

Jan. 25, 1966

R. N. CURRIER
MUSICAL INSTRUMENT

3,230,815

Filed Feb. 6, 1963

2 Sheets-Sheet 1

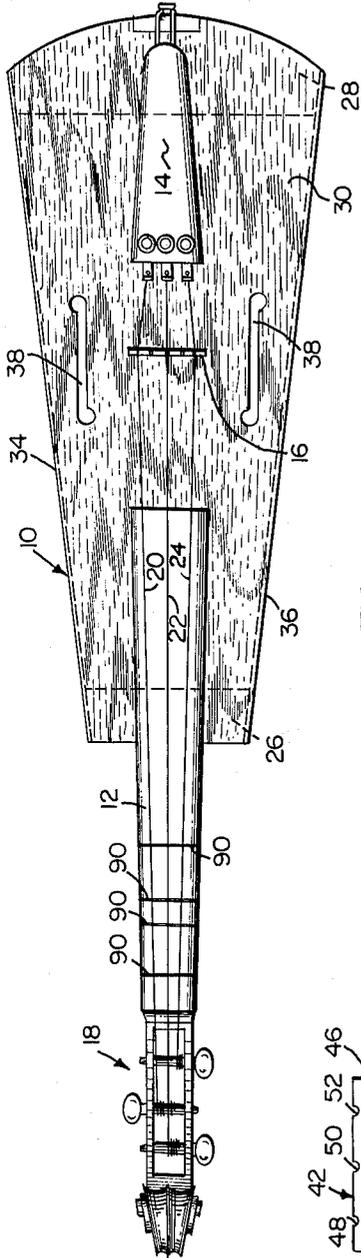


FIG. 1

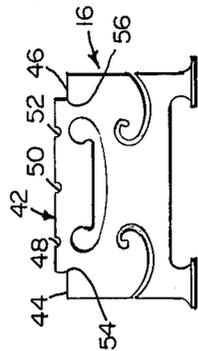


FIG. 3

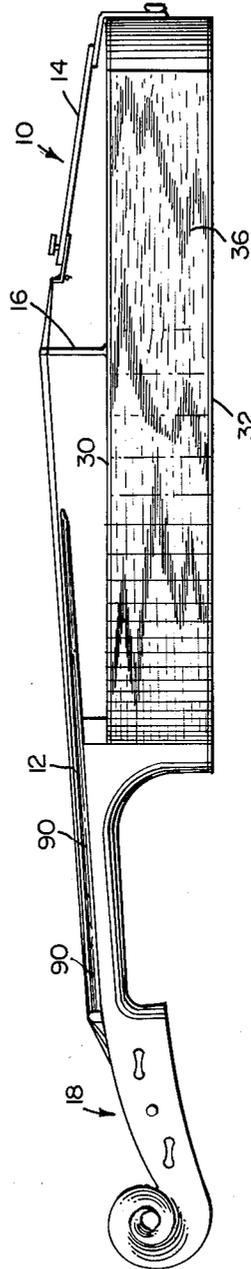


FIG. 2

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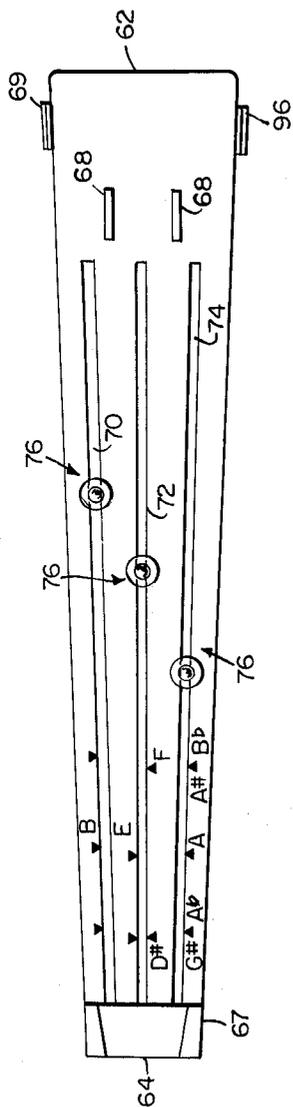


