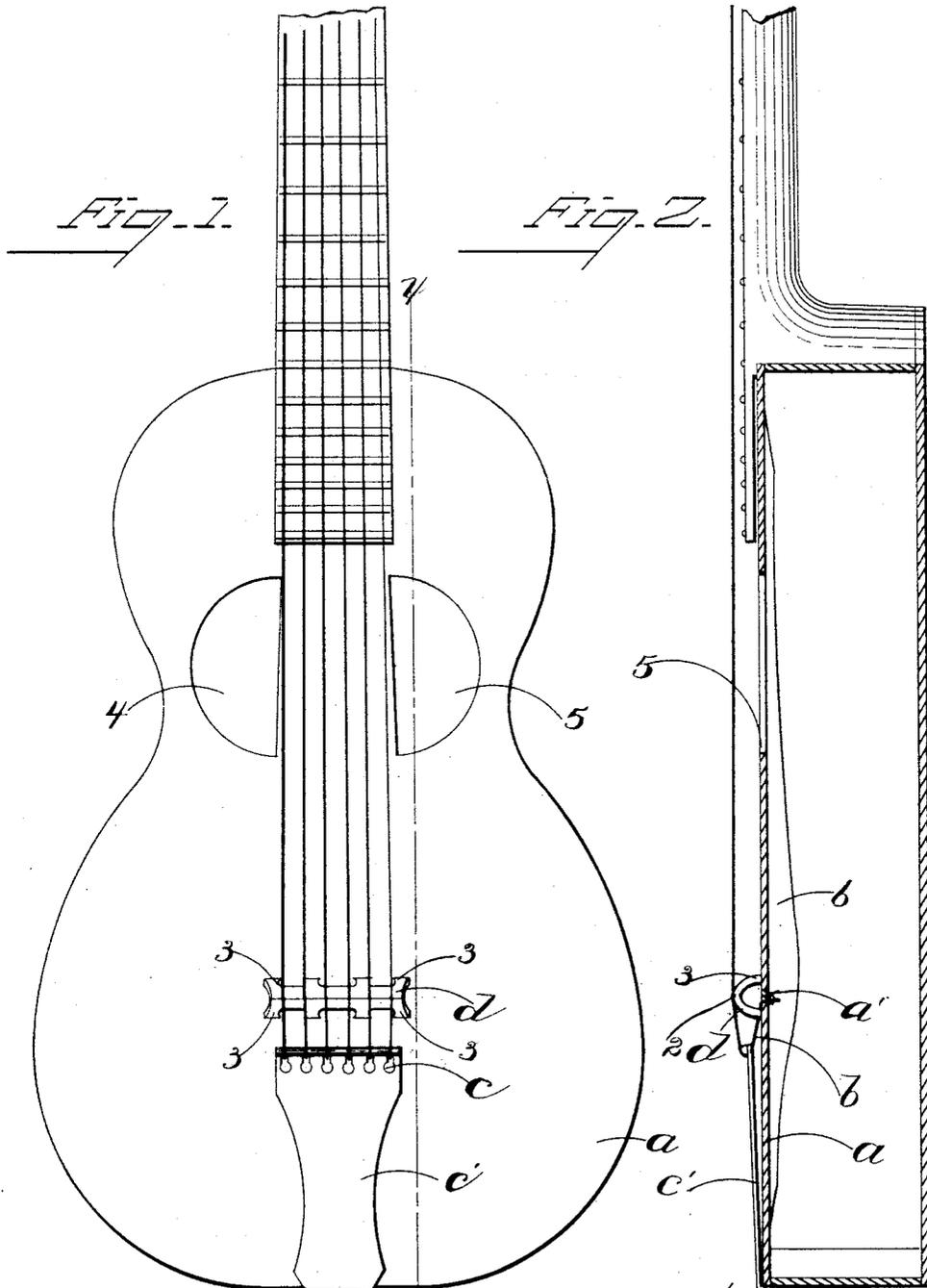


(No Model.)

W. H. HOWE.
GUITAR.

No. 538,679.

Patented May 7, 1895.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM H. HOWE, OF WATERTOWN, MASSACHUSETTS.

GUITAR.

