

(No Model.)

M. W. WHITE.
STRINGED MUSICAL INSTRUMENT.

No. 353,277.

Patented Nov. 23, 1886.

Fig: 1.

Fig: 2.

Fig: 6.

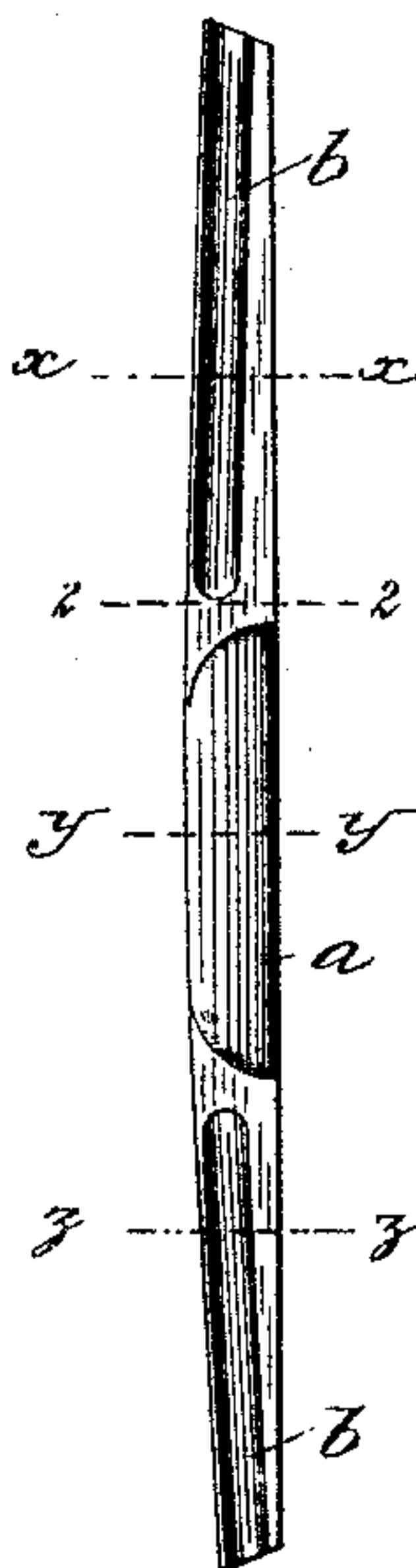
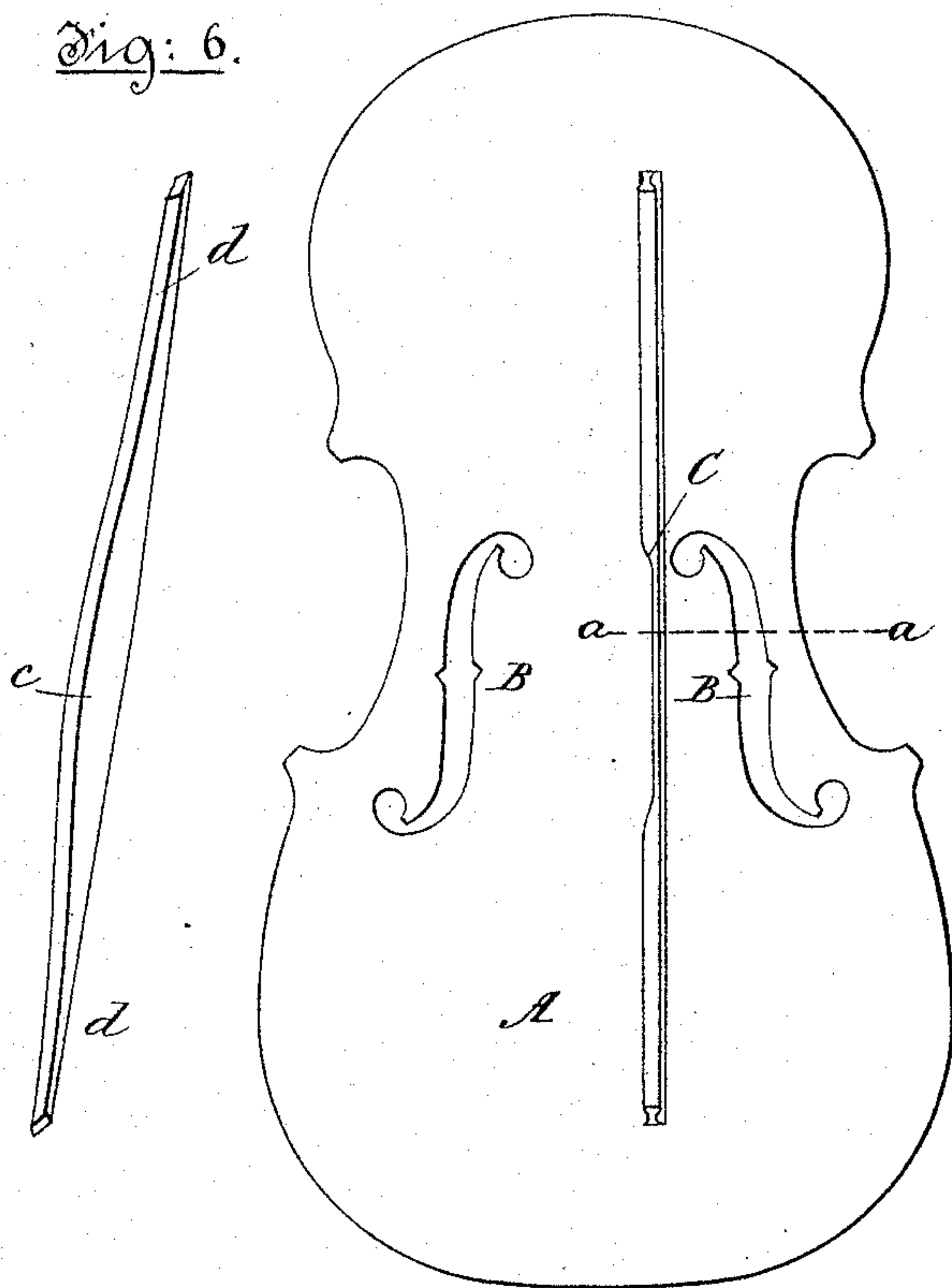


