June 5, 1928.

1,672,348

W. N. SHARPE

TUNING PEG

Filed April 8, 1926

Fig. 1.

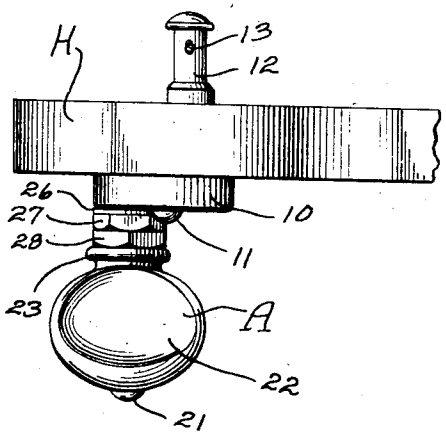


Fig. 2.

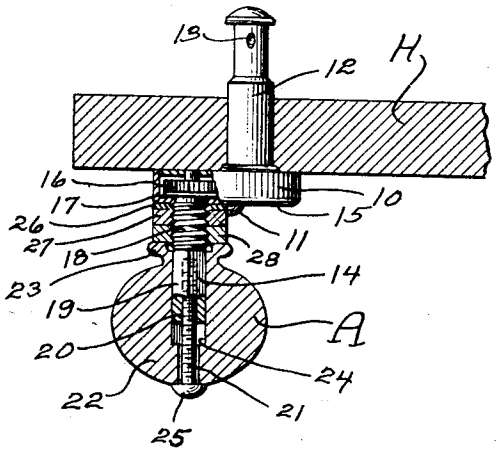


Fig. 3.

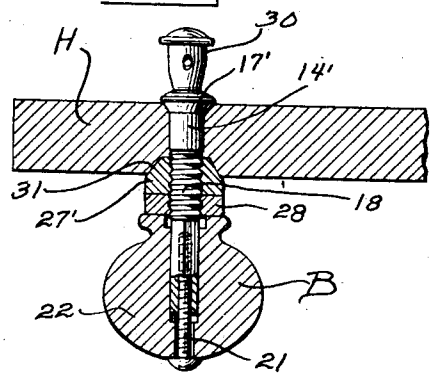


Fig. 4.

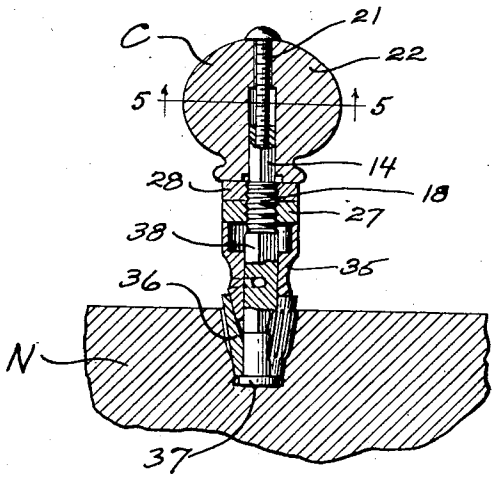
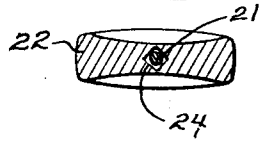


Fig. 5.



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UNITED STATES PATENT OFFICE.

WAYNE N. SHARPE, OF NEW YORK, N. Y.

TUNING PEG.

Application filed April 8, 1926. Serial No. 100,754.

This invention relates to improvements in tuning pegs or keys for stringed instruments, and the primary object of the invention is to provide devices of this character embodying novel locking features whereby an even degree of friction may be maintained for preventing counter movement of the tuning peg or key.

A further object of the invention is to provide a novel type of tuning peg which is of such construction as to eliminate the necessity of frequent adjustment being made to the peg for obtaining the desired friction.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawing forming a part of this specification and in which drawing:

Figure 1 is a view showing a gear type of peg as constructed in accordance with my invention, and showing the same applied to the head portion of a stringed instrument.

Figure 2 is a view substantially similar to Figure 1 and showing portions of the gear peg in section for illustrating details of construction.

Figure 3 is a view part in section and part in side elevation, and showing the friction retaining means incorporated in a friction peg.

Figure 4 is a view part in section and part in side elevation and showing the friction retaining means incorporated in a banjo 5th peg.

Figure 5 is a transverse section on line 5—5 of Figure 4.

Referring to the drawing in detail, and wherein similar reference characters designate corresponding parts throughout the several views, the letter A designates tuning pegs of the gear type, B a tuning peg of the friction type, and C a modified type of friction peg constituting a banjo 5th peg.