FIG. 5

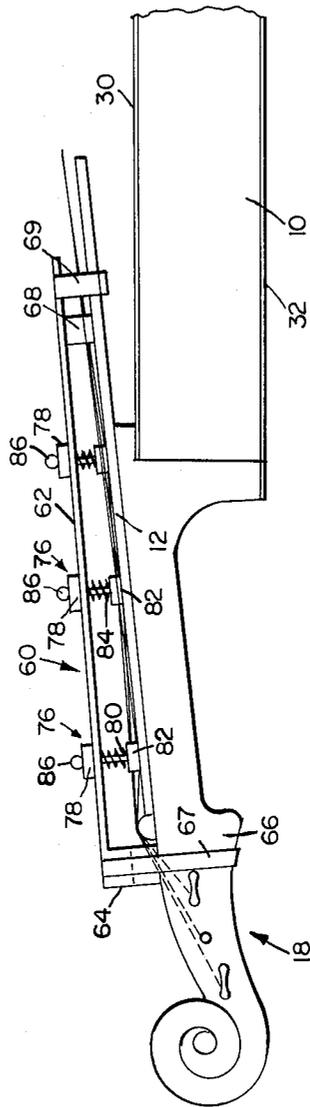


FIG. 4

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3,230,815
MUSICAL INSTRUMENT
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 5 Claims. (Cl. 84-315)

This invention relates to musical instruments and more particularly comprises a simplified string instrument or "pre-instrument" to be used by young children.

The use of simple instruments in elementary school classes is highly recommended by prominent figures in music education. These instruments are introduced to children as a supplement to singing in order to broaden their experience with music and to provide them with a happy, easy, successful relationship with instruments before the more serious study of a regular instrument is begun. Today in the string family there are available small violins, cellos, etc., but these are merely diminutive and not simplified. The smaller instruments although intended for young students, are in many ways more difficult to play than those of full size because the strings are so close together.

Because success with string instruments generally requires as early a start as possible, a pre-string instrument is deemed to be of particular value in aiding a student to obtain technical proficiency. A pre-string instrument is deemed to be more important than are pre-winds and pre-percussions already available as instruments in these areas can be started at a relatively late age without any sacrifice in ultimate proficiency.

One important object of this invention is to provide a pre-string instrument which may be played by a youngster without fingering the left hand.

Another important object of this invention is to provide a pre-string instrument which enables the player to bow the strings either simultaneously to sound a chord or separately as consecutive notes.

Another important object of this invention is to provide a pre-string instrument which may be tuned to any chord and which chord may be varied without fingering of the left hand.

Another important object of this invention is to provide in the fingerboard means which assist the ear of the player to achieve correct intonation.

Yet another object of this invention is to provide an instrument which may be played by the youngest elementary school child as an introduction to musical instruments and which will furnish musical satisfaction, and which may be used in the more advanced grades to teach fingering and some of the other more intricate manipulations required of a string player.

Still another important object of this invention is to provide a string instrument having a particularly rugged construction so that it may be used by the most inexperienced child.

To accomplish these and other objects, the instrument of this invention includes a generally box shaped body having a generally conventional fingerboard, tailpiece and strings, and a unique bridge disposed between the fingerboard and tailpiece. The bridge has means for positioning certain of the strings in either of two positions. By placing the strings in one position they all lie substantially in the same plane and therefore may be bowed simultaneously. Alternatively, the strings may be bowed separately when certain of the strings are placed in the alternate position provided. The pitch of each of the strings may be varied by a tuning device which releasably snaps onto the fingerboard above the strings. The tuning device carries a moveable pad for each of the strings, and each pad is biased to engage its string wherever it is positioned on the device. A note scale provided on the de-

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vice will indicate to the youngster what notes will be sounded when the pads are in any of the selected positions available.

These and other objects and features of this invention will be better understood and appreciated from the following detailed description of one embodiment thereof, selected for purposes of illustration and shown in the accompanying drawing, in which:

FIG. 1 is a top view of a string instrument constructed in accordance with this invention;

FIG. 2 is a side view of the instrument shown in FIG. 1;

FIG. 3 is a front view of a portion of the instrument shown in FIGS. 1 and 2;

FIG. 4 is a fragmentary side view of the instrument shown in FIGS. 1 and 2 with an attachment shown mounted in place on it; and

FIG. 5 is a top view of the attachment shown in FIG. 4.

