

No. 607,359.

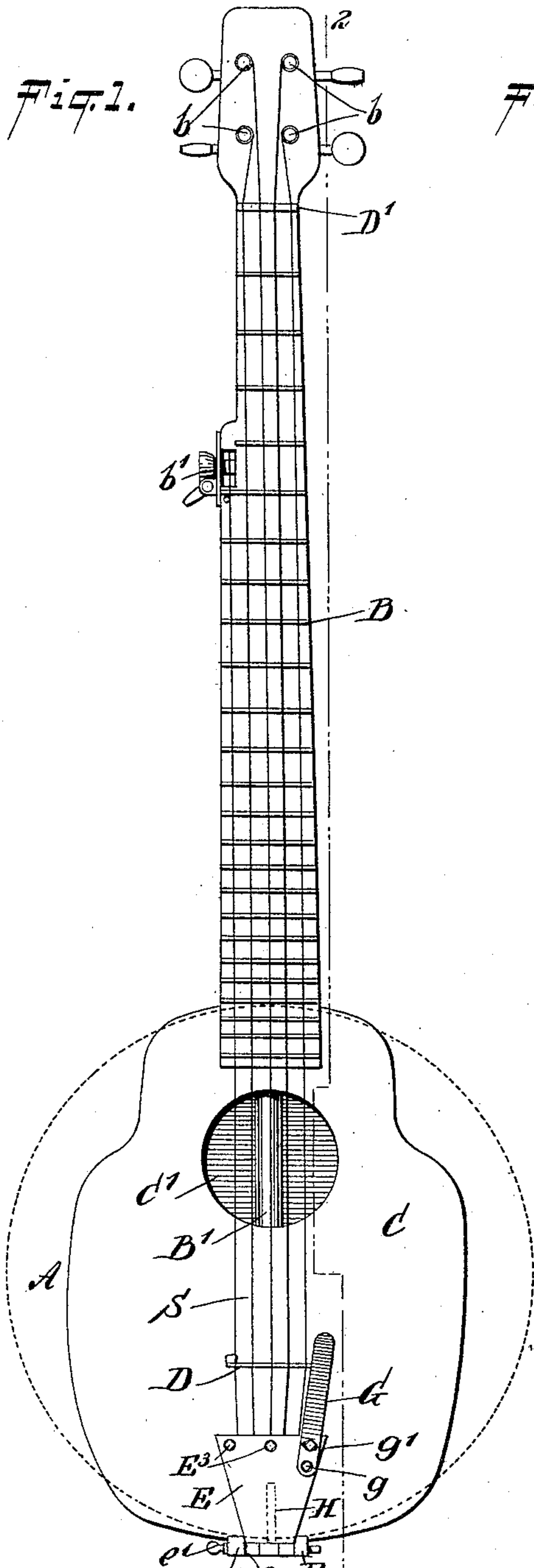
Patented July 12, 1898.

A. J. FORREST.

STRINGED MUSICAL INSTRUMENT.

