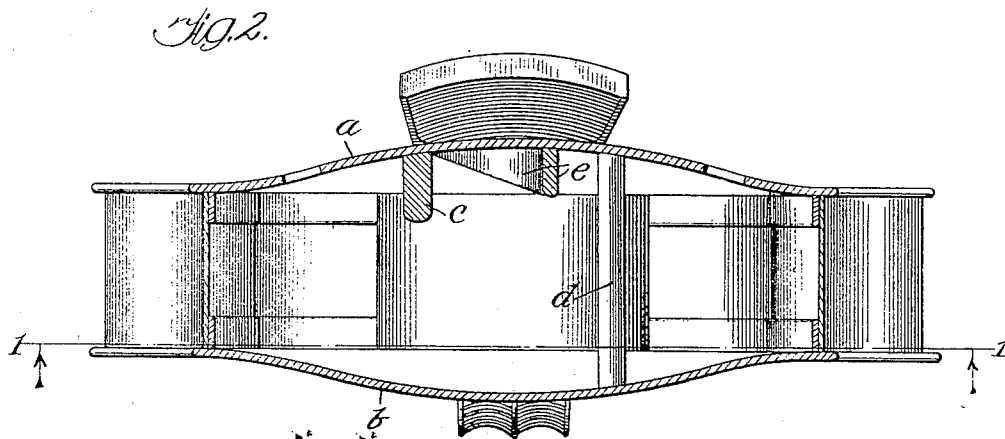
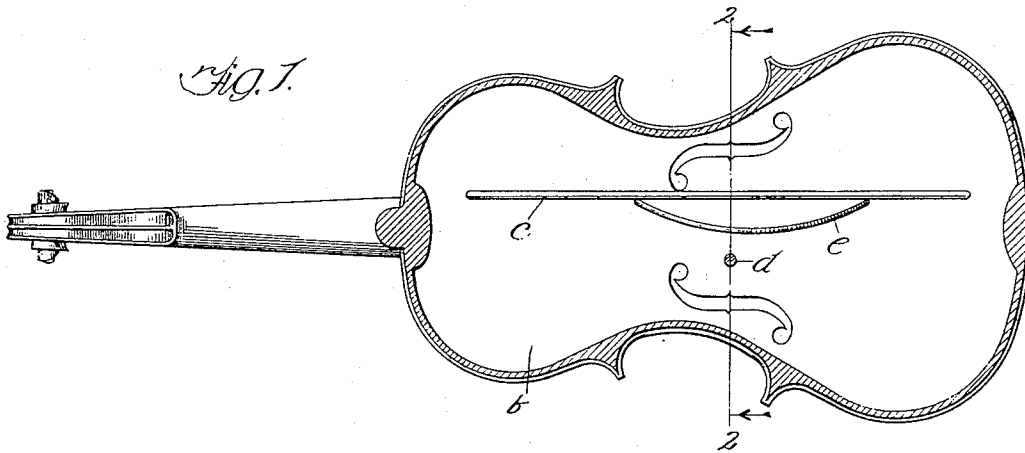


H. MOERTEL.
VIOLIN.

APPLICATION FILED FEB. 25, 1909.

934,413.

Patented Sept. 14, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY MOERTEL, OF CHICAGO, ILLINOIS.

VIOLIN.

934,413.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed February 25, 1909. Serial No. 479,902.

To all whom it may concern:

Be it known that I, HENRY MOERTEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Violins, of which the following is a specification.

My invention relates to stringed musical instruments and especially violins, and the object of the invention is to strengthen the construction thereof and produce uniformity in the quality of tone of the different strings without rendering the instrument heavy or reducing the volume of sound which it is capable of producing.

I obtain my object by the construction shown in the accompanying drawings, in which:

Figure 1 is a view of a violin embodying my invention the back being removed to show the inside of the top. The body is shown partly in section, the plane of section being indicated by the line 1—1 Fig. 2. Fig. 2 is a transverse sectional view of the complete instrument taken on the line 2—2 Fig. 1.

