No. 652,353. Patented June 26, 1900.

E. A. EDGREN.

STRINGED INSTRUMENT.

(Application filed Oct. 11, 1898.)

(No Model.)

Fig 1

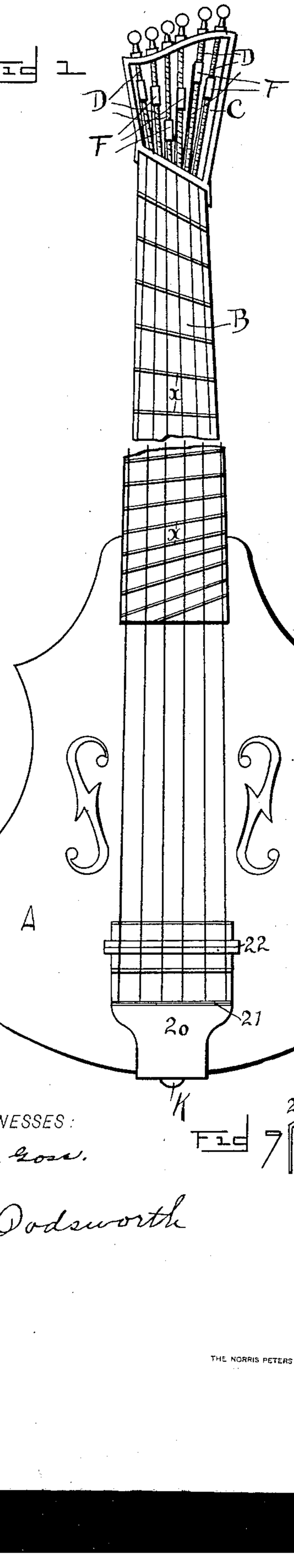


Fig 2

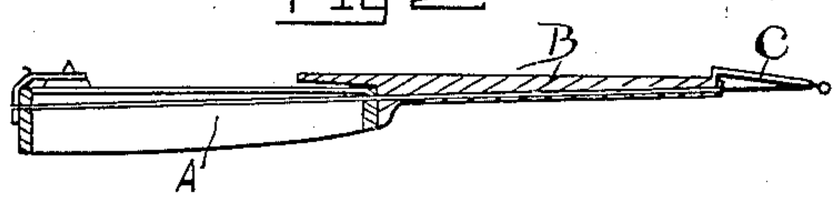


Fig 3

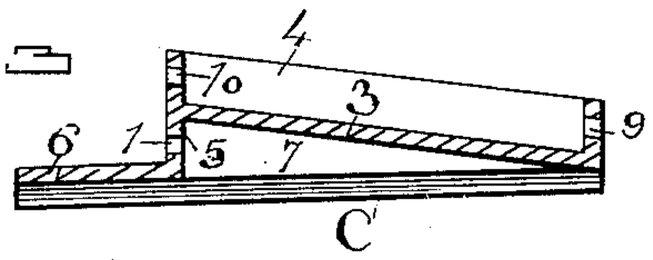


Fig 4

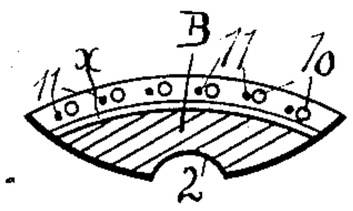


Fig 5

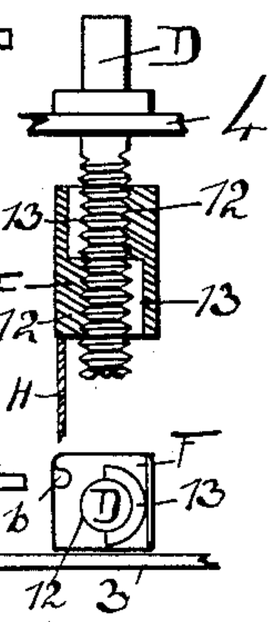


Fig 6

Fig 7

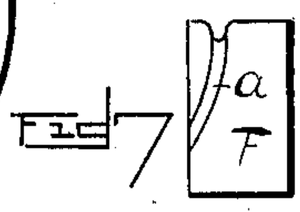
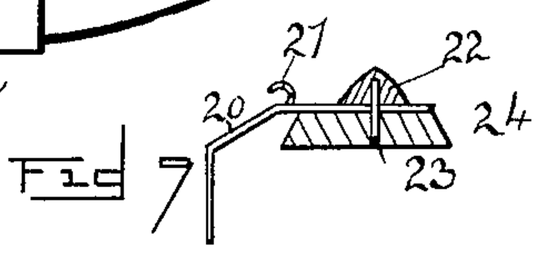