Fig: 3.

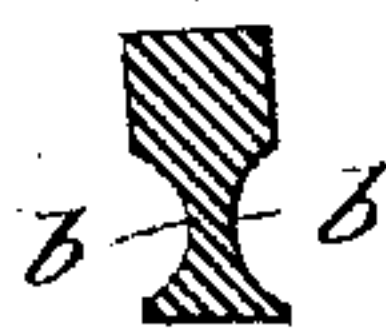


Fig: 4.

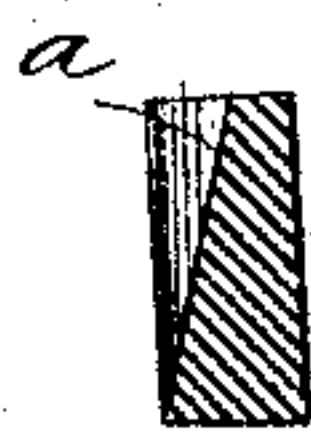


Fig: 5.

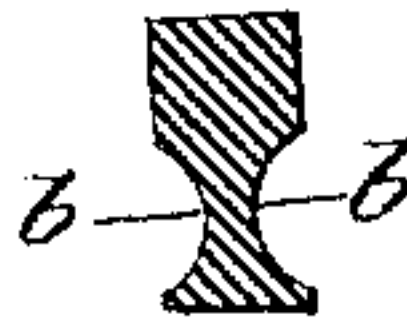


Fig: 7.



Witnesses:

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UNITED STATES PATENT OFFICE.

MAURICE W. WHITE, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO GEORGE W. ROSS, OF SAME PLACE.

STRINGED MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 353,277, dated November 23, 1886.

Application filed November 9, 1885. Serial No. 182,188. (No model.)

To all whom it may concern:

Be it known that I, MAURICE W. WHITE, of Somerville, county of Middlesex, and State of Massachusetts, have invented an Improvement in Stringed Instruments, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Stringed instruments of the viol class of ordinary construction are provided upon the under side of the face of the body of the instrument with a narrow strip of wood or other suitable material, said strip running lengthwise of the face parallel with the string having the lowest tone, thereby commonly being termed the "base-bar," the object of the said base-bar being to mellow the tone having the smallest number of vibrations per minute, to aid in propagating the said vibrations throughout the body of the instrument, and also acting as a support for the pressure of the bridge. The base-bar commonly employed has been so constructed as to present its deepest and thickest portion to the under side of the face directly beneath the bridge, and to gradually taper off at each end. The base-bar constructed in this manner has been found objectionable, first, in that it has no lateral vibration; second, that the point where the vibrations are imparted to it from the bridge is of such depth and thickness that the said vibrations are subdued in such a measure as to diminish the vibratory effect of the said base-bar or its capacity for propagating the said vibrations to other portions of the body of the instrument.

The present invention has for its object to construct an improved base-bar, whereby the vibrations are more readily and completely propagated therethrough to the remaining portions of the body of the instrument, and serves equally as well, if not better, for a support for the bridge.

