

(No Model.)

E. BERLINER.
Violin.

No. 242,585.

Patented June 7, 1881.

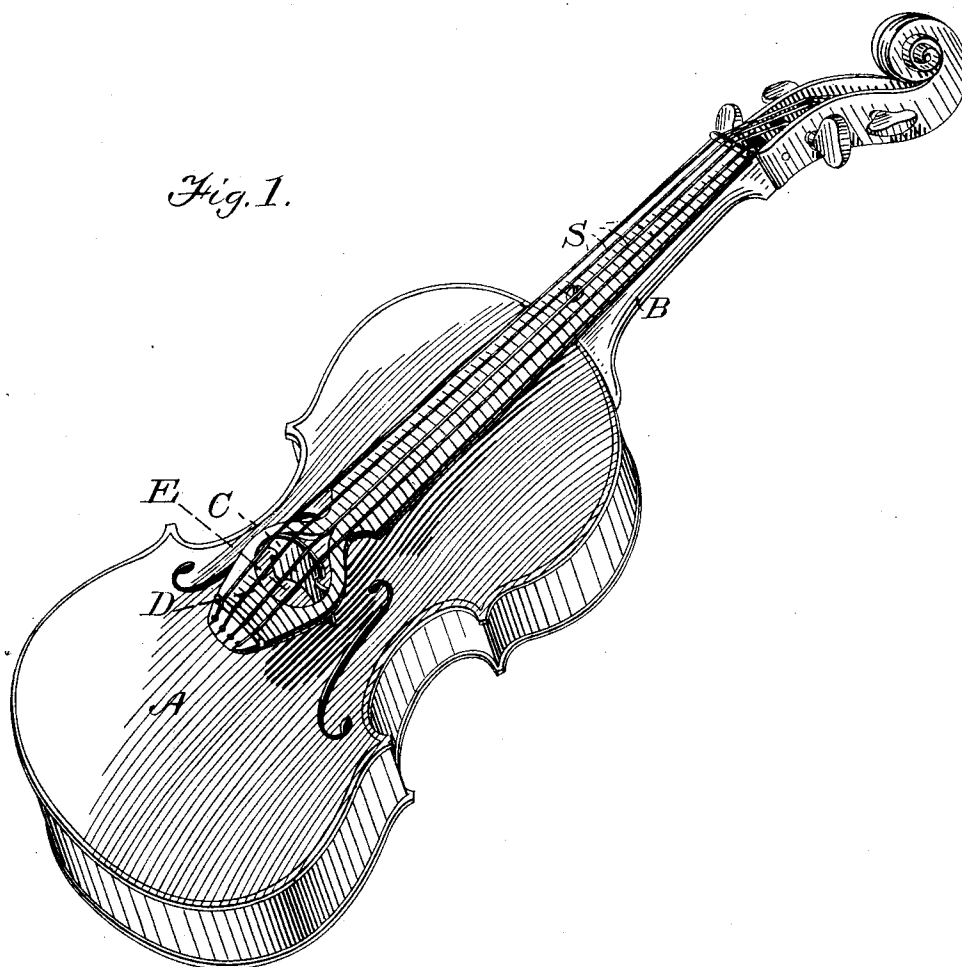
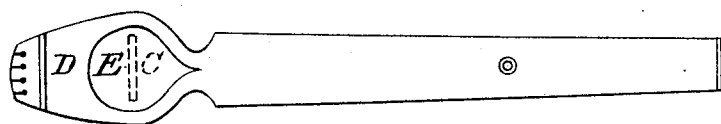


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

EMILE BERLINER, OF BOSTON, MASSACHUSETTS.

VIOLIN.

SPECIFICATION forming part of Letters Patent No. 242,585, dated June 7, 1881.

Application filed February 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, EMILE BERLINER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Violins and Similar Stringed Instruments, of which the following is a specification.

This invention relates to violins and other stringed instruments in which are employed a finger-board and a sounding-body, and has for its object to produce in such instruments more clear and perfect resonance than is effected by ordinary instruments.

