

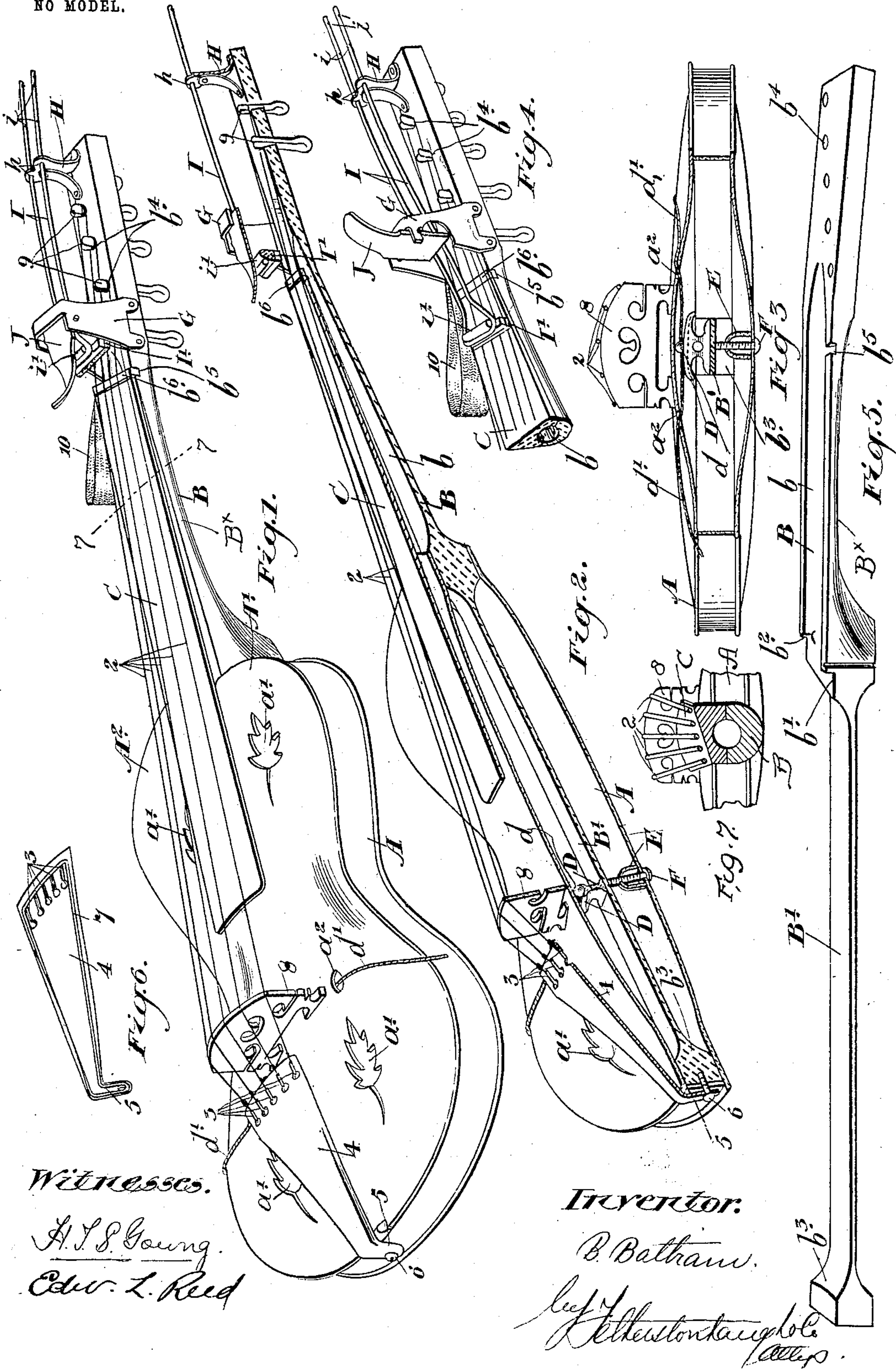
No. 759,850.

PATENTED MAY 17, 1904.

B. BATTRAM.  
VIOLIN.

APPLICATION FILED OCT. 23, 1902.

NO MODEL.



Witnesses.

A. L. S. Young.

Edw. L. Reed

Inventor.

B. Battram.

Wm. H. Stone & Co.  
Attys.



## UNITED STATES PATENT OFFICE.

BENJAMIN BATTRAM, OF LYNNEHURST, CANADA.

## VIOLIN.

SPECIFICATION forming part of Letters Patent No. 759,850, dated May 17, 1904.

Application filed October 23, 1902. Serial No. 128,500. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN BATTRAM, carpenter, of the village of Lynnehurst, in the county of Elgin, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Violins, of which the following is a specification.

The invention consists in the features and combination and arrangement of parts hereinafter described, and particularly pointed out in the claims.

To carry out these objects, I have constructed and arranged my violin, or, as I prefer to term it, the "violean," in the manner which I shall now describe.

