

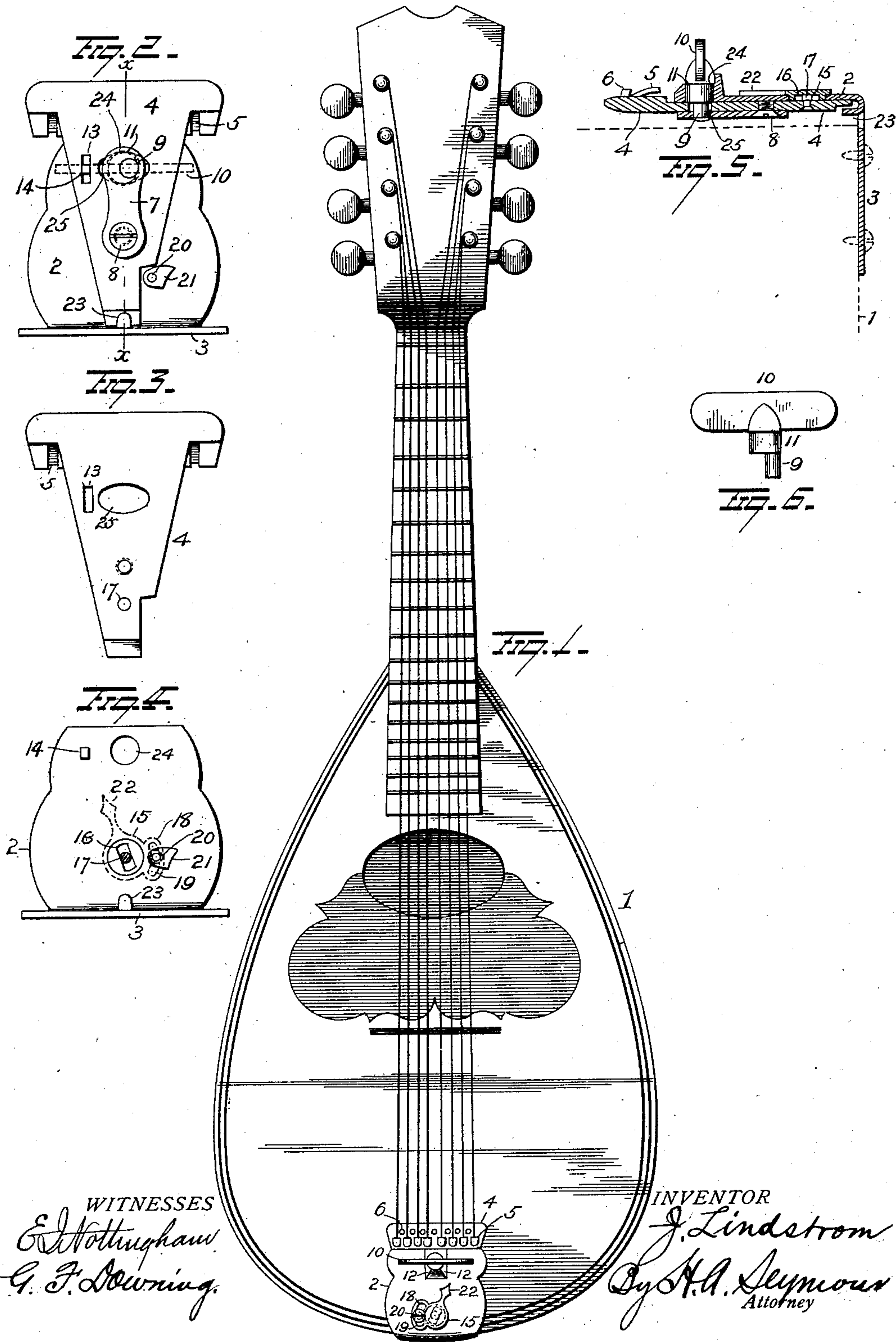
No. 728,255.

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J. LINDSTROM.
STRINGED MUSICAL INSTRUMENT.

APPLICATION FILED MAR. 28, 1902.

NO MODEL.



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STRINGED MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 728,255, dated May 19, 1903.

Application filed March 28, 1902. Serial No. 100,468. (No model.)

To all whom it may concern:

Be it known that I, JOHN LINDSTROM, a resident of Henderson, in the county of Henderson and State of Kentucky, have invented certain new and useful Improvements in Stringed Musical Instruments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in stringed musical instruments, and more particularly to means for adjusting the pitch of a mandolin, guitar, banjo, and the like, the object of the invention being to provide means whereby the pitch of an instrument employing metal strips can be accurately adjusted after the instrument shall have been properly tuned.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of a mandolin, showing an application of my improvements. Fig. 2 is a bottom or rear view of a tailpiece, showing the application of my improvements thereto. Fig. 3 is a separate view of the movable part or apron. Fig. 4 is a bottom or rear view of the tailpiece. Fig. 5 is a sectional view on the line *xx* of Fig. 2. Fig. 6 is a detail view of the cam-operating lever.

1 represents a mandolin, and 2 is a tailpiece provided with a leaf 3, which is secured to the end of the instrument by means of suitable fastening devices, the portion of the tailpiece which lies over the face of the instrument being sufficiently elevated to permit the operation of the working parts. A movable part or apron 4 is located against the tailpiece 2 and is provided with fingers 5, pins 6, or other string-fastening devices. A link 7 is pivotally attached at one end to the apron 4 by means of a pivot-pin or screw 8, and at its other end this link is loosely mounted on a pintle 9, projecting from a cam-lever 10, the cam portion 11 of said cam-lever being mounted in a hole 24 in the upper end of the tailpiece, and the pintle 9 projecting freely through an elongated hole 25 in the apron.

