Feb. 17, 1931. F. H. SCHULENBERG 1,792,608

VIOLIN STRING TIGHTENER

Filed Oct. 10, 1929

Fig. 1

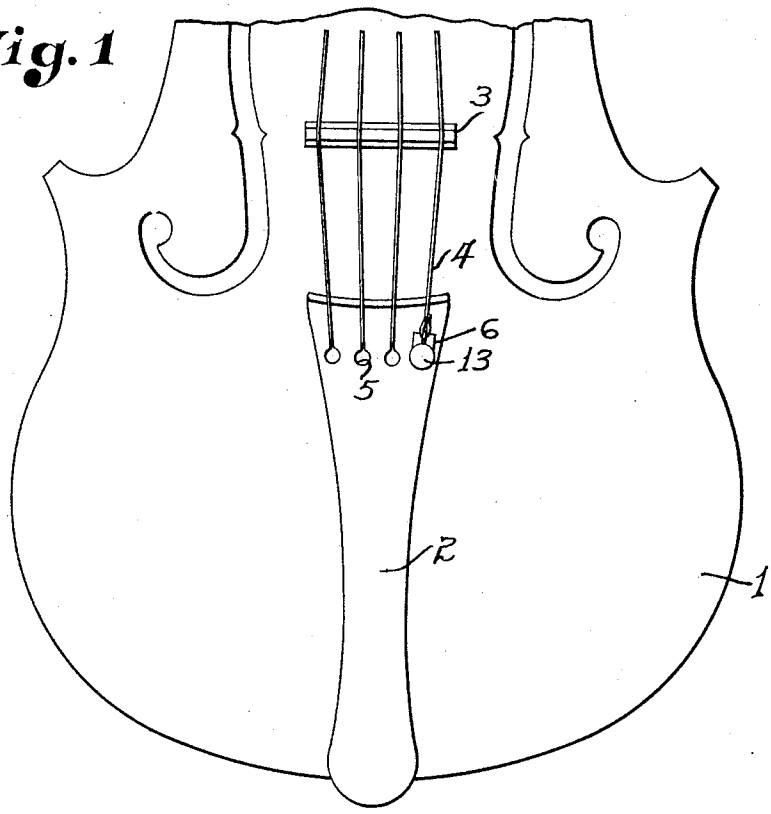


Fig. 2

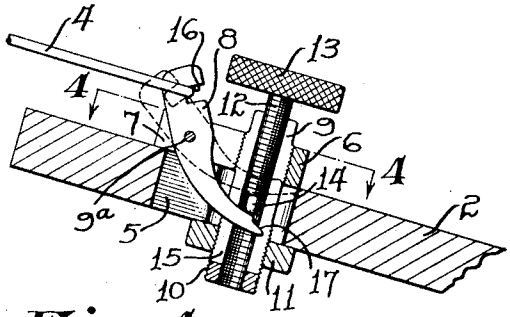


Fig. 3

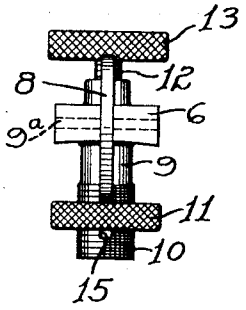
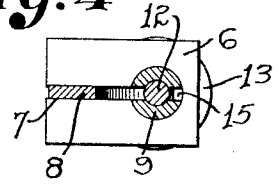


Fig. 4



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Patented Feb. 17, 1931 1,792,608

UNITED STATES PATENT OFFICE

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VIOLIN-STRING TIGHTENER

Application filed October 10, 1929. Serial No. 398,771.

This invention relates to musical instruments, but more particularly to a tightener for the metal E string of musical instruments.

It has been found difficult to tune the metal E strings of violins to the proper degree of accuracy by the usual adjusting pegs. A finer adjustment is desirable, and for this purpose adjustable anchors have been provided for the end of this string in association with the tail piece. These anchors or adjusters are equipped with means for effecting a fine and delicate adjustment of the string tension, but heretofore these devices have been found to be impractical, because they interfere with the proper sympathetic vibration of the instrument, cause displacement of the tail piece, and for other reasons. An outstanding objection to these prior constructions is that they interfere with the tone quality of the instrument, and consequently are unsatisfactory.

An object of this invention is to overcome the above difficulties, and to provide a tightener for violin E strings, which enables substantially the full length of the string to be used, which may be readily and conveniently attached to the tail piece of the violin in such manner as not to interfere with the normal vibration thereof, and which is effective for obtaining fine and ready adjustment. Other objects and advantages will hereinafter appear.