The instrument shown in the drawing includes a body 10, a fingerboard 12, a tailpiece 14, a bridge 16, scroll and peg assembly 18, and strings 20, 22, and 24. The fingerboard 12, tailpiece 14, and scroll and peg assembly 18 are conventional in design as is evident in FIGS. 1 and 2.

The body 10 is generally box shaped and is made of a pair of end blocks 26 and 28 which are appreciably larger than blocks ordinarily employed and serve not only as supports for the top and bottom plates 30 and 32 respectively but as the ends of the body as well. Ribs 34 and 36 are glued or otherwise secured to the blocks 26 and 28 and the edges of the top and bottom plates 30 and 32 to form a resonant chamber. A pair of narrow sound holes 38 are provided in the top plate 30. The straight and narrow configuration of the sound holes increases the size of the resonating surface.

The bridge 16 disposed between the tailpiece 14 and the fingerboard 12, which supports the three strings 20, 22 and 24 above the fingerboard is shown in detail in FIG. 3. Rather than being crown-shaped as the conventional violin bridges, the bridge 16 of this invention is provided with an upper edge having two supporting levels 42 and 44, 46. The upper lever 42 is shown to include three notches 48, 50 and 52 each designed to receive one string of the instrument because the instrument is provided with only three strings. Preferably they are G, D and A strings which are common to the entire violin family. The second level 44, 46 divided on each side of the level 42 provides alternate positions for the outer strings; that is, the string lying in notch 48 can be lifted out of the notch and positioned in the corner 54 at the inner edge of the level 44 and the string which occupies notch 52 may be moved to the corner 56 on the inner end of level 46.

When all of the strings are positioned in the notches on the higher level 42 a player can bow the three strings simultaneously to sound a chord. When the strings are to be bowed separately, the outside strings are placed in the corners 54 and 56 on the lower level so that they are in different planes and are individually accessible. Thus, when the outside strings are placed in the corners 54 and 56, the bridge 16 is effectively curved as a conventional bridge, and when the outside strings are moved to the notches 48 and 52 a unique support is provided for the strings that enables them to be bowed together.

In FIG. 4 a tuning device 60 is shown mounted on the fingerboard 12. The device includes a frame 62 of substantially the same width as the fingerboard and of generally the same length. The tuner is provided with an arched support 64 at one end which rests upon the peg box 66 beyond the end of the fingerboard to support the plate 62 above the fingerboard. A band 67 which may

be made of an elasticized webbing or some rigid material is secured to the support 64 and is designed to extend about the peg box 66 to retain the tuning device in the position shown in FIG. 4. The other end of the tuner includes a pair of downwardly extending feet 68 which rest upon the upper surface of the fingerboard either between or on the outside of the strings and a pair of clips 69 are provided at the other end which engage the side edges of the fingerboard. The clips may be made of a spring metal bearing a rubberized coating or some suitable material and may be provided with flanges which extend underneath the fingerboard as suggested in FIG. 4. The band 67 and clips 69 may take one of several configurations and of primary importance is that they securely support the tuning device 60 above the fingerboard 12.

The frame 62 of the tuner is shown in FIG. 5 to include three longitudinally extending slots or tracks 70, 72 and 74 which are aligned with the three strings above the bridge. Thus, if the three strings G, D and A are conventionally arranged, slot 70 overlies the A string, slot 72 the D string, and slot 74 the G string. Disposed in each of the slots or tracks is a slide 76 composed of a trolley 78, pin 80 and pad 82. The trolley 78 may be disposed partially within its track and carries the pin 80 which extends through the track and toward the string beneath it. The pad 82 in turn is carried on the end of the pin, and a spring 84 which surrounds the pin urges the pad downwardly to engage the string so as to control its pitch. A tab or head 86 is mounted on the upper end of the pin above the trolley to provide a convenient finger grip to draw the pin upwardly in the trolley and away from the string against the bias of the spring 84. As each of the tracks is provided with a slide, it is obvious that the pitch of each of the strings may be varied by positioning the slides at various places in their respective tracks. Thus, the slides provide a means for presetting each string to any desired pitch within a range of nearly two octaves above the base pitch of the string. To assist the youngster a note rule as suggested in FIG. 5 may be provided along each of the tracks to indicate the pitch which will be sounded by each of the strings when the respective slides are positioned at any point in the tracks.

