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TUNING PEG FOR MUSICAL INSTRUMENTS.

APPLICATION FILED MAR. 9, 1914.

1,135,347. Patented Apr. 13, 1915.

Fig. 1.

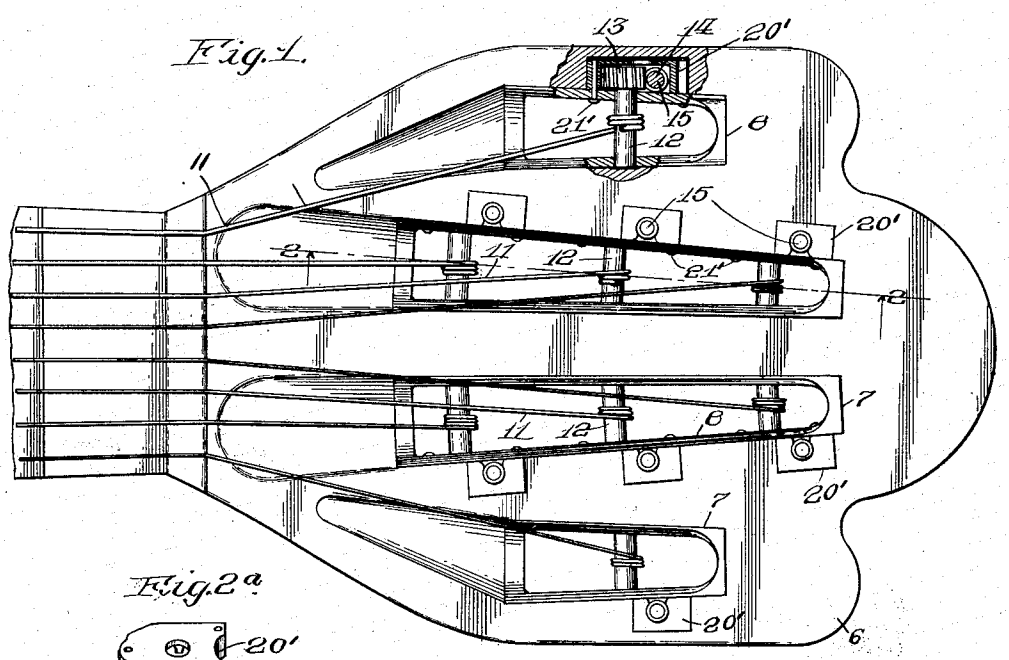


Fig. 2a.

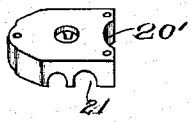


Fig. 2.

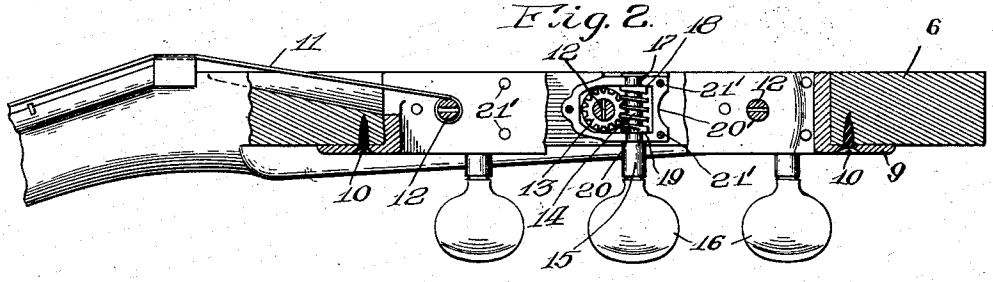


Fig. 3.

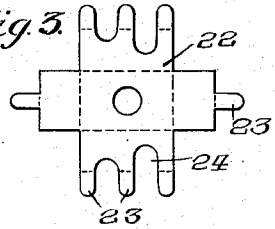


Fig. 4.

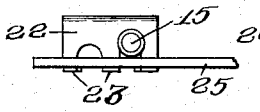
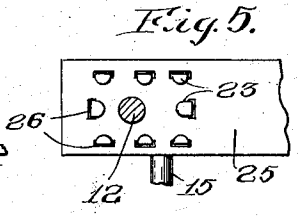


Fig. 5.



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TUNING-PEG FOR MUSICAL INSTRUMENTS.

1,135,347. Specification of Letters Patent. Patented Apr. 13, 1915.

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To all whom it may concern:

Be it known that I, JOSEPH BOHMANN, 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 Tuning-Pegs for Musical Instruments, for which the following is a specification.

This invention relates more particularly to the tuning pegs or tension devices used for tightening the strings on various forms of musical instruments, and to the arrangement and mounting of such devices in the head pieces.

Among the objects of this invention are to provide a simple and efficient tuning peg or tightening device which may be cheaply made and which may be readily applied to the head piece or proper portion of the instrument and, when so applied, will occupy but comparatively little space and will be durable and efficient in operation.

The construction and arrangement of my improved device permits its use in instruments having a relatively large number of strings, and where there is a limited amount of room for the tuning pegs.

