Nov. 29, 1932. A. LARSON 1,889,408

FRETTED STRINGED MUSICAL INSTRUMENT

Filed Sept. 8, 1930 2 Sheets-Sheet 1

Fig. 1.

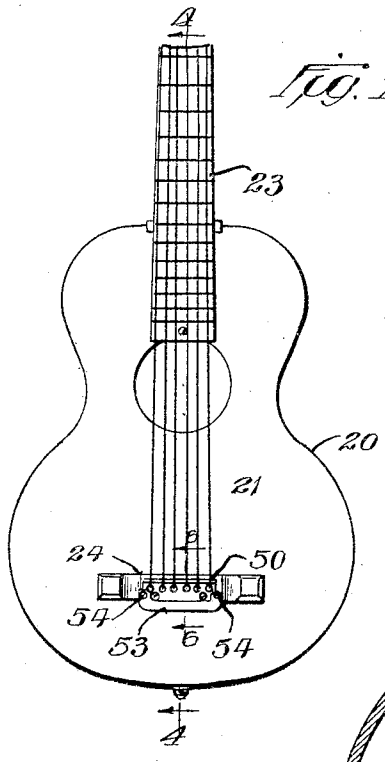


Fig. 2.

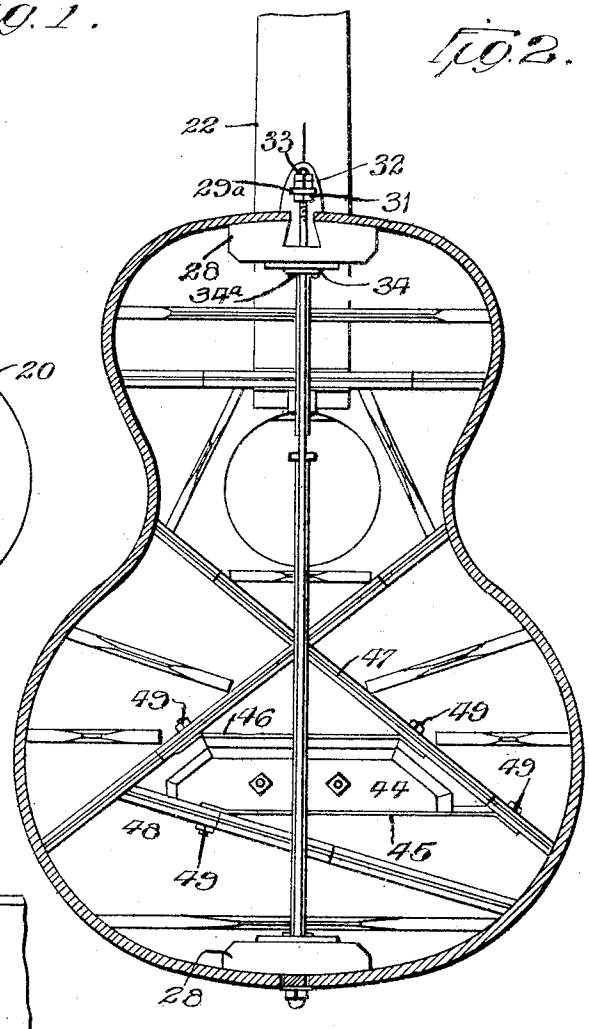


Fig. 5

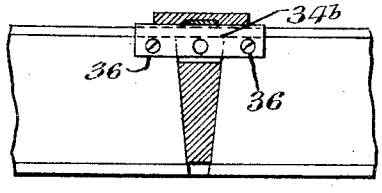
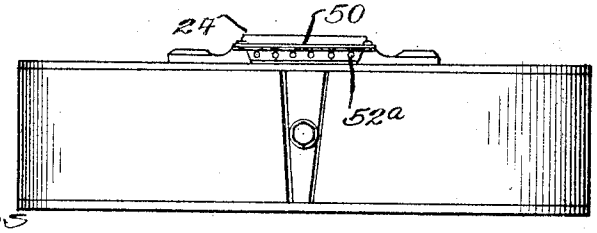


Fig. 3.



