

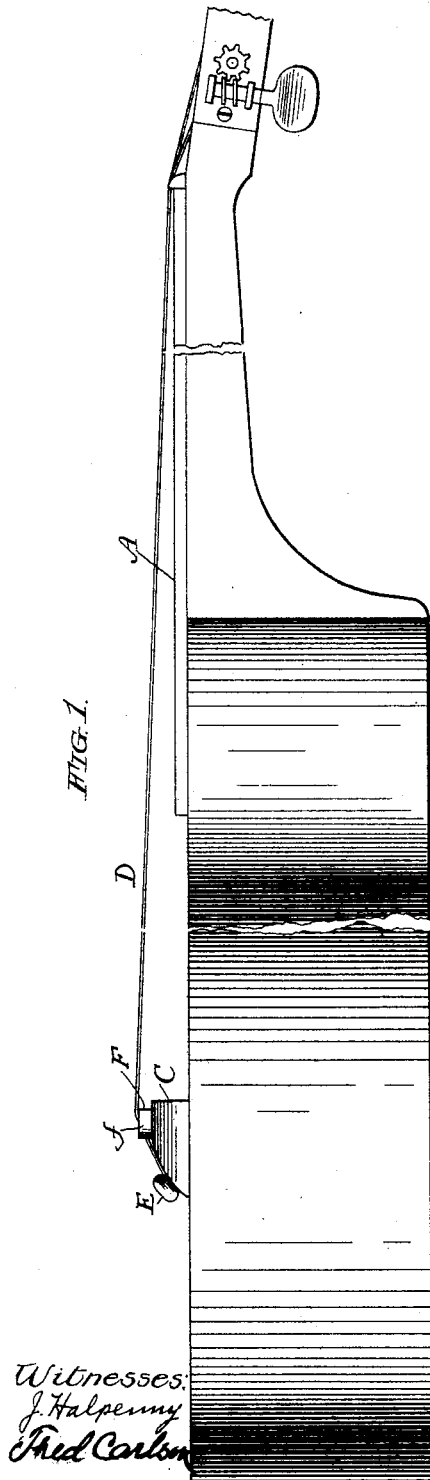
(No Model.)

R. LORANG.

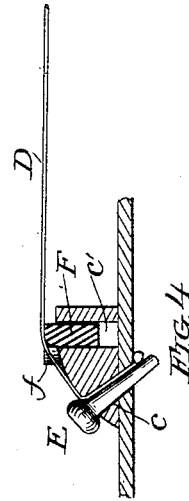
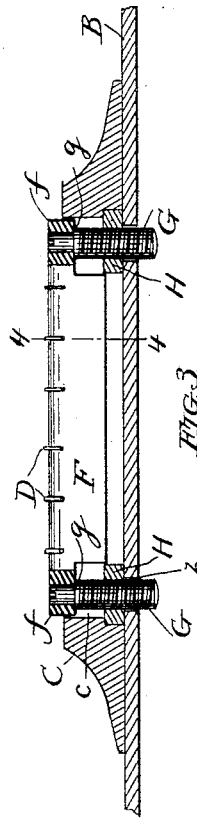
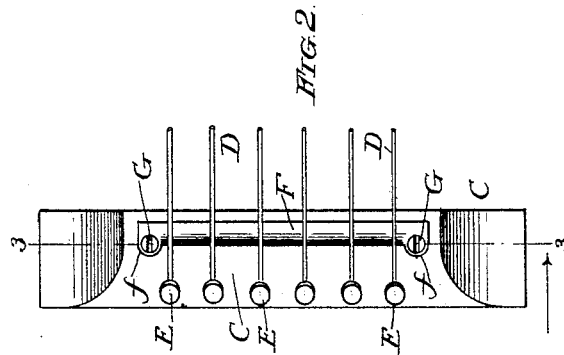
BRIDGE FOR MUSICAL INSTRUMENTS.

No. 455,221.

Patented June 30, 1891.



Witnesses:  
J. Halpern  
Fred Carlson



Inventor  
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# UNITED STATES PATENT OFFICE.

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## BRIDGE FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 455,221, dated June 30, 1891.

Application filed January 17, 1891. Serial No. 378,076. (No model.)

*To all whom it may concern:*

Be it known that I, RUDOLPH LORANG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bridges for Musical Instruments, of which the following is a specification, reference being had to the accompanying drawings, which are made a part hereof, and in which—

Figure 1 is a side elevation of a guitar with portions broken away, showing the improved bridge applied thereto. Fig. 2 is a plan view of the improved bridge and adjacent portions of the sounding-board and strings. Fig. 3 is a section thereof on the line 3 3, looking toward the head of the instrument. Fig. 4 is a longitudinal section thereof on the line 4 4.