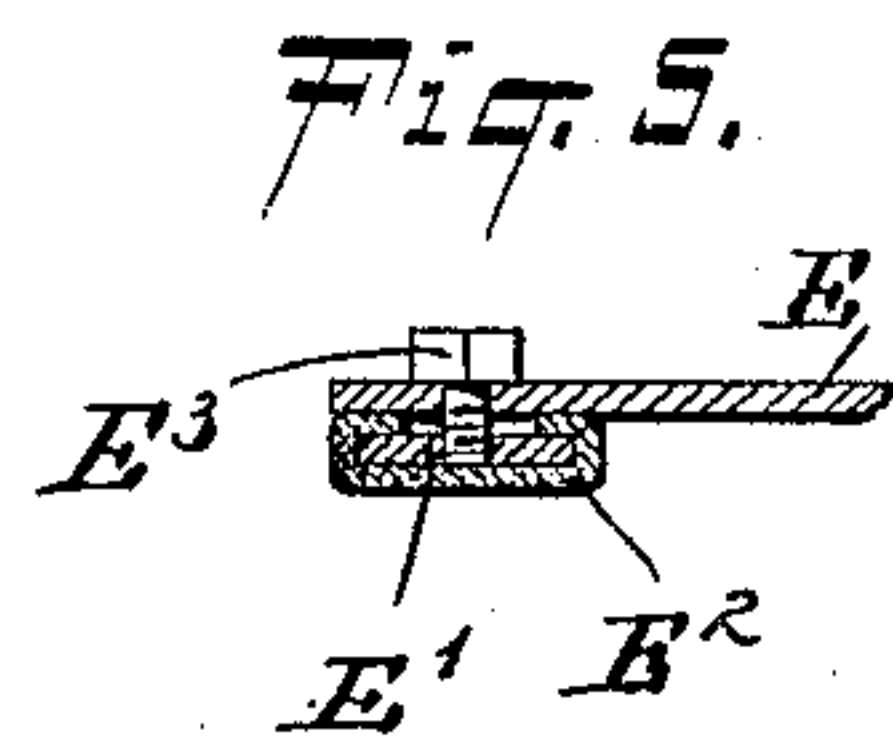
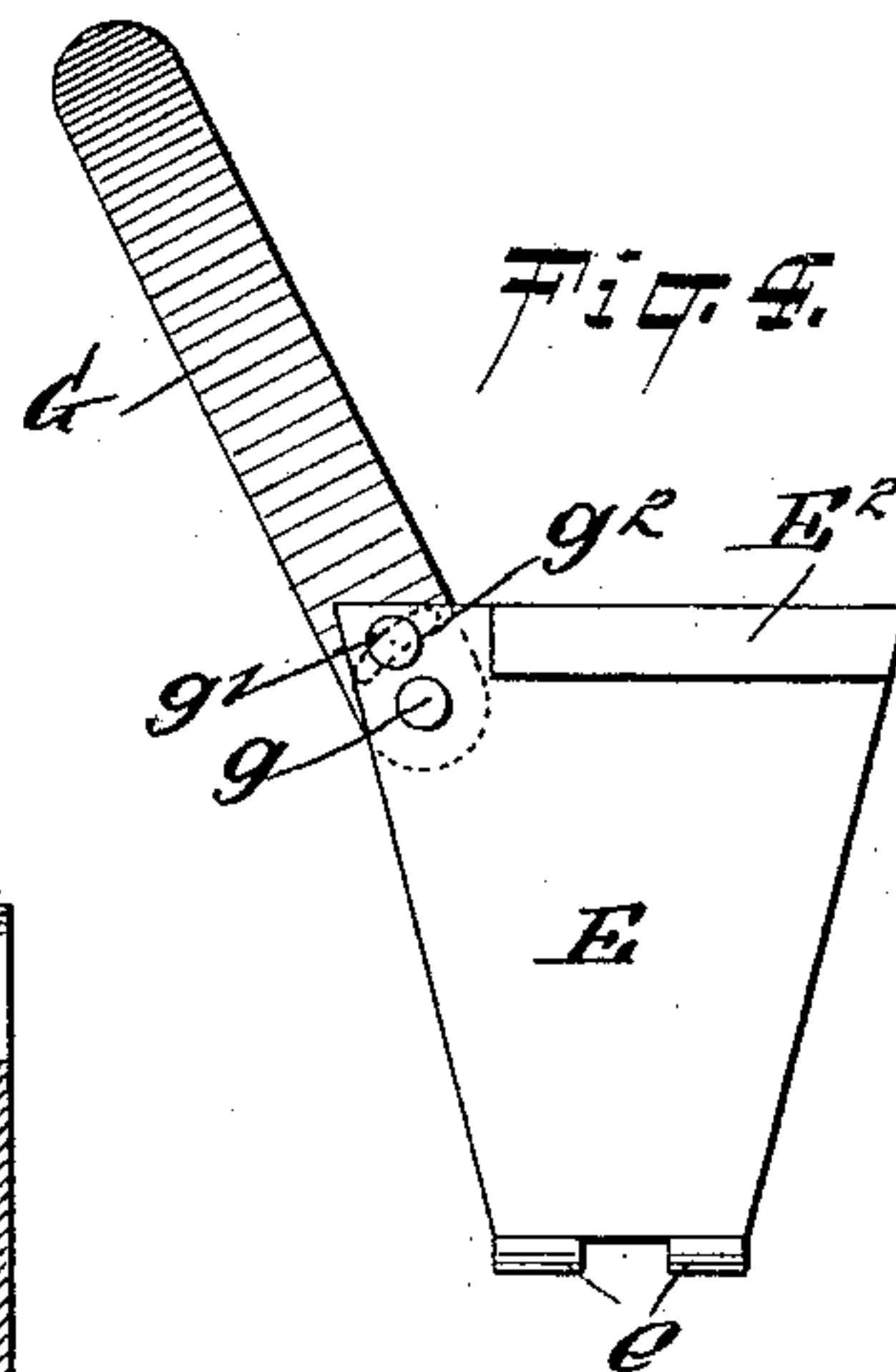
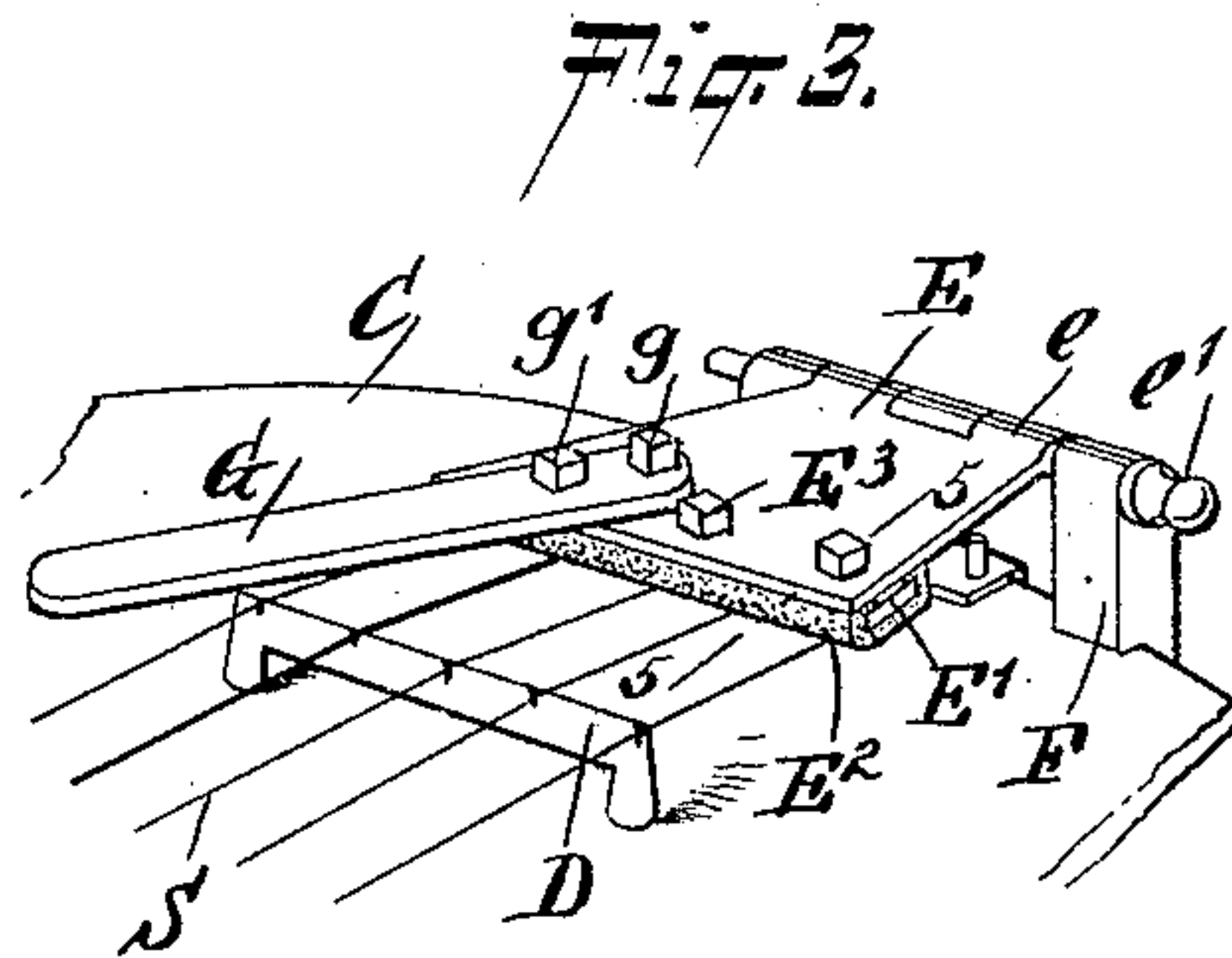
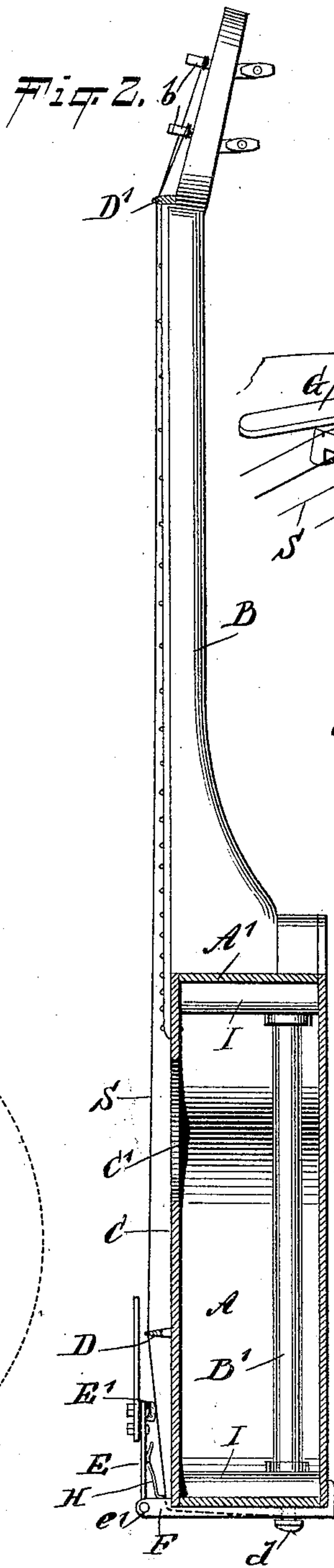
(Application filed Sept. 14, 1897.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALBERT J. FORREST, OF SEATTLE, WASHINGTON.

