June 15, 1937. L. E. THOMPSON 2,083,751

GUITAR

Filed June 4, 1935 2 Sheets-Sheet 1

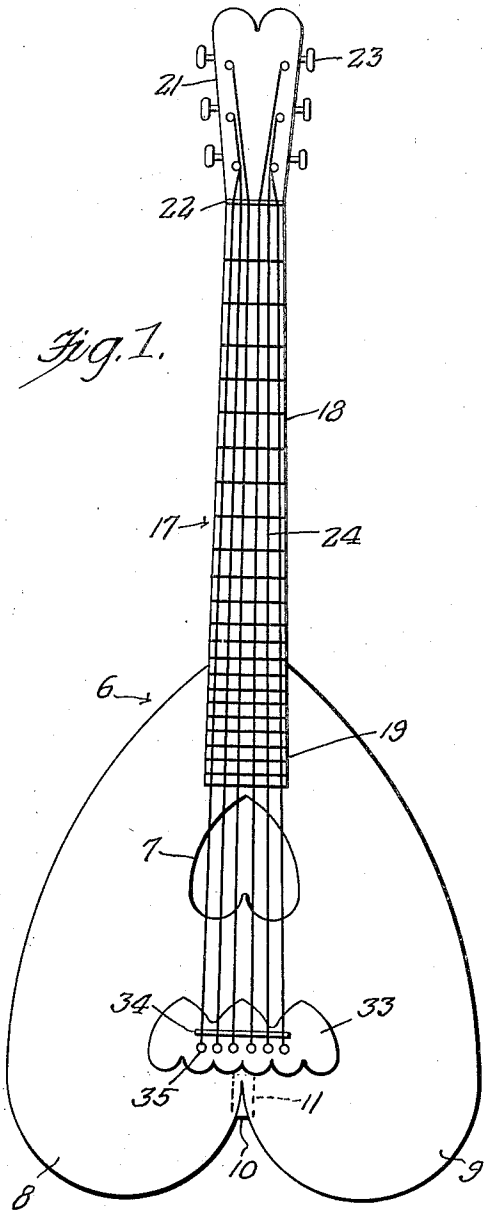


Fig. 1.

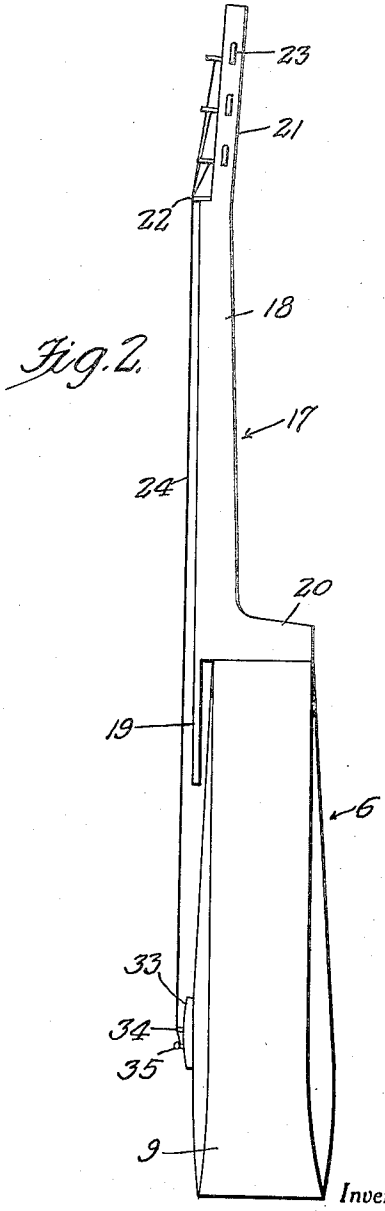


Fig. 2.

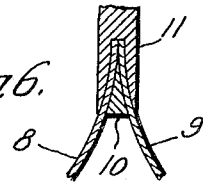


Fig. 6.