To this end the invention consists in the combination, with the body of a stringed instrument, of a base-bar secured to the under side of the face thereof, the said base-bar consisting of a narrow strip having a reduced central portion adjacent to that portion of the face upon which the bridge rests, the remain-

ing portions of the strip at each side of the reduced portion being grooved at opposite sides, thereby permitting the said strip to vibrate both laterally and longitudinally, all substantially as will be hereinafter described.

Figure 1 shows a face view of the under side of the face of the body of a stringed instrument having a base-bar constructed in accordance with this invention applied thereto; Fig. 2, a side view of the base-bar detached; Figs. 3, 4, and 5, cross-sections of the base-bar shown in Fig. 2, taken on the dotted lines *xx*, *yy*, and *zz*, respectively; Fig. 6, a perspective detail of the old form of base-bar; and Fig. 7 a section of a portion of Fig. 1, taken on the dotted line *a a*.

The face A, provided with usual *f*-holes, B, are such as common to ordinary stringed instruments of the viol class.

The base-bar C, herein shown as a narrow strip of wood, is applied to the under side of the said face A, lying parallel with that string producing the smallest number of vibrations per minute, and consequently beneath one of the feet of the usual bridge. (Not shown.) The said base-bar, preferably cut from a piece of wood, has a reduced central portion, as at *a*, preferably tapering from its top, or that part in contact with the face A', to the bottom or opposite sides, (see Figs. 2 and 4,) which portion lies upon the under side of the face A, directly beneath the usual bridge, or between the *f*-holes B B. The remaining portions of the base-bar C, at each side of the central reduced portion, are grooved or cut away at opposite sides, preferably near the top or near its contact with the face A', as shown at *b*, Figs. 2, 3, and 5.

By the employment of a base-bar, as just described, having its central portion reduced, as at *a*, it more readily yields and is more susceptible to the vibrations imparted to it through the bridge than does the old form shown in Fig. 6, the letter *c* thereon representing that portion corresponding to the letter *a* of the new form. Also, the remaining portions of the new construction at each side of the reduced portion *a* being grooved, a lateral vibration is permitted in addition to its longitudinal vibration, whereas in the

old form, (see Fig. 6, whereon the letter *a* corresponds to this portion of the new construction,) no lateral vibration can readily be produced. Thus it will be seen that the amplitude of the vibrations, instead of being subdued by the portion *c* of the construction shown in Fig. 6, is augmented by the construction shown in the remaining figures, and also the lateral vibration given to the base-bar tends to more readily and completely propagate the vibrations to the remaining portions of the body of the instrument, thereby enhancing the quality of the tone.

The base-bar, as will be seen, is preferably of substantially the same depth throughout, thereby acting as a strong support for the pressure of the bridge.

By the tapering reduced portion and the grooves, located as described, a point is left at each side of the reduced portion, which is of equal thickness from top to the bottom, as on the line 2 2.

The entire base-bar is beveled upon its top, or that side in contact with the face *A'*, so that when applied thereto it will materially incline, so that it will lie at right angles to that portion of the face *A'* with which it is in contact. Ordinarily base-bars are beveled that they may lie parallel with the side walls of the violin-body; but such construction I do not herein claim. By beveling the base-bar as described, that it may lie at right angles to the contacting surface of the face *A'*, it is brought into a line of similar incline as the edge of the bridge, tending to concentrate and thereby reinforce the tone.

I claim—

1. The combination, substantially as hereinbefore set forth, of the body of a stringed instrument and the base-bar applied to the under side of its face *A*, said base-bar consisting of a narrow strip running lengthwise of the said face, and having a reduced central por-

tion, *a*, and the remaining portion at each side of the central portion grooved, as at *b*, all substantially as and for the purpose described. 45

2. The combination, substantially as hereinbefore set forth, of the body of a stringed instrument and the base-bar applied to the under side of its face *A*, said base-bar consisting of a narrow strip running lengthwise of the said face, and beveled on that side which lies in contact with the said face *A*, that it may lie at right angles with relation to the surface with which it is in contact, or at an angle with relation to the side walls. 55

3. The combination, substantially as hereinbefore set forth, of the body of a stringed instrument and the base-bar applied to the under side of its face *A*, said base-bar consisting of a narrow strip running lengthwise of the said face, and having grooves *b* located upon each side thereof and extending inward toward its center for some distance, and having one edge curved longitudinally to lie in contact with the curved face *A*, while its opposite edge is straight, thereby forming a base-bar of considerable depth and strength throughout. 65

4. The combination, substantially as hereinbefore set forth, of the body of a stringed instrument and the base-bar applied to the under side of its face *A*, said base-bar consisting of a narrow strip running lengthwise of the said face, and having a tapering reduced central portion, *a*, as described, and the remaining portions at each side of the central portion grooved adjacent to that side in contact with the face *A*, as described. 75

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 80

MAURICE W. WHITE.

Witnesses:

G. W. GREGORY,
C. M. CONE.