Referring particularly to Figures 1 and 2, the gear peg A is shown applied to the head portion H of any suitable type of stringed instrument. The gear peg A embodies the usual gear case 10 which may be secured to the underside of the head H as by suitable fastening means such as screws 11. This gear case 10 and which is of ordinary construction, serves as a mounting for the lower end of a string post 12 which projects upwardly through the head H and is apertured as at 13 for receiving a string in the usual manner. Extending from the lower or opposite side of the gear case 10, is a button post 14 and which post is journaled in the lower wall 15 of the gear case. Rigidly carried by the inner end of the button post 14, and disposed within the gear case 10, is a gear 16 which is adapted to mesh with suitable other gears mounted in the gear case, for imparting a rotary movement to the string post 12 upon rotation of the button post 14. The construction of the gear case 10, and gears arranged in the case for imparting rotary movement to the spring post 12 upon turning of the button post 14 is well known, and forms no part of this invention. The gear 16 forms a shoulder 17 at the inner end of the button post 14, and which shoulder is adapted to bear against the inner surface of the lower wall 15 of the gear case in a manner for preventing withdrawal of the button post from the gear case. The post 14 has an intermediate threaded portion 18 disposed exteriorly of the gear case 10, and extending in axial alignment with the threaded portion 18 is a stem portion 19 which is preferably square in cross section. Provided in the stem portion 19 and opening at the end thereof, is a threaded bore 20 for receiving a threaded retaining screw 21 which extends in axial alignment with the post 14.

A substantially flat button 22 having a shoulder 23 formed at its inner end is provided with a bore having a squared portion 24 for receiving the square stem portion of the post 14. The retaining screw 21 is provided with a head 25 whereby upon rotation of the retaining screw the button may be moved toward the threaded portion 18 of the post.

Fitting about the post 14 exteriorly of the gear case 10, is a friction disc 26 and which disc is adapted to be moved into frictional engagement with the outer surface of the lower wall 16 of the gear case by means of a retaining nut 27 turned upon the threaded portion 18 of the button post. Thus it will be seen that upon turning of the retaining nut 27, that a binding action will be created on the lower wall 15 of the gear case by means of the shoulder 17 acting on the inner face of the wall 15 and the disc 26 acting upon the outer surface of the wall. The degree of rotation of the nut 27 will determine the degree of friction created on the

wall 15 of the gear case. A jam or lock nut 28 threaded upon the portion 18 below the retaining nut 27, serves as a retaining means for the nut 27 after the nut 27 has been turned to create the desired friction. The retaining screw 21 may then be turned into the bore 20 which will force the shoulder 23 of the button into engagement with the outer face of the jam nut 28 for acting as a lock for the jam nut.

In the usual construction of gear pegs as illustrated in Figures 1 and 2, the shoulder 23 of the button is moved into binding engagement with the friction disc 26 by means of the retaining screw 21 for applying the desired friction to the peg. This method has not been entirely satisfactory owing to the fact that the retaining screw works loose due to the turning of the button, thus lessening the binding action upon the disc and allowing too free rotation of the button post. This necessitates frequent adjusting of the screw 21 for maintaining an even degree of friction between the disc 26 and the gear case. These buttons 22 are usually made of celluloid or of a rubber composition, and due to atmospheric conditions, expand and contract so that an even degree of friction is not at all times maintained for preventing too free rotation of the button post.

By so threading an intermediate portion of the button post, and providing the nuts 27 and 28, it will be seen that loosening of the retaining screw 21 or contraction of the button 22 will not effect the degree of friction created by the disc 26.

Referring to the form as illustrated in Figure 3, the button post 14′ extends thru the neck H and is provided at its upper end with an apertured head 30 for receiving a string. Formed below the head 30 is an annular flange which forms a shoulder 17′ which is adapted for frictional engagement with the upper side of the head H. The retaining nut 27′ is provided with a tapering end for seating in a conical shaped opening or depression 31 provided in the under face of the head H. This nut 27′ is adapted to be turned into frictional engagement with the head H and be locked in its adjusted position by the jam nut 28.

In Figure 4, and which showing is of a banjo 5th peg, the retaining nut 27 serves to force the sleeve 35 into binding engagement within the conical bushing 36 which is secured in the neck N. The bushing 36 acts upon a head or shoulder 37 formed at the inner end of the button post. The sleeve 35 is provided with a squared bore for receiving the squared portion 38 of the post, and it can be seen that upon turning of the retaining nut 27 that a binding action will be created between the sleeve 35 and conical shaped bushing 36.