I have shown the invention in the drawings applied to a guitar, but desire to have it understood that it is equally applicable to mandolins, banjos, zithers, and other instruments in which it is necessary to have the strings occupy a certain position with relation to a finger-board, sounding-board, or other part. In all such instruments as I have named it is desirable to have the strings lie as close to the finger-board as they may without coming in contact therewith while under vibration, in order that the movement required to close them may be minimized. Cheap instruments when they leave the factory are of course so adjusted as to attain this end; but in such instruments the finger-board may warp, or the strain of the strings may cause the neck to bend, or the sounding-board to sink just at and in front of the place where the bridge is attached. Either of these causes and others may bring the strings so close to the finger-board that when vibrating they touch it, and thereby prevent the production of a clear tone. Again, the amplitude of vibration of a gut string is very much greater than that of a metallic string, so much so that on a guitar gut strings require to be about an eighth of an inch farther from the finger-board than metallic strings.

To meet the requirements of all of these and other cases and enable the accurate adjustment of the strings with relation to the finger-board or other part is the object of the present invention, and with this object in view

said invention consists in certain features of novelty that are particularly pointed out in the claims hereinafter.

Referring to the drawings, A represents the finger-board, B the sounding-board, and C the bridge, which is glued to the sounding-board and provided with key-hole eyelets *c*, through which pass the strings D and the pins E for holding them in place, all of which parts are arranged in customary relation to each other. Heretofore the strings have rested directly upon the top of the bridge C; but according to my present invention they rest upon an auxiliary bridge or rest F, which fits snugly in a suitable socket *c'*, formed for it in the bridge proper, and is adjustable in a plane perpendicular to the plane of the finger-board. The rest F is rectangular in cross-section, except that its top side is appropriately rounded off for affording a suitable bearing for the strings, and it has at each end, preferably flush with its top side, a perforated lug *f*. The socket *c'* is of corresponding shape, and is of such depth that the top of the rest may be brought down nearly or quite flush with the top of the bridge.

G G are a pair of screws, the upper ends of which are reduced so as to form shoulders *g* and pass through the perforations of the lugs *f*, their extremities being flush with the top sides of said lugs and provided with notches for receiving a screw-driver. Each of these screws passes through a nut H, which rests upon the sounding-board and fits in a socket formed for it in the under side of the bridge, the nut and socket being of corresponding non-circular shape, whereby the former is held against rotation.

The operation will be readily understood. In order to raise or lower the string-rest, it is simply necessary to turn the screws G in one direction or the other, as may be required. Being threaded into the fixed nuts H, they will of course partake of an endwise movement. If they move outward, their shoulders *g* will bear against the under sides of the lugs *f*, and thereby move the rest outward also, thus moving the strings farther away from the finger-board. If they move inward, the pressure of the strings on the top of the rest will cause it to follow them, thereby bringing the strings nearer to the finger-board.

In order to enable the use of screws of the requisite length, it is necessary to provide the sounding-board with holes *b*, through which the screws project into the inside of the instrument.

The means shown in the drawings and above described for raising and lowering the string-rest are efficient; but I desire to have it understood that my invention comprehends other means that will readily suggest themselves to those skilled in the art for accomplishing the same result.

The auxiliary rest is herein spoken of as being adjustable "perpendicularly" with respect to the plane of the finger-board, the sounding-board, or other part; but it is obvious that the invention is not limited to an exactly perpendicular adjustment. On the contrary it comprehends any adjustment that gives a lateral movement to the strings.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. In a musical instrument, the combination, with a finger-board, the strings, and means for securing said strings in place, of a rest for supporting them, and means for adjusting said rest perpendicularly with respect to the plane of the finger-board, substantially as set forth.

2. In a musical instrument, the combination, with a finger-board, a sounding-board, the strings, and means for securing said strings in place, of a bridge having an auxiliary rest for the strings, adjustable perpendicularly

with respect to the plane of the finger-board, substantially as set forth.

3. In a musical instrument, the combination, with a finger-board, a sounding-board, the strings, and means for securing said strings in place, of a bridge having a socket, an adjustable string-rest fitting in said socket, and means for adjusting said rest perpendicularly with respect to the plane of the finger-board, substantially as set forth.

4. In a musical instrument, the combination, with a finger-board, a sounding-board, the strings, and means for securing said strings in place, of the bridge *C*, the movable string-rest *F*, having perforated lugs *f*, the screws *G*, having shoulders *g* bearing against said lugs and having reduced heads fitting in said perforations, and the fixed nuts *H*, through which said screws are threaded, said bridge being recessed for the reception of said string-rest and nuts, substantially as set forth.

5. As a new article of manufacture, a bridge for musical instruments, having an auxiliary string-rest adjustable vertically thereon, substantially as set forth.

6. As a new article of manufacture, a bridge for musical instruments, having in combination an auxiliary adjustable string-rest and set-screws for adjusting it and holding it in position, substantially as set forth.

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Witnesses:

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