Witness
Harry B. Whittle

Inventor:
Aug. Larson

Nov. 29, 1932. A. LARSON 1,889,408

FRETTED STRINGED MUSICAL INSTRUMENT

Filed Sept. 8, 1930 2 Sheets-Sheet 2

Fig. 4

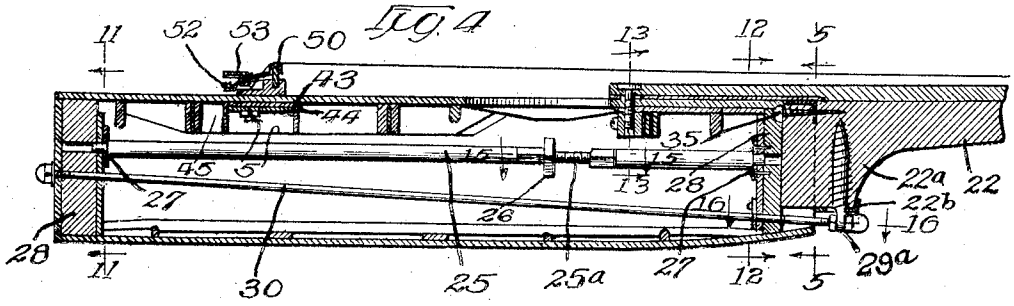


Fig. 6.

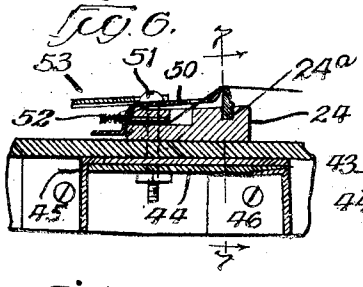


Fig. 7.

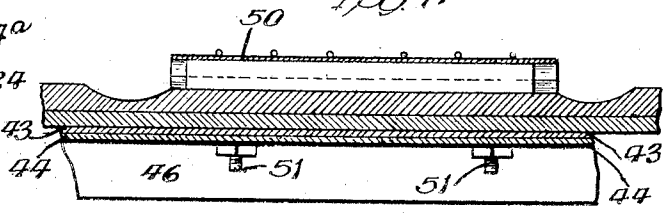


Fig. 8.

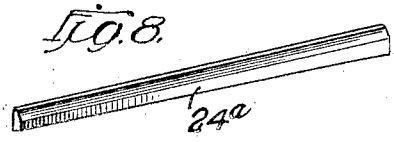


Fig. 9.

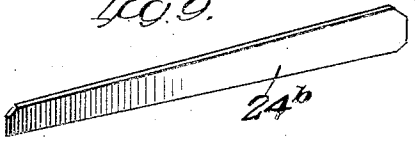


Fig. 10

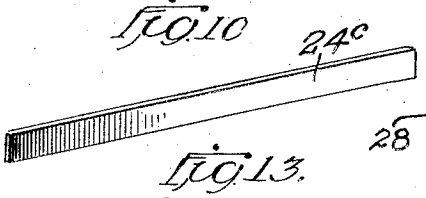


Fig. 11.

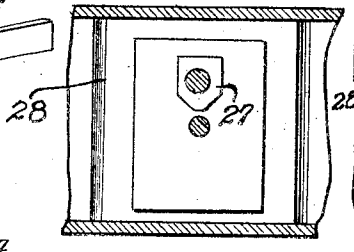


Fig. 12.

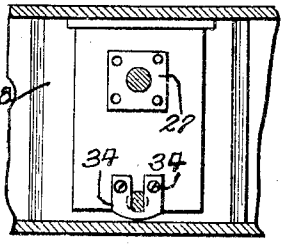


Fig. 13.

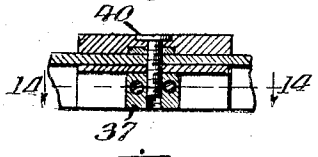


Fig. 14.

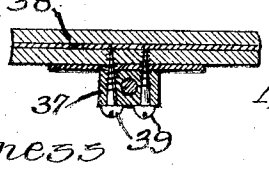


Fig. 15.

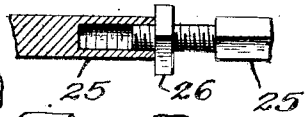


Fig. 16.

