No. 895,210. PATENTED AUG. 4, 1908.

J. T. STANDING.

STRINGED MUSICAL INSTRUMENT KEY.

APPLICATION FILED OCT. 19, 1907.

Fig. 1.

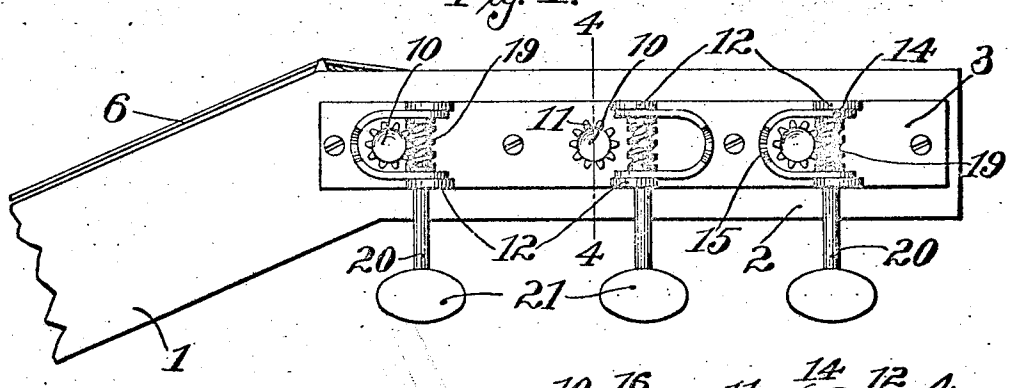


Fig. 2.

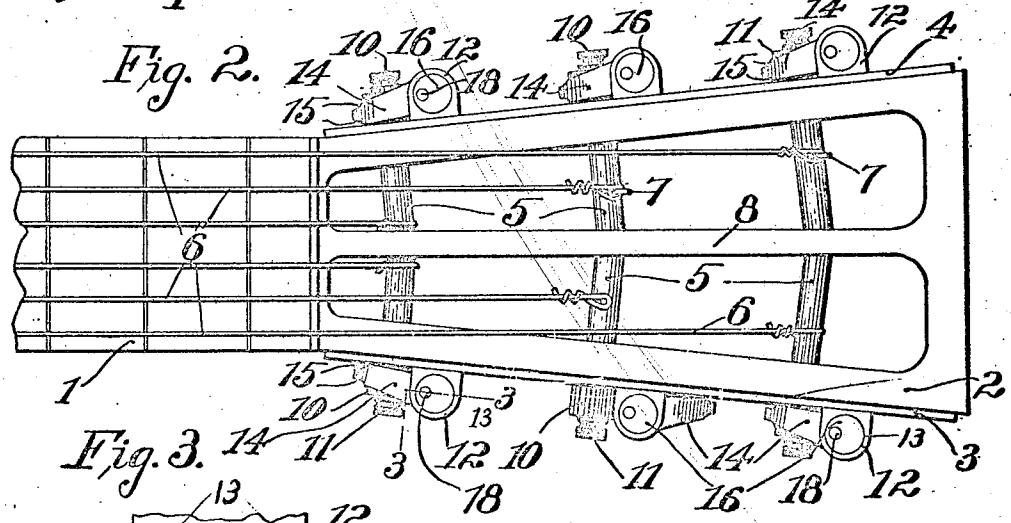


Fig. 3.

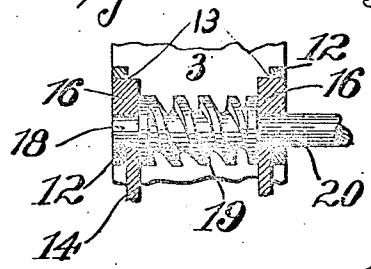


Fig. 4.

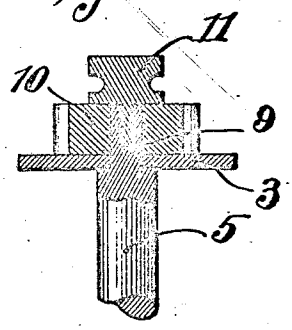
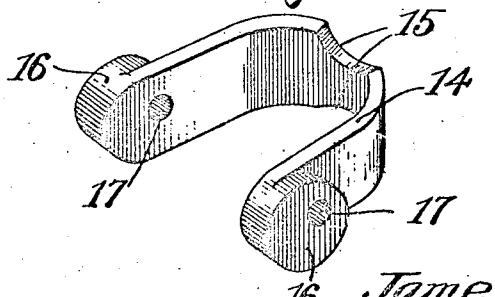


Fig. 5.



