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TAIL PIECE.

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Our invention relates generally to tail pieces for stringed musical instruments and has particular reference to certain improvements in construction, which include hinged cover and base plates, string fastening means, and a substantially universally adjustable supporting member for the cover and base plates.

The object of the invention is to provide an improved device of this character applicable to substantially any type of stringed musical instrument utilizing a tail piece.

A further object of our invention is to provide a cover plate, base plate and rear plate pivotally connected together by a common hinge pin for the purpose of rendering the parts adjustable with respect to one another and to the head of the instrument.

A still further object of the invention is to provide a hinged cover plate of the character described, having a series of string chambers running longitudinally thereof which, when the cover is in closed position, provide a separate compartment for each string beyond the point where it is fastened to the end of the tail piece.

Another object of our invention is the provision of string fastening means in the base plate immediately under the hinged cover plate so as to facilitate removal and application of the strings of the instrument.

Other objects of the invention, include the provision of improved features of construction which enable the tail piece to be adjusted with respect to the top hoop of the instrument, a spring actuated cover plate and stop therefor, for normally tending to hold the cover closed and for limiting its movement in open position.

The invention is illustratively exemplified in the accompanying drawings, in which Figure 1 is a plan view of an instrument head with our improved tail piece in place; Figure 2 is a side elevational view of the same; Figure 3 is an end elevational view of the tail piece; Figure 4 is a detail side elevational view of the base plate; Figure 5 is a substantially transverse sectional view of the device taken on lines 5—5 of Figure 1; Figure 6 is a plan view of the tail piece with the cover plate in raised position to show the string attaching means; Figure 7 is a substantially transverse sectional view of the tail piece taken on lines 7—7 of Figure 2; Figure 8 is a substantially longitudinal sectional view of the device taken on lines 8—8 of Figure 1; Figure 9 is a sectional view of the supporting plate taken on lines 9—9 of Figure 2; Figure 10 is a detail perspective view of the supporting plate; Figure 11 is a view of a hook used to attach the tail piece to the instrument; and Figure 12 is a view of a bolt for attaching the tail piece to the instrument.

Referring to the drawings, 10 designates the rim of a musical instrument which for the purpose of illustration may be that of a banjo. The rim 10 is provided with a continuous peripheral groove 11 in which is seated a hoop 12 over which the skin head 13 is turned to project over the side of the rim 10. A flesh hoop 14 receives the edge of the head 13 as illustrated in Figure 8, and is drawn downwardly to stretch the head 13 by means of a top hoop 15, the latter having a groove 16 in its upper side to receive the usual screw hooks, not illustrated.

One of the screws holding the top hoop 15, and carried by the usual rim screw device 17 includes a headed bolt or straining screw 18 which operates to adjustably attach our improved tail piece to the instrument.

The tail piece comprises a supporting plate 19, base plate 20 and hinged cover plate 21. The supporting plate 19 is an upright member having the lower end turned outwardly at right angles to the upright portion to provide a projection 22 having a triangular opening 23, the base of which parallels the line of the bend between the projection 22 and upright portion. The purpose of the opening 23 is to receive the bolt 18 therethrough, the shape of the slot enabling the supporting plate to be adjusted radially and circumferentially of the rim 10, as illustrated clearly in Figures 8, 9 and 10. The supporting plate 19 is also provided with an opening 24 in the upright portion of the wall just above the bend. According to the arrangement, illustrated in Figure 11, the bolt 18 is provided with a hook 25 at its upper end to engage over the edge of the opening 24, thereby holding the plate in position with respect to the rim 10. The upper end of the supporting plate 19 is provided with outwardly and rearwardly projecting ears or lugs 26 which are disposed parallel to each other and have at their free ends alined openings 27 to receive a hinge pin 28. Intermediate the upright sides of the sup-

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FABRIC.

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The present invention relates to an improvement in fabrics, and has for one of its objects the provision of a fabric in which "runs" are prevented.

More specifically my improved fabric is so constructed that should a thread be ruptured the stitches above and below the ruptured thread lock about the threads above and below them, thereby preventing running of the stitches within the wale in which the rupture occurred, the stitches around the rupture taking their own peculiar formation and absorbing and neutralizing the tension released by the rupture.

My improved fabric it will be evident is quite superior to the knitted fabrics employing so-called chain stitches wherein if a thread is broken or dropped the full length of the chain is allowed to pull out, there being nothing to resist it.

A fabric constructed in accordance with the present invention may contain the same number of stitches in a given area as a knitted fabric, and may be of the same grade of material and of the same weight, differing therefrom in the manner in which the threads are interlaced or joined to each other, which difference prevents runs should any thread of the fabric be broken.

In the accompanying drawings, I have illustrated two embodiments of the invention, on a very much enlarged scale in order that my improved construction may be clearly understood.

Fig. 1 is a plan view of a fabric constructed in accordance with my invention;

Fig. 2 is a section on the line 2—2 of Fig. 1; and

Fig. 3 is a view similar to Fig. 1 of a modification.