Figure 1 is a perspective view of my violin. Fig. 2 is a perspective longitudinal section. Fig. 3 is an end view looking from the tail or butt of the instrument with parts in section. Fig. 4 is an enlarged detail of the head, showing the means for varying the scale of the instrument. Fig. 5 is a perspective detail of the central longitudinal stem. Fig. 6 is a detail of the tailpiece. Fig. 7 is a cross-sectional view of the neck with parts back of the section-line shown in elevation.

In the drawings like characters of reference indicate corresponding parts in each figure.

A is the body of the instrument, which is made much after the usual form, with the exception that the right-hand side A' at the base of the neck is made shorter than the opposite side A<sup>2</sup> in order to facilitate fingering, as hereinafter explained.

B is the stem, which extends through the body of the instrument, being preferably made with a grooved portion *b*, shoulders *b'* and *b''*, against which the edges of the body A' and A<sup>2</sup> fit, and a thin resilient portion B', having an enlarged butt-end *b*<sup>3</sup>, which is fitted or secured in the butt or tail end of the instrument. The head is provided with holes *b*<sup>4</sup>. It will be noticed that the back of the neck is curved, as shown at B<sup>x</sup>, to fit the wrist of the artist and is designed to give all the room and freedom desired in reaching and shifting the fingers on the strings.

C is the finger-board, which extends to the notches *b*<sup>5</sup>, made in the stem B at the head

of the instrument. The finger-board is of slightly-arched form transversely and extends throughout the length of the neck and is suitably glued to the edges at each side of the groove *b* of the stem. The stem is made grooved or hollow for the sake of lightness.

*b*<sup>6</sup> is a cross-bar which fits into the notch *b*<sup>5</sup> and forms a bridge at the end of the finger-board, over which the strings pass.

It will be noticed that the body of the instrument is made in easy flowing curves at the side and not as an ordinary violin is made, with the sharp arc-shaped portion in the center with sharp edges. The top of the body of the instrument is preferably provided with openings *a'*, which are not regular in form, but decidedly irregular or having cuts in the edges, as indicated. These openings *a'* are designed to control the volume of sound required and are made of various sizes, as the maker or artist may require for a loud or soft toned instrument.

I preferably make my instrument with five strings 2. The tail ends of the strings I fasten in slots 3 in a suitable metallic tailpiece 4, which has a suitable bent end 5, which is held in the butt or tail end of the instrument by a screw 6, passing into the butt-end *b*<sup>3</sup> of the stem. The tailpiece is made of light material somewhat fan shape in form and with a curved base corresponding in form to the top edge of the bridge, and the edges are bent over a reinforcing-wire 7. The strings pass over a bridge 8 and pass to the head of the stem B, where they extend between the jaws of the split pins 9, which extend through the holes *b*<sup>4</sup> and form tuning pegs or keys. These keys are arranged regularly in an oblique line, as shown, and the ends of the strings pass into the split pins and are wound around the pin and are then fastened by passing again through the slot of the key. I find in practice with such pins that it is almost unnecessary to do any tuning to the instrument. Such split pins being of spring metal securely hold the strings taut.

The head, neck, stem, and body are secured together in the usual manner by cementing and gluing.



The bridge 8, hereinbefore mentioned, and the strings are the only parts that are constructed the same as the ordinary violin.

D is a supplemental bridge, which extends 5 underneath the bridge 8 within the body of the instrument, such supplemental bridge being provided with a small button  $d$ , in which is fastened the small cord  $d'$ , which extends out to each side through the holes  $a^2$  at each 10 side of the bridge, as indicated in Figs. 1 and 3. The bridge D rests upon the thin reduced portion of the stem B and is suitably glued to same. The bridge D is designed to take the place of the ordinary sounding-post used 15 in violins. The bridge D is grooved at the top edge, as indicated by dotted lines in Fig. 3, and the button  $d$  has a reduced end, so as to fit into the groove. By means of the string  $d'$ , projecting through the holes  $a^2$ , the button 20 may be drawn either to one side or the other in order to soften or harden the tone under any desired string.

Underneath the stem B and the supplemental bridge D, I place a wooden thimble E, 25 which is glued to the inside of the body of the instrument. A screw F passes through the body of the instrument and thimble, so as to abut the stem, and may be adjusted to any desired tension by pressing upwardly on the 30 stem and causing the supplemental bridge D and button to press on the inside of the front at or near where the outside bridge is placed, so as to give any desired strain, and consequently any desired hardness of tone.

10 is a loop formed of elastic material and fastened at the side of the head of the instrument, such side being the left-hand side when the instrument is held in place for playing. The loop 10 forms a thumb-rest, and by plac- 40 ing the thumb in the rest the artist has perfect freedom of action of the finger and hand in reaching any point on the finger-board. It will be seen that the side  $A'$ , being higher than the side  $A^2$ , provides a greater reach than at 45 present is provided for the fingers, thus making the elastic loop or thumb-rest, taken in connection with the construction referred to, a very important factor in the manipulation of the strings. The loop also when the thumb 50 is inserted in position serves to keep the instrument in perfect position without the necessity of using a chin-rest. The neck is slightly inclined in cross-section.