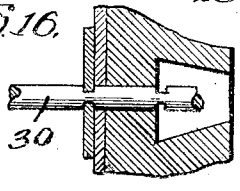
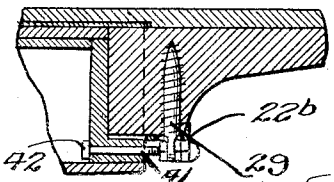


Fig. 17.



Witness
Harry R. White

Inventor
Aug. Larson

Patented Nov. 29, 1932 1,889,408

UNITED STATES PATENT OFFICE

AUGUST LARSON, OF CHICAGO, ILLINOIS

FRETTED STRINGED MUSICAL INSTRUMENT

Application filed September 8, 1930. Serial No. 480,334.

My invention relates to fretted stringed musical instruments and is particularly adapted to guitars. The main object is to provide means for adjusting the strings and reinforce the parts where the strain is the greatest.

In securing the adjustment of the strings to the body of the instrument, as will hereafter be seen, I provide means for adjustably altering the relation of the neck to the body of the instrument, and I also provide means for raising and lowering a portion of the bridge which support the strings.

In connection with the bridge adjustment the means I provide will permit the uniform raising of the strings with reference to the body of the instrument, or as may be desired, the base or the higher pitched strings may be independently raised or lowered with respect to the body of the instrument. While the neck or the bridge string adjustments may be employed independently, they may, nevertheless, be used to greater advantage together for securing an instrument in accordance with the player's wishes and requirements.

I have secured the foregoing objects and results by means of the structure illustrated in the accompanying drawings, in which—

Fig. 1 is a front view of a guitar provided with the improved bridge adjusting feature.

Fig. 2 is a rear view of the structure shown in Fig. 1 with the back removed to illustrate the mounting of the bridge and neck.

Fig. 3 is an end view of the body and bridge showing a portion of the structure permitting the securing of the strings without the use of bridge pins.

Fig. 4 is a central, longitudinal section of a guitar embodying my invention.

Fig. 5 is a fragmental detail section on line 5—5 of Fig. 4.

Fig. 6 is a fragmental detail section transverse of the bridge and its mounting.

Fig. 7 is a fragmental section at right angles to the view in Fig. 6 on line 7—7 thereof.

Figs. 8, 9 and 10 are perspectives of different forms of adjusting pieces for use in connection with the bridge.

Fig. 11 is a fragmental detail elevation of the end block at the bridge end of the body showing the relation of the rods thereto.

Fig. 12 is a fragmental detail elevation showing the end block at the neck end of the body with means for preventing the rotation of the straining rod.

Fig. 13 is a section on line 13—13 of Fig. 4 showing means for holding the neck in adjusted alignment.

Fig. 14 is a section on line 14—14 of Fig. 13.

Fig. 15 is a section on line 15—15 of Fig. 4 showing means of adjusting the top rod.

Fig. 16 is a section on line 16—16 of Fig. 4.

Fig. 17 shows a modified manner of securing the neck to the body of the instrument.

The instrument with which I have shown my invention embodied comprises a guitar having the usual form of body 20, fret board 23 and bridge 24, as most clearly shown in Fig. 1. In order to stand the strain of the strings, the body portion is provided with the end blocks 28 and the front of the body portion has the cross and diagonal bracing, shown most clearly in Fig. 2. The end block 28, at the end of the body with which the neck connects, is provided with a dovetail mortise with which a tenon on the end of the neck connects, as clearly shown in Fig. 2.

Above the tenon and to the base of the neck is secured a metal strap 34*b*, as shown in Fig. 5. This strap is secured to the neck by the screw 35, as shown in Fig. 4, and to the body of the instrument by screws 36, as shown in Fig. 5. The strap 34*b* flexes slightly between its points of attachment so as to permit of the adjustment now to be described.

As most clearly shown in Figs. 4, 11, 12 and 15, perforated metal plates 27 are secured to the inner faces of blocks 28, and in the perforations of these plates are seated the ends of a thrust receiving member comprising two lengths of rods 25 having a screw connection, shown in Fig. 15. After the length of this thrust receiving member has been adjusted by screwing one member into or out of the other, the rods are locked in adjusted position by the lock nut 26. Passing diago-

nally and longitudinally through the body and below the thrust receiving member 25, is a straining rod 30. This rod 30 is held at the neck by an exterior cap nut and passes through the eye 29*a* of a screw 29, set into the base 22*a* of the neck to which eye the straining rod 30 is adjustably secured by two nuts 31 and 32, and a cap nut 33, all as most clearly shown in Figs. 2 and 4. By adjusting the straining rod, the neck may be inclined with respect to the body so as to bring the strings nearer to or further from the body.

