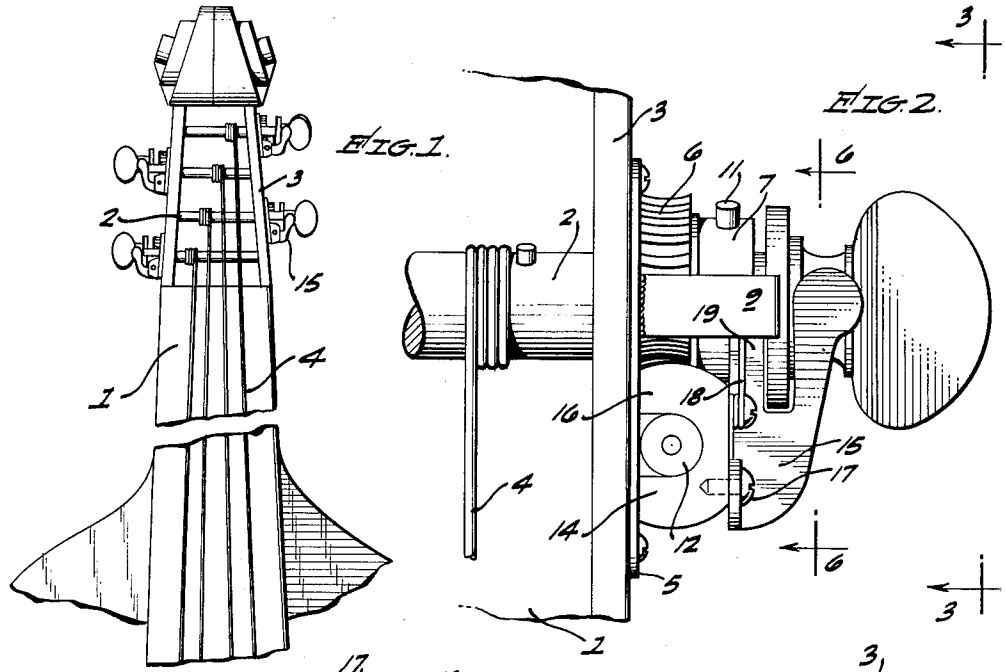
March 6, 1962 A. L. GUSEY 3,023,658

CLUTCH RELEASE FOR WORM GEAR PEG

Filed Nov. 7, 1960 2 Sheets-Sheet 1



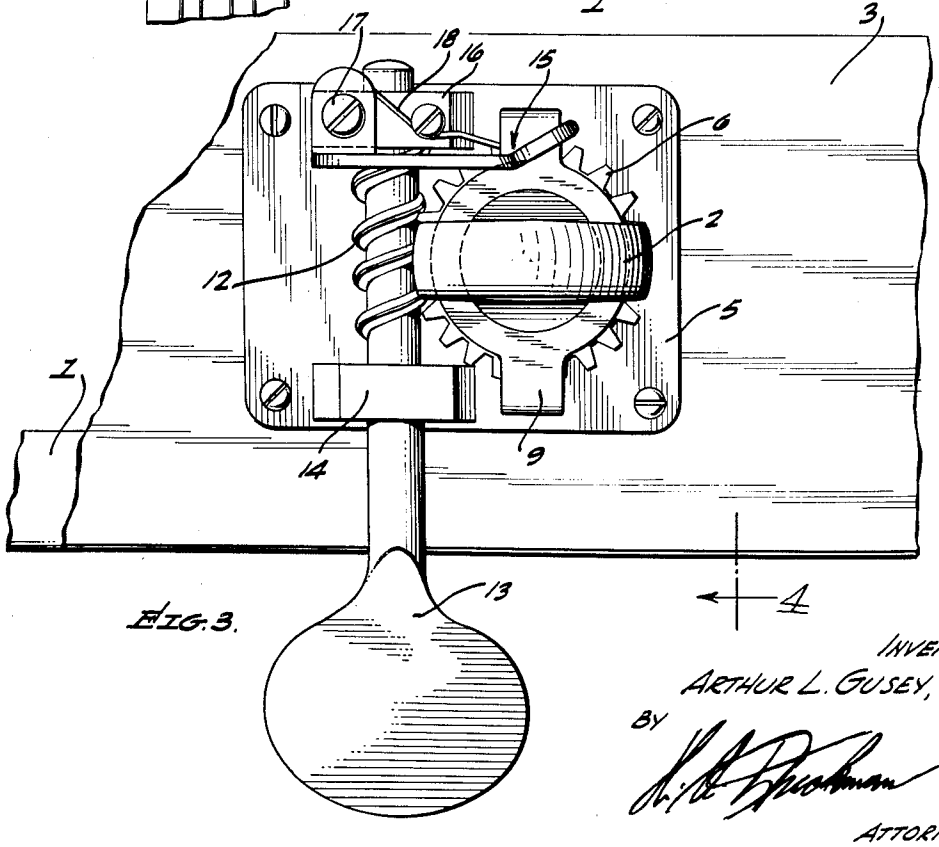


FIG. 3.

