

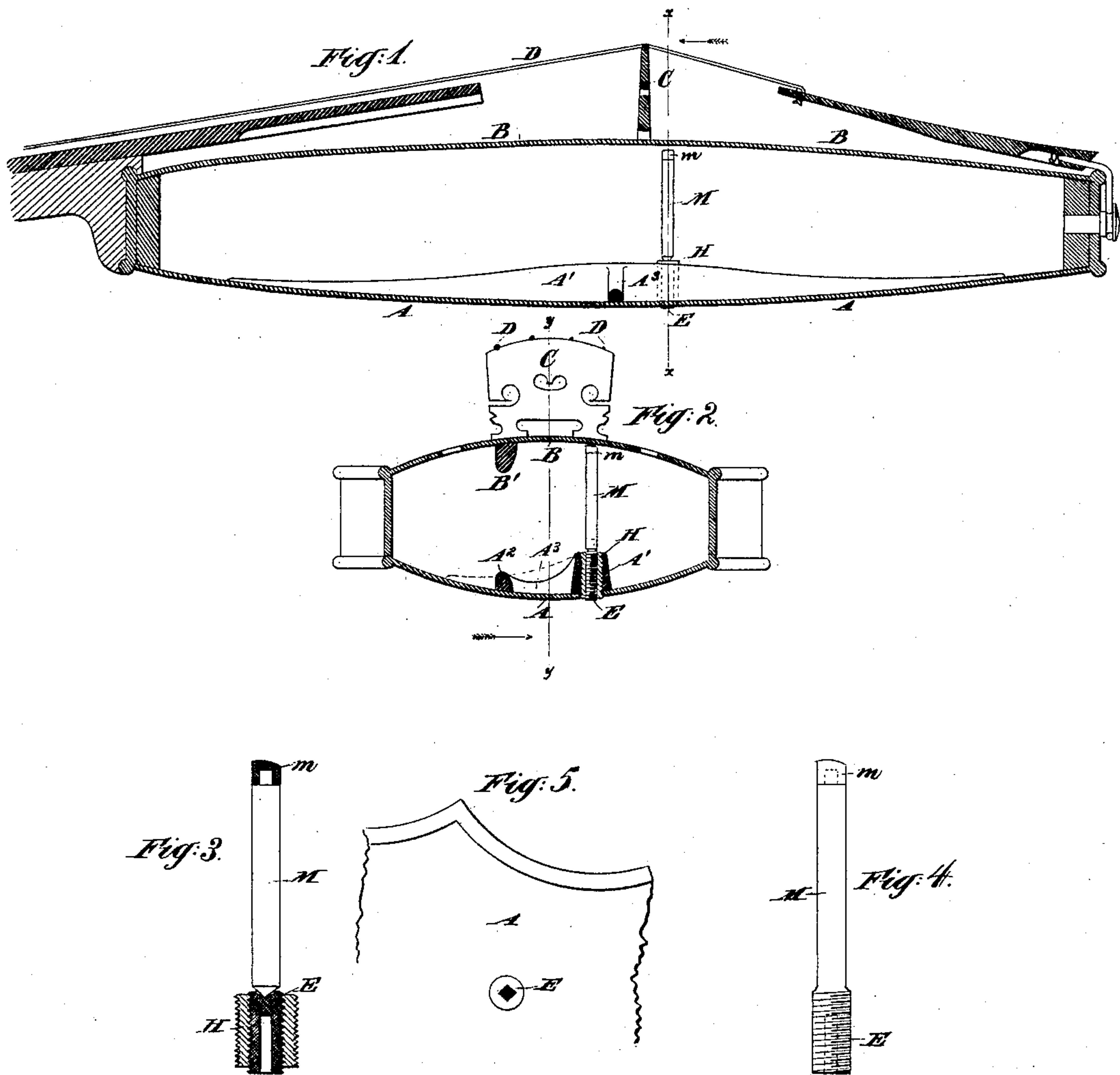
(No Model.)

I. HALL.

VIOLIN.

No. 322,925.

Patented July 28, 1885.



Witnesses:

Charles F. Searle,  
H. A. Johnston.

Inventor:

Isaac Hall  
by his attorney  
Thomas Drew Jackson

# UNITED STATES PATENT OFFICE.

ISAAC HALL, OF BROOKLYN, NEW YORK.

## VIOLIN.

SPECIFICATION forming part of Letters Patent No. 322,925, dated July 28, 1885.

Application filed November 14, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC HALL, of Brooklyn, Kings county, in the State of New York, have invented certain new and useful Improvements in the construction of Violins and Analogous Musical Instruments, of which the following is a specification.

