

(No Model.)

G. WOOSTER.

ADJUSTABLE BRIDGE FOR STRINGED MUSICAL INSTRUMENTS.

No. 490,528.

Patented Jan. 24, 1893.

Fig. 1.

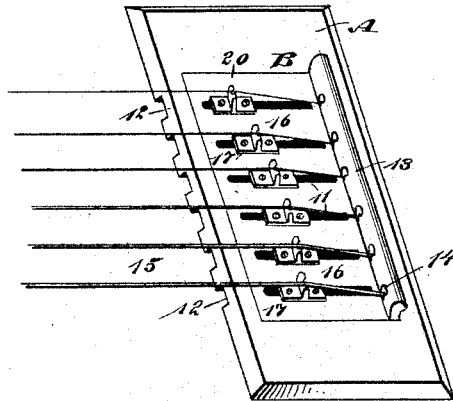


Fig. 3.

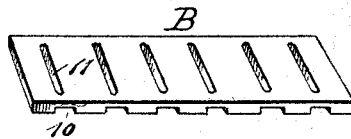


Fig. 4.

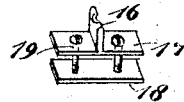
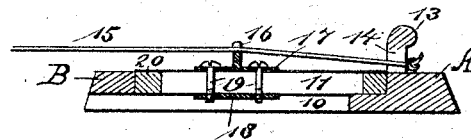


Fig. 2.



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GEORGE WOOSTER, OF FORT APACHE, ARIZONA TERRITORY.

ADJUSTABLE BRIDGE FOR STRINGED MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 490,528, dated January 24, 1893.

Application filed October 17, 1892. Serial No. 449,140. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE WOOSTER, of Fort Apache, in the county of Apache and Territory of Arizona, have invented a new and Improved Adjustable Bridge for Stringed Musical Instruments, of which the following is a full, clear, and exact description.

My invention relates to an improvement in bridges for stringed musical instruments such as zithers, guitars, mandolins, and other instruments having a fretted key-board; and the object of the invention is to so construct the bridge that the operator may expeditiously and conveniently adjust the string rests with reference to the strings to render the latter accurate as to length and elevation.

Another object of the invention is to provide a bridge with string rests equal in number to the number of strings employed upon the instrument, and to provide for the independent adjustment of each of the rests.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a bridge mounted for use upon a guitar; Fig. 2 is a transverse vertical section through the entire bridge; Fig. 3 is a perspective view of the bridge plate; and Fig. 4 is a perspective view of one of the string rests and its attachments.

A foundation board A, is constructed of any desired shape and of any approved material. The said foundation board may, if desired, be constructed of a light wood.

The foundation board is provided with an opening extending from top to bottom and ranging at equal distance from the center in direction of both of the ends, and into this opening the bridge plate B, is fitted and securely fastened by means of glue or other attaching medium. The bridge plate is provided in its under surface with a series of transverse channels 10; these channels extend through its forward edge, but not necessarily through the rear edge, and over each

channel a longitudinal slot 11, is made in the bridge plate, communicating with the channel below it; and channels 12, are produced in the bottom of the foundation board, transversely thereof and extending through the forward edge, registering with the channels in the bridge plate. An anchor plate 13, is securely attached to the foundation board at the rear of the bridge plate, and the anchor plate extends upward beyond the foundation board, being provided with openings 14, corresponding in number and location to the slots in the bridge plate.

The strings 15 of the instrument are passed through the openings in the anchor plate and knotted or otherwise manipulated to prevent their withdrawal through the openings in which they are located. Each slot 11 in the bridge plate is provided with a string rest 16. Each string rest is made integral with or attached to a base plate 17, and beneath and parallel with the base plate a locking plate 18 is located, the base and locking plates being spaced some distance apart and adjustably connected by means of screws 19.

It will be understood that instead of using a locking plate 18 each screw may be provided at its lower end with a nut, and the width of the nut, if it is employed, and the width of the locking plate of each string rest, are such as to enable the plate or nut to fit properly in one of the channels 10, and also to have sliding movement in the channel. The upper face of the bridge plate is covered usually with chamois, or like material, as shown at 20 in the drawings, the chamois covering having slots therein corresponding to those in the bridge plate.

In locating a string rest upon the bridge plate, the locking plates are made to enter the channels 10; the base plate of a string rest is placed over each opening 11 in the bridge plate, and the adjusting screws of the base plates are passed downward through the latter and into its parallel locking plate. Thus it will be observed, for example, that by screwing upward the adjusting screws 19 the base plates and the locking plates of the various string rests may be independently slid transversely over the bridge plate, either toward or from the anchor plate, as occasion may de-

mand; and it is evident that each of the string rests is independent of any of the others used upon the instrument, and that the string rests may be rigidly held in the position in which they are placed by tightening the screws 19.

The foundation board may be varied as to its shape, and the bridge plate and anchor plate may be and preferably are made from bone, ivory, or of hard wood, while in the construction of the string rest and its appendages metal is preferably employed.

The application of the bridge is as follows: When mounted upon the instrument, a zither, guitar or mandolin, for example, the strings are drawn to the tension at which they are to be used; the string rests are then moved backward or forward upon the bridge plate until the strings when pressed upon the twelfth fret give tones exactly one octave above the tones given by the open strings, or in unison with the harmonic tones given by touching the strings over the said twelfth fret. When thus correctly placed the string rests are fastened firmly to the bridge plate. A different elevation may be accomplished by using string rests of varying heights.

Among the many benefits that musicians may derive by the use of the above described bridge may be named the following: The strings as sold for instruments of the character heretofore named are of irregular size and elasticity, and this can be allowed for by the adjustment of the string rests; the strings in a perfect set are of different sizes and are used at different tensions and they can not give perfect harmony from the frets when strings thus varying in size and elasticity are given the same length; the musician can correct this by adjusting the string rests to give a tense string a greater length than a lax one. In the class of instruments above enumerated different tunings are used, thus requiring a slightly different adjustment and in this emergency the adjustable string rests will accomplish that which the musician may require.

It may here be remarked that as the vibra-

tion of silk and gut strings is greater than that of steel strings, the latter require lower string rests than the former.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent,—

1. A bridge for musical instruments, the same consisting of a bridge plate, an anchor plate, and string rests adjustable upon the bridge plate, as and for the purpose specified.

2. In a bridge for musical instruments, a bridge plate provided with adjustable string rests, and locking devices for clamping the rests to the plate, as and for the purpose set forth.

3. In a bridge for musical instruments, a bridge plate provided with a series of string rests independently adjustable, each string rest having an independent locking device, as and for the purpose specified.

4. In a bridge for musical instruments, the combination with a bridge plate provided with channels on its under side and with bolts communicating with the said channels, of string rests upon the bridge plate over the slots thereof, locking plates in the channel of the bridge plate, and screws passing through the slots and connecting the string rests and locking plates, substantially as described.

5. In a bridge for musical instruments, the combination with a foundation board having an opening therein and provided with an anchor plate, of a bridge plate fitted in the opening of the foundation board and provided with grooves on its under side and with slots communicating with said grooves, string rests upon the bridge plate over the slots therein, locking plates in the grooves of the bridge plate, and screws passing through the slots of the bridge plate and connecting the string rests and locking plates, substantially as herein shown and described.

GEORGE WOOSTER.

Witnesses:

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