Similar letters refer to similar parts in the different views.

The body of the violin selected for illustration consists of a top *a* and a back *b* which are outwardly bellied in the usual manner. The bass bar *c* is secured to the inside of the top and runs longitudinally at one side of the median line of the instrument. On the opposite side of the median line is the sound post *d*. This sound post may be secured by glue or other fastening means but preferably it is held in place by merely forcing it toward the side of the instrument where it will become wedged by reason of the decreasing thickness of the body at the edge of the instrument. The sound post is so located as to come approximately beneath the bridge of the instrument when the bridge (not shown) is in place and said sound post is therefore approximately in the middle of the body measuring from front to rear.

To the inside of the top I secure by glue or by other suitable means, a brace *e* which is transversely curved and placed in such position that its ends lie near the side of the bass bar *c* while its middle portion lies nearer the sound post. The preferred arrangement is such that the sound post is

about opposite to the middle of the brace so that the stiffening effect of the brace will extend about equally in both directions from said post.

In violins as usually constructed the pressure of the bridge on the top due to the tension of the strings is so great, and the permissible bracing so slight that the top frequently loses its proper shape and this condition results in the production of inferior tones. In my construction the shorter brace, being curved, strengthens the instrument top between the sound post and longitudinal brace *c*.

Although I have shown the bass bar and curved brace only on the top of the instrument, it is obvious that the same construction may also be repeated on the back thereof without departing from the spirit of the invention.

In the description and claims I employ the word "longitudinal" to mean lengthwise of the instrument, or parallel to the median line thereof and "transverse" to mean at right angles or crosswise to the length of the instrument.

What I claim as new and desire to secure by Letters Patent is:

1. In a violin, the combination with the instrument body of a longitudinal brace secured inside of the body, and a companion brace running along in the same general direction therewith transversely curved and having its ends near the first mentioned brace.

2. A violin having a body including a top and a back, a bass bar secured to the top on the inside thereof, and a curved brace also secured to the inside of the top adjacent to said bass bar and curving in a crosswise direction so that its ends are nearer to the bass bar than its middle portion is.

3. A violin, having a body which includes a top and a back, a bass bar secured to the top on the inside thereof, and running longitudinally at one side of the median line of the instrument, and a curved companion brace secured adjacent to said bass bar and having its ends extending toward said bass bar.

4. A violin, having a body which includes a top and a back, a bass bar secured to the top on the inside thereof, and running longitudinally at one side of the median line of the instrument, and a curved companion

brace secured adjacent to said bass bar and having its ends extending toward said bass bar.

5 A violin, having a body which includes
a top and a back, a bass bar secured to the
top on the inside thereof, and running longi-
tudinally at one side of the median line of
the instrument, and a companion brace hav-
ing its ends secured adjacent to said bass bar
10 and curving transversely so that its middle
portion lies nearer said median line.

6. In a portable stringed instrument a body
comprising a top and back of similar outline
located a slight distance apart, a bass bar
15 secured to the top on the inside thereof and
running parallel to the median line of the
instrument at one side thereof, a sound post
extending from top to back at the opposite
side of said median line and a curved brace
20 secured to the inside of the top between said
bass bar and sound post, the ends of said

brace being near the bass bar and the middle
portion of said brace being closer to said
sound post.

7. In combination, a violin body compris- 25
ing a top and a back which are bellied so that
they are nearer together at the edges of the
instrument than at the median line thereof,
a longitudinal bass bar secured to the inside
of the top at one side of said median line, a 30
sound post wedged between the top and back
on the opposite side of the median line, and
a curved brace secured to the top between
said bass bar and sound post.

In witness whereof, I have hereunto sub- 35
scribed my name in the presence of two wit-
nesses.

HENRY MOERTEL.

Witnesses:

CHAS. J. KRUMSIEG,
HENRY C. NIEMEYER.