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STRINGED MUSICAL INSTRUMENT BRIDGE

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FIG. 1.

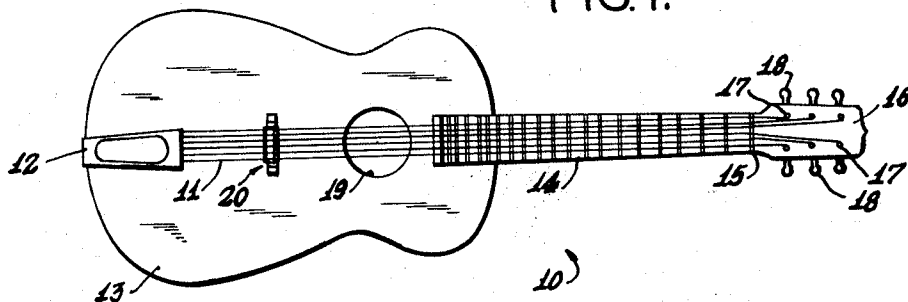


FIG. 2.

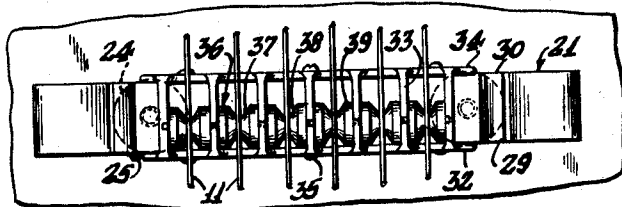


FIG. 3.

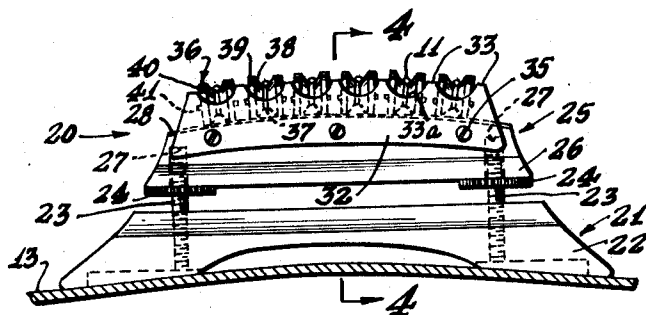
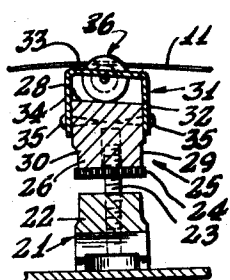


FIG. 4.



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STRINGED MUSICAL INSTRUMENT BRIDGE

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10 Claims. (Cl. 84-307)

This application refers to a bridge for stringed instruments and more particularly to a bridge of new and improved design making possible fine adjustment of the strings at the bridge.

The tuning of a stringed instrument involves only one method, that of stretching or releasing the strings. Most stringed instruments are constructed with a tail piece holding one end of the strings immovable, and a number of keys at the head which through a simple gear system will wind the strings onto a roller when turned. Intermediate the tail piece and the head of the instrument is a bridge on the sounding board and a neck at the end of the finger board over which the strings are stretched. While the strings of such an instrument may be stretched or tuned relatively close to an ideal setting, it is extremely difficult to tune such an instrument to the highest critical standards of some musicians. Therefore a means of tuning the separate strings of a stringed instrument with a high degree of accuracy is desired.

It is an object of this invention to provide a sounding box bridge for a stringed instrument which will incorporate a means of tuning the separate strings stretched thereacross.

It is another object of this invention to provide a bridge for a musical instrument which shall be provided with separate means for engaging the strings thereof, said separate string engaging means being adjustable so as to tune the said strings.

It is also an object of this invention to provide a bridge for a stringed instrument, as described, in which the separate string engaging means may be easily adjusted with a minimum of effort to extremely slight variations in degree, so as to provide a high degree of accuracy in tuning.

It is a further object of this invention to provide a bridge means for a stringed musical instrument as described, which shall be simple and inexpensive to manufacture, attractive in appearance, sturdy and long lasting and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the appended claims.

In the accompanying drawings in which is shown various illustrative embodiments of this invention:

Fig. 1 is a plan view of a guitar fitted with a bridge in accordance with the present invention;

Fig. 2 is a plan view of the bridge;

Fig. 3 is an elevational view of the bridge; and

Fig. 4 is a cross-section taken on the line 4-4 of Fig. 3.

Construction of the bridge in accordance with the present invention may be seen in the drawing. Fig. 1 illustrates a six stringed guitar 10 fitted with said bridge. The guitar is a standard model in which the strings 11 are

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anchored to a tail piece 12 which is secured to the base of a sounding box 13 of the guitar.

The fingerboard 14 extends outwardly from the sounding box. A bridge neck 15 is formed at the end of the fingerboard and a head 16 incorporating winding posts 17 and keys 18 is formed above the neck bridge. Between the tail piece 12 and the sounding port 19 is located the bridge 20.

