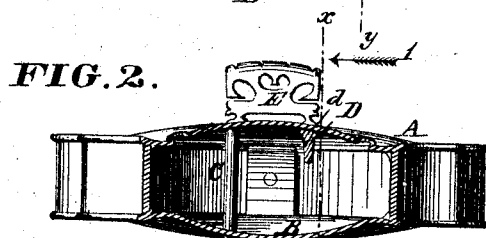
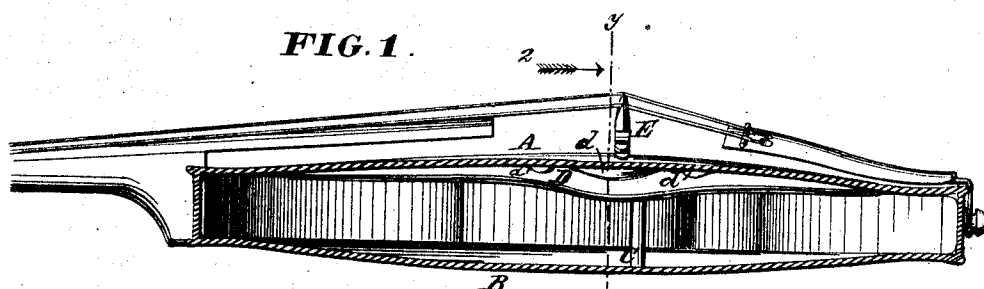


H. W. WHITE.
Violins.

No. 155,353.

Patented Sept. 22, 1874.



WITNESSES:

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Walter Allen

INVENTOR:

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By *Knights Bros* Attorney.

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FIG. 5.

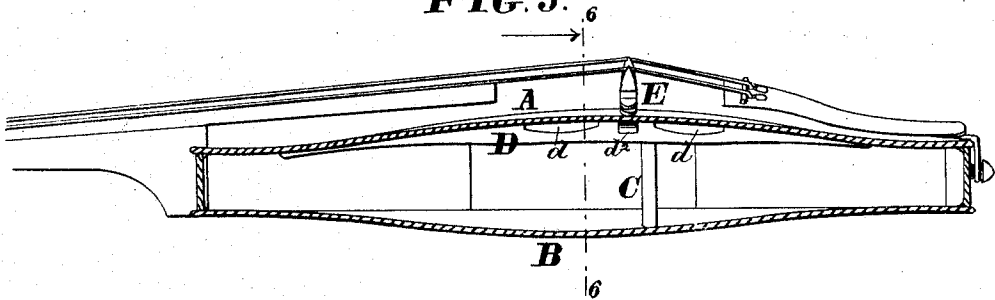


FIG. 6.

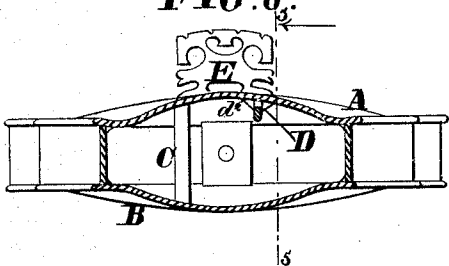


FIG. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

HIRAM W. WHITE, OF ANDERSON, INDIANA.

IMPROVEMENT IN VIOLINS.

Specification forming part of Letters Patent No. **155,353**, dated September 22, 1874; application filed November 25, 1873.

To all whom it may concern:

Be it known that I, HIRAM W. WHITE, of Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Violins, of which the following is a specification:

My invention consists in providing the violin with a bass-bar or stay-bar beneath the bass-string, having directly under the bridge increased width or thickness or lateral projection, or one or more either transverse or longitudinal bars in lieu of said greater projection. This device affords great facility for tempering the tone of an instrument by varying the width, thickness, or extent of the supplementary projections or bars.

In the accompanying drawings, Figure 1 is a longitudinal section of a violin illustrating my invention, the section being taken on the line *x x*, Fig. 2, looking in the direction of the arrow marked 1. Fig. 2 is a transverse section of the same on the line *y y*, Fig. 1, looking in the direction of the arrow marked 2. Fig. 3 is a perspective view of the stay or brace bar. Fig. 4 is a perspective view of the stay or brace bar under a slightly-modified form. Fig. 5 is a longitudinal section of a violin, illustrating a modification in the construction of the brace or stay bar, the line 5 5, Fig. 6, indicating the plane of section. Fig. 6 is a transverse section of the same on the line 6 6, Fig. 5. Fig. 7 is a perspective view of the said brace or stay bar detached.

The front A and back B of the shell are made of equal or nearly equal weight, and, being connected by the sounding-post C, which is pressed between them, will thus be caused to vibrate together in perfect unison, the result being a full, round, and remarkably brilliant tone, loud in volume, and at the same time soft in quality. In practice I make the front and back of the shell each about three or three and one-half ounces in weight; or the back may be one-half an ounce the heavier, and, being usually made of hard wood, it may be thinner than the front.

To make a perfect-toned violin the weight of the bottom should be equal to the sum of

the weights of the top and bridge plus one-half the weight of the strings and tail-piece.

The top and back are each made of nearly uniform thickness throughout, but a little thicker in the center.

I coat the inner surface of the front, and preferably the entire inner surface of the violin, with shellac or some other hard spirit varnish, the effect of which is to add brilliancy to the tone and cause the instrument to retain its tone in damp weather, or when used out of doors.

The bass-bar or stay-bar D is secured within the front A of the shell, in longitudinal position, directly underneath the bass-string, or under the left foot of the bridge E when in position for playing. The said bar is formed with increased thickness, as shown at *d*, Figs. 1, 2, and 3, or one or more lateral extensions, *d*², Figs. 5, 6, 7, in lieu of such increased thickness, which projections may be formed of a bar or bars placed across the main bar, or of separate pieces attached to the sides thereof; or one or more supplemental bars may be arranged laterally or longitudinally in any analogous or suitable manner to perform the same functions, the effect in either case being to afford necessary support to the bass-foot of the bridge to add volume of tone to the instrument, especially in old violins, when the foot of the bridge has worn the shell thin at this point, and also to afford means for tempering the tone of the instrument by varying the width or extent of the bearings.

To lighten the bar and increase its elasticity without impairing its strength or the effect of its bracing principle, it is constructed with apertures *d*¹ in any necessary number and arrangement.

The following is claimed as new:

The bass-bar D, constructed with a laterally-projecting central bearing-surface, *d*, as herein shown and described.

HIRAM W. WHITE.

Witnesses:

I. W. WESTERFIELD,
A. SUITER.