

June 15, 1954

W. B. STRATON

2,680,987

TAILPIECE FOR STRINGED INSTRUMENTS

Filed March 2, 1951

2 Sheets-Sheet 1

Fig. 1.

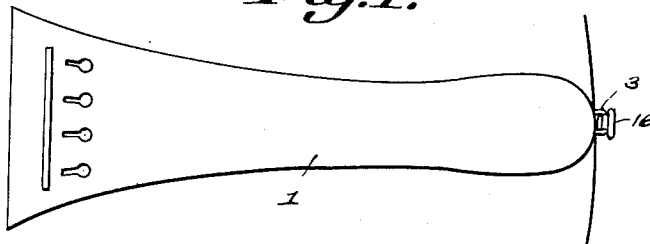


Fig. 2.

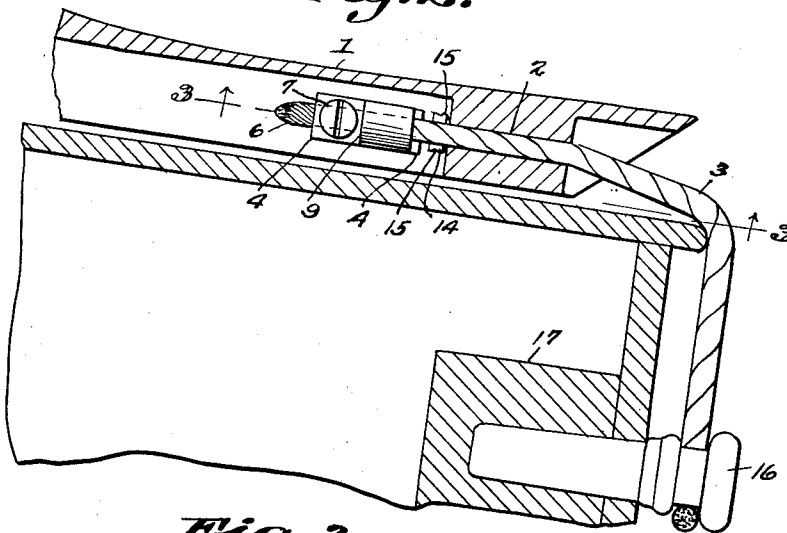


Fig. 3.

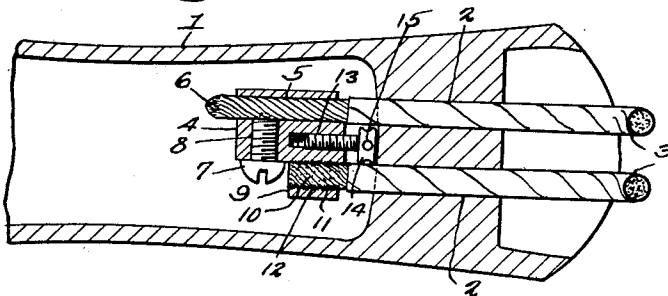
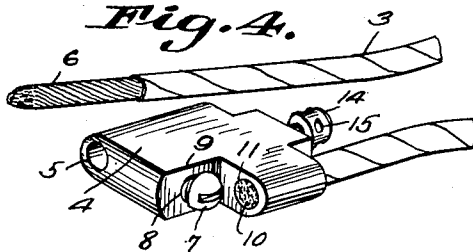


Fig. 4.



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Fig. 5.

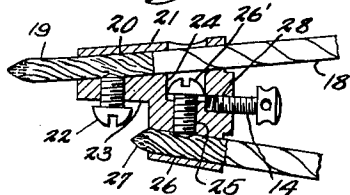


Fig. 6.

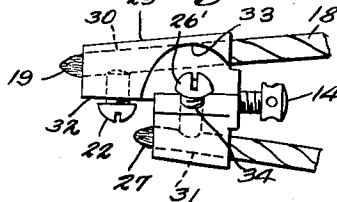


Fig. 7.

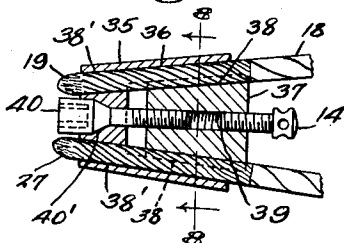


Fig. 8.

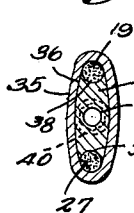


Fig. 9.

