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C. E. MATHA

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BOW FOR STRING INSTRUMENTS

Filed Jan. 23, 1922

Fig. 1.

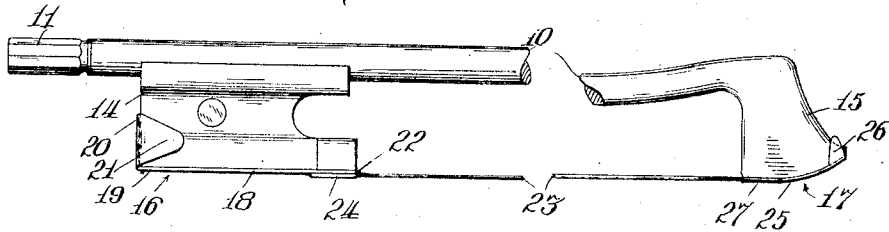


Fig. 2.

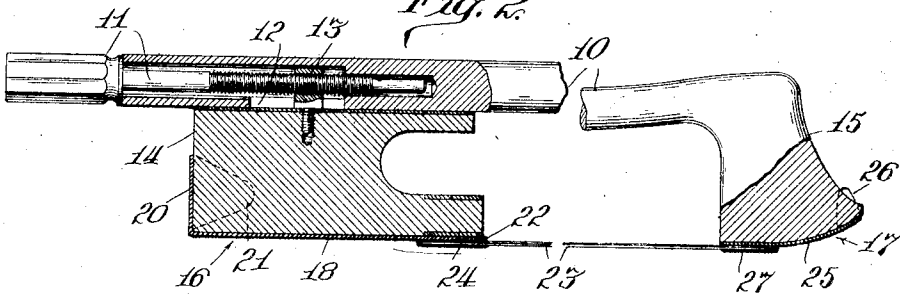


Fig. 3.

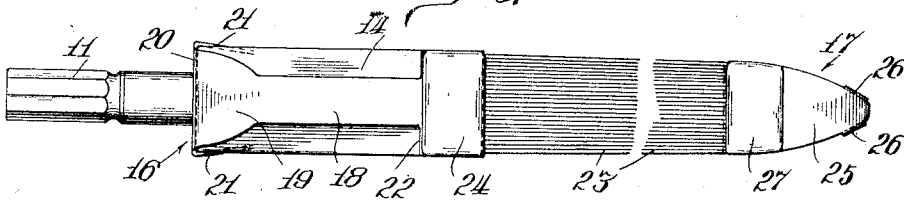
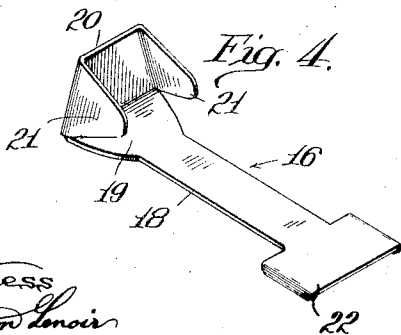
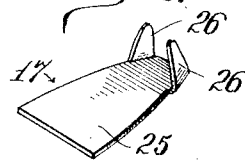


Fig. 4.



Witness
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Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES E. MATHA, OF CHICAGO, ILLINOIS.

BOW FOR STRING INSTRUMENTS.

Application filed January 23, 1922. Serial No. 531,031.

To all whom it may concern:

Be it known that I, CHARLES E. MATHA, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bows for String Instruments, of which the following is a description, reference being had to the accompanying drawing, which forms a part of my specification.

My invention relates to a bow for violins and similar string instruments, and pertains to the employment of a suitable number of attenuated strands or fine hair-like strings of steel or other suitable metal instead of horse-hair as has heretofore been the case, with the result that a more lasting or durable bow is produced, which at the same time will provide a finer tone quality when properly supplied with rosin.

A further object of my invention is to provide means whereby the strings are removably secured at their ends to the bow-tip and frog, so as to permit the quick removal and replacement thereof when occasion requires and thus enable the use of the bow proper.

The objects of my invention, as well as advantages inherent in the construction, will all be more fully comprehended from the detailed description of the accompanying drawing, wherein:—

Figure 1 is a side elevation of my improved bow, with an intermediate portion broken away.

Figure 2 is an enlarged longitudinal sectional view of the rear or heel end of the bow, with a portion of the tip being also shown and partly in section.

Figure 3 is a bottom plan view, or view looking at the lower or face side of the string portion of the bow, with the intermediate part broken away.

Figure 4 is a perspective view of the fastening member or clip for one end of the strings; while

Figure 5 is a perspective view of the clip or fastening member for the opposite ends of the strings.

The invention, as illustrated in the drawing, comprises the usual staff 10 of the bow, the finger-grasping end whereof is socketed or channeled in the usual manner to receive the threaded shank of the end piece or screw 11. The lower side of the staff 10, at the

socketed end, is provided with a slot 12 to receive the up-standing lug 13 secured to the frog or heel-piece 14 which is formed to extend partially about the sides of the staff as shown in Figure 1. The lug 13 is provided with a threaded opening for the passage of the threaded shank of the end-piece or screw 11; so that rotation of screw 11 will cause the frog or heel-piece 14 to move lengthwise of the staff 10, either toward or away from the tip or other end of the staff, in accordance with the direction in which the screw 11 is turned. As the features of the bow thus far described are of the usual well known construction and arrangement, further detailed description thereof need not be entered into.

