

(No Model.)

A. SPRINGER.
VIOLIN.

No. 594,102.

Patented Nov. 23, 1897.

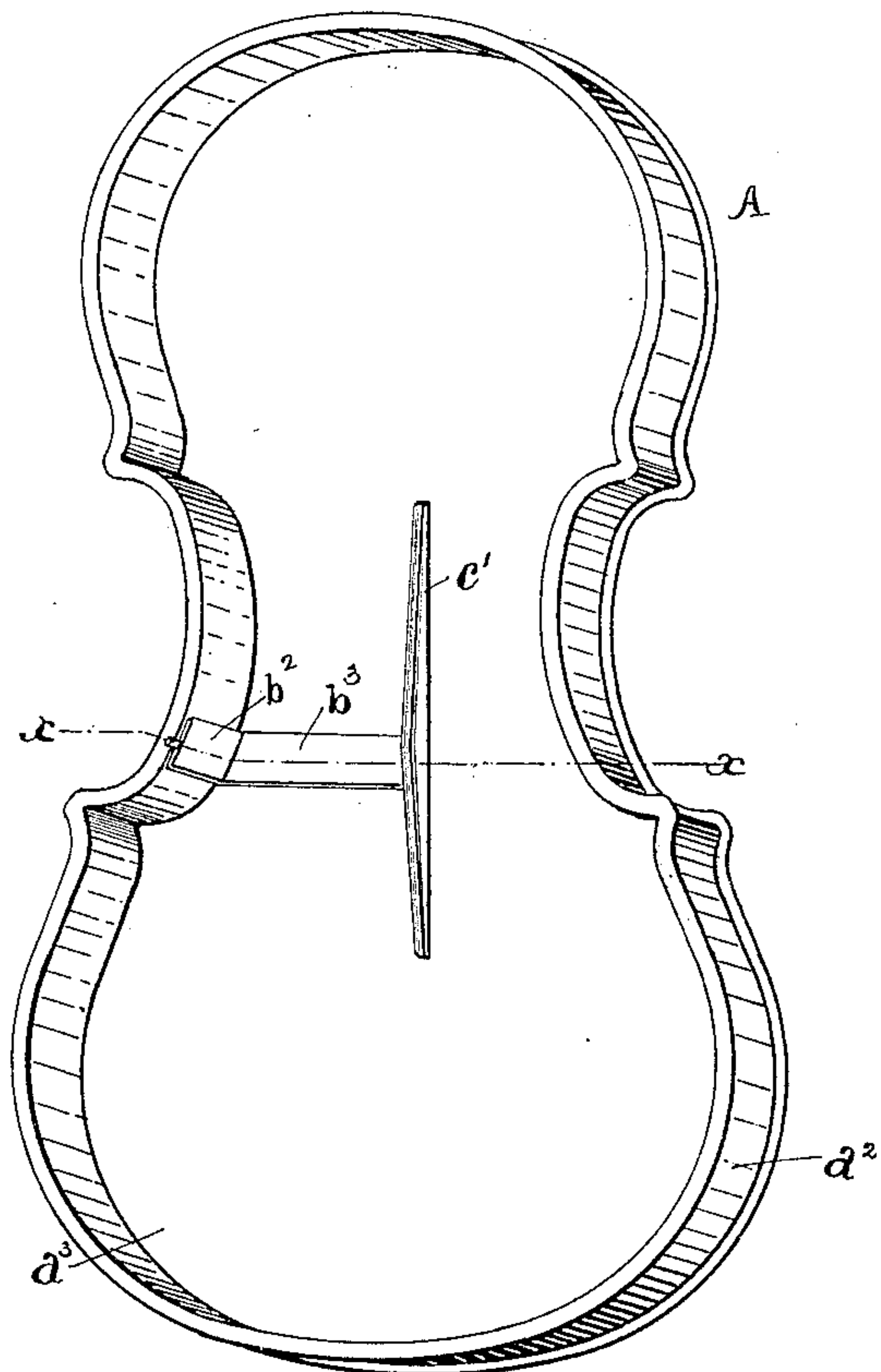


Fig. 1.

