesses 15 in that the recesses 16 have shoulder-like ways 17 in the side walls thereof, whereas the ways 18 associated with the recesses 15 are on the top of or flush with the top of the bridge member. A supporting saddle 19 is provided for each string and these saddles are supported on the ways for adjustment transversely of the bridge or longitudinally of the strings. The saddles are provided with downwardly projecting tongues or stems 20 which slidably fit between the recesses and are threadingly engaged by the adjusting screws 21. These adjusting screws have journal portions 22 at one end and heads 3 at the other, provided with kerfs 24 adapted to receive a screw driver or the like for adjusting the screws. The screws have annular grooves 25 at the head ends thereof which receive the edges 26 of the U-shaped recesses in the front walls of the recesses 15 and 16 as is clearly shown in the drawing. This provides an effective support for the screws while permitting the easy removal thereof and the saddle engaged thereby. The thrust load of the strings on the saddles is carried by the ways so that the screws rotate freely, and effective support is provided for the saddle. The string rests 28 of the saddles are at one edge thereof, so that although the saddles are of substantial width to provide strength and stability, they may be reversed as is indicated in Fig. 2 to substantially doubling the scope of adjustment. The saddle members may be adjusted by the screw while the strings are under tension, which greatly expedites the accurate adjustment of the saddles to the particular strings or particular requirements.

Applicant is aware that it is old to provide bridges with adjustable saddles or string rests, that is, saddles which are adjustable longitudinally of the strings, as for example in the Laurian Patent 934,678 issued September 21, 1909, but in that instrument the scope of adjustment is limited to two positions and the tension of the strings must be released to permit adjustment of the string supporting members. In the embodiment illustrated the ways for the saddles are disposed in stepped relation which gives the "contour" to the strings.

The embodiment shown in Figs. 5 and 6 adapts the bridge for use on instruments having sounding boards of varying curvature or shape. In this embodiment of my invention the bridge base is formed of a pair of bridge elements 29, only one of which is shown, having longitudinal upwardly facing grooves 30 therein. The bottoms of the grooves are provided with concave seats 31 for the convexly curved ends 32 of the posts 33 which correspond to the posts 12. The posts 33 are provided with block-like heads 34 which tiltingly fit the side walls 35 of the groove preventing lateral tilting of the posts and preventing rotating movement of the posts. The supports 12 are threaded upon the posts to support the bridge member 13 as in the embodiment of Figs. 1 to 3 inclusive. This embodiment of Figs. 5 and 6 permits the use of the bridge on instruments having sounding boards of different curvature, whereas the base of the preferred embodiment is designed to fit a particular sounding board.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe other adaptations or embodiments which I contemplate, as I believe this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A bridge for a stringed musical instrument comprising a bridge member having a plurality of upwardly facing recesses therein at longitudinally spaced points along the bridge member with parallel side walls and having saddle supporting ways disposed transversely of the bridge member at the sides of the recesses, said recesses having end walls with one end wall of each recess having an upwardly opening notch therein, saddle members freely and removably supported and slidable on said ways and provided with stems disposed below the ways in said recesses in guiding relation to the side walls thereof, and adjusting screws having spaced collars at one end embracing said notched end walls and having journals at their other ends received in the other end walls of said recesses, said screws being threadedly engaged with the stems of said saddle members for adjusting them on said ways, said saddle members having string seats on the top disposed at one edge thereof whereby reversing a saddle member on its screw places the string seat closer to one end of the recess than the other.

2. A bridge for a stringed musical instrument comprising a bridge member having a plurality of upwardly facing recesses therein at longitudinally spaced points along the bridge member with parallel side walls and having saddle supporting ways disposed transversely of the bridge member at the sides of the recesses, said recesses having end walls with one end wall of each recess having an upwardly opening notch therein, saddle members freely and removably supported and slidable on said ways and provided with stems disposed below the ways in said recesses, and adjusting screws having spaced collars at one end embracing said notched end walls, said screws being threadedly engaged with the stems of said saddle members for adjusting them on said ways, said saddle members having string seats on the top disposed in longitudinally off set non-centered relation thereon whereby reversing a saddle member on its screw places the string seat closer to one end of the recess than the other.

