May 8, 1928. 1,669,250

W. J. KELLY

VIOLIN

Filed June 18. 1926

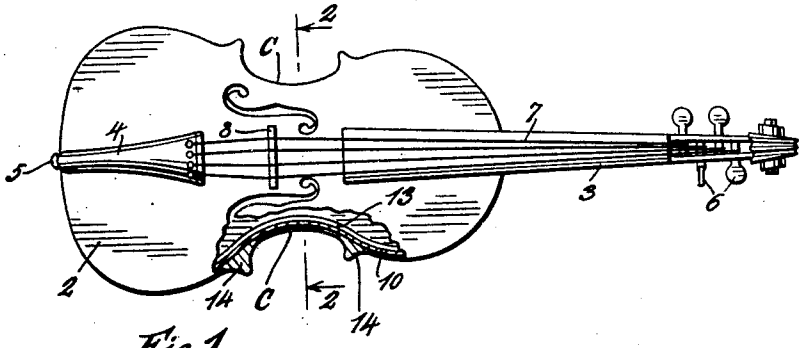


Fig. 1.

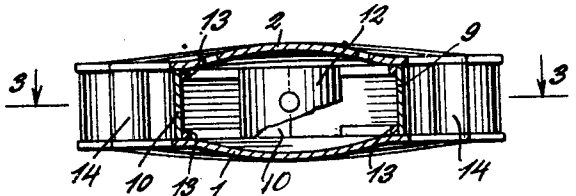


Fig. 2.

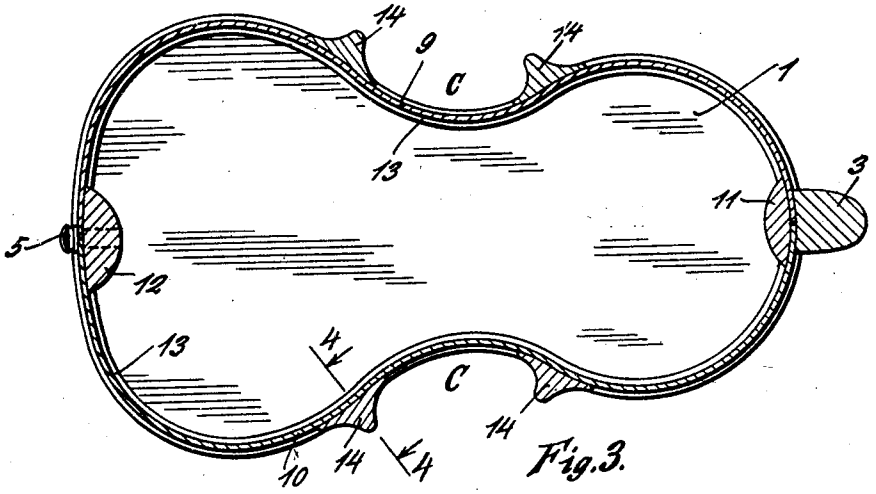


Fig. 3.

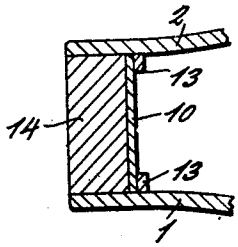


Fig. 4.

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UNITED STATES PATENT OFFICE.

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VIOLIN.

Application filed June 18, 1926. Serial No. 116,897.

This invention relates to improvements in the construction of violins.

Violins are musical instruments whose value depends almost entirely upon the quality of the tone produced. It is well understood that the quality of the tones produced by a violin are affected greatly by small structural changes and therefore features of construction which, viewed merely from the point of a mechanic, would seem to be trifling, are really of great importance when considered in the light of the results obtained from the standpoint of the quality of tone produced.

It is the object of this invention to simplify the construction of the violin body and at the same time modify the qualities of the tone so as to produce more pleasing effects.

In the ordinary construction of violins, the body is a resonant box, composed of a belly, back and six ribs all shaped out of thin wood to various curves, the belly and back being scooped out of solid slabs, and the ribs planed and bent. The whole is glued together upon six internal blocks. Pine is used for the belly, maple for the other parts. The external surface is covered with a fine hard varnish of a brown, red, orange or yellow color, which renders the box more resonant.