Inventor

Loren E. Thompson,

By Clarence O'Brien

Attorney

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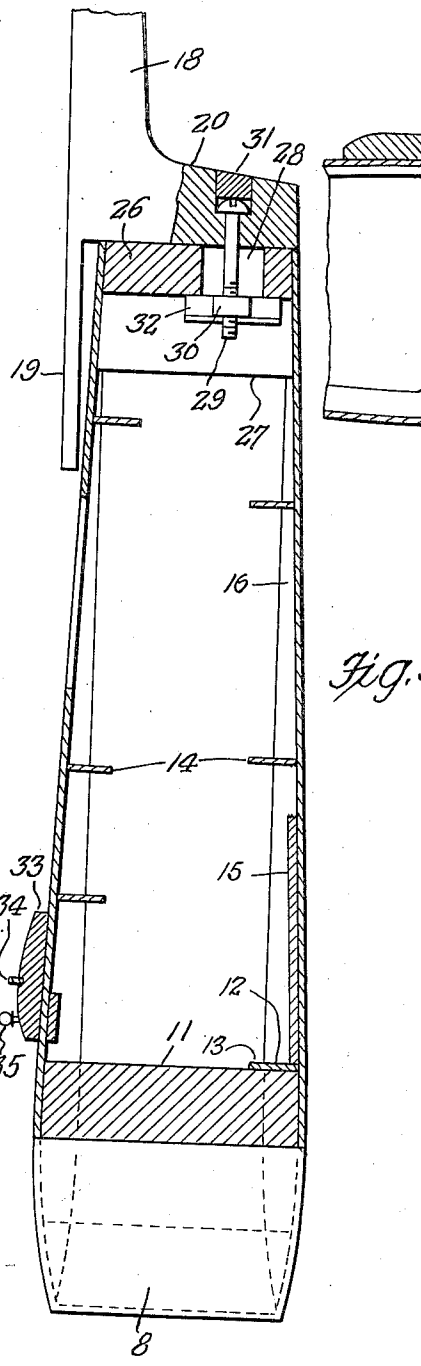
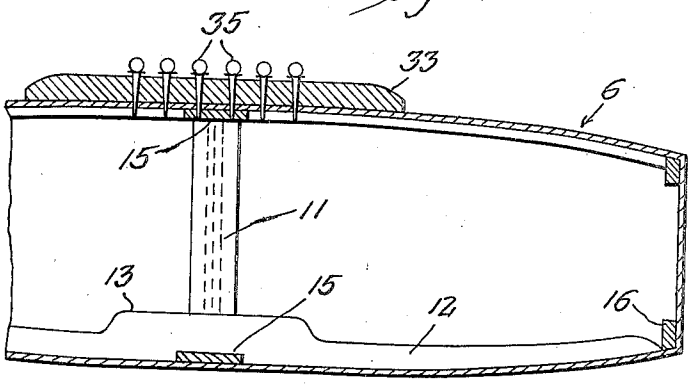


Fig. 3.

Fig. 4.



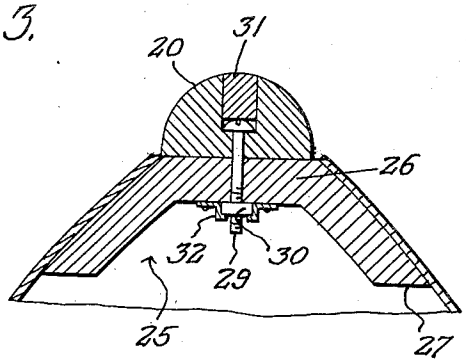


Fig. 5.

Inventor

Loren E. Thompson,

By Clarence O'Brien

Attorney

Patented June 15, 1937 2,083,751

UNITED STATES PATENT OFFICE

2,083,751

GUITAR

Loren E. Thompson, Wellington, Kans.

Application June 4, 1935, Serial No. 24,916

4 Claims. (Cl. 84—267)

This invention relates to that classification of musical instruments generally referred to in the trade and art as fretted stringed musical instruments and although the conception comprehends an arrangement susceptible of being incorporated in mandolins and the like, it is particularly adapted to the construction of a Spanish guitar either of the plectrum and/or Hawaiian types.

Being reasonably well conversant with the field of invention to which my novel contribution relates, I have evolved and produced a unique guitar discernible as an improved instrument in that, by way of contrast with prior art devices, it is characterized by certain features and refinements involving design and configuration and a special coordination of structural details calculated to provide an instrument which is more aptly fitted for the purposes intended and susceptible of unqualified endorsement by the trade due to its simplicity, ruggedness and adaptability to adjustments to overcome appreciable objections and defects such as are frequently found in the so-called group of "cheap" guitars.

Although a further structural advantage is predicated upon the internal reinforced and special development of the interior of the body it is thought that the primary improvement will be discovered in the adoption and use of an adjustable neck so constructed and attached to the apex end of the body as to permit axial oscillatory sliding adjustment as well as bodily adjustment at right angles to the longitudinal dimension of the body in order to provide the desired compensating features deemed necessary to overcome warping and distortion in shape and to, at the same time, regulate the position of the strings with respect to the finger board and body to acquire the desired responsiveness whether the instrument be strummed, plectrum style with the fingers or played with a slide or steel.

The foregoing factors reflect by way of introduction certain of the objects and advantages. Other features and advantages which flow from the particular construction utilized will be set forth in the concluding summation prior to the definition of the invention by claims.