The bridge 20 embodying the invention as seen in Fig. 3 rests upon an adjustable base 21 which is seated on the top surface of the sounding box 13. The adjustable base is a standard type formed of a shaped, elongated wooden block 22 set with a pair of vertically extending threaded posts 23 on which are threaded a pair of disc shaped nuts 24. An upper bridge 25 is seated on the nuts 24 and is adjustable thereby as to height. The upper bridge 25 is formed with a shaped, elongated wooden block 26 which is formed with a pair of vertical openings 27 to receive the threaded posts 23 which are set in block 22. The top surface 28 of block 26 is arched across the length of the bridge and beveled at an angle so that it is lower at the front side 29 of the block 26 than at the rear side 30. A steel guide cage 31 is fitted over the top of block 26. The cage 31 is formed with a front plate 32 which extends the length of block 26 and upwardly above the top surface 28 of the block. A number of fingers 33 extend rearwardly from the front plate 32 of the cage 31. The fingers 33 join together at the rear to form a second vertical plate 34 corresponding to plate 32. Fingers 33 are angled upwardly towards the rear side 30 of the upper bridge 25. Therefore, plate portion 34 of cage 31 is larger vertically than plate portion 32. Wells 33a are formed in plates 32 and 34 between fingers 33. Plates 32 and 34 are secured to block 26 by means of screws 35, or in any other suitable manner. A number of rollers 36 are located between the fingers 33 of the guide cage 31 and rest upon the top surface 28 of block 26.

The rollers 36 are formed each with a central neck portion 37 which receives a string 11. Extending outwardly and away from neck 37 of each roller 36 is a conical wall 38 which then forms circular side discs 39. Extending outwardly from the center of the outer surface 40 of the side discs 39 is a lug pin 41. The lug pins 41 extending from opposite sides of the centers of rollers 36, serve to retain said rollers within said metal cage 31. The diameters of the rollers 36 is less than the width of the top surface 28 of block 26. Therefore, the rollers may be rolled back and forth within the slots formed between the fingers 33 of cage 31. The upper ends of the outer roller discs 39 extend above the top surface of the fingers 33. It is necessary for the necks to project above the surfaces of finger wells 33a so that they may engage the strings 11. Tension of the strings 11 will hold the rollers 36 in place.

To adjust the position of the rollers, the musician moves them manually by pushing the top surfaces of roller discs 39 with a finger. As the rollers 36 are pushed or rolled back and forth in the slots formed between fingers 33, they will mount or descend the incline of surface 28 of block 26. Therefore, the string 11 will be raised or lowered since it rests upon neck 37 of the roller. Raising a string at this point will stretch it, and lowering it will release it. Therefore each string may be tuned individually by rolling the rollers back and forth with a finger.

The direction of the incline of surface 28 of the bridge may be varied, so that the bridge may be placed with the incline rising towards the head 16 of the guitar, or towards the tail piece 12. The height of the entire upper bridge may be adjusted by means of the lower bridge 21.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

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

1. A bridge for a stringed instrument, said bridge comprising a base block having a sloped upper surface, a guide cage mounted on said block, said cage comprising a front wall and a rear wall and a top wall, said top wall having a number of slots and being provided with fingers between said slots disposed in spaced relation above the upper surface of said block and parallel thereto, a roller within each slot resting on the top surface of said block and adapted to roll forwardly and rearwardly, said rollers each having a central annular groove, and said rollers being provided with axially extending lug means disposed beneath said fingers.

2. A bridge for a stringed instrument, said bridge comprising a block base member, said block base member being formed with a forwardly and rearwardly sloped top surface, a guide cage means, said cage means comprising a front plate means secured to the front face of said block member, said front plate means extending above said top surface of said block member, finger means extending from said plate means rearwardly above said top surface of said block member in spaced parallel relation thereto, and a rear plate means extending downwardly from the rear ends of said finger means, said rear plate means being secured to the rear face of said block member, rollers between said finger means and projecting thereabove, said roller means being adapted to roll back and forth across the top surface of said block between said finger means, said rollers being grooved to receive strings, and means to retain said rollers beneath said finger means of said cage means.

3. A bridge for a stringed musical instrument to be mounted on an adjustable base comprising an elongated block, said elongated block being formed with a forwardly and rearwardly inclined top surface, rollers positioned on said inclined surface of said block, said rollers being positioned so as to be rollable forwardly and rearwardly on said inclined surface, said rollers being formed with a narrow neck adapted to receive a string, and means to retain said rollers in position upon the top surface of said block.

4. The combination of claim 3, said means for retaining said rollers in position comprising a cage means formed of a pair of upwardly extending plate means abutting the front and rear surfaces of said block means, said plate means extending upwardly above said top surface of said block means, and finger means interconnecting said front and rear plate members, said finger means forming slots therebetween, said rollers being positioned within said slots so as to be abutted by said finger means, and said rollers formed with outwardly extending axial lug means beneath said finger means adapted to retain said rollers from coming out of the cage.

5. A bridge for a stringed musical instrument comprising a block, a cage mounted on the block and having a front wall, a rear wall and a top portion having spaced slots forming fingers between the slots, an annularly grooved roller mounted for rolling movement within each slot in rolling contact with the top of the block, between said front and rear walls, and projecting above the slot.

6. The combination of claim 5, said front and rear walls being formed with notches aligned with said slots.

7. The combination of claim 5, said rollers each being formed with a pair of oppositely extending projections disposed beneath said fingers.

8. A bridge for a stringed musical instrument comprising a member adapted to be mounted on the musical instrument, a cage fixed to said member, said cage comprising a front wall and a rear wall and a top wall, said top wall having a plurality of parallel slots and being provided with fingers between said slots, and rollers mounted on said member and projecting through said slots, said rollers being adapted to roll back and forth between the front and rear walls of the cage, said rollers having grooves whereby to receive strings, said fingers retaining the rollers against side movement and said rollers having opposite axles to prevent the rollers from being lifted up out of the cage.

9. The combination of claim 8, said member having a top inclined surface on which the rollers roll, and the fingers being parallel to said surface.

10. The combination of claim 9, the front and rear walls of the cage having notches communicating with the ends of the slots.

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