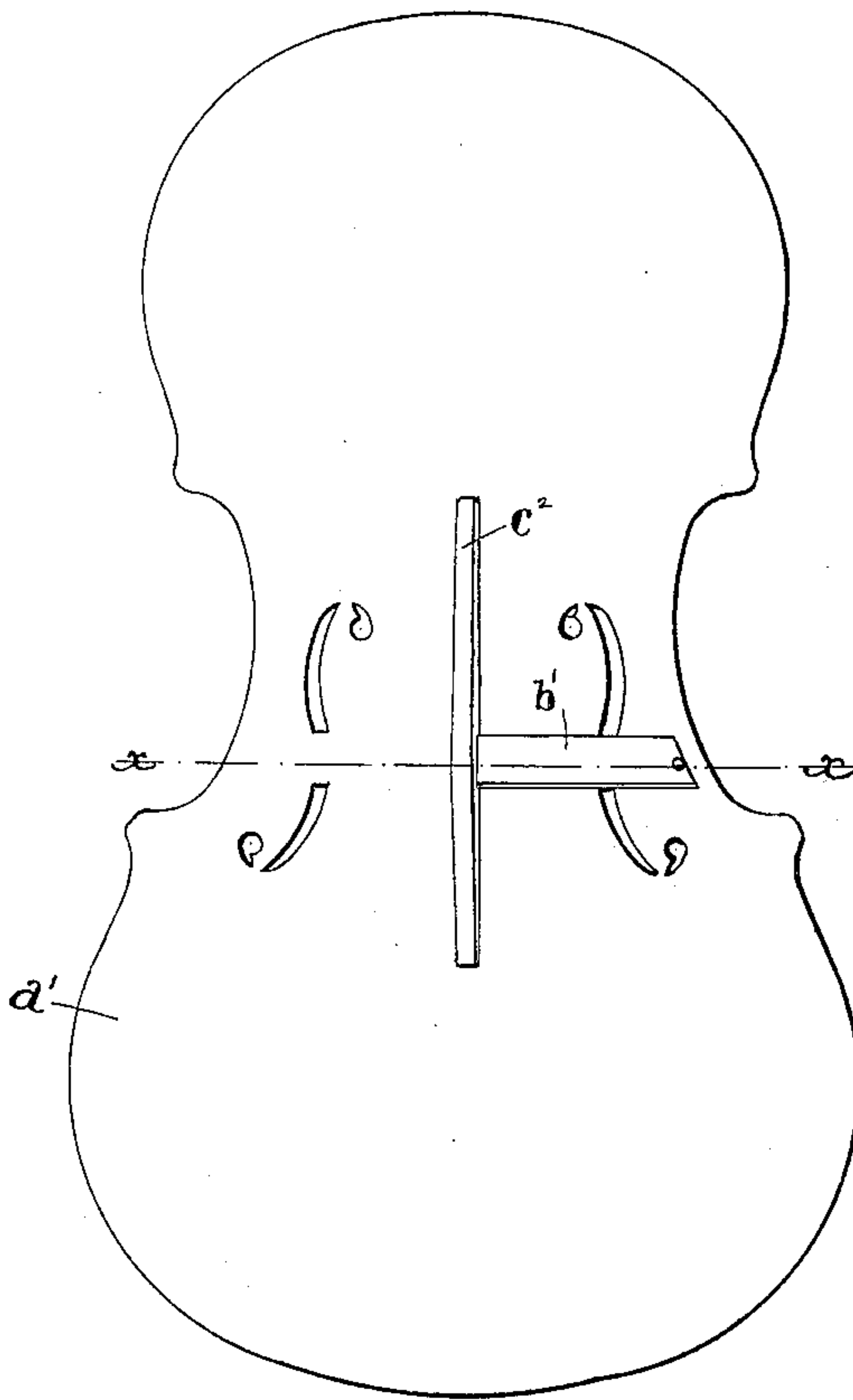


Fig. 2.