Attest.

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UNITED STATES PATENT OFFICE.

JAMES T. STANDING, OF ST. LOUIS, MISSOURI.

STRINGED-MUSICAL-INSTRUMENT KEY.

No. 895,210. Specification of Letters Patent. Patented Aug. 4, 1908.

Application filed October 19, 1907. Serial No. 398,270.

To all whom it may concern:

Be it known that I, JAMES T. STANDING, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Stringed-Musical-Instrument Keys, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a stringed musical instrument key, and the object of my invention is to provide a device whereby old or broken strings may be easily and quickly removed from the winding pins.

The device may be used on any stringed instrument, although I have shown it applied to a guitar.

My invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which

Figure 1 is a side elevation of a guitar neck and its head, with part of the neck broken away; Fig. 2 is a top plan view of a portion of a guitar neck and its head; Fig. 3 is a section taken on the line 3—3 of Fig. 2; Fig. 4 is a section taken on the line 4—4 of Fig. 1, and Fig. 5 is a detailed perspective of a portion of the device which I employ in carrying out my invention.

Referring by numerals to the accompanying drawings, 1 indicates the neck of a guitar of ordinary construction, and 2 the head thereof. The head is provided with the usual transverse holes or openings for the pins for the strings, and secured to the sides of the head are plates 3 and 4. These plates are secured to the head in any suitable manner, and are provided with suitable holes or openings which answer as bearings for the pins on which the strings are wound. In the illustration I have shown a head provided with six keys, three on each side of the head, but as all of the keys are substantially alike and embody the same principle of construction, I will proceed to describe only one key and its attendant parts.

5 indicates pins on which the strings 6 are wound, and secured to the pins 5 are hooks 7, which provide a means for securing the strings to the pins. The inner ends of the pins 5 are suitably journaled in the part 8 of the head 2, the outer ends being provided with reduced portions 9 which are journaled in the plates 3 and 4.

Mounted on the reduced portions 9 are pinions 10, which are held on said pins 5 by means of thumb nuts 11. It will be seen in this connection that the pinions 10 are so mounted as not to rotate on the pins 5.

Adjacent the pinions 10 are ears 12, which provide bearings for the keys which operate the pins 5. The ears 12 are provided with circular bearing openings 13.

14 indicates a yoke, provided with a recess 15, and with trunnions 16, which are adapted to fit in the openings 13. Eccentrically formed in these trunnions are openings 17, in which are located bearings 18 of the worm gear 19, which latter meshes with the pinions 10. The worm gear 19 is provided with a key shaft 20, on the free end of which is mounted the key head 21. By operating the worms 19, the pins 5 are rotated, and tension is applied to the strings of the instrument.

By shifting the yoke 14 forward and backward, the worms 19 may be thrown into and out of gear with the pinions 10. In Fig. 2, all the worms 19 are shown in gear with the pinions 10, except one. This arrangement for throwing the worms out of gear with the pinions permits the pins 15 to be freely and rapidly rotated by pulling on the string when the same is to be removed.

Heretofore, in order to remove a string, it has been necessary to operate the pin 5 by means of the worm gear, which operation is slow and tedious.

I claim:—

1. The combination with a musical instrument, of a winding pin, a pinion arranged on said pin, ears arranged on the musical instrument adjacent the winding pin, journals arranged for rotation in the ears; a winding key eccentrically mounted for rotation in the journals, a worm arranged on the winding key and adapted to mesh with the pinion on the winding pin, and means whereby the journals are shifted so as to move the worm into and out of engagement with the pinion.

2. A stringed musical instrument key, comprising a winding pin, journals arranged for rotation adjacent the end of the winding pin, a winding key eccentrically arranged for rotation in the rotating journals, means whereby the journals are rotated so as to move the winding key to and from the winding pin, and a driving connection between the winding pin and key.

3. A stringed musical instrument key, comprising a winding pin, a pinion on the outer end thereof, a winding key arranged at the end of the winding pin, a worm on the winding key adapted to engage with the pinion, and bearings supporting the winding key at both ends of the worm, and which bearings are movable to move the winding key and worm to and from the winding pin.

4. A stringed musical instrument key, comprising a winding pin, a pinion fixed on one end thereof, a pair of bearings arranged adjacent the pinion, a winding key eccentrically arranged in said bearings, a worm fixed on the winding key between the bearings, and means whereby the bearings are simultaneously operated to move the winding key to and from the pinion.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

JAMES T. STANDING.

Witnesses:
M. P. SMITH,
E. L. WALLACE.