Nov. 25, 1930. F. GOSPARLIN 1,783,117

BRIDGE FOR STRINGED MUSICAL INSTRUMENTS

Filed May 10, 1929

Fig. 1.

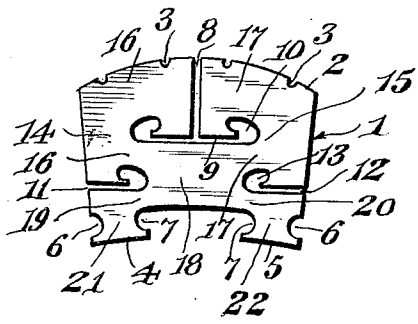


Fig. 2.

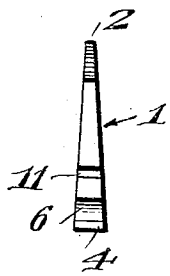


Fig. 3.

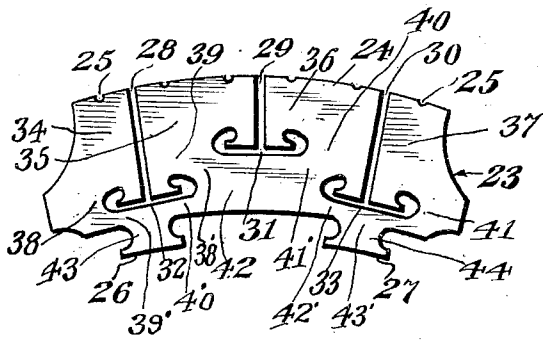
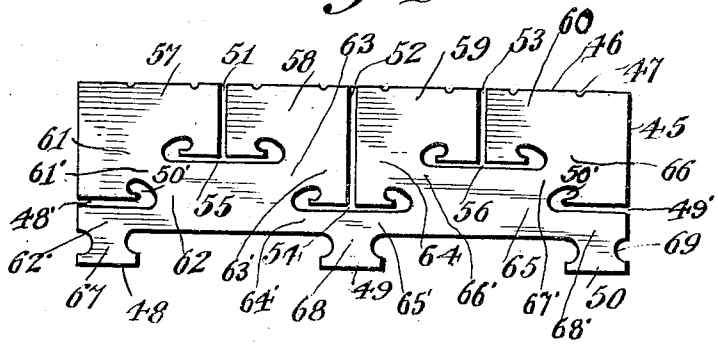


Fig. 4.



Frederick Gosparlin, INVENTOR.

BY

Geo. P. Kimmel.

ATTORNEY.

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UNITED STATES PATENT OFFICE

FREDERICK GOSPARLIN, OF CHICAGO, ILLINOIS

BRIDGE FOR STRINGED MUSICAL INSTRUMENTS

Application filed May 10, 1929. Serial No. 362,056.

This invention relates to bridges for stringed musical instruments, such as violins, bass viols, violas, cellos, guitars, both Spanish and Hawaiian, mandolins, banjos, ukeleles, banjo-ukes, taro patches, tiples, zithers, double basses, harps and lyres, and has for its object to provide, in a manner as hereinafter set forth, an article of the class referred to capable when used for providing equal balance of vibration in and to give perfect flexibility to the strings of the instrument thereby culminating in sonorous, brilliant and true tones.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a bridge for the purpose referred to which is simple in its construction and arrangement, strong, durable, thoroughly efficient in its use for the purpose intended, conveniently installed with respect to the instrument and strings of the latter and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Figure 1 is an elevation of a bridge in accordance with this invention for use in connection with four strings.

Figure 2 is a view looking towards an end edge of the bridge.

Figure 3 is an elevation of a modified form of bridge constructed for supporting six strings.

Figure 4 is still another modified form of bridge in elevation illustrating a bridge constructed for use in connection with eight strings.

The bridge body, in any of the forms shown is constructed of any material suitable for employment for bridges for stringed musical instruments. Preferably the bridge body will be formed of wood or compressed fiber but it is to be understood that the bridge body can be made from any suitable material for the purpose intended.

The bridge body preferably in transverse section will gradually decrease in thickness from its bottom to its top edge and is so illustrated. It is to be understood however that in transverse section the body of the bridge can be as desired, but as before stated the preferred form will be whereby the bridge body gradually decreases in thickness from its bottom to its top edge.

In the form shown in Figures 1 and 2 the bridge body is generally indicated at 1 and has an arcuate top edge 2 provided with spaced notches 3 for the reception of the strings of the instrument. Four notches are shown and the form illustrated in Figure 1 is for use in connection with an instrument having four strings. It is to be understood however that the top edge of the bridge body can be straight, in a manner as illustrated in Figure 4, in lieu of it being of arcuate form.