With this construction by turning the cam-lever the apron will be moved longitudinally, and the extent of movement will be limited by means of shoulders 12 on the tailpiece, with which the cam-lever will engage. The apron 4 is also provided with an elongated slot 13, into which a pin 14 on the tailpiece projects for the purpose of guiding the movements of the apron 4. The apron will also be retained in proper position relatively to the tailpiece by means of a lug or pin 23, which projects from the latter under the lower end of said apron. A plate 15, having a pointer or indicator 22, is located on the tailpiece near its lower end and provided with an elongated slot 16, into which a pin 17 on the apron 4 projects. The plate 15 is also provided with a lateral enlargement 18, having a curved slot 19, which serves to rigidly secure the plate 15 in place, a screw 20 passing through the slot 19 and the tailpiece 2. To afford a sufficient bearing for this screw, a block 21 is secured to the tailpiece, and to accommodate this block the apron is cut away, as shown. The engagement of the head of the screw 20 with the plate 15 at respective sides of the slot 19 therein will secure said plate in the position to which it may be adjusted, and when thus secured the plate 15 will become, in effect, a part of the tailpiece. The elongated slot 16 in the plate 15 is normally disposed at an angle to the longitudinal axis of the apron. Now when the cam-lever is turned the pintle 9 will be moved in the arc of a circle, causing a movement of the link 7 on its pivot and also a forward movement of said link and the apron 4, to which it is pivoted, toward the upper end or neck of the instrument, lateral movement of the end of the apron to which the strings are attached being prevented by the pin 14 and slot 13. When, however, the apron is moved, as above described, the pin 17 on the apron moving in the slot 16 in the plate 15 (which plate 15 is rigidly secured to the tailpiece 1, as previously explained) will cause a lateral movement of the lower end of the apron, the latter turning slightly on the pin 14, and therefore that portion of the apron to which the treble strings are secured will be moved slightly farther than the portion of the apron to which the bass strings are attached. Thus

on a mandolin the small E-strings will be moved slightly farther than the large bass G-strings, and the pitch of these strings, as well as of the intermediate strings, will be changed without throwing the instrument out of tune. In order that the slot 16 shall be properly disposed in the first instance, the plate 15 is provided with the indicator 22, by moving which the plate will be turned until the slot 16 is disposed at just the right angle relatively to the axis of the apron 4, when the plate 15 can be secured in place by tightening the screw 20. This may be done by the maker of the instrument, and when once adjusted there will be no necessity for again manipulating it, and, so far as the user is concerned, the indicator or pointer could be removed entirely, it being simply necessary for the purpose of changing the pitch of the instrument for the user to manipulate the cam-lever 10.

Slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not desire to limit myself to the precise details herein set forth.

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

1. A pitch-adjusting device for stringed instruments, comprising a movable part constructed with means for the attachment of the strings of the instrument, and means connected with said movable part for moving said part faster at one side than at the other side.

2. A pitch-adjusting device for stringed instruments, comprising a movable part constructed with means for the attachment of the strings of the instrument, means connected with said movable part and operating to impart a simultaneous longitudinal and pivotal movement to said part.

3. A pitch-adjusting device for stringed instruments, comprising an apron constructed with means for the attachment of the strings of the instrument, means for moving said apron longitudinally, and means cooperating with one end of said apron for causing it to move laterally.

4. A pitch-adjusting device for stringed instruments, comprising an apron constructed with means for the attachment of the strings of the instrument, a cam-lever for moving

said apron longitudinally, and means cooperating with one end of said apron to move it laterally.

5. A pitch-adjusting device for stringed instruments, comprising an apron constructed with means for the attachment of the strings of the instrument, a cam-lever, a link pivoted at one end to the cam-lever and at the other end to the apron, means for guiding the apron, and means cooperating with the apron to move one end thereof laterally.

6. A pitch-adjusting device for stringed instruments, comprising a tailpiece, a movable apron constructed with means for the attachment of the strings of the instrument, a cam-lever mounted in the tailpiece, a link loosely connected at one end to the cam-lever and pivoted at its other end to the apron, and a pin-and-slot connection between the apron and tailpiece for moving one end of the apron laterally when the cam-lever is operated to move it longitudinally.

7. A pitch-adjusting device for stringed instruments, comprising a tailpiece, a movable apron, a cam-lever mounted in the tailpiece, a link loosely connected at one end to the cam-lever and pivoted at its other end to the apron, a pin-and-slot connection between the upper portion of the tailpiece and apron for guiding the latter, and means cooperating with the lower portion of the apron for moving it laterally.

8. A pitch-adjusting device for stringed instruments comprising a tailpiece, a movable apron, means for moving said apron longitudinally, an adjustable plate on the tailpiece having an elongated slot and a pin on the apron entering said adjustable slot.

9. A pitch-adjusting device for stringed instruments comprising a tailpiece, a movable apron, means for moving said apron longitudinally, an adjustable plate having an elongated slot, a pointer on said adjustable plate, a pin on the tailpiece entering said elongated slot, and means for securing said adjustable plate in the position to which it may be adjusted.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN LINDSTROM.

Witnesses:

RICH'D. STITES,
CARL P. GEIBEL.