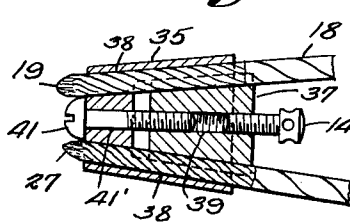


Fig. 10.

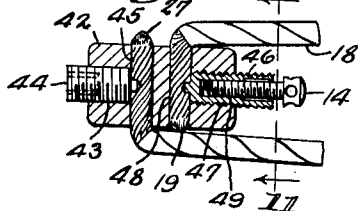


Fig. 11.

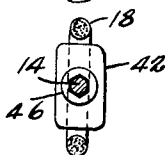


Fig. 12.

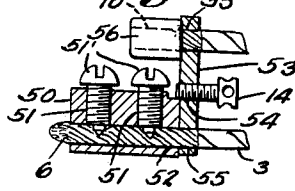


Fig. 13.

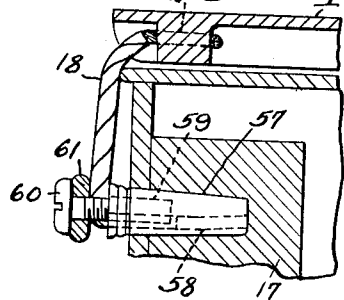


Fig. 14.

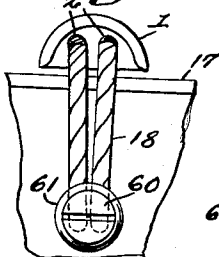


Fig. 15.

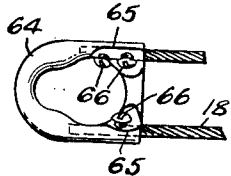
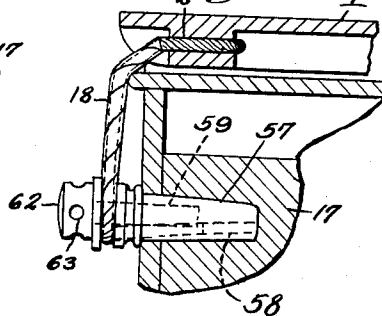


Fig. 16.

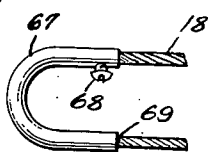


Fig. 17.

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TAILPIECE FOR STRINGED INSTRUMENTS

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Application March 2, 1951, Serial No. 213,587

2 Claims. (Cl. 84—302)

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This invention relates to tail pieces for violins and other stringed instruments.

In Patent No. 2,481,362, issued to me on September 6, 1949, there is set forth a tail piece adjustable to selected positions relative to the end button commonly provided.

The present invention aims to provide a generally improved tail piece construction having the adjustability of the tail piece of the above-described patent, while preserving the appearance of a conventional tail piece.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts, hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawings,

Fig. 1 is a top plan view of the improved tail piece.

Fig. 2 is an enlarged longitudinal section.

Fig. 3 is a section on line 3—3 of Fig. 2.

Fig. 4 is a fragmentary perspective view of the shackle.

Fig. 5 is a plan section through a modified shackle.

Fig. 6 is a bottom plan view of a second shackle modification.

Fig. 7 is a plan section of a third shackle modification.

Fig. 8 is a section on line 8—8 of Fig. 7.

Fig. 9 is a plan section of a fourth shackle modification.

Fig. 10 is a plan section of a fifth shackle modification.

Fig. 11 is a section on line 11—11 of Fig. 10.

Fig. 12 is a plan section of a sixth shackle modification.

Fig. 13 is a fragmentary longitudinal section through an instrument and tail piece showing a modified end button.

Fig. 14 is a fragmentary end elevation of said instrument and modified end button.

Fig. 15 is a fragmentary longitudinal section through an instrument and tail piece showing another modified end button.

Fig. 16 is a plan view of a connecting bracket between a cable and end button.

Fig. 17 is a plan view of a modified connecting bracket.

Referring to the drawings in detail, in Figs. 1-4 there is illustrated a tail piece construction

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wherein the tail piece includes a main member 1 of conventional exterior appearance having a boss on its underside formed with parallel longitudinal open-ended bores 2 through which extend the end portions of a cable 3.

Concealed from view under the tail piece and positioned in advance of the boss is a shackle including a body 4 having adjacent one side an open-ended longitudinal bore 5 into which is extendable one end 6 of the cable. A set screw 7 threads into a threaded transverse bore 8 communicating with bore 5, the set screw head being recessed in a cut away portion 9 formed in the opposite side of the body.