The bridge body 1 at its bottom is provided with a pair of spaced supporting lugs 4, 5 and the sides of each lug are incurved as indicated at 6, 7 and the curved sides are oppositely disposed. The bottom edges of the lugs 4, 5 are inclined or upon a slight arc, but it is to be understood that the bottom edges of the lugs can be straight in the manner as shown in Figure 4.

At the transverse median of the bridge body 1 it is formed with a perpendicularly disposed cutout to provide a space 8 of substantial width and of a length to extend from the top edge 2 of the bridge body 1 to a point above the longitudinal median of the latter. The bridge body 1, at the longitudinal median thereof and spaced a substantial distance from each end of said body is provided with a longitudinally extending slot 9 having the major portion of its length preferably of a width less than the width of the space 8. The slot 9 has communicating therewith centrally of the top thereof the lower end of the space 8. Each end of the slot 9 is of greater area than the remaining portion of such slot and each end is substantially oval

in contour as indicated at 10. The oval shaped ends of the slot 9 are disposed at opposite inclinations and extend partly over the smaller part of opening 9. The slot 9 projects laterally in opposite directions and at an equal distance from the inner end of space 8.

The bridge body 1 in proximity to the lugs 4, 5 is provided with a pair of oppositely disposed notches 11, 12, each of which has its inner end of oval contour as indicated at 13. The oval portions of the notches 11, 12 are disposed at opposite inclinations. The notches 11, 12 extend from the opposite end edges of the bridge body 1 to a point below the enlarged end portions 10 of the slot 9. The notches 11, 12 are arranged between the longitudinal median of bridge body 1 and the bottom edge of the latter.

The space 8 in connection with the opening 9 provides the bridge body with a pair of pivoting points 14, 15 for the portions 16, 17 of the bridge body. The points 14, 15 may be termed spring points and the slot 9 in connection with the notches 11, 12 forms the bridge body with pivoting or spring points indicated at 16, 17, 18, 19 and 20. The manner of setting up the lugs 4, 5 further provides pivoting or spring points 21, 22.

The space 8 divides the upper portion of bridge body into a pair of sections, such sections pivoting at the spring points 14, 15.

The setting up of the bridge body 1 with the pivoting or spring points provides equal balance of vibration in all strings and gives perfect flexibility to every string, as well as culminating in sonorous, brilliant and true tones.

The bridge body generally indicated at 23 in Figure 3 is of arcuate form and is constructed for supporting six strings wherefore the top edge 24 of the bridge body is provided with six spaced notches 25 to receive the strings of the instrument. The bridge body is formed with a pair of supporting lugs 26, 27 similar in contour to the lugs 4, 5. The bridge body 23 is formed with three spaced cutouts to provide spaces 28, 29 and 30 which extend from the top edge 24 to a point removed from the bottom of the bridge body. The space 29 is arranged at the transverse median of the bridge body 23 is perpendicularly disposed with respect to and terminates into a longitudinally extending slot 31. The form and arrangement of the space 29 and slot 31 is the same as referred to in connection with the slot 9 and space 8. The space 29 is of less length than the spaces 28, 30 and said spaces 28, 30 are disposed at outward opposite inclinations with respect to each other and terminate into longitudinally extending openings 32, 33, respectively. The form of the spaces 28, 30 and slots 32, 33 correspond to that of the space 29 and opening 31, the only difference being that the space 29 is of less length than either of the spaces 28, 30. The spaces 28, 29 and 30 divide the bridge body 23 into four sections 34, 35, 36 and 37. The lugs 26, 27 are arranged in alignment with the spaces 28, 30.

The arrangement of the spaces 28, 29, 30 and the slots 31, 32 and 33 with respect to the bridge body 23 form the latter with pivoting or spring points 38, 39, 40, 41, 42, 38′, 39′, 40′, 41′ 42′ and 43′. The form of the lugs 26, 27 provides spring points 43, 44.

The bridge body shown in Figure 4 is indicated generally at 45 and has a straight top edge 46 provided with a series of spaced notches 47 for receiving the strings of the instrument. The form of bridge shown in Figure 4 is to be employed with a musical instrument having eight strings, and eight notches 47 are employed to receive the strings. The bridge body 45 is provided with three spaced supporting lugs 48, 49 and 50 and each lug corresponds in contour to a lug 4 or 5 of Figure 1. The body 45 is formed with a pair of oppositely disposed slots 48′, 49′ having closed inner ends and their outer ends opening at the end edges of said body 45 and each of which has its inner end of oval contour, as indicated at 50′. The portions 50′ are disposed at opposite inclinations.