The violin which forms the subject matter of the present invention has the same general appearance as any other violin but the construction has been altered in such a way that the ribs are formed of two pieces instead of six, as employed in the usual construction. Instead of having six internal blocks, the present construction employs merely two internal blocks and has the other four on the outside of the ribs. This produces a construction which is much simpler and cheaper to manufacture and at the same time imparts to the violin body qualities which affect the tones produced and which increases the volume of the sound as well as imparting to the body greater resonant qualities. The fact that the four corner blocks are on the outside instead of on the inside gives the back and belly of the violin a greater area that is free to vibrate when subjected to vibratory impulses produced by the strings.

In order better and more clearly to describe my invention, so that it may be understood, reference will be had to the accompanying drawing in which it has been illustrated, and in which:

Figure 1 is a plan view of a violin with a portion of the belly broken away so as to better disclose the construction;

Figure 2 is a transverse section taken on line 2—2, Figure 1;

Figure 3 is a section taken on line 3—3, Figure 2; and

Figure 4 is a section taken on line 4—4, Figure 3.

The violin illustrated has the usual form and comprises a back portion 1, a belly 2 and neck 3. A tail piece 4 is secured to the body of the violin by being anchored to the pin 5. The neck is provided with the usual pegs 6 for tensioning the strings 7, which rest upon the bridge 8. The edges of the back and belly are connected by means of ribs 9 and 10. In the ordinary construction of violins, these ribs are made in six different pieces, whereas, in my present construction, only two pieces are employed.

Referring now more particularly to Figure 3, it will be noticed that the ribs 9 and 10 are duplicates of each other, one being a right and the other a left. The ends of the ribs nearest the neck of the violin are glued to a block 11 and the ends near the opposite end of the violin are similarly connected to a block 12. The edges of the ribs are glued to the adjacent surfaces of the back and belly. Narrow strips of lining material 13 are glued to the ribs and to the back and belly in the manner shown in Figure 4. These strips of lining material form a strengthening or reenforcing means which make it possible to produce a better joint between the several pieces. In order to improve the appearance of the violin and also to give more room for manipulation of the bow, it has been customary to so design the violin body that notches such as those indicated by letter C have been provided. The provision of these pecularily shaped notches, has been the main reason why it has heretofore been considered necessary to employ six separate pieces of ribs. Where only two pieces of ribs are employed as in my construction, the corners will extend out beyond the outer surface of the ribs. In order to give the violin a finished appearance, I have provided corner blocks 14 which take the place of similar blocks employed in the ordinary construction but which have heretofore

been located on the inside of the body member. The location of these corner blocks on the outside leaves the entire area of the back and belly pieces free to vibrate, thereby increasing the volume of the sound emitted. The presence of the corner blocks 14 serves, however, to modify the vibration of the parts in their immediate neighborhood, and produce nodal points which, to some extent, modify the quality of the tone of the violin. Effects similar are, of course, produced when the blocks are located on the inside of the ribs, but because when the blocks are in the latter location, they limit to some extent the vibration of the back and belly, the effects are appreciably different.

In addition to the above, when the corner blocks are located on the inside, they tend to mute the violin, due to the fact that they absorb moisture from the air. When they are on the outside they have their exposed surface varnished, whereas when they are in the inside they are not varnished and therefore are susceptible to atmospheric humidity. Due to the fact that the corner blocks are protected from the effect of atmospheric changes, the tone of the violin will "age" more quickly which is a very desirable consideration.

When the corner blocks are glued to the outside of the ribs, they may be removed and replaced by similar blocks of larger or smaller size and of different materials for the purpose of giving the violin the best obtainable tonal qualities.

From the above it will be apparent that I have produced a violin of a greatly simplified construction which can be more cheaply manufactured and which has greatly improved tonal characteristics that are due to the changes in construction above described.

Having now described my invention, what I claim as new is:

1. A violin body comprising a back and belly portion of the usual shape, the edges of said portions being joined by two separate rib portions, the ends of said rib portions being glued to internal blocks and two external corner blocks glued to each of said rib portions at the ends of the C notches.

2. A violin comprising, in combination, a back and a belly portion, each of which has a part cut away on opposite sides, said cut away portion terminating in outwardly extending corners, a two-part rib secured to said portions adjacent their outer edges and corner blocks glued at their ends to the outwardly extending corners and to the outer surface of the ribs.

In testimony whereof I affix my signature.

WILLIAM J. KELLY.