## STRINGED MUSICAL INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 607,359, dated July 12, 1898.

Application filed September 14, 1897. Serial No. 651,628. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT J. FORREST, of Seattle, in the county of King and State of Washington, have invented a new and Improved Stringed Musical Instrument, of which the following is a full, clear, and exact description.

My invention consists of certain improvements in stringed musical instruments using a sounding-board by which the tone thereof is improved and of a certain attachment particularly applicable to guitars, mandolins, and other similar instruments of this general class, but which may also be used in connection with any stringed musical instrument using two bridges to support the strings, the said attachment making it possible to readily produce a waving, vibrating, or tremulous tone.

My invention further consists of certain details of construction, which will be hereinafter described, and particularly pointed out in the claims.

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

Figure 1 is a top plan view of an instrument resembling in its general features a guitar and having my improvements embodied therein. Fig. 2 is a sectional elevation of the same, taken upon the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the attachment fixed to the base of said instrument. Fig. 4 is an inverted plan view of the attachment removed from the instrument, and Fig. 5 is a section taken upon the line 5 5 of Fig. 3.

The object of my invention is twofold—first, to increase the volume of sound of instruments, such as guitars, mandolins, and other similar stringed instruments using a sounding-box, and, second, to make it possible to produce at will a tremulous, waving, or vibrating tone.

I herein show and describe my improvement as applied to an instrument resembling in its general features a guitar and comprising a sounding-box A, neck B, strings S, keys *b*, by which the tension of the strings may be adjusted, and bridges D and D', supporting the strings. These parts, excepting the sounding-box A, are similar to the ordinary con-

struction of such instruments and will not herein be described in detail.

The instrument shown herein is provided with a fifth string attached to a key *b'*, which string is shorter than the remainder of the strings. A shape of the sounding-box which is preferred is shown in full lines in Fig. 1. The outline of this box may, however, be changed at will, as this is not considered an essential point. The outline of another form of box is shown by the dotted circle in Fig. 1. This sounding-box differs from the ordinary sounding-box used in such instruments in that the top C has no braces or supporting-ribs attached directly thereto. The only point at which the sounding-box or top C is attached to the frame or to any other part of the instrument is about its margin, where it is attached to the sides A'. It is therefore free to vibrate unrestrained, and consequently is capable of an increased volume of sound.

The omission of the braces or supporting-ribs commonly used in guitars and similar instruments results in largely increasing the volume of sound. It is understood that the sounding-board C is to be made of wood, as is the sounding-board of a guitar, and not of skin, as in a banjo. It is also provided with a sound-port C'. In order to support the sides A' of the instrument and give it the requisite strength, a bar B' is extended lengthwise through the sounding-box and attached at one end to the neck B and at the other end to the opposite side of the sounding-box. At each end of the bar B' and within the sounding-box are blocks I, which sustain the strain of the strings and communicate it through the bar B'. The blocks I and the bar B' support the opposite sides of the sounding-box and prevent collapse, which might otherwise occur. This provision of the blocks and the bar is rendered more necessary by reason of the omission of the usual braces upon the sounding-board or top C of the sounding-box. The strings S are carried over the bridge D and then over the side of the sounding-box and attached directly to the pin *d*, which is secured to one end of the bar B'. This method of attaching the strings is a preferred method, although not strictly an essential one.