In order to prevent the fret board 23 of the neck 22, which extends down over the body of the instrument, from getting out of alignment I screw down through the end of the fret board a headed screw 40 into a bracket 37 fixed to a cross brace by screws 39, as most clearly shown in Figs. 13 and 14.

In order to provide a firm foundation for the mounting of the bridge I secure between the diagonal braces at the base of the body, the cross metal pieces 45 and 46 by means of the screws 49, as most clearly shown in Fig. 2. These cross braces 45 and 46 are L-sectioned strips of metal and between them are mounted laminations of wood 44, as is most clearly shown in Fig. 6. Through the laminations of wood pass the bolts 51 which secure and anchor the bridge to the body of the instrument.

The bridge 24 is substantially rectangular and adjacent the edge toward the neck end of the instrument is provided a slot for detachably and adjustably receiving either of the forms of strips 24*a*, 24*b* or 24*c* shown in Figs. 8, 9 and 10. Covering the opposite edge of the bridge and extending forwardly over the location of the strip 24*a* is a metal plate 50 secured in place by the bolts 51 which anchor the bridge. The forward portion of the plate 50 is capable of being sprung away from the bridge and adjacent its forward edge over the location of the strip 24*a* is provided with a bead, the upper edge of which constitutes a ridge for the support of the strings and the lower face of which receives the upper edge of the strip 24*a*.

It will now be seen that by suitably selecting a strip 24*a* in accordance with its form and width the strings may be uniformly elevated or depressed with respect to the body of the instrument or the base or the higher pitched strings may be elevated or depressed. The metal plate 50 is perforated at spaced intervals, as shown in Fig. 1, and the bridge below the perforations is bored or recessed for the receipt of bridge pins for holding the strings 52, as most clearly shown in Fig. 6. However, to do away with the use of bridge pins, if desired, I drive holes 52*a* through the back flange of the plate 50 and the bridge 24, as most clearly shown in Figs. 3 and 6, which connect with the bottoms of the recesses for the bridge pins so that instead of using the bridge pins the strings, after insertion into the bridge pin recesses, may be carried through the holes 52*a* and knotted or otherwise secured at the rear of the bridge, as shown in Fig. 6. For covering the protruding ends of the strings, when this mode of string attachment is employed, I provide a felt lined cover plate 53 detachably secured in position by screws 54, as most clearly shown in Fig. 1 taken in connection with Figs. 4 and 6.

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

1. In a stringed musical instrument having a body and a neck, means for adjusting the strings in different relations with the body comprising an adjustable thrust receiving rod disposed longitudinally of the body and parallel to the top thereof to receive a portion of the thrust from the neck in combination with a tensioning rod extending upwardly toward the top of the instrument from the neck to the tailpiece end and adjustably secured to the neck.

2. In a stringed musical instrument having a body and a neck, means for adjusting the strings in different relations with the body comprising a thrust receiving rod disposed longitudinally of the body and parallel to the top thereof to receive a portion of the thrust from the neck in combination with a tensioning rod extending upwardly toward the top of the instrument from the neck to the tailpiece end and adjustably secured to the neck, whereby the angular longitudinal relation of the body and neck may be adjusted and maintained.

3. In a stringed musical instrument having a body and a neck, means for adjusting the strings in different relations with the body comprising means for adjusting the longitudinal relation of the neck and body and a string holding bridge provided with a flexible plate having a string supporting bead and means co-operating with said bead and bridge for elevating or depressing the said bead.

4. In a stringed musical instrument having a body and a neck, means for adjusting the strings in different relations with the body comprising a string receiving and securing bridge, a plate associated with said bridge provided with a string supporting bead and adjustable strip means co-operating between the groove of said bead and said bridge whereby by the selection of the strip of desired form and width the relations between the strings and the body of the instrument may be adjusted.

AUGUST LARSON.