In the accompanying illustrative drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a top plan view of a stringed musical instrument to be herein referred to broadly as a guitar, constructed in accordance with the principles of the present inventive conception.

Figure 2 is a side or edge elevational view of the same.

Figure 3 is an enlarged central longitudinal sectional view through the body portion or shell detailing with particularity the neck jointing means, this being shown partly in elevation.

Figure 4 is a fragmentary cross section through the rear end portion of the body showing the string anchoring means and bridge support.

Figure 5 is a horizontal sectional view through the adjustable jointing means between the frontal portion of the body and retention shank of the neck unit.

Figure 6 is a horizontal detail section through the crotch formation at the double lobe or rear end portion of the body.

In the drawings the body or shell is denoted as a unit by the numeral 6. As before intimated this is of general heart-shaped configuration or design in either top or bottom plan view. Incidentally, the instrument is made of appropriate material and for this reason these will not be discussed in detail. As a general proposition, however, the parts are essentially of wood of appropriate vibratory and responsive properties. The top of the body is formed at a predetermined point with a tone hole 7 of heart shaped outline to be in keeping with the general design of the instrument. The particular shape elected for the construction of the instrument is believed to be important not only as a matter of design but as a matter of utility in that the duplicate lobes 8 and 9 at the rear ends serve admirably well in amplifying the tone equally, that is providing uniform amplification for both the bass and treble strings. Where the walls of the rim of the two lobes 8 and 9 converge I utilize a substantially triangular wedge or block 10 glued or otherwise satisfactorily maintained in place this being to provide requisite stability and providing the desired crotch formation. On the interior at this particular crotch construction is an internal crown block 11 which has a sort of V-shaped notch in it to receive or seat the converging ends of the walls forming the rim at this point. Thus the walls are brought together and fastened in the V-shaped notch of this block and then on the outside is the tapered wedge or insert 10 which provides for rigidity of construction at this otherwise fragile point. This is one of the features of construction as will be hereinafter pointed out.

Looking further into the interior and especially at the reinforcing features, I call attention to Figure 4 wherein the numeral 12 designates a cross piece of relatively thin wood which is fas-

tened to the bottom and rises vertically or at right angles therefrom, this being slightly widened as indicated at 13 and joined to the adjacent end portion of the internal rear end fitting or block 11. I also provide on the interior, a plurality of relatively thin vibratory cross pieces 14 and top and bottom runners 15 as well as marginal or rim members 16. These may be referred to as the internal bracing ensemble.

Coming now to the neck unit, this is denoted by the numeral 17 and is more or less of conventional form so far as general appearance is concerned. That is, it includes a fretted neck 18 forming the finger board and a finger board extension 19 which overlies the top of the body. depending at right angles at this point is the attaching and retention shank 20 which is substantially semi-cylindrical in cross sectional form and slightly tapered downward. That face of the shank 20 which abuts the apex portion of the body is flat. The head 21 at the opposite end of the neck is provided with a suitable nut 22 and keys 23 to accommodate the conventional strings 24. The principal point of merit here is the internal adapter device or mounting 25 which serves to reinforce the walls of the rim at this end of the body but is primarily used as a support to which the shank 20 is adjustably attached. This member 25 includes a central or connector portion 26 and a pair of rearwardly diverging wings or extensions 27, these being glued or fastened into the rim so that the flat abutment surface of the portion 26 is flush with the ends of the rim sections or walls as illustrated in Figure 5. This permits the flat surface of the shank 20 to bear firmly against the abutment 26. The shank is however adjustably connected with this abutment. In fact the part 26 is formed with a slot 28 to accommodate a bolt 29 and nut 30. The headed end of the bolt is fitted into a socket closed by a concealing plug 31. The nut is held against turning in the spaced parallel retaining brackets 32. This arrangement is calculated to permit the neck as a unit to have axial adjustment and to be bodily adjusted at right angles to the longitudinal dimension of the body and to be firmly fastened in a set position through the instrumentality of the bolt, nut and bracket assembly. The bridge and string anchoring means comprises an ornamental external base or block 33 rigidly attached in place and provided with a suitable bridge piece 34 and pegs 35 on which the strings may be securely anchored.

Construction of this instrument is very firm in reference to other instruments, top and bottom being supported by the intended indenture of each lobe of the heart design. In addition to this, top and bottom are built in an arch support in itself. Each member is also ribbed to prevent any warping or caving in as commonly is experienced with ordinary flat top instruments. The neck is also designed to prevent warping. It is secured to the body of the instrument by means of an adjustment fastening to the master crown block in the box of the guitar. Should the neck at any time become slightly warped or out of line, it can be instantly corrected by the outside adjustment feature. This renders the instrument as good as new in regards to noting and string alignment. Other instruments without this feature have to be discarded or completely rebuilt when in this position.