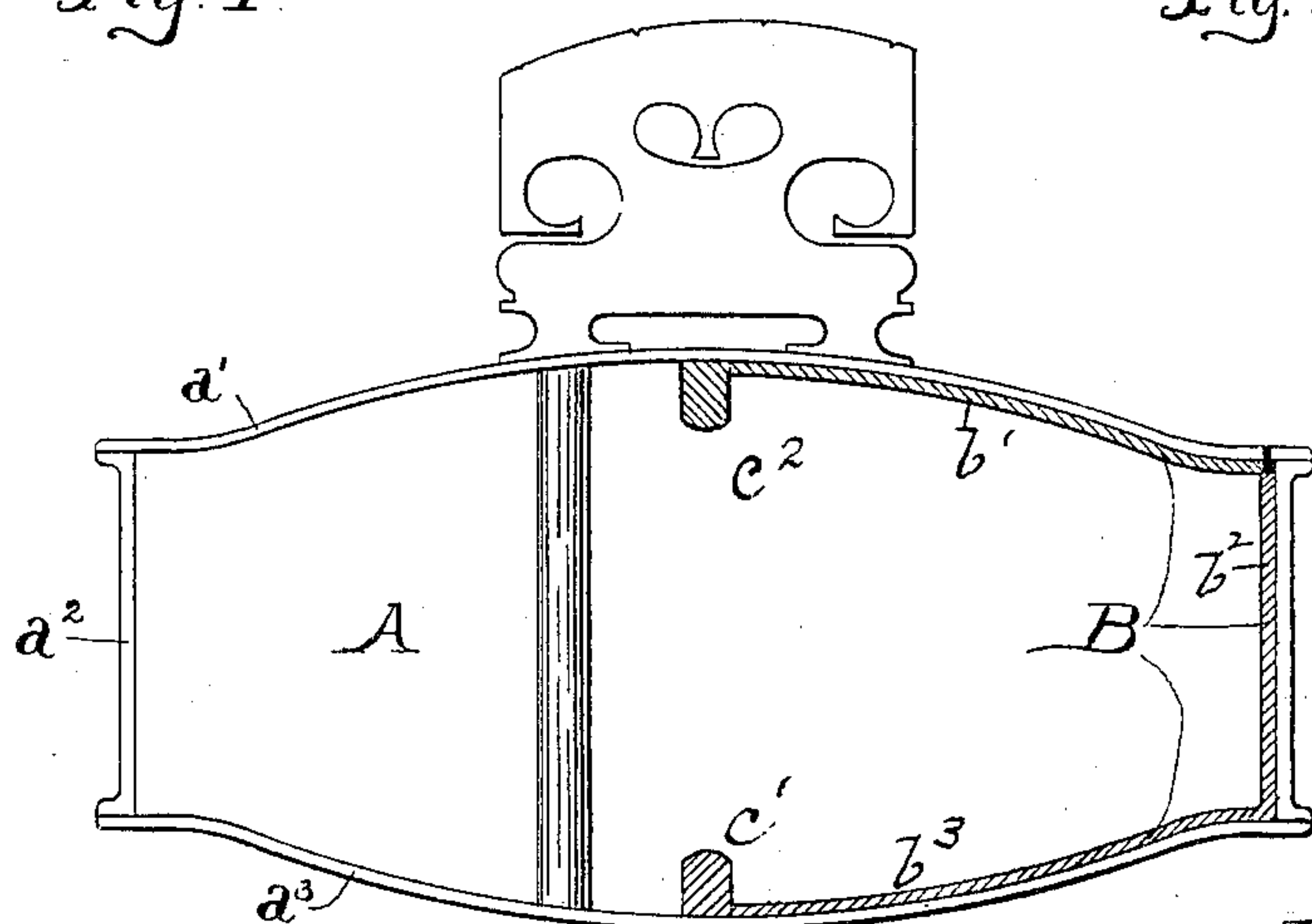


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ALFRED SPRINGER, OF CINCINNATI, OHIO.

VIOLIN.