The bridge body 45 is formed with three spaced cutouts to provide spaces 51, 52 and 53 which extend from the top edge 46 to a point removed from the bottom edge of the bridge body. The space 52 is arranged at the transverse median of the bridge body 45 and is of greater length than the spaces 51, 53. The space 52 extends below the longitudinal median of the bridge body 45 and terminates in and is disposed perpendicular to a longitudinally extending slot 54 of a form similar to the slot 9. The spaces 51, 53 terminate above the longitudinal median of the bridge body 45 and are disposed perpendicular to and merge into longitudinally extending slots 55, 56 respectively. The slots 55, 56 correspond in contour to the slots 54. The spaces 51, 52 and 53 divide the bridge body 45 into four sections indicated at 57, 58, 59 and 60, and each section supports a pair of strings. The spaces 51, 52 and 53 in connection with the slots 54, 55 and 56 provide the bridge body with pivoting or spring points 61, 62, 63, 64, 65, 66, 61′, 62′, 63′, 64′, 65′, 66′, 67′ and 68′. As the lugs 48, 49 and 50 are of the same contour to the lugs 4, 5, pivoting or spring points 67, 68 and 69 are provided. The lug 49 is arranged in alignment with the space 49.

The thickness of any one of the forms of bridge bodies shown will be such as to provide for the pivoting or spring points indicated and under such conditions when the strings are supported by the bridge body an equal balance of vibration will be obtained for all strings and further perfect flexibility

will be given to the strings and which will result in sonorous, brilliant and true tones.

The spaces and slots are termed cutout portions. The spaces are disposed vertically and the slots longitudinally. The vertical cut out portions are disposed at an angle to the longitudinal cut out portions.

It is thought the many advantages of a universal bridge for the purpose set forth and in accordance with this invention can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which fall within the scope of the invention as claimed.

What I claim is:

1. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body.

2. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body, said slot having its major portion of less width than said space.

3. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body, said slot having each end of greater area than the remaining portion thereof, inturned and substantially of oval contour.

4. A bridge for stringed musical instruments comprising a body provided with a plurality of spaced, longitudinally extending slots and a plurality of spaced cutouts forming passages, each passage having its lower end opening into the top of a slot centrally thereof and its outer end opening at the top edge of said body.

5. A bridge for stringed musical instruments comprising a body provided with a plurality of spaced, longitudinally extending slots and a plurality of spaced cutouts forming passages, each passage having its lower end opening into the top of a slot centrally thereof and its outer end opening at the top edge of said body, each slot having the major portion thereof of less width than the width of the space which communicates therewith.

6. A bridge for stringed musical instruments comprising a body provided with a plurality of spaced, longitudinally extending slots and a plurality of spaced cutouts forming passages, each passage having its lower end opening into the top of a slot centrally thereof and its outer end opening at the top edge of said body, each slot having the major portion thereof of less width than the width of the space which communicates therewith, each of said slots having its end portions of greater area than its remaining portion, extending toward said space and of oval contour.

7. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body, said body further provided with a pair of spaced, longitudinally extending slots each having its outer end opening at one end edge of said body and its inner end of greater area than its remaining portion, extending upwardly and outwardly at an inclination and of oval contour.

8. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body, said slot having its major portion of less width than said space, said body further provided with a pair of spaced, longitudinally extending slots each having its outer end opening at one end edge of said body and its inner end of greater area than its remaining portion, extending upwardly and outwardly at an inclination and of oval contour.

9. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body, said slot having each end of greater area than the remaining portion thereof, inturned and substantially of oval contour, said body further provided with a pair of spaced, longitudinally extending slots each having its outer end opening at one end edge of said body and its inner end of greater area than its remaining portion, extending upwardly and outwardly at an inclination and of oval contour.

10. A bridge for stringed musical instruments comprising a body having supporting means at its bottom edge, said body provided with one or more spaced, endwise extending slots having the intermediate portion thereof of greater area than the end portions, said body further having one or more transversely extending cutouts providing a passage opening at its inner end in the intermediate portion of a slot and at its outer end opening at the top edge of said body.

11. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body, said body further provided with a pair of spaced, longitudinally extending slots each having its outer end opening at one end edge of said body and its inner end of greater area than its remaining portion, extending upwardly and outwardly at an inclination and of oval contour, the intermediate portions of the slots being of less width than the width of the passage.

12. A bridge for stringed musical instruments comprising a body formed with a longitudinal slot and a cutout perpendicular to said slot and providing a space opening at its inner end into the top of said slot centrally thereof and opening at its outer end at the top edge of said body, said body further provided with a pair of spaced, longitudinally extending slots each having its outer end opening at one end edge of said body and its inner end of greater area than its remaining portion, extending upwardly and outwardly at an inclination and of oval contour, the intermediate portions of the slots being of less width than the width of the passage, the width of the end portions of the slots being greater than the width of the passage.

In testimony whereof, I affix my signature hereto.

FREDERICK GOSPARLIN.