As stated before, this instrument is built to withstand the heaviest and worst abuse. The adjustable neck feature practically prevents the instrument from becoming valueless on account of neck warping. The superior structure of the box prevents the box itself from warping. An instrument of these designs and features would stay in use for an indefinite number of years provided it had fair treatment.

The neck adjustment feature is considered one of the latest and up-to-date features of guitar construction. It serves for many purposes: 1. Assures proper and accurate neck and string alignment as compared with body of guitar at all times. 2. It prevents necessity of placing the steel nut under strings should instrument be used as Hawaiian guitar. Should either portion of this instrument meet with an accident, only the injured member would need to be bought new as the features are interchangeable.

Tone produced by this design of instrument is considered as far superior to the original shape and flat top guitar. Tones are of an individual characterization in themselves. They have the amplification and carrying power which is ordinarily only found in the largest and most expensive instruments. The general design of the instrument is responsible for the power of the tones thus produced.

As before intimated the principal novelty is predicated upon the structural characteristics of the invention. It is evident, however that the particular shape is not merely a matter of ornamentation but possesses evident physical characteristics which contribute their proportionate share to the accomplishments of satisfactory and efficient results. For example, the rear end lobe construction provides for desired balance and tone as well as proper distribution of stress and strain in the physical make up of the body. Furthermore I would have it distinctly understood that although the invention is illustrated as being embodied in a particular type or style of instrument, it is satisfactorily adaptable to any and all fretted instruments of the stringed family.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size, and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

Having thus described the invention, what is claimed as new is:

1. In a stringed musical instrument of the class described, a hollow body comprising a flat bottom heart-shaped in outline, a companion flat top correspondingly proportioned and shaped and disposed in superposed parallelism above said bottom, an intervening rim located between the marginal portions of said top and bottom and shaped to correspond to the heart-shaped configuration thereof, the portions forming said rim being separated at their rear ends, a block interposed and fastened between said top and bottom and having a V-shaped notch, the rear ends of said rim being positioned in said V-shaped notch, and an external retention wedge located between said rear ends and projecting into said notch to maintain said ends therein.

2. A stringed musical instrument of the class described comprising a hollow body including a top and bottom and intervening rim, said rim having an opening at its front, an adapter

mounting including a central abutment flat-faced on its exterior, said flat-faced portion being located in said opening, said adapter mounting further including rearwardly diverging attaching extensions secured to the inner surfaces of the adjacent end portions of said rim, the flat-faced portion of the abutment being formed with a vertical slot, spaced parallel brackets secured vertically to the inner surface of the central portion on opposite sides of the slot, a horizontally disposed neck including a fingerboard and a right angularly disposed attaching shank at its inner end, said shank having a flat-faced portion abutting the flat-faced portion of said adapter mounting, a bolt extending horizontally through the shank at right angles thereto, said bolt also extending through said slot, the inner extending end of said bolt being threaded, and a nut on said threaded end located and held against rotation between said brackets in the manner and for the purposes described.

3. In a stringed musical instrument of the class described, a horizontally elongated hollow body including a top, bottom and adjoining marginal rim, a vertically disposed adapter mounting rigidly mounted in the front end portion of the rim between said top and bottom, a horizontally elongated neck disposed in a plane substantially parallel to the top of said body, said neck being provided at its inner end with an integral right angularly disposed shank slidably and rotatably contacting a complemental surface on said adapter mounting, a bolt carried by said shank and extending at right angles thereto and at right angles to said adapter mounting, and an operating connection between said bolt and said adapter mounting, said bolt being accessible from the exterior portion of said shank and serving to permit axial rotary adjustment of the body portion of the neck in relation to the top of the body, and further permitting bodily adjustment of the neck at right angles to the longitudinal dimension of the body to vary the distance between the finger board and the body as well as the distance between the strings and the finger board.

4. A stringed musical instrument of the class described comprising a hollow horizontally elongated body of general heart-shaped configuration in top and bottom plan view, said body including a substantially flat top and bottom and an adjoining marginal rim, the frontal apex portion of said rim being provided with a vertically extending opening, an adapter block located in said opening and having portions on the interior of the body secured to the rim, said block including a vertically slotted central portion, a horizontally elongated neck having a right angularly disposed shank abutting the slotted portion of said block, a nut slidably and nonrotatably mounted on said block in registry with the slot in said slotted portion, and a screw-threaded bolt extending horizontally through said shank and through and beyond the slot and operatively connected with said nut.

LOREN E. THOMPSON.