F. M. ASHLEY.

MAKING PLATES FOR MUSICAL INSTRUMENTS.

APPLICATION FILED OCT. 17, 1917.

1,419,440. Patented June 13, 1922.

FIG. 1.

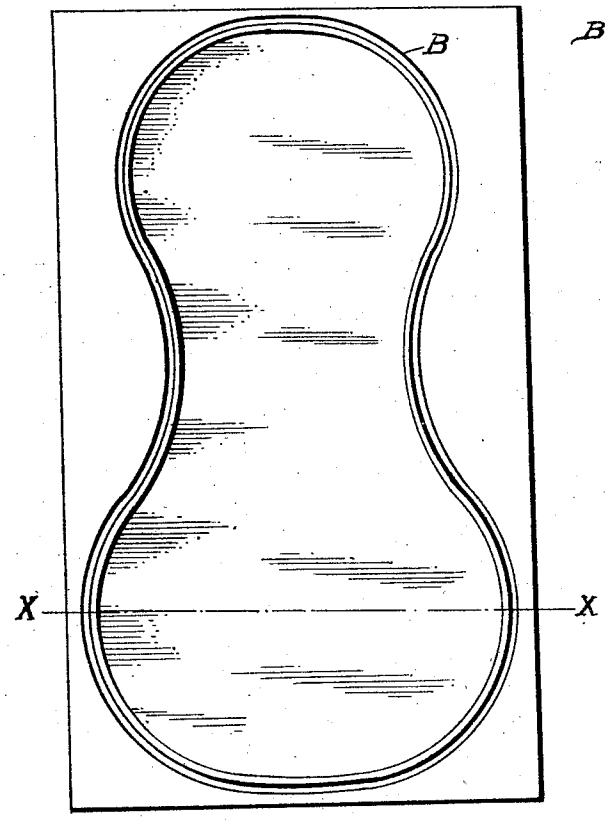


FIG. 2.

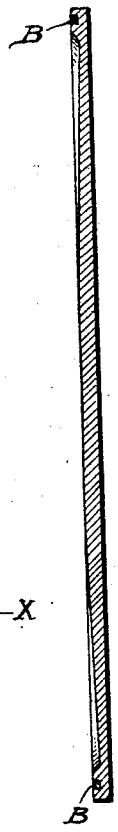


FIG. 3.

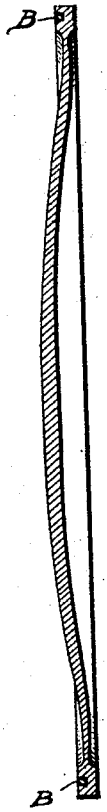


FIG. 4.

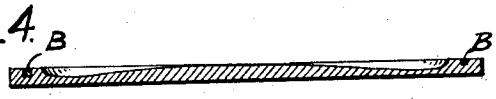


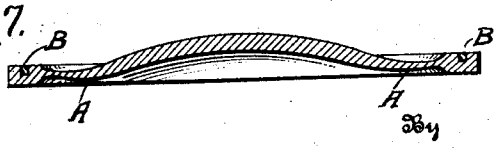
FIG. 5.



FIG. 6.



FIG. 7.



Inventor

Frank M. Ashley

By

Attorney

UNITED STATES PATENT OFFICE.

FRANK M. ASHLEY, OF NEW YORK, N. Y.

MAKING PLATES FOR MUSICAL INSTRUMENTS.

1,419,440. Specification of Letters Patent. Patented June 13, 1922.

Application filed October 17, 1917. Serial No. 197,059.

To all whom it may concern:

Be it known that FRANK M. ASHLEY, a citizen of the United States, and resident of the city of New York, in the county of Kings and State of New York, has invented certain new and useful Improvements in Making Plates for Musical Instruments, of which the following is a specification.

My invention relates to musical instruments and especially to that type in which a sounding board is used such as the violin, cello, or guitar.

The object of my invention is to provide an instrument that may be made at a lower cost in time and labor when compared to the old way of making a violin, and of greater strength and responsiveness, while preserving the finest tone qualities when completed.