It has heretofore been the practice to employ horse-hair for the strings of the bow; with the ends of the hair inserted in sockets formed in the under surface of the tip 15 and in the lower surface of the frog 14 and the ends of the hair embedded in a hardened mass of glue, or other suitable substance, whereby the strings or hair are permanently secured in place. As a result of such construction, in the event of a number of the strings—or horse hair—becoming broken, it became necessary to remove the hardened mass of sealing material at both ends of the bow and have a new lot of horse-hair sealed in place by a skilled individual familiar with such devices, and therefore incurring loss of time.

One feature of my invention contemplates the use of a suitable number of metallic strings, preferably steel wire or strands, of hair-like fineness, which not only possess greater strength and are more durable, but I have also found in practice, when properly rosined, will produce better tone quality.

A further feature of the invention consists in the means for removably securing the strings in place. This means comprises the clips 16 and 17 shown in detail in Figures 4 and 5, respectively; the clip 16 being intended for application to the frog or slidable block 14 of the bow, while the clip 17 is adapted to fit the toe or tip portion 15 of the bow.

The clips 16 and 17 are preferably formed or stamped out of thin sheet metal; the clip 16 consisting of the body portion or shank 18,—which is preferably slightly narrower than the bottom surface of the

frog 14, as shown in Figure 3,—which terminates at one end in the slightly flared portion 19 and the angularly disposed end 20 provided with the two side wings or forward extensions 21, 21. The portion 20 is adapted to extend upwardly against the rear side of the frog or movable member 14, as shown in Figure 2; while the wings or extensions 21, 21 are intended to fit about the opposite sides of the frog 14, as shown in Figures 1 and 3. The sides of the frog or movable piece 14 are usually made slightly concave, and as the clip 16 is made of comparatively thin steel metal, the wings or extensions 21, 21 may be pressed firmly against the concave sides of the frog and thereby maintain the clip in place against accidental removal or slipping off the frog 14. The forward end of the shank 18 preferably terminates in the enlarged portion or flat head 22, to which the rear ends of the different strings or metallic strands 23 are secured in any manner, as for example by soldering as shown at 24 in Figure 3; the head 22 being preferably of width substantially equal to the width of the frog 14, so as to accommodate or receive the desired number of strings 23, of which a comparatively great number are usually employed.

The clip 17, like the clip 16, which is intended for use at the forward end or tip of the bow, consists of a flat sheet or base portion 25, preferably made to somewhat conform with the bottom portion of the bow-tip or toe 15; while the forward and reduced end of the clip is provided with a pair of upwardly disposed lugs or wings 26, 26, which are adapted to fit over the projection or forwardly disposed lip of the bow-tip or toe 15, as shown in Figures 1 and 2. As the clip 17, with its wings 26, 26, is made of flexible sheet metal, the wings 26, 26 may be readily pressed laterally about the forward end or lip of the bow-tip 15 and thus provide a small pocket, as it were, for the lip, which will firmly hold the clip 17 in place against accidental removal. The lower side of the base portion 25 is intended to have the forward ends of the respective strings or strands secured thereto in any suitable manner, as for example by soldering as shown at 27 in Figure 3.

After the strings have been properly secured to the clips 16 and 17, the clip 17 is placed in position on the tip 15 of the bow and then clip 16 is put into place on the frog 14, by pressing the wings or extensions 26, 26 and 21, 21, respectively, into firm relation with the front lip or portion of tip 15 and the sides of the frog, in the manner previously described; the screw or end piece 11 is then turned so as to cause the frog 14 to ride rearwardly along the

staff 10 of the bow and thereby cause the strings 23 to become taut.

As is apparent from the construction shown and described, the strings and string-holding clips may be easily removed and replaced if occasion should require; such removal or replacement being readily and easily accomplished by the user of the bow, without requiring special skill or the use of special tools. If desired, the user may provide himself with a number of separate string-units, in order that he may quickly replace a defective unit or set.

It is apparent that when desired, the strings 23 may be of the usual horse-hair, instead of the metallic strings, as the ends of the horse-hair may also be secured to the clips by suitable means and thus permit of the ready removal and replacement of the string-unit when occasion requires.

I have shown what I believe to be the simplest embodiment of my invention, which has been described in terms employed merely as terms of description and not as terms of limitation, as structural modifications are possible and may be made without, however, departing from the spirit of my invention.

What I claim is:—

1. In a bow of the character described, a plurality of metallic strings, means for removably securing the strings in place and comprising, respectively, a flat body portion, to which the forward ends of the strings are intimately secured, terminating at one end with upwardly disposed bow-tip engaging lips or extensions, and a flat portion, to which the other ends of the strings are intimately secured, terminating at one end in an upwardly disposed portion provided with forwardly disposed sides or wings, adapted to engage with the rear and both sides of the frog of the bow.

2. In a bow of the character described, string-holding means consisting of a member having a portion, conforming to the under surface of the bow-tip, to which forward ends of the strings are secured and an upwardly disposed bow-tip receiving portion, and a second member having a flat portion or shank, conforming substantially to the under surface of the frog of the bow, to which the rear ends of the strings are secured and an upwardly extending rear end having forwardly disposed portions adapted to engage the rear and both sides of the frog, whereby the strings are removably secured in place.

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Witnesses:

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