The invention pertains to the means of bracing the body of the instrument. The tension of the strings tends to depress the front at the points where the bridge is supported. It is common to strengthen the front under the base side of the bridge by a strip of wood extending longitudinally for a considerable distance along in the vicinity of the bridge, and firmly joined to the thin front by glue. I do the same. It has long been common to introduce under the treble side of the bridge a post extending backward through the hollow interior from the front to the back of the body. My improvements relate to such post and the immediately connected parts. It is found that by shifting the position of the ordinary post appreciable effects can be produced on the quality of the tone. It is common for performers to reach in through the common *f*-slots in the front of a violin, and take hold of the post with a suitable instrument, and take it out and substitute another, or to change the position of the post. Sometimes the post is shortened and returned. I construct the post with an elastic front end which allows the post to be inserted and removed an indefinite number of times without possibility of damaging the front of the instrument. I also provide for adjusting the tension of the post with any degree of delicacy desired after its introduction. In replacing the post it is common to rest one end of the post against the interior of the back and to bring it up into the required position under the bridge. This movement is liable to abrade or cut the thin wood of the violin front.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a longitudinal section on the line *y y* in Fig. 2, looking in the direction indicated by the arrow. Fig. 2 is a cross-section on the

line *x x*, looking in the direction shown by the arrow. The remaining figures are on a larger scale. Fig. 3 is a partial section and elevation of a portion. Fig. 4 is an elevation showing a modification. Fig. 5 is a plan view of a portion of the back of the instrument.

Similar letters of reference indicate corresponding parts in all the figures.

It will be understood that the drawings represent the novel parts with so much of the ordinary parts as is necessary to indicate their relation thereto.

A is the back, and B the front, of a violin-body. A' is a longitudinal rib adapted to match closely against the interior of the back A, and secured by glue. B' is the ordinary rib lying longitudinally under the bass side of the bridge. C is the bridge, and D the strings. E is a screw having a hollowed front or upper end adapted to receive the pointed end of a post, M, of pine or other suitable wood. The screw is tapped through a bushing, H, of maple or other suitable substance, which latter stands in a corresponding hole formed in the back A and back-rib A'. It is secured therein both by screw-threads and glue. The front end of the post M is formed with a tenon, which engages in a cushion of well-hammered or otherwise compacted leather, *m*. These parts M *m* are secured together by glue.

My post M *m* may be introduced and removed through the *f*-slots by the same appliances and same mode of operation as ordinary posts are introduced and removed. The hollow end of the screw E is seen through the *f*-slot, and is easily caused to receive the pointed end of the post. The post is brought forcibly up into the position occupied by the ordinary post, with the advantage that the leather-tipped end of the post yields sufficiently to adapt its bearing to the inner face of the front B without danger of abraiding the latter. I have carefully noted the effect of the leather on the sound, and believe that it has no evil influence. The tone, contrary to what might be expected, is as good as when the post is one continuous stick. My observations lead to the belief that it is a little better. After the post is in place its tension may be adjusted within considerable limits by turning the screw E. The hard-wood bushing H allows an indefinite



amount of adjustment of the screw without appreciable wear. I turn the screw without requiring any projection of the screw on the exterior of the back of the instrument. I operate by a key having a square socket engaging in a corresponding square recess formed in the back of the screw. I further stiffen the back at points which I find most require it.  $A^2$  is a longitudinal rib glued to the back in the position represented. It should in ordinary cases lie about under the bass end of the bridge C. A cross-rib,  $A^3$  extends between the ribs  $A'$  and  $A^2$ . With this bracing the other portions of the back may be made thinner than would be otherwise practicable, with an appreciable improvement in the resonant qualities of the instrument.

My ribs  $A'$   $A^2$   $A^3$ , as arranged, receive the vibrations due to the sound produced by the strings as transmitted through the post M, and distribute it effectively to the thin back A. My violin is stronger than the ordinary construction, and by re-enforcing the strength at the points indicated, give a better tone.

The improvement may apply to violins, violas, violoncellos, bass-violos, and double-bass violos.

I attach importance to the fact that the cushion  $m$  is permanently fixed to the post M, so that both may serve as one, and be applied and removed together.

Modifications may be made in the forms and proportions.

I can make the post M and the screw E in a single piece. In such case the screw E and the hole therefor should be a little larger than the post, so that the post, with its attached screw, can be inserted directly from the back.

Parts of the invention may be used without the whole. I can attain a good effect without the rib  $A^2$  or cross-rib  $A^3$ , or even without the rib  $A'$ . I can dispense with the bushing H; but the thin material of the back is in such case

liable to fail by wearing when the screw is operated many times. I can dispense with the leather  $m$  on the front end of the post M. I prefer the whole used together, as shown.

There is an advantage in the pointed back end of the post, enabling it to hold in a proper shallow recess, whether the recess is formed in the screw or in a fixed shoe, or even is simply an indentation in an ordinary back.

I propose in some cases to omit the longitudinal bar  $A^2$  and extend the transverse bar  $A^3$  a little farther, as shown in dotted lines in Fig. 2.

I claim as my invention—

1. The post M, having an elastic end or cushion,  $m$ , glued or otherwise permanently secured on its front, in combination with a violin, and arranged to serve therein substantially as herein specified.

2. The post M, having a tapering or pointed back end, in combination with a violin having a recess adapted to receive such pointed post, arranged for joint operation substantially as herein specified.

3. The combination, with a violin or analogous musical instrument, of the post M and adjusting-screw E, having a hollowed front end to receive said post, arranged to serve as and for the purposes herein specified.

4. The post M, screw E, and bushing H, in combination with the back A, longitudinal strengthening-ribs  $A'$   $A^2$ , and cross-ribs  $A^3$ , front B, bridge C, and springs D, arranged for joint operation substantially as herein specified.

In testimony whereof I have hereunto set my hand, at New York city, this 11th day of 80 November, 1884, in presence of two subscribing witnesses.

ISAAC HALL.

Witnesses:

H. A. JOHNSTONE,  
CHARLES R. SEARLE.