SPECIFICATION forming part of Letters Patent No. 594,102, dated November 23, 1897.

Application filed August 16, 1897. Serial No. 648,397. (No model.)

To all whom it may concern:

Be it known that I, ALFRED SPRINGER, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Violins, of which the following is a specification.

My invention relates to improvements in violins having a sounding-body constructed of aluminium or its alloys, its object being to improve the tone quality of the instrument.

To this end my invention consists in the features of construction herein set forth.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the body of the violin with top or belly removed; Fig. 2, a similar view of the top or belly inverted; and Fig. 3, a cross-section of the body complete in line xx , Figs. 1 and 2.

Referring now to the drawings, A designates the body of the violin, embodying the top or belly a' , sides a^2 , and back a^3 , constructed of aluminium or its alloys, preferably of rolled sheets of said metal cut and pressed to form and secured together in any suitable manner.

In my present improvement I dispense entirely with the base-bar ordinarily employed in wooden instruments. Such base-bar tends to give a quality of dull purity to lower notes of aluminium violin-bodies, making the prime tone completely dominate the upper partials, and after various alterations of said construction and various independent experiments with a view to overcoming defects and improving the tone quality I find the best results are attained by dispensing entirely with the ordinary base-bar extended approximately parallel with the longitudinal axis of the instrument and in lieu thereof employ a lateral strip or cross-piece B, made of the same material as the body of the instrument and constructed and located as follows: In the illustration herein shown it starts approximately at the center line of the top or belly a' , at the inner side of which it is secured, passes outward, perpendicular to the longitudinal axis of the instrument, and beneath the left foot of the bridge to the side a^2 , thence downward, attached to the inside of same, to the inner side of the back a^3 , and thence with the same in the same plane as

above to or approximately to the center line of the back.

In my preferred construction the strip is made in three parts, the upper and lower members b' b^3 being riveted to the belly and back, respectively, extending over and perforated to receive end tenons of a vertical connecting-piece b^2 , attached to the sides a^2 of the violin-body, which tenons fit the perforations of the parts b' b^2 and are upset and constitute rivets to secure the parts rigidly together. I find it also desirable to make the portions b' b^3 of the strip attached to the belly and back of the instrument of the same thickness as those parts, respectively, the belly being usually of somewhat thinner metal than the back.

In my present construction I retain the short central brace c' c^2 at the inner sides of both the belly and the back, as described in a previous application. In combination with the cross-piece herein described it serves a useful purpose in contributing to the desired result, which is a marked improvement in the tone quality of the instrument, especially in the lower register, in introducing the desired upper partials in connection with said tones, thus relieving the tendency to dull purity, characteristic of aluminium in the ordinary forms of construction.

The essential feature of the invention I regard as a lateral cross-piece extending beneath the left foot of the bridge to the side a^2 . The desired effect is enhanced in degree merely by extending it to a similar opposite position at the inner side of the back of the instrument, and it is made in parts and riveted together, as herein shown, as a matter of convenience in construction. The upright central portion b^2 is introduced for a like reason. When the thickness of the sides a^2 permits, the parts a' a^3 may be secured thereto and the part b omitted.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. A violin-body made of aluminium or its alloys, provided with a lateral strip or cross-piece passing beneath the left foot of the bridge.

2. In a violin-body of the character indicated, a lateral strip attached to the inner sides of the belly and back respectively and

extending in a common plane toward the center of each, substantially as set forth.

3. In a violin-body of the character indicated, a substantially continuous strip connecting the inner sides of the belly back and side, in the plane of the bridge and at the left side of same, substantially as set forth.

4. In a violin-body of the character indicated, two lateral strips attached in the same relative plane to the inner sides of the belly and back respectively, at the left of and perpendicular to the longitudinal axis of the body, and integrally connected by a corre-

sponding part attached to the side of the body, substantially as set forth.

5. In a violin-body of the character indicated, the combination of a lateral strip such as described, with short central braces longitudinally disposed, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALFRED SPRINGER.

Witnesses:

L. M. HOSEA,

HERBERT J. ALLSUP.