

No. 608,279.

Patented Aug. 2, 1898.

P. BENSON.

GUITAR.

(Application filed May 28, 1897.)

(No Model.)

Fig. 1.

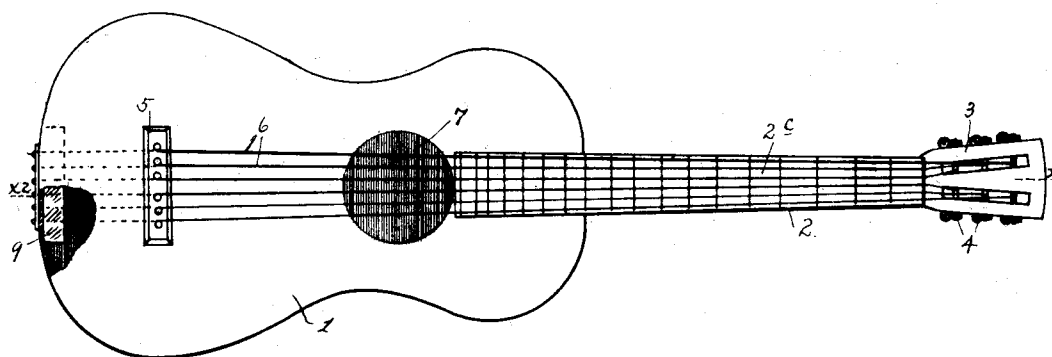


Fig. 2.

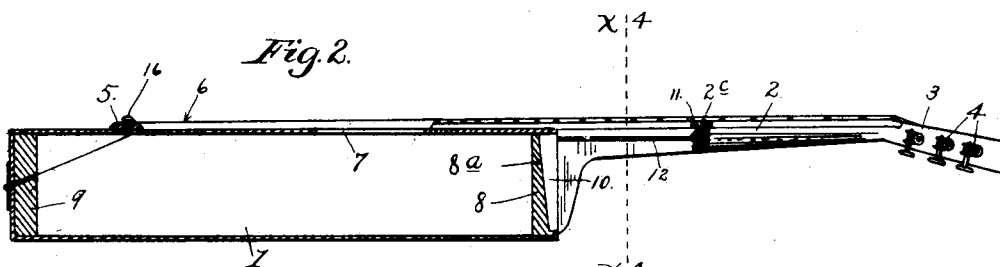


Fig. 6.

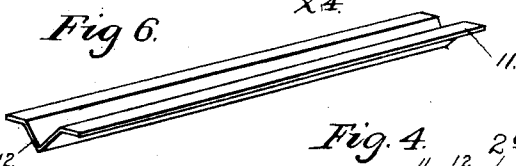


Fig. 3.

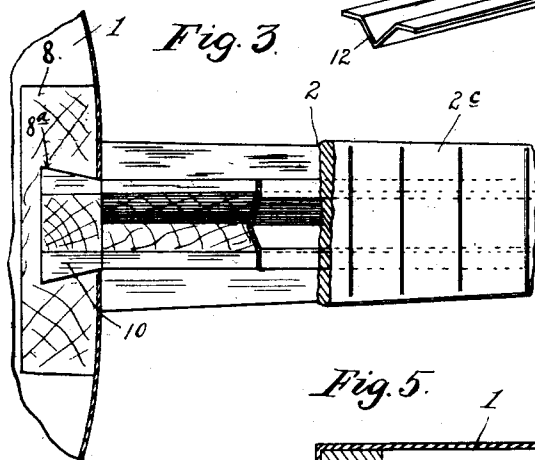


Fig. 4.

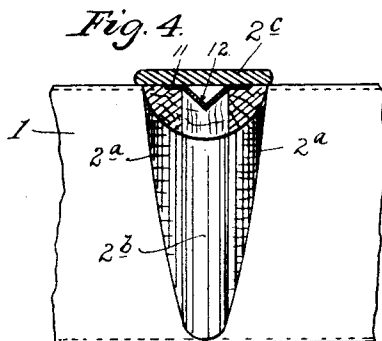
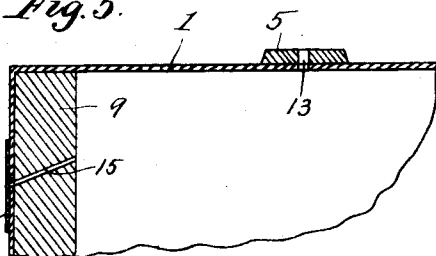


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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GUITAR.

SPECIFICATION forming part of Letters Patent No. 608,279, dated August 2, 1898.

Application filed May 28, 1897. Serial No. 638,513. (No model.)

To all whom it may concern:

Be it known that I, PETER BENSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Guitars; and I do hereby 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.

My invention has for its object to provide a guitar of improved construction, and is directed particularly to the improvement of the neck and to an improvement in the manner of anchoring the strings to the guitar-body.

To the ends above noted my invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The preferred form of my invention is illustrated in the accompanying drawings, wherein like numerals indicate like parts throughout the several views.

Figure 1 is a plan view of a guitar constructed in accordance with my invention. Fig. 2 is a vertical longitudinal section taken on the line $x^2 x^2$ of Fig. 1. Fig. 3 is a view, partly in plan and partly in horizontal section, showing a portion of the said guitar. Fig. 4 is a transverse vertical section taken on the line $x^1 x^1$ of Fig. 2, some parts being broken away. Fig. 5 is an enlarged view taken on the same line as Fig. 2 and showing the lower or tail end of the guitar; and Fig. 6 is a perspective view of a metallic reinforcing-strip, which in my preferred construction is embedded in the guitar-neck.