In my instrument I use a pitch-changer, 55 which is constructed and fastened to the head of the instrument as follows:

G is a straddle-bracket, which is securely fastened to each side of the head, and H is a bracket secured on the head near the upper 60 end.

I is a double-wire spring made in the form of a parallel loop for the major portion of its length, the ends being free and extending through holes  $h$  in the bracket H. The two

free ends are provided with notches  $i$  oppo- 65 site each other and arranged in preferably two pairs. The end of the wire loop I is provided with a cross-bridge bar  $I'$ , which is of the form shown and is provided with a top cross-bar  $i'$ , which is grooved and around which the wire 70 loop is bent and held.

J is a lever which is pivoted in the bracket G. The end of the lever is provided with a suitable thumb-piece for manipulating it, and the bottom end of the lever is brought so as 75 to pass over both wires of the spring-loop I.

In the position shown in Fig. 1 the bar is shown disengaged from the strings, and in order to change the pitch it is necessary to move the loop forwardly onto the finger-board. 80 I provide three changes of pitch, as indicated by two pairs of notches, such three changes being, respectively, from the scale of A or concert pitch to B flat or to C. In order to produce these changes in pitch, it is of course nec- 85 essary to move the loop along so as to bring the bridge-bar to the two desired points on the strings, and the lever J, which is shown loose in Fig. 1, or down, is then turned on its pivot so as to press downwardly upon the strings, 90 and thereby hold the bridge-bar against the strings and produce the result desired. It is not necessary to describe the exact tones of each change which is made, as this may be readily comprehended by musicians. It will, 95 however, be readily seen that the pitch of the instrument may be readily and quickly changed, and the artist can easily perform any kind of music.

What I claim as my invention is— 100

1. In a violin, the combination with the body, of a stem having a thin portion extending through the center of the body and an enlarged end, a neck slightly inclined in cross- 105 section and provided with a groove, and a suitable head portion as and for the purpose specified.

2. In a violin, the combination with the body, of a stem having a reduced thin portion extending through the center of the body and 110 an enlarged end, a neck slightly inclined in cross-section and provided with a groove, a suitable head portion, and shoulders on the stem at the point where the body is connected thereto, such shoulders being located out of 115 line laterally, whereby the head end of the body is longer at one side than the other as and for the purpose specified.

3. In a violin, the combination with the body, of a stem having a reduced thin portion 120 extending through the center of the body and an enlarged end, a neck slightly inclined in cross-section and provided with a groove, a suitable head portion, and shoulders on the stem at the point where the body is connected 125 thereto, such shoulders being located out of line laterally, whereby the head end of the body is longer at one side than the other and



a finger-board slightly arched transversely and suitably glued to the neck portion above the groove in the neck.

4. In a violin, the combination with the body and top and bottom portion thereof and the tailpiece and strings and bridge, of the stem extending through the center of the instrument, a supplemental bridge secured thereto and an adjustable button located above the supplemental bridge and abutting the top of the body underneath the bridge and means for pressing the supplemental bridge and button thereof against the inside of the top as and for the purpose specified.

5. In a violin, the combination with the body and top and bottom portion thereof and the tailpiece and strings and bridge, of the stem extending through the center of the instrument, a supplemental bridge secured thereto and an adjustable button located above the supplemental bridge and abutting the top of the body underneath the bridge, a thimble fastened to the bottom of the body and a set-screw extending through the thimble and against the thin reduced portion of the stem underneath the supplemental bridge as and for the purpose specified.

6. In a violin, the combination with the body and top and bottom thereof and the tailpiece and strings and bridge, of the stem extending through the center of the instrument, a supplemental bridge secured thereto and provided with an upper groove, a button fit-

ting in such groove and cords attached to the button and extending out at each side through holes in the body of the instrument and means underneath the same for exerting a pressure underneath the bridge as and for the purpose specified.

7. In a violin, the combination with the body of the instrument and stem provided with a neck, a finger-board and strings suitably secured in position above the finger-board, of an elastic loop fastened to the head and forming a thumb-rest as and for the purpose specified.

8. In a violin, the combination with the body of the instrument and the stem provided with a neck, one side of the body extending farther on the neck than the other side and the finger-board and the strings, of an elastic loop fastened to the head and forming a thumb-rest as and for the purpose specified.

9. In a violin, the combination with the body of the instrument and the stem provided with a neck, one side of the body extending farther on the neck than the other side and the finger-board having a lateral cant or incline, and the strings, of the elastic loop fastened to the head and forming a thumb-rest as and for the purpose specified.

BENJAMIN BATTRAM.

Witnesses:

WINIFRED SANDERS,  
JOHN B. DAVIDSON.