The invention is shown by way of illustration in the accompanying drawing, in which:

Fig. 1 is a plan view on an enlarged scale of a portion of a violin showing the tail piece with the strings connected thereto;

Fig. 2 is a sectional elevation of the tail piece with the tightener mounted thereon;

Fig. 3 is a front end elevation of the tightener removed from the tail piece; and

Fig. 4 is a transverse sectional elevation on the line 4—4 of Fig. 2.

The illustrated embodiment of the invention comprises a violin 1 having the usual tail piece 2, bridge 3, and strings, including the metallic E string 4. All the strings, with the exception of the E string, are attached in the usual manner to the tail piece through openings 5 provided therein.

In accordance with this invention an adjustable anchor or tightener is mounted on the tail piece for the end of the E string 4. This tightener consists of a base 6 of metal or other suitable material provided with an elongate slit 7 extending a substantial distance therein. The under surface of the base 6 is slightly curved to conform to the normal curvature of the tail piece 2. Disposed within the slit 7 is a lever 8, which is pivoted intermediate its ends at 9*a* to the base 6. It will be observed that the pivot pin 9*a* is positioned closer to the outer than the inner end of the lever.

Having screw threaded engagement with the base 6 is a tubular post 9, a portion of which extends above the upper surface of the base 6, but the greater portion thereof depends from the base 6 and extends through one of the openings 5 provided in the tail piece. The outer end of the post 6 is provided with screw threads 10 to receive a nut 11, which may be screwed against the underside of the tail piece in order to clamp the tightener securely in position and prevent rattling thereof with respect to the tail piece.

The post 9 is provided with a hollow bore to receive a screw threaded stem 12, which has a knurled head 13 to facilitate adjustment thereof. The lower end 14 of the stem 12 is rounded, and is engageable with the inner end portion of the lever 8. In this instance the post 9 is provided with a longitudinal slit 15 extending from the outer end and terminating adjacent the inner end. The inner end of the lever 8 is disposed in the slit 15, and may swing in a vertical plane therein.

The outer end portion of the lever 8 is provided with a hook 16 to receive the looped end of the E string 4. From the above it is apparent that by turning down on the stem 12 the lever 8 is moved in a clockwise direction in order to draw the string 4 toward the tail piece, and thereby effect a delicate adjustment of the string. String-tightening adjustment may be made until the inner end of the lever engages the nut 11, which acts as a stop for this direction of movement. The base 6 provides a stop for limiting the movement of the

lever 8 in the opposite direction. As shown, the inner end 17 of the lever 8 is cut away slightly to effect the desired engagement with the base 6.

A cardinal feature of the invention resides in enabling the full length of the E string to vibrate freely, and so construct and mount the adjuster that vibration thereof, independent of the tail piece, is eliminated in order that the full and natural vibration of the instrument may be obtained. It will be apparent that delicate and fine adjustment of the E string may be effected by a simple turning of the knurled head 13.

While the invention has been described in connection with the metallic E string of a violin, it is to be understood that this tightener may be used to advantage with other string instruments, and the above description is given by way of illustration, and not of limitation. Numerous changes in details of construction, arrangement and operation may be effected without departing from the spirit of the invention, especially as defined in the appended claims.

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

1. The combination with a tail piece of a musical instrument, of a string tightener therefor, said tightener comprising a base mounted on the upper side of said tail piece, a member depending from said base and extending through said tail piece, means on the outer end portion of said member and engaging the underside of said tail piece for holding the tightener in place, the depending portion of said member having an elongate slit, an element pivoted intermediate its ends to said base and having its inner end disposed in said slit, a stem screwed in said member for engaging the inner end of said pivoted element, and a hook on the outer end of said element to receive a string to be tightened.

2. A string tightener for musical instruments having tail pieces comprising a base adapted to be mounted on the upper side of the tail piece, a post projecting downwardly from said base and adapted to extend through the tail piece, a stem longitudinally adjustable in said post, said post having a longitudinally elongate slit, a lever pivoted intermediate its ends to said base, a hook on the outer end of said lever to receive a string to be tightened, the inner end of said lever extending into said elongate slit and being directly engageable by said stem whereby adjustment of said stem in one direction effects movement of said lever for tightening the string, the pivotal connection for said lever being closer to the outer end than the inner end, and means on said post for holding said base against movement.

In testimony whereof I have hereunto signed my name to this specification.

FREDERICK H. SCHULENBERG.