1 indicates the body of the guitar; 2, the neck; 3, the head; 4, the keys; 5, the bridge, and 6 the strings.

The guitar body 1 is provided with the ordinary sound-hole 7 in its top and with the ordinary front and tail end blocks 8 and 9, respectively.

In accordance with my invention the guitar-neck 2 is made up of several layers of wood, which are glued together with the grain of the several strips or pieces extending crosswise or transversely of each other. Preferably there are three strips in the guitar-neck. In this case the grain of the outside strips 2^a extends lengthwise of the neck and the grain of the

central strip 2^b extends in a vertical direction or at a right angle to the direction of the grain of the outside strips 2^a . The front end block 8 is provided with a dovetailed groove 8^a , which extends in a vertical direction and is open at the forward end of the guitar. The foot of the guitar-neck is formed with a dovetailed vertical flange 10, which fits the dovetailed seat 9 in the block 8 and which when the neck is applied to the body is secured in said seat by means of glue or cement.

As is well known to persons familiar with the manufacture or use of guitars, the weakest point of the neck and the point at which it most often breaks is in the immediate vicinity of its inner extremity or foot portion. This in ordinary guitar-necks is due to the fact that the grain of the wood runs crosswise of the foot portion and dovetailed flange 10. In virtue of my improved manner of gluing the strips together, with the grain of some of the strips running in a vertical direction or transversely of the neck of the guitar, both the foot portion and the dovetailed flange 10 are greatly strengthened.

In order to stiffen the neck and increase the strength of the same, I also employ a metallic reinforcing-strip, which I embed in a suitable seat formed in the guitar-neck just below the finger-board 2^c . This reinforcing-strip is angular in cross-section. As shown and preferred, it is in the form of a thin plate 11 with a V-shaped central bulge 12. This reinforcing-strip 11 12 preferably extends nearly the entire length of the neck and when placed in working position is held in place by the finger-board 2^c , which is then glued to the upper surface of that portion of the neck which is formed by the strips or layers 2^a 2^b . This reinforcing-strip on account of its angular form in cross-section is very stiff and will greatly increase the rigidity of the guitar-neck. Obviously this is very important, as the continuous strain from the strings tends to cause the to bow or bend.

In guitars as ordinarily constructed the strings are anchored to a bridge or anchor-strip which is secured, usually by glue, onto the face of the top board of the instrument. This construction is objectionable, because the strain from the strings is thrown onto the most sensitive part of the instrument—that is,

upon its top—and, further, because the intense strain from the strings frequently tears the bridge or anchor-plate loose from the instrument. I obviate this objectionable construction in my invention as follows: I perforate the bridge 5, so as to pass the string 6 through the same and through the top of the instrument, as shown at 13. To the tail end of the guitar-body 1 I secure an anchor-plate 14, preferably of metal. I provide suitable string-passages 15, which extend through the anchor-plate 14, through the guitar, and through the end block 9. Then after first having knotted the tail ends of the strings or otherwise arranged the same, so that they will be anchored by the anchor-plate 14, I pass the head ends of the strings through the string-passages 15 up through the string-passages 13 and then secure the same to the keys 4. Preferably I place pins 16 in the passages 13 after the strings have been passed there-through; but this is not necessary. The sound-hole 7 in the top of the guitar-body is large enough to permit a person to insert his hand into the guitar-body to pass the strings up through the perforations 13. With this construction the strings are anchored at the tail end of the guitar back of the end block 9. This portion of the guitar is subject to as little vibration as any portion of the whole instrument. Practically all of the strain of the strings is removed from the bridge 5. Hence by my improved manner of anchoring the strings the vibration of the guitar is not interfered with and the bridge is not liable to be torn off. By passing the strings 6 through the tail end of the guitar at the proper distance below the top thereof the strain of the strings may be so disposed that it will neither pull downward nor upward on the said top. Hence there will be no tendency either to bulge or to sink the top board of the guitar. From the foregoing it is thought to be evident that by my invention I have greatly im-

proved the construction of guitars, both in point of durability and in tone-producing properties.

It will of course be understood that while I have specifically described the various features of my invention these details might be deviated from in many respects without departing from the spirit of my invention. It will also be understood that the principles of construction above described may be applied to various other stringed instruments.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In a guitar or similar instrument, the combination with the neck thereof formed with a longitudinal groove in its upper face, and provided with a finger-board securable over said groove, of a metallic reinforcing-strip which is channel-shaped or hollowed out in cross-section, and is adapted to be held in the longitudinal groove of said neck, by said finger-board, substantially as described.

2. In a guitar or similar instrument, a neck provided with a suitable longitudinal seat or groove, and the reinforcing-strip 11 12 seated in said neck, substantially as and for the purposes set forth.

3. A guitar or similar instrument having its strings anchored at its tail or lower end, passed into the interior of the body of the same and outward through its top, substantially as and for the purposes set forth.

4. A guitar provided with the bridge 5, perforations 13, anchor-plate 14 and perforations 15, through which the strings 6 are passed, substantially as and for the purposes set forth.

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

PETER BENSON.

Witnesses:

L. C. ELMORE,
F. D. MERCHANT.