Attached to the edge of the sounding-box, at



the point where the strings pass over the same, are brackets or braces F, which at their upper ends are provided with holes adapted to receive the pin  $e'$ , which also passes through eyes  $e$  upon a plate E, thus hinging the plate to the rear edge of the sounding-box. This plate E is above that portion of the strings lying between the bridge D and the edge of the sounding-box.

The plate E is provided at its under side with a bar  $E'$ , secured thereto by means of the screws  $E^3$ . The bar  $E'$  is covered by a piece of leather  $E^2$  or similar material which has its edges turned under the bar and clamped between it and the plate E. This piece  $E^2$  normally lies very close to but not in contact with the strings S. The plate E is held up by a spring H, attached to the end of the sounding-board or to the brackets F, upon which the plate E is pivoted. This spring serves to hold the plate E, so that it is close to but not in contact with the strings.

The plate E has an arm G extending forward therefrom to a point where it may be conveniently engaged by the hand of the player of the instrument. This arm G may, if desired, be made integral with the plate E. In some cases, however, it is desirable that this arm be made adjustable. With this end in view it may be constructed as shown in the drawings, in which the arm G is pivoted by a pin or bolt  $g$  and is provided with a cross-slot  $g^2$ , through which extends a bolt  $g'$ , by which it may be clamped in any position. This permits of considerable side swinging of the arm G and enables it to be secured in the position which may be most convenient for the player. The arm should be adjusted to such a position that it will be convenient for engagement by preferably a finger of the hand used in playing the instrument.

This device is used as follows: When the player desires to produce a waving, vibrating, or tremulous tone, the arm G is engaged by a finger of the hand which strikes the strings and is pressed upon the strings with an alternating movement—that is, is pressed down and then allowed to rise and is then pressed down again—this movement rapidly alternating and producing a waving sound of the instrument. The rapidity of the vibrations will depend upon the rapidity of movement of the arm G. As will be readily seen, the operation of this attachment interferes in no way with the proper playing of the instrument, as the strings are ordinarily engaged by the thumb and first three fingers.

It is obvious that this attachment may be applied to stringed instruments of any sort, and where it is not convenient to operate it directly by the hand special mechanism may

be employed by which it may be manipulated. It is important that the point of engagement of this attachment with the strings should be between the bridge and the point where the strings are secured and not between the two bridges. The action of this device does not resemble the ordinary pedal or mute, which deadens the sound of the instrument. Its action is to create a vibrating or tremulous tone. If applied to the strings between the bridges, it would have a tendency to change the wave length and the tone of the string, as well as to act as a damper, whereas when applied in the manner shown and described the tremulous tone is caused by a slight raising of the tone, due to the increased tension brought upon the string, and without affecting the vibrations of the string between the bridges. It is also preferred that the lower bridge D, which rests upon the sounding-board C, should be an open bridge, as shown in perspective in Fig. 3—that is, a bridge which touches the sounding-board only at its ends. This I consider has a beneficial effect upon the sound of the instrument. The object of this construction of the bridge D is to have as little contact with the sounding-board as possible.

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

1. An attachment for stringed musical instruments, comprising a pivoted plate adapted to engage the strings between the bridge and the end fastenings of the strings, and adapted to be engaged by the hand of the player, substantially as described.

2. An attachment for stringed musical instruments, comprising a pivoted plate adapted to engage the strings between the bridge and the end fastenings of the strings, and an arm attached thereto and extending alongside the strings, substantially as described.

3. An attachment for stringed musical instruments, comprising a pivoted plate adapted to engage the strings between the bridge and the end fastenings of the strings, and means by which the pressure of said bar or plate upon the strings may be varied at will, substantially as described.

4. An attachment for stringed musical instruments, comprising a pivoted plate adapted to engage the strings between the bridge and the end fastenings of the strings, an arm attached to said plate and extending alongside the strings, and means for adjusting the position of said arm, substantially as described.

ALBERT J. FORREST.

Witnesses:

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