In the accompanying drawings illustrating my invention: Figure 1 is a plan view of the head piece of a guitar or similar instrument showing my improved tuning pegs in position, parts being broken away to illustrate the interior construction; Fig. 2 is a longitudinal sectional view taken on the line 2—2 of Fig. 1, with parts also broken away to illustrate details of construction; Fig. 2ª is a perspective view of one of the peg supporting devices; Figs. 3 to 5 inclusive, are details of a modified form of construction.

As illustrated in these drawings 6 represents the head piece of a musical instrument, having openings or recesses 7, 7 therein for receiving the tuning devices. Elongated frames 8, 8, which are preferably made of metal are inserted in these openings. These frames are provided on the lower sides with flanges 9, which engage with the lower surface of the head 6, and are also provided with screws 10 for holding them in position. The strings 11 engage with winding pins or pegs 12, which are arranged transversely of the frames 8 and have their bearings in the sides of the frames. Each of these pegs is provided with a worm gear 13, which is secured at the outer end thereof adjacent to the outer surface of the frame 8, as shown in Fig. 1.

One of the principal features of this invention is the arrangement for mounting and supporting the worms and shafts for turning such gears. The worms 14 are formed on shafts or pins 15, these shafts or pins being provided with thumb pieces 16 for turning the same. Each of the worm shafts is provided with grooves having shoulders for taking up the end thrusts of the worm. I prefer to provide four shoulders as indicated at 17, 18, 19 and 20. The worm gear and its shaft and the worm and its shaft are secured in position by means of the part 20′, shown in Fig. 2ª, which may be termed a locking bearing. This member is made in the form of a cap with recesses 21 in the sides thereof which fit over the portions of the worm shaft 15 between the shoulders 17 and 18, and 19 and 20, and thereby form bearings for the shaft and hold it against longitudinal movement. The cap or bearing member 20′ is secured in position against the outer side of the frame 8, by means of rivets or the like 21′. When the bearing cap 20′ is thus secured in position it holds the gear 13 and its shaft or peg 12 in position and also holds the worm 14 and its shaft 15 in position and locks the worm in operative relation with the worm gear. The shaft 15 is supported entirely by the cap 20′, being held in position on account of the cap being riveted to the side of the frame 8. The frame 8 and the bearing cap 20′ may both be made of cast metal, such as aluminum. Such frame, caps and the peg parts are assembled before the frame is fastened into the head piece, the slot 7 being provided with lateral openings to receive the bearing caps 20′. When the parts are thus assembled it will be seen that the only projecting members are the thumb pieces 16, which extend downwardly from the head piece. It will also be noted that a large number of pegs may be provided in a very limited space which permits the ready tuning of instruments having a large number of strings, such as harp guitars or the like.

Instead of making the frame or peg supporting members of cast metal, they may be made of sheet metal and constructed in a convenient manner, as shown in Figs. 3, 4 and 5. In this instance a blank 22 is formed

in substantially the shape shown in Fig. 3 with a plurality of tongues 23 for fastening the device in position. The side portions of the blank are provided with grooves 24 to fit over the grooves in the worm shafts 15, or between the shoulders on such worm shafts. The frame member 25 is provided with a plurality of slots 26 for receiving the tongues 23. After the blank has been formed, the sides are bent down to form a cap or cover piece, similar to the part 20', and the tongues 23 are inserted through the slots 26 and bent over to hold the cover piece in position and lock the gears and shafts properly together.

It will be readily seen that various changes may be made in the form or arrangement of the parts of my device to apply them to different instruments and, therefore, I do not wish to limit myself to the exact construction or arrangement herein set forth, except as specified in the appended claims, in which I claim:

1. In a musical instrument, the combination of a head piece having an opening therethrough, a frame fitting in said opening, a tuning peg having its bearings in the sides of said frame, a gear for turning said peg, a worm and worm shaft for turning said gear, and a cap piece fitting over said worm and gear and secured to said frame for holding the turning parts in position.

2. The combination with the head of a musical instrument, having an opening therethrough, of an elongated frame fitting in said opening, means for holding said frame in position, a winding peg having its bearings in the sides of said frame, a gear on said peg, a worm engaging with said gear, a shouldered shaft for turning said worm, a bearing member fitting over said gear and worm and having bearings therein for said shaft, the shoulders being arranged to engage with the sides of said member, and means for securing said member to the side of the frame.

3. In a tuning peg, the combination of a peg support, a peg rotatably mounted in said support, a gear on said peg, a shouldered shaft, a worm on said shaft engaging with said gear, a cap piece fitting over said gear and worm, said piece having slotted sides for engagement with the shoulders on the worm shaft, and means for securing said cap piece to the side of the peg support to hold said worm and gear in position.

4. The combination of a rectangular frame having a flange around one side thereof, a tuning peg rotatably mounted in said frame, a gear on said peg, a worm meshing with said gear, a shaft carrying said worm and having grooves therein at each end of the worm, a cap having slotted sides engaging with said grooves, and means for fastening said cap to the frame whereby it will lock the worm in operative relation with the gear, and will hold said gear and worm shaft in proper position.

5. The combination of a tuning peg, a plate having a hole therethrough for said peg and having a plurality of slots therein, a gear on said peg, a worm engaging with said gear, a shaft for said worm, and a gear-casing over said gears and worm, said casing being formed of bent sheet metal, and having tongues engaging with said slots and bent to hold the casing in position, said casing also having bearings therein for the worm shaft.

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