E. MARX & E. TAUBALD.

Sound-Board for Musical-Instruments.

No. 211,337. Patented Jan. 14, 1879.

Fig: 1

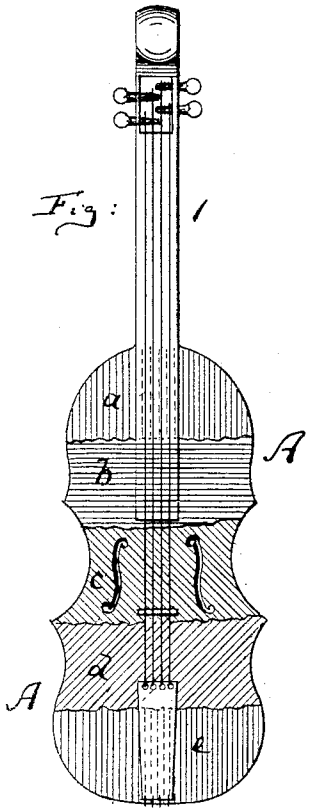


Fig: 2

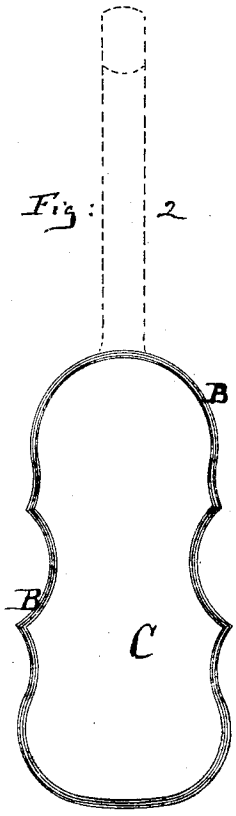
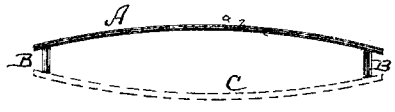


Fig: 3



Witnesses

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UNITED STATES PATENT OFFICE.

ERNST MARX AND EDUARD TAUBALD, OF NEW YORK, N. Y.

IMPROVEMENT IN SOUND-BOARDS FOR MUSICAL INSTRUMENTS.

Specification forming part of Letters Patent No. **211,337**, dated January 14, 1879; application filed September 7, 1878.

To all whom it may concern:

Be it known that we, ERNST MARX and EDUARD TAUBALD, both of New York city, county and State of New York, have invented certain Improvements in Musical Instruments, of which the following is a specification:

In the drawing, Figure 1 is a face view, partly in section, of a violin embodying our invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a cross-section thereof.

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

This invention relates to a new construction of sounding-boards of musical instruments.

The invention is applicable to all bow and string instruments, such as violins, guitars, piano-fortes, and all those having sounding-boards.

It consists in the sounding-board A, made of series of layers *a b c d e* of shavings, the shavings being quite thin, and laid edge to edge in each layer, and varying in direction in the several layers, as indicated. Each shaving is smooth on one side and rough on the other. By this construction a strong vibratory board is produced, which can be made of any kind of wood and at small expense. Heretofore spruce only was used in violins for this purpose, either carved out of the solid wood or bent from veneer, which had to be steamed. In either case the pores of the wood were left in their natural condition, and therefore counteracted the vibration of the board; but by using the shavings which are sliced from wood, and therefore rough on one side and quite thin, the pores are cut through and then filled with the glue, which unites the layers of shavings, and the objectionable open pores are therefore dispensed with.

The several layers of shavings, by running in different directions, interlock when glued together, and constitute a very strong yet elastic board. The back C of the instrument may be constructed like the board A. The rim B is also made of series of shavings, each shaving being of the full length of the rim, and they all being placed one over the other, and joined by glue or equivalent substance. A very solid and strong rim is thereby produced.

We are aware that veneers have been used in sounding-boards, and such we do not claim.

Veneers are cut with knives or saws, and have, necessarily, a greater thickness than shavings cut by a plane, and are smooth on both faces. These shavings are as thin as paper, and each by itself is of insufficient strength to keep its shape, and not wide enough to constitute alone a thickness of the board; but by using a series of adjoining shavings in each layer, and varying their direction in the several layers, the peculiarly strong and elastic sounding-board is produced which we claim to have invented.

By the use of shavings which are smooth on one side and rough on the other, as are all shavings produced by a plane, we insure a proper opening of the pores and a firm adhesion of the several layers. Veneers, which, of necessity, are quite smooth on both faces, are very liable to slip and slide on each other laterally whenever the board is exposed to heat or moisture. Moreover, by having a series of such rough-faced shavings in each layer each shaving constitutes a lateral brace for the other shavings in the same layer.

I claim—

The sounding-board A, constructed of two or more layers, each layer being composed of several flat shavings, that are placed edge to edge, one against the other, the shavings in each layer being placed to break joints with the shavings in the adjoining layers, substantially as herein shown and described.

The foregoing specification of our invention signed by us this 6th day of September, 1878.

ERNST MARX.
EDUARD TAUBALD.

Witnesses:
A. V. BRIESEN,
T. B. MOSHER.