Fig 8

Fig 9



WITNESSES:

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STRINGED INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 652,353, dated June 26, 1900.

Application filed October 11, 1898. Serial No. 693,236. (No model.)

To all whom it may concern:

Be it known that I, ERIK ADOLF EDGREN, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain useful Improvements in Stringed Instruments; and I do hereby declare that the following is 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, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to a new improvement in stringed instruments.

The objects of my invention are, first, to provide a stringed musical instrument, and, secondly, to provide a new device for quickly tuning and holding the strings in connection with musical instruments, the adjustable mechanism employed in my invention being adapted, however, to all devices where strands are to be adjustably supported and secured.

In the accompanying drawings, Figure 1 shows a broken top view of a musical instrument embodying my invention. Fig. 2 shows a central view in section of a musical instrument embodying my invention. Fig. 3 shows a longitudinal sectional view of the head used in my invention. Fig. 4 shows a cross-sectional view of the neck on my improved musical instrument. Figs. 5, 6, 7, and 8 show, respectively, a central section, an end, a top, and a side view of a stringed head embodying my invention, while Fig. 9 shows a sectional view of the tailpiece as used in my instrument.

In the accompanying drawings, A represents the body of my instrument, which is of any suitable size or conformation, but in which the body swells and increases in capacity from the front to the rear longitudinally, as will be noticed in referring to Fig. 2. To this body A is next secured a neck B, which in cross-section is approximately in the form of a double convex, as is shown in Fig. 4, and is provided with a central groove or finger-run. Above this the neck is provided with the usual frets *x* and is secured to the body of the instrument by any suitable means. In referring to the drawings it will be noticed that the lower portion of this neck B extends a suitable distance beyond the body A, but not touching the same. At the upper end the neck B is provided with the head C, which head preferably comprises the base 3 and the border 4, the lower extending portion 5, and the forward-extending portion 6, as is clearly shown in Fig. 3, the bottom plate 3 being united to the portion 5 by means of a rib 7. The portion 5 is provided with an opening 1, while the border 4 at the upper end is provided with an opening 9 and at the lower smaller end with the openings 10 and 11. Suitable tuning-pins D are held within the openings 9 and 10, while the openings 11 are adapted to receive the strings with which the instrument is provided. Working upon the tuning-pins D are the string-holding heads F, there being one such head upon each pin, and these heads are preferably rectangular in cross-section, as well as being squared lengthwise and being provided with a central opening, which opening is of two diameters, each being of a half-circle, as will be understood in referring to Figs. 5 and 6. Referring to Fig. 5, a cross-sectional view of one of these heads F is shown, and it will be noted that this head has a threaded opening 12, passing clear through the same, but that this threaded opening is mutilated at two points (marked 13) by means of a semispherical removed portion. (More clearly shown in Fig. 6.) These mutilated or removed portions 13 are placed opposite one another, so that after these heads have been placed upon the screws D they may be tilted upon the screw because of these removed portions 13 13. These string-heads can be made in first providing them with a cylindrical opening of a diameter equal to a diameter of the smaller opening, which opening is then tapped and provided with a suitable screw-thread. One half of this threaded portion is then removed upon opposite sides to provide two removed portions 13 13 of increased diameters. Now in assembling the head proper the tuning-pins D are each provided with one of the string-heads F, and by virtue of these removed portions 13 13 these heads may be instantly carried from one end of the tuning-pin D to the other in tilting the pin, so that the removed portion 13 rests against the threaded tuning-pin, in which manner the tuning-pin will freely pass through the central opening