From the foregoing it will be appreciated that the tuning device comprises a wholly detachable superstructure fastened over the fingerboard of the instrument. The device enables the instrument to be tuned to any chord or other series of three notes which the child can then produce without using the fingers of the left hand. The notes may be sounded simultaneously by using the flat position of the bridge, namely level 42, or, in the arched position with the outside strings in the corners 54 and 56 the strings may be bowed separately.

Since a great many compositions are built upon one, two or three underlying chords, three youngsters playing their respective instruments could form an accompanying orchestra for a large repertoire of songs. A director would be needed to indicate when each of the youngsters should start and stop his particular chord. With the strings in the arched position, namely with the outside strings in the corners 54 and 56, a certain number of simple melodies can be played. Some simple melodies consist of only three notes and therefore can be played with one instrument. Other melodies can be played only by two or three instruments each tuned differently. Both melodic and rhythmic simplifications of most well known melodies are available and can be performed with one or more instruments.

As the tuner is detachable from the fingerboard, the pitch of each of the strings can be controlled by the fingers. Merely by removing the band 67 from about the peg box 66 and slipping the clips 69 from underneath the other end of the fingerboard the tuner may be removed to expose the strings to allow the player to control the pitch of the strings with his fingers. In order to facilitate locating the fingers correctly, inverse frets or

grooves are provided in the fingerboard as suggested in FIGS. 1 and 2 at 90. In the drawing four inverse frets are shown incorporated into the fingerboard. These small grooves cut across the fingerboard are shown in the close 2-3 pattern commonly used in the first stages of left hand manipulation. These frets are preferably barely perceptible to the fingertips and in any case should require the cooperation of the ear to achieve correct intonation. Because the frets are inverted and further because the ear is required as an aid to correct intonation, they will not prevent the student from acquiring proper playing habits.

From the foregoing description it will be appreciated that numerous modifications may be made on this invention without departing from its spirit. Moreover, it will be appreciated that certain of the features of this invention may be employed without others. Therefore, it is not intended that the breadth of this invention be limited to the specific embodiment illustrated and described. Rather, it is intended that the breadth of this invention be determined by the appended claims and their equivalents.

What is claimed is:

1. A string instrument comprising

a body having a fingerboard extending from one end of the body and a tailpiece mounted at its other end and having an intermediate bridge,

three strings extending from the outer end of the fingerboard to the tailpiece, said bridge having two levels with one of said levels supporting all of the strings in a single plane and with the other of said levels adapted to support the outer of the three strings below the middle string so that the three strings are effectively arched so that the strings may be bowed separately,

inverse frets provided in the fingerboard to serve as a guide for positioning the fingers,

a tuner including a frame detachably secured to the fingerboard and overlying the strings,

three tracks formed in the frame and running generally parallel to the strings,

and means including a pad mounted in each of the tracks adapted to engage each of the strings for varying the pitch of each string.

2. A string instrument as defined in claim 1 further characterized by

each of the last-named means including a slide movable along the track,

a pin extending downwardly from the slide and carrying the pad at its lower end,

and biasing means engaging the pad urging the pad against the string beneath it.

3. A string instrument comprising

a body having a fingerboard, strings and bridge, a tuner removably carried by the fingerboard and extending over an appreciable portion of its length,

a plurality of tracks formed in the tuner and each overlying one of the strings,

a slide mounted in each track and movable along the track length,

a pin extending downwardly from the slide in the direction of the string beneath,

a pad carried on the end of the pin and spring biased to engage the string beneath it,

and means for overcoming the bias of the pad for moving the pin with its pad along the track so that the pad may engage any selected portion of the string beneath the track.

4. A tuning device for a string instrument comprising

a body adapted to be detachably secured to the fingerboard of the instrument,

a track formed in the body,

a slide movable in the track and carrying a pad for engaging a string of the instrument above the fingerboard,

and means for overcoming the bias of the pad for moving the pin with its pad along the track so that the pad may engage any selected portion of the string beneath the track.

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a note hole located adjacent said track to indicate the pitch to be sounded by said string when said slide is positioned at points along said track, and yieldable means for biasing the pad into engagement with the string.

5. A tuning device for a string instrument as defined in claim 4 further characterized by said body having a track and slide for each string of the instrument, and means for moving the slides independently of one another.

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10 LEO SMILOW, *Primary Examiner.*