Referring to the drawings in detail and first of all to Figs. 1 and 2:

My improved fabric may be composed of as many threads as desired, twelve or fifteen hundred for example, the number and size of the threads fixing or determining the length of the fabric. As illustrated the length of the fabric is the distance from one side to the other as viewed in the drawing, and the width the distance from top to bottom. In the illustration, Figs. 1 and 2, the fabric is eight threads long, eight threads only having been shown to simplify the illustration. These threads have been designated 1, 2, 3, 4, 5, 6, 7 and 8, respectively.

The threads making up the fabric may be taken from spools or other suitable apparatus, and in constructing the fabric are first disposed in parallel relation. Each thread is then bent to form a partial loop, the thread 1 being bent to the left for instance as viewed in Fig. 1, as indicated at 9; thread 2 at 10; thread 3 at 11; thread 4 at 12; thread 5 at 13; thread 6 at 14; thread 7 at 15; thread 8 at 16.

It is to be noted that these bends or partial loops all face the one direction.

In making the aforementioned bends, 9, 10, 11, etc., the thread 1 is interlaced with thread 2; thread 2 with thread 3; thread 3 with thread 4, etc., throughout the length of the fabric.

With respect to this interlacing: It will be seen that the thread 1, to one side of the bend 9, passes over the thread 2 at one side of the bend 10 and under the same thread beyond the bend 10. This arrangement may be reversed if desired without changing the results to be attained. It will be seen also that the thread 2, at one side of the bend 10 therein, passes over the thread 3 at one side of the bend 11 in the latter and under the same thread at the other side of the bend 11. This identical passage continues throughout the length of the fabric.

This crossing of one thread over the other first in one direction and then the other, or this interlacing of the threads will, it is evident, produce additional bends in each thread, these latter bends facing oppositely to the bends 10, 11, 12, etc. These latter bends I shall designate 17, 18, 19, 20, 21, 22, 23 and 24, respectively, corresponding to threads 1, 2, 3, 4, 5, 6, 7, 8, in the order named.

Each thread of the fabric is next given a bend, or is bent or partially looped to one side of the bends 9, 10, 11, etc., actually above these bends as viewed in Fig. 1. These bends have been designated 25, 26, 27, 28, 29, 30, 31 and 32, and correspond respectively to threads 1, 2, 3, 4, etc.

Here again the threads 1 and 2 are interlaced; threads 2 and 3; threads 3 and 4; etc., throughout the length of the fabric, and as before explained in connection with the crossing or interlacing first mentioned, the thread

11. A tail piece for a stringed musical instrument, having a rim plate and top hoop adjustable thereover to stretch the head over the rim comprising a supporting bracket to support the tail piece, means to adjustably support the bracket on the rim, and means adjustable on the bracket and operating to engage over the top hoop.

12. A tail piece for a stringed musical instrument having a rim plate and top hoop adjustable thereover to stretch the head over the rim, comprising a supporting plate to support the tail piece, means to adjustably support the supporting plate radially and axially of the rim, means adjustably carried by the supporting plate and operating to engage over the top hoop, and a base and cover plate hinged on a common axis to the supporting plate.

13. A tail picee for a stringed musical instrument having a rim plate and top hoop adjustable thereover to stretch the head over the rim, comprising a supporting plate to support the tail piece, means operating to adjustably support the supporting plate radially and axially of the rim, means adjustably carried by the supporting plate and operating to engage over the top hoop, a base plate hinged to said supporting plate, and means operating to adjust the base plate about its hinged connection and with respect to the head.

14. A tail piece for a stringed musical instrument having a rim plate and top hoop operating to stretch the head over the rim, comprising a supporting plate to support the tail piece comprising an L-shaped bracket having projections provided with alined openings and offset portions pressed from the surface of the bracket and operating to engage the adjacent curved surface of the top hoop to steady the position of the bracket, means adjustably carried by the bracket and operating to engage over the top hoop, base and cover plates hinged to the bracket, and a common hinge pin mounted in the said alined openings in the projections for supporting the base and cover plates.

15. In combination with a stringed musical instrument having a rim and adjustable top hoop to stretch the head over the rim, of a tail piece therefor, and means to adjust the tail piece radially, axially and circumferentially of the rim.

16. In combination with a stringed musical instrument having a rim and adjustable top hoop to stretch the head over the rim, of a tail piece therefor comprising a supporting plate made from a blank having upright projections at one end bent at right angles to the plane of the blank and provided with alined openings, a lateral projection at the other end bent rearwardly and provided with a triangular opening, means carried by the rim and operating through said triangular opening to engage and adjust the supporting plate radially, axially and circumferentially of the rim, a base plate and cover plate pivotally mounted in the alined openings of the first mentioned projections, an L-shaped member adjustable on the rear plate and arranged to engage over the said top hoop, means to yieldably hold the base and cover plates in the direction of the head, and means operating to adjust the base plate against the yieldable means.

17. A tail piece for a stringed musical instrument, comprising a supporting plate, base plate and cover plate, each thereof having projections nested one within the other, and a common hinge pin projecting through said nested projections.

18. A tail piece for a stringed musical instrument, comprising a supporting plate, base plate and cover plate, each thereof having projections nested one within the other, a common hings pin projecting through said nested projections, and means operating to adjust the supporting plate radially, axially and circumferentially of the instrument.

In testimony whereof we affix our signatures.

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