SPECIFICATION forming part of Letters Patent No. 538,679, dated May 7, 1895.

Application filed February 20, 1895. Serial No. 539,037. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HOWE, of Watertown, county of Middlesex, State of Massachusetts, have invented an Improvement in Guitars, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of guitars, whereby the quality of the tone is materially improved, the "twang" so common to the upper strings being eliminated.

In carrying out this invention the lower ends of the strings are connected directly to the sounding board, then extending in a direction toward the lower part of the instrument, and up through holes, or equivalents, formed in a tail piece, then returning in the opposite direction and extending toward the neck and passing over a bridge, by means of which they are held in usual elevated position, said bridge being located just above the points of attachment of the ends of the strings to the sounding board, and made movable in order that new strings may be easily attached. This tail piece is connected with the frame of the instrument, and by its use the strain of the strings is divided, being partly resisted by the frame, and partly by the face.

All or substantially all of the interior braces usually found upon the inside of the face and back of the instrument may be omitted by employing a device such as the tail piece referred to, whereby the strain of the strings is divided, and the direction of the strain or leverage on the face is changed. I am furthermore enabled to use a longitudinally arranged base bar, which is preferable.

Figure 1 shows, in front elevation, a guitar embodying this invention; Fig. 2, a longitudinal section of the guitar shown in Fig. 1.

The face *a* of the instrument is provided with a series of holes *a'*, into which the knotted ends of the strings *b* are placed, string retaining pins being driven into said holes, yet the strings may be connected directly to the face in any different manner if desired. The strings then extend toward the lower part of the instrument, and pass up through holes *c*, formed in a tail piece *c'*, which is secured to the lower end of the instrument in any usual

way. This tail piece, it will be observed, is normally held slightly above the face of the instrument, so as not to interfere with the free vibration of the latter. This tail piece, being connected with the frame of the instrument, acts in conjunction with the face to resist the strain of the strings, that is to say, the strain of the strings is partly resisted by the face, and partly by the frame, and hence the tail piece or some equivalent device connected with the frame, may be termed the strain-resisting device of the strings. The strings *b* then extend toward the neck, passing over the bridge *d* which is located just over the points of attachment of the strings. This bridge comprises a string bearing top or crown 2, and two sets of feet 3, one set located above and the other below the points of attachment of the strings. Two semi-circular sound holes 4, 5, are shown, one at each side of the set of strings, as represented in Fig. 1, they substantially corresponding in area to the area of the usual circular sound hole, so that beneath the set of strings, and through the center of the face of the instrument the material is intact.

On the interior of the face of the instrument a longitudinal base bar 6 is secured, approximately adjoining one of the straight edges of one of the semi-circular sound holes.

By providing two strain resisting points for the strings, viz., the face *a*, to which the strings are connected and the tail piece or equivalent device connected with the frame, the strain of the strings is divided being partly resisted by the face, and partly by the frame, and in such case I find that the braces heretofore employed on the interior of the lower part of the instrument may be omitted, and such removal of the braces obviates the "twang," so frequently heard in guitars as now commonly constructed; and by attaching the strings directly to the sounding board I also find that the quality of the tone is very materially improved.

By attaching the strings to or connecting them with the sounding board or face *a*, a short distance above the strain-resisting device which is connected with the frame, the direction of strain on the face is changed.

I claim—

1. In a guitar, wherein the strings are con-

nected with the face of the instrument; and pass over a bridge which elevates them, a strain-resisting device for the strings connected with the frame of the instrument, 5 whereby the entire strain of the strings is divided, being partly resisted by the frame, and partly by the face, substantially as described.

2. In a guitar, the face *a*, strings *b* attached directly thereto, tail piece *c'* through which 10 the strings pass, and the bridge, substantially as described.

3. In a guitar, the face *a*, strings *b* attached directly thereto, and a movable bridge, located just over the points of attachment of the 15 strings.

4. In a guitar, the face *a*, strings *b* attached directly thereto, tail piece *c'*, and movable bridge located just above the points of attachment of the strings.

5. In a guitar, the movable bridge located 20 above the points of attachment of the strings, and comprising the top 2, and two sets of feet 3.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM H. HOWE.

Witnesses:

B. J. NOYES,
F. H. DAVIS.