From the foregoing description it will be apparent that an efficient type of tuning peg has been provided embodying novel features whereby an even degree of friction will be maintained upon the pegs for a considerable length of time without frequent adjustment to the pegs for obtaining the desired friction for the pegs.

Changes in detail may be made to the specific forms of the invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. A tuning peg including a button post having a shoulder a threaded portion and a stem portion disposed in the respective order given, a retaining nut mounted upon the threaded portion for movement toward said shoulder, a lock nut mounted upon the threaded portion for locking relation with the retaining nut, and an operating button carried by the stem portion of the post.

2. A tuning peg including a button post having a shoulder, a threaded portion and a stem portion disposed in respective axial alignments, a retaining nut mounted upon the threaded portion for movement toward said shoulder, a lock nut mounted upon the threaded portion for locking relation with the retaining nut, and an operating button carried by the stem portion of the post and frictionally engaging said lock nut.

3. A tuning peg including a button post having a shoulder a threaded portion and a stem portion disposed in respective axial alignment, a retaining nut mounted upon the threaded portion for movement toward said shoulder, a lock nut mounted upon the threaded portion for locking the retaining nut in adjusted positions, a button mounted upon the stem portion of the post and engaging the lock nut, and means for drawing the button into binding engagement with said lock nut.

4. A tuning peg including a button portion having a shoulder a threaded portion and a stem portion disposed in axial alignment, a retaining nut mounted upon the threaded portion for movement toward said shoulder, a lock nut mounted upon the threaded portion for locking relation with the retaining nut, a button slidably mounted upon the stem portion of the post and having its inner end engaging said lock nut, and retaining means for the button for moving the same longituidnally of the stem portion into binding engagement with the lock nut.

5. A tuning peg including a button formed with a shoulder, an intermediate threaded portion, and a stem portion provided with a threaded bore, a retaining nut mounted upon the threaded portion for movement toward said shoulder, a lock nut mounted upon the threaded portion for locking relation with the retaining nut, a button slid-

ably mounted upon the stem portion of the post and engaging at its inner end with said lock nut, and a retainnig screw threaded into the bore of said stem, and having a head engaging the button for drawing the button into binding engagement with said lock nut.

6. A tuning peg including a button post formed with a shoulder, an intermediate threaded portion and a squared stem portion having a screw threaded bore opening at the end of the stem, a retaining nut mounted upon the threaded portion for movement toward said shoulder, a lock nut mounted upon the threaded portion for locking relation with the retaining nut, a button provided with a bore having a squared portion for slidably receiving the squared stem portion of the post, and a retaining screw threaded in the bore of said stem and having a head engaging the button whereby the button may be drawn into binding engagement with said lock nut.

7. A tuning peg including a post having a shoulder formed at one end thereof and said post including a threaded portion and a squared stem portion, a button detachably carried by the squared stem portion, and friction retaining means carried by the threaded portion of the post and capable of being locked in adjusted positions relative to the shoulder of said post.

8. A tuning peg comprising a gear case, a string post carried by said gear case, a button post carried by the gear case and having a shoulder formed at its inner end and engaging the inner surface of the gear case, said button post including a threaded portion and a stem portion disposed exteriorly of the gear case, means mounted in the gear case for imparting movement from the button post to the string post, a friction disc carried by the button post and engaging the outer surface of the gear case, a retaining nut mounted upon the threaded portion of the post for creating a frictional action between the friction disc and gear case, a lock nut carried by the threaded portion of the post and serving to prevent further rotation of the retaining nut, a button carried by the stem portion of the post and engaging at its inner end said lock nut, and retaining means for securing the button to the post and drawing the button into binding engagement with said lock nut.

9. A tuning peg comprising a post formed with a head, a plain portion, a threaded portion, and a squared stem portion arranged in respective axial alignment, a bushing mounted upon the post and engaging the head portion thereof, a sleeve mounted upon the plain portion of the post and movable longitudinally of the post into frictional engagement with said bushing, a retaining nut threaded upon the threaded portion of the post and engaging said sleeve for movement of the sleeve toward said bushing, a lock nut mounted upon the threaded portion of the post and adapted for locking engagement with said retaining nut, a button non-rotatably mounted upon the squared stem portion of the post and having its inner end engage said lock nut, and a retaining screw extending through said button and engaging said post for drawing the button into binding engagement with the lock nut.

WAYNE N. SHARPE.