In describing my invention I will illustrate by explaining its use in making a violin or cello.

Referring to the drawings which form a part of this specification,

Fig. 1 is a plan view of a plate which has been graded by routing before being pressed or bent into the final form.

Fig. 2 is a longitudinal sectional view taken on a line through the middle of the plate, routed on one side only.

Fig. 3 is a view of a plate routed on both sides, after it has been pressed into form.

Fig. 4 is a cross sectional view taken on line *x*—*x* of Fig. 1 after the plate has been routed or graded on the top side.

Fig. 5 is the same plate as it appears after pressing it into form.

Fig. 6 is a cross sectional view of a plate graded on both sides while in the flat board, and

Fig. 7 is a view of the plate illustrated in Fig. 6 after it has been pressed into form.

Heretofore, so far as I am aware, a violin plate has first been carved or routed from a board as thick or thicker than the height of the arch in the finished plate, as usual in the old method of making a belly or back, or if pressed from a flat plate of about the thickness corresponding to the thickest portion of the plate when finished, it was first pressed into the arched form and then routed or graded to the desired shape.

Where the plate is to be pressed into its arched form it has been my practice heretofore to select a flat board cut on the quarter and about ⅛ of an inch in thickness with the long fibres of the wood extending longitudinally the whole length of the plate as far as possible, and then pressing the plate by means of a heated form into the desired form, and in doing this I had to bend the entire thickness of the plate to the correct curvature. By this method the plate will often crack where the curvature is short, thus spoiling the plate.

By the present improved method the flat plate about ⅛ of an inch in thickness is first routed or graded. The plate is thus thinner at those points where the shortest curves are formed, as at A—A, etc. and being thinner, bends easier and with a less degree of heat and in a shorter time than that required for bending the full thickness of the plate as in the old way.

Further, by routing or grading the plate while in its flat state, a master plate may be made in which the grading is made as perfect as possible and the new plates can be graded in a carving machine, using the master plate as a template or form, and in this way a large number of perfectly graded plates can be produced in a short time, whereas by the old system, the plates had to be graded by hand usually after they were glued onto the sides of the instrument, thus requiring considerable time and the skill of a high class artisan.

After the plate has been routed or graded it is pressed to give it the desired arched form.

B—B indicates the strip of inlaid purfling usually employed to strengthen the edge portions of violins and similar instruments and this can be more easily done by my invention than in the old way. The groove B is easily cut while the plate is pressed, thus saving time and insuring usually a much neater appearance.

The plate may be left square and the outline cut after pressing or it may be cut to pattern before pressing but I prefer to cut to pattern outline after the pressing operation.

I am aware that guitars are now made with flat tops but by my present invention a guitar can be made with an arched graded top and the height of the sides reduced corresponding to the height of the arching and thereby provide a stronger and finer looking instrument and one having excellent tone qualities.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,

1. A sounding board for a musical instrument, consisting of a plate of wood of predetermined thickness, routed intermediate its middle and edge portions to provide proper grading and having the middle portion pressed above the plane of the edge portion to provide the proper arching.

2. A sounding board for a musical instrument consisting of a plate of wood of predetermined thickness, routed intermediate its middle and edge portion to provide the proper grading and having the middle portion pressed above the plane of the edge portion and set by heat to provide the proper arching.

3. A sounding board for a musical instrument consisting of a plate of wood of predetermined thickness, routed intermediate its middle and edge portions to provide the proper grading and its middle portion pressed above the plane of the edge portion to provide the proper arching, and having a groove adjacent its edge to receive the purfling.

4. A resonant wooden part of a musical instrument, comprising a wooden plate having a boundary portion, and an intermediate portion cut away to graduate it and having a middle portion of greater thickness than the surrounding portion, which is adjacent the boundary portion, said intermediate portion being bowed by pressure after the intermediate portion has been cut away, to provide the required arching.

Signed at New York city, in the county of New York and State of New York this 16th day of October A. D. 1917.

FRANK M. ASHLEY.

Witnesses:
MORRIS KIRCHSTEIN,
GEORGE DOAN RUSSELL.