3. A bridge for a stringed musical instrument comprising a bridge member having a plurality of upwardly facing recesses therein at longitudinally spaced points along the bridge member and having saddle supporting ways associated with each recess disposed transversely of the bridge member, said recesses having end walls with one end wall of each recess having an upwardly opening notch therein, saddle members removably and slidably supported on said ways and guidingly engaged with said bridge member, stems on said saddle members disposed in said recesses, and adjusting screws having spaced collars at one end embracing the notched end walls and having journals at their other ends received in the other end walls of said recesses, said screws being threadedly engaged with the stems of said saddle members for adjusting them on said ways, said saddle members having string seats on the top disposed closer to one end of the saddle member than the other.

4. A bridge for a stringed musical instrument comprising a bridge member having a plurality of upwardly facing recesses therein at longitudinally spaced points along the bridge member and having saddle supporting ways associated with each recess disposed transversely of the bridge member, said recesses having end walls with one end wall of each recess having an upwardly opening notch therein, saddle members removably and slidably supported on said ways, stems on said saddle members disposed in said recesses, and adjusting screws having spaced collars at one end embracing the notched end walls, said screws being threadedly engaged with the stems of said saddle members for adjusting them on said ways, said saddle members having string seats on the top.

5. A bridge for stringed musical instruments comprising a base provided with posts, a bridge member having openings for said posts, supports for said bridge member

adjustably threaded upon said posts, said bridge member having a plurality of upwardly facing recesses therein at longitudinally spaced points along the bridge member with parallel side walls and having saddle supporting ways disposed transversely of the bridge member at the sides of the recesses, some of said ways being offset below the surface of the bridge member, said recesses having end walls with one end wall of each recess having an upwardly opening notch therein, saddle members slidable on said ways and provided with stems disposed below the ways in said recesses in guiding relation to the side walls thereof, and adjusting screws having spaced collars at one end embracing said notched end walls and having journals at their other ends received in the other end walls of said recesses, said screws being threadedly engaged with the stems of said saddle members for adjusting them on said ways, said saddle members having string seats on the top disposed at one end thereof whereby reversing a saddle member on its screw places the string seat closer to the opposite side of the bridge member and increases the range of adjustment of the seat over a saddle member having a centered string seat.

6. A bridge for stringed musical instruments comprising a bridge member having a plurality of upwardly facing recesses therein at longitudinal spaced points along the bridge member and having saddle supporting ways associated with recesses and disposed transversely of the bridge member, said recesses having end walls with aligned bearings, saddle members having upwardly facing string seats, said saddle members being removably and slidably supported on said ways, adjusting screws disposed in said recesses and threadingly engaging said saddle members centrally between said way and removably engaging said bearings in end thrust sustaining engagement with at least one of said end walls, said screws and saddle members being removably and replaceably associated with the bridge member as assembled units.

7. A bridge for stringed musical instruments comprising a bridge member having a plurality of upwardly facing recesses therein at longitudinal spaced points along the bridge member and having saddle supporting ways associated with recesses and disposed transversely of the bridge member, said recesses having end walls with aligned bearings, saddle members having upwardly facing string seats, said saddle members being removably and slidably supported on said ways and depending into said recesses, and adjusting screws threadingly engaging said saddle members and removably engaging said bearing members in end thrust sustaining engagement with at least one of said end walls, said screws and saddle members being removably and replaceably associated with the bridge member as assembled units.

8. A bridge for stringed musical instruments comprising a bridge member having a plurality of upwardly facing recesses therein at longitudinal spaced points along the bridge member and having saddle supporting ways disposed transversely of the bridge member at the sides of the recesses, said recesses having end walls provided with aligned bearings, the bearing in one wall opening at the top of the wall, saddle members removably and slidably supported on said ways, said saddle members having upwardly facing string seats, and adjusting screws threadingly engaging said saddle member and removably engageable with said bearings for the removal of the saddle members and screws as assembled units.

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