of the string-head, so that this head can be slid up and down upon the tuning-pin. However, as soon as the tuning-pin is carried in the opposite direction, so that the threaded seatings 12 12 ride upon the tuning-pins, the string-heads are instantly secured and then only can be adjusted by turning the tuning-pins D. These string-heads are made square, so that they may ride and slide upon the bottom 3 of the head C, so that they cannot revolve and can only be carried sidewise in one plane. These string-heads are provided with grooves *a* and *b*, so that the looped end of the string may be carried over the same, the channel *b* coming opposite the lower threaded seating 12 within the string-heads, so that as soon as the string, as is shown in Fig. 6, becomes taut or strained it binds the string-heads upon the tuning-pins, so that the threaded seatings are engaged to securely hold the string-head upon its tuning-pin. It will be noticed that this arrangement of securing a musical string can be used in connection with any instrument in which strings are used, and it will further be noticed that a coarse and quick adjustment of a string is first obtained by simply sliding the head up or down as far as possible and as soon as the head finds a seating adjust the strings by means of the tuning-pins. It will further be noted that the strain upon the tuning-pin is on a plane parallel to the axis of the tuning-pin.

In referring to Fig. 1 it will be noted that the bottom flange of the head C runs at an angle, so that one side of the neck B will be longer than the side opposite. The frets *x* diverge, running from the center outward, so that the lower frets *x* extend slightly in a direction opposite to the upper frets. This is done so that the instrument may be more quickly and comfortably handled, the frets being intended to converge at a center, which center would be represented by the elbow of an ordinary operator. Referring to the tailpiece 20, it will be noticed that I provide a curved flange 21, through which the strings pass over the pivoted bridge-block 22, which block is mounted upon a pin 23, which works on a tailpiece 20 into an ordinary block 24. The object of having the bridge-block 22 pivoted is to provide a radial adjustment of this block, as it is often found that one string will occasionally be either a trifle sharp or flat, and this defect can often be remedied by simply swinging the bridge-block radially. The common practice is for the musician to place a bit of wood or paper below the defective string at the bridge-block and so lengthen the string the trifle required to bring about a true octave. Passing through this tailpiece 20 is a main connecting-bar K, which bar passes through the neck B and the opening 1 within the head C, and is provided with an ordinary nut, so that this stay-rod unites first the tailpiece 20 to the body A, the neck B to the body A, and finally the head C to the neck B.

Now, having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent, is—

1. The combination with a tuning-pin of a string-holding head adjustably held upon said pin, said head being provided with two irregular openings substantially identical, said head being approximately, centrally and transversely divided into two sections, each section being provided with a small threaded seating and a larger plain removed portion, the threaded seating within one portion of said string-head coming opposite the removed portion below, as and for the purpose set forth.

2. As a new article of manufacture a string-holding head adapted to receive the end of a string, and provided with a threaded opening extending through said head, said threaded opening being mutilated upon opposite ends and upon opposite sides, said mutilation including approximately half of said threaded opening upon each side, as and for the purpose set forth.

3. The combination with a tailpiece provided with a perforated recurved flange adapted to receive the ends of suitable musical strings in combination with a bridge-block pivotally secured to said tail-piece, as and for the purpose set forth.

4. In a musical instrument the combination with a sounding body or box, of the following instrumentalities, to wit: a neck approximately in the form of a double convex in cross-section provided below with a central groove to form a finger-run, a plurality of frets secured to said neck above, said frets being positioned at an angle one to the other so that the first and last frets incline in opposite directions, a head secured to the upper portion of said neck, threaded tuning-pins held within said head, string-holding heads working upon said tuning-pins, said string-holding heads being provided with a threaded opening provided with mutilations upon opposite sides and opposite ends, said mutilations encompassing approximately one-half of the threaded portion of said string-holding heads, and a tailpiece secured to the sounding-box of said instrument provided with a pivoted bridge-block all arranged substantially as and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

ERIK ADOLF EDGREN.

Witnesses:

G. W. SUES,

B. CLYDE GOSS.