The other cable end 10 is extended into a longitudinal open-ended bore 11 formed in said opposite side of the body and opening into the cut away portion 9, and said cable end 10 is permanently and fixedly secured in the bore 11 by solder 12 or its equivalent.

Formed in the back wall of the body 4 medially between the opposite sides of the body is a threaded socket 13 for an adjusting screw 14 the head of which has a circumferential series of openings 15 any one of which can receive a tool such as a straight rod, not shown, to be used for rotating the adjusting screw.

The medial portion of the cable 3 is looped around an end button 16 of a stringed instrument 17.

In use, the end 6 is inserted in the bore 5, and the set screw 7 tightened thereagainst. Thereafter, the adjusting screw 14 is rotated so that its head engages the boss of the tail piece. Rotation of the adjusting screw in one direction will shift the tail piece body 1 to adjust said body to the right in Fig. 2, longitudinally of the instrument. Rotation in the opposite direction permits the tail piece to be shifted to the left.

The cable 3 is preferably of metal, such as stainless steel, covered with plastic to give the appearance of gut. Gut wears out, breaks, stretches, and muffles the tone. Metal cable, however, is permanent, durable, is highly adjustable when used with a shackle such as that shown, and can be kept in proper string-length at all times in relation to the length of the instrument. Additionally, it carries the vibration to the body of the instrument by firm attachment so that the tone is materially improved. Another important feature is that the adjustable shackle and metal cable is a completely simplified construction permitting any instrument owner to apply and adjust the shackle and cable to his own instrument with no more than a simple tool

such as a small screw driver. Still further, the cable will not stretch when made of metal and is not affected by humidity or temperature. At the same time, due to its being plastic covered, it is of attractive appearance and resembles gut so closely as to suit the taste of even the most exacting musician.

The plastic cover, further, protects the metal from weather stains and perspiration.

In Fig. 5, a cable 18 has one end 19 extendable through an open-ended longitudinal bore 20 formed in one side portion of a shackle body 21. A set screw 22 threads laterally in a transverse bore, the head of the set screw being disposed in a recess 23 formed by cutting away part of the opposite side portion of the body.

In the first-named side of the body is a transversely disposed recess 24 intersecting with and crossing the bore 20. At its bottom the recess 24 communicates with a transverse threaded bore 25 receiving set screw 26' countersunk in the recess 24. The set screw 26' is threadable against the other end 27 of the cable, said other end extending through longitudinal bore 26 formed in the shackle body and opening into the recess 23.

A threaded socket 28 corresponds to the threaded socket 13 of the first shackle form and receives adjusting screw 14 formed like and usable like the adjusting screw of the first shackle form.

In Fig. 6 the shackle body 29 has bores 30 and 31 receiving the respective ends 19 and 27 of the cable 18, set screw 22 being threaded against the end 19 through a transverse threaded bore formed in the shackle body. In this form of the invention, however, the set screw 26' is not recessed in a recess like the recess 24 shown in Fig. 5. Instead, the bottom face of the body is partially cut away to clear the set screw 26'. The set screw threads against cable end 27 through a threaded, transverse, inclined bore 34.

In Fig. 7 a flared shackle body 35 is of elliptical cross section and is closed at its small end. The other end a wedging recess having rearwardly diverging side walls, and extending into the wedging recess is a wedge 37 the opposite sides of which are formed with end to end transversely concaved recesses 38 receiving the cable ends, so that said cable ends can be wedged against the opposite sides of the wedging recess when the wedge is forced to the left in Fig. 7. After passing through the recesses 38, the cable ends extend through openings 39' formed in the closed end of the shackle body and communicating with the wedging recess.

The wedge is formed with an open-ended, longitudinal, medially located threaded bore 39. Threaded into the inner end of the bore 39 is an allen screw 40, having a flared end portion disposed in correspondingly shaped center opening 40' provided in the closed end of the shackle body.

When the allen screw is rotated in one direction, it will draw the wedge 37 to the left in Fig. 7 to clamp the cable ends to the shackle body, after adjustment of the cable length as desired.

Threaded in the outer end of bore 39 is the adjusting screw 14, used in the same manner as previously described.