I have found by experiment and careful study of the violin in particular that, in order to bring out most perfectly its capacities for fine tone and expression, there must be no interference with the resonance or vibrations of its body.

I have discovered by experiment that in the ordinary violin the vibrations of the strings are imperfectly transmitted or communicated to the body of the instrument, and in my application for a patent filed August 11, 1880, I have shown means to secure a more perfect transmission, and my present application is an improvement for the same purpose in another direction.

In the ordinary violin the strings are strained from a tail-piece which is secured to the lower end of the violin-body by a button. The strings rest on a bridge and are fastened to keys at the upper end of the neck-piece, thus forming what is known in mechanics as a "truss," and when the strings are tightened, ready for the player, the strain of the strings and bridge forming the truss tends to disturb the resonance of the violin-body, as in resisting such strain counter-strains of a complex character are exercised in said violin-body. The upper part of the body is under a crushing strain and the under side under a tensile or pulling strain, and in constructing instruments of this character great care has to be exercised to make bodies in which the different strains produced as shown above are balanced, which has been found to be of the greatest difficulty.

In my invention, by dispensing with the tail-piece and extending the finger-board down-

ward below the bridge sufficiently to receive the ends of the strings, which rest on the bridge and run to the keys, I make use of only two points through which to communicate the vibrations of the strings to the violin or resonant body—one through the bridge, the other through the neck—and by dispensing with the truss form of stringing the instrument I eliminate entirely the strains previously existing upon said resonant body and am enabled to transmit the string vibrations unimpaired to said body.

I have been enabled to secure marked results by my invention. The violin-body being in a state of equilibrium, free from internal and external strains, the player is enabled to give full value of feeling or expression to his performance. The results have not only been great in good instruments, but particularly noticeable in what are called inferior instruments, the latter with my invention attached producing the clearness of tone and resonance observed only in superior instruments.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of a violin embodying my invention. Fig. 2 represents a top view detached.

In the drawings, A represents a violin-body; B, the neck-piece; C, the bridge.

D represents one form of my invention, consisting, in part, of the ordinary finger-board, but made to extend downward below the bridge C, to about the position of the upper part of an ordinary tail-piece.

E is an opening in the elongated part of the finger-board, through which the bridge C rises. The strings S S, &c., are attached to the lower end of the prolongation, as shown, and are strung upward over the bridge to the keys in the ordinary manner, the elongated or free end D being made of such shape or form as to present an attractive feature of the violin. The finger-board is rigidly screwed or fastened to the neck of the violin, to make said board and neck in effect one piece, so that there will not be any dissipations of vibrations between them. It will be seen that by this arrangement the violin-body is in full equilibrium, not being trussed from end to end. It is not bent or buckled while the strings are under tension,

and any strains arising from the pressure of the bridge upon the sounding-post are at such short leverage that any tendency to interference with the transmission of the string vibrations is reduced to a minimum.

I do not confine myself to the precise form shown and described, as I may make a variety of forms without departing from the spirit of my invention; for instance, I may fasten the strings to a second board, which is secured to the neck under or at one side of the finger-board and extends beyond the bridge.

I am aware that heretofore violins have been patented in which the strings were fastened to a prolongation of the finger-board extending beyond the bridge; but in these patented violins the elongated finger-boards had not an entirely free end, but these ends were connected to the body of the violin either by a screw or some other holder, more or less dampening the vibrations of the string-holding finger-board, while I confine myself to such a construction in which the vibrations of the strings are communicated to the body solely by the bridge and the neck-piece. Hence,

I claim—

1. A violin or similarly-stringed instrument in which the strings are attached to the end of a board extending from and fixed to the neck of the violin, and constructed in the manner described, so that the vibrations of the strings are communicated to the body of the violin solely by the bridge and the neck.

2. In a violin or similarly-stringed instrument, an elongated finger-board, to the end of which the strings are fastened, and which is fixed to the body of the violin solely between the bridge and the tightening-pegs.

3. A violin or similarly-stringed instrument, constructed substantially in the manner described, so that the vibrations of the strings are communicated to the body solely by the bridge and the neck.

EMILE BERLINER.

Witnesses:

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