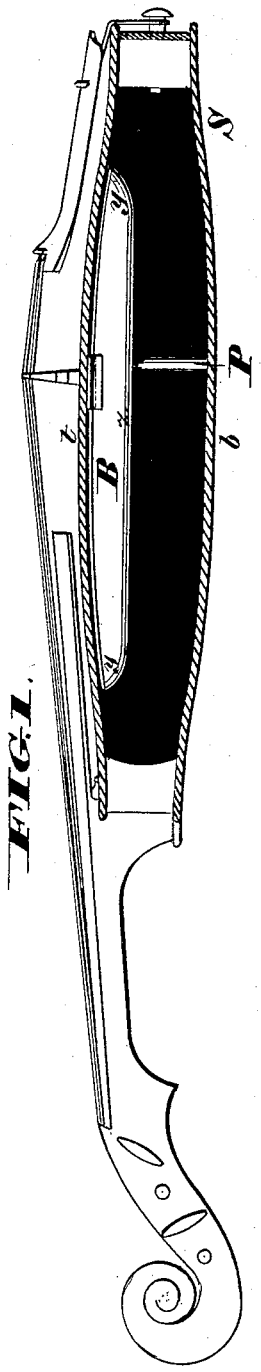
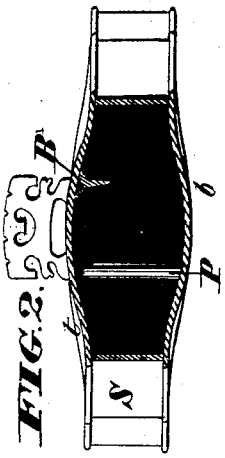
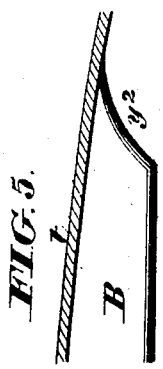
H. W. WHITE.

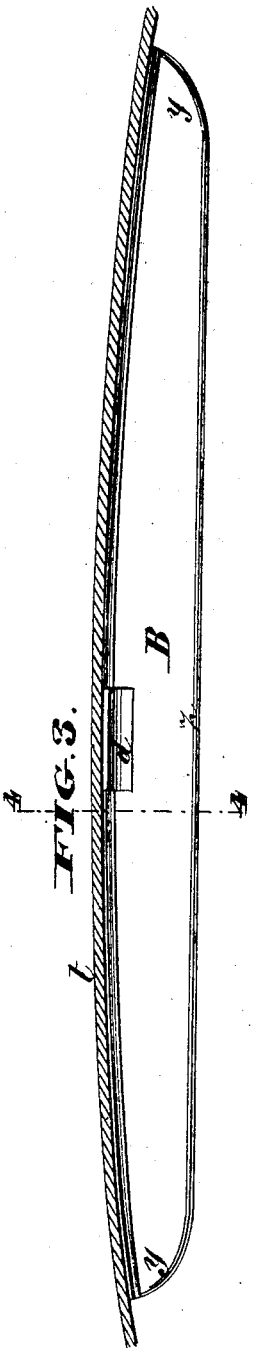
Violin.

No. 168,820. Patented Oct. 11, 1875.









WITNESSES.
Chas. J. Cooch
Henry Tanner

INVENTOR
Hiram W. White.
By Knight Bros. Attorneys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

HIRAM W. WHITE, OF ANDERSON, INDIANA.

IMPROVEMENT IN VIOLINS.

Specification forming part of Letters Patent No. **168,820**, dated October 11, 1875; application filed March 23, 1875.

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 a new and useful Improvement in Violins, of which the following is a specification:

The present invention relates to what is termed the bass-bar; and consists, primarily, in a pecular construction of the same. The improved bass-bar is peculiarly thin and deep, and very nearly the same width from nd to end, its lower edge being horizontal, er very nearly horizontal.

By this shape of bass-bar the top of the shell of a violin is so braced its entire length, while, at the same time it is rendered so very light, that the entire top vibrates in perfect unison with the strings, and produces perfect harmony of tone, provided only that the top and bottom of the shell are of proper weight and thickness.

The improved bass-bar is, by preference, employed in a violin having the other characteristics of that for which Letters Patent of the United States No. 155,353 were granted to me on the 22d day of September, 1874, namely, a central laterally-extended bearing on the bass-bar beneath the bridge top and bottom plates of equal, or nearly equal, weight, and of nearly uniform thickness throughout, and a sounding-post uniting the top and bottom beneath the treble-string at the bridge.

This combination of parts, including the improved bass-bar, has been found to operate uniformly to adapt a violin to produce any desired quality or kind of tone—as of power, melody, brilliancy, &c.—while at the same time the tones are rendered soft and smooth, and will yield readily to the most delicate touch of the bow.

The peculiar result of the employment of the improved bass-bar is, the production of a loud, smooth, sonorous tone. This cannot be produced with a common bass-bar, from the fact that the ordinary bar is too narrow at its ends to cause the entire top to vibrate from one end to the other, and so thick and heavy as to impede the vibrations and deaden the tone, to some extent, at least, which difficulties are obviated by this invention.

Figure 1 is a side view of a violin illustrating this invention, the case being shown in section. Fig. 2 is a transverse section of the violin shown in Fig. 1. Fig. 3 is a side view of the improved bass-bar on a larger scale. Fig. 4 is a transverse section on the line 4 4, Fig. 3. Fig. 5 shows a slightly-modified form of the ends of the bass-bar.

A bass-bar, B, is constructed, according to this invention, of wood, and is attached to the under side of the top *t* of the shell S, and arranged longitudinally beneath the bass-string, and so as to extend in each direction from the bridge, as in ordinary violins, but is of peculiar shape. In the first place, the bar is constructed of greater depth than the ordinary bar, and of nearly uniform depth from end to end, its lower edge *z* being made horizontal, or nearly so, while its ends *y* are rounded to continue this line up to the top. The improved bar is also very thin, as illustrated in Fig. 4, and extremely light; the required extent of bracing-strength being obtained by the increased and nearly uniform depth of the bar.

The improved bar is, by preference, constructed with increased thickness, or lateral extensions *d*, directly under the bridge, so as to form a variable, laterally-projecting, central bearing-surface, and the top *t* and bottom *b* of the shell S are, by preference, constructed of equal, or nearly equal, weight, and of nearly uniform thickness throughout, but a little thicker in the center; and the inner surface of the front, or the entire inner surface of the violin, is, by preference, coated with shellac or some other hard spirit-varnish, as set forth in the specification of my previous patent on improvements in violins hereinbefore referred to.

The usual sounding-post P beneath the treble-string unites the top and bottom of the shell, so as to cause them to vibrate in unison, and the improved bass-bar extends the vibrations throughout the shell, from one end to the other, and insures the production of a loud, smooth, and sonorous tone. By making the bar of nearly uniform depth from end to end its bracing effect is extended so as to diffuse the vibration with better results than are obtained with the convex-edged bass-bars heretofore used.

The depth of the improved bass-bar is not uniform in different violins, but is varied in instruments of different shapes, or for different parts of music.

The following is claimed as new, namely:

1. The bass-bar B, constructed with a back or lower edge straight, or nearly so, and an upper edge conforming to the curvature of the front plate of the violin, as herein shown and described.

2. The bass-bar B, constructed with a back straight, or nearly so, in combination with the central lateral extensions *d d*, as and for the purpose set forth.

HIRAM W. WHITE.

Witnesses:
JNO. M. BALE,
SAMUEL MYERS,
W. D. MYERS.