In Fig. 9, the shackle is of a construction identical to that of Fig. 7, with the exception that a specially flared opening such as shown at 40' is not necessary. Instead, a smooth-walled cylindrical opening 41' receives the shank of the wedge adjusting screw 41, the screw 41 being

used in the same manner as the allen screw 40. In Fig. 10 a rectangular shackle body 42 has a threaded socket 43 at one end receiving an allen set screw 44 threadable against cable end 27, that is extended laterally through the transverse open-ended bore 45 communicating with the threaded socket 43.

Another allen set screw 46 threads in a threaded socket 47 formed in the opposite end of the shackle body, and communicating with another transverse bore 48 into which extends the cable end 19. The allen screw 48 is tapped to provide a threaded socket 49 receiving the adjusting screw 14.

In Fig. 12 the shackle body 50 has spaced transverse bores 51 receiving set screws 51' threadable against cable end 8. The cable end extends through a longitudinal bore 52 formed in the shackle body and communicating with the threaded set screw recesses.

A back plate 53 is permanently and rigidly secured in any suitable manner to the shackle body and projects transversely beyond one side of the shackle body. The plate 53 is formed with a threaded center opening 54 for the adjusting screw 14 and has side openings 55 for the cable ends. The cable end 18, after extension through one of the openings 55, is fitted with a cap 56 to prevent withdrawal through said opening 55.

In Fig. 13 is illustrated a shackle construction for the cable wherein the end button is the shackle. In this form of the invention there is no shackle under the tail piece body 1 in front of the boss. Instead, the medial portion of the cable is extended through the bores 2 of the boss and is looped around said boss. The ends of the cable extend downwardly and are attached to an end button 57 having a pair of end-to-end longitudinal bores 58 into which the cable ends extend. The end button also has a threaded socket 59 extending inwardly from its outer end for part of its length, and threaded in this socket is a screw 60. When the screw 60 is turned home, the cable ends are securely clamped in the bores 58, the cable being tightly gripped between the end button and a washer 61 carried by the screw.

In Fig. 15 the construction is the same as that of Fig. 13, except that the screw 62 has a head formed with circumferentially spaced openings 63 to receive a cross pin, not shown, or a rod for turning the screw home.

In Fig. 16, a connecting bracket is provided for securing the ends of a cable to an end button, this bracket being in the form of a small plate having a center opening to receive an end button. The bracket body 64 is cut away at opposite sides as at 65 to provide clearance for set screws 66 threaded against the opposite ends of the cable, the bracket having inwardly extending cable-receiving recesses at opposite sides into which the set screws thread laterally.

In Fig. 17 a connecting bracket 67 is of U shape, and has inwardly extending bores at opposite sides receiving the respective cable ends. Threadable against one end is a set screw 68, while solder 69 or its equivalent permanently secured the other end of the cable in its recess.

What is claimed is:

1. In a tail piece for stringed instruments, said tail piece being of the type comprising an elongated body having an elongated longitudinally extending recess opening through its under side and disposed at one end thereof, said tail piece also having a relatively short recess opening

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through its under side at its opposite end, a transversely extending rib carried by the tail piece between adjacent ends of the recesses, said rib having spaced parallel passages extending therethrough and opening into the recesses, and a cable extending into the passages and through the short recess in the body and forming an anchoring loop for the tail piece, means for adjusting the anchoring loop relative to the tail piece comprising a cable clamp within the elongated recess adjacent the rib, one end of said cable being fixed in the cable clamp in axial alignment with one of the passages, said cable clamp having an opening extending therethrough in alignment with the opposite passage, said cable extending into the opening in the cable clamp and being removably clamped therein and means carried by the cable clamp and engaging the rib between the passages for moving the cable clamp relative to the body.

2. The structure defined in claim 1 in which the cable clamp is provided with an internally screw threaded recess extending through the end

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thereof adjacent the rib, and the means for moving the cable clamp relative to the body including an externally screw threaded stem threadedly secured in the threaded recess, a head carried by the stem and engaging the rib midway between the passages, and said head is provided with peripherally spaced radially extending recesses for receiving an implement for turning the head and stem to adjust the position of the cable clamp relative to the tail piece.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,391,457	Buckley et al.	Sept. 20, 1921
1,757,170	Callier	May 6, 1930
1,791,977	Speckendorf	Feb. 10, 1931

FOREIGN PATENTS

Number	Country	Date
130,179	Switzerland	Feb. 16, 1929
160,465	Switzerland	May 1, 1933