INVENTOR
ARTHUR L. GUSEY,
BY
ATTORNEY.

March 6, 1962 A. L. GUSEY 3,023,658

CLUTCH RELEASE FOR WORM GEAR PEG

Filed Nov. 7, 1960 2 Sheets-Sheet 2

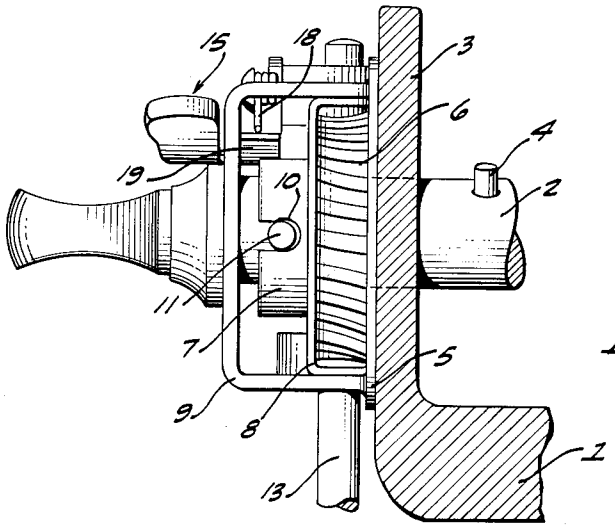
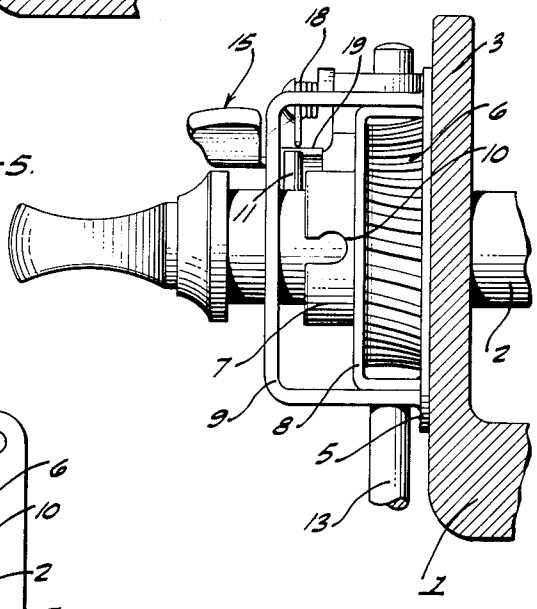


FIG. 4.

FIG. 5.



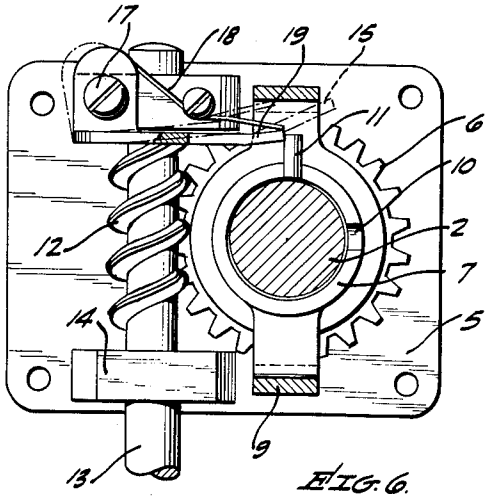


FIG. 6.

INVENTOR.
ARTHUR L. GUSEY
BY
ATTORNEY.

United States Patent Office

3,023,658

Patented Mar. 6, 1962

3,023,658

CLUTCH RELEASE FOR WORM GEAR PEG

Arthur L. Gusey, 1435 Temple Ave., Long Beach, Calif., assignor of twenty-five percent to Andrew B. Pearson, Long Beach, Calif.

Filed Nov. 7, 1960, Ser. No. 67,809

4 Claims. (Cl. 84—306)

This invention relates to a clutch release for the worm gear of a string peg on a musical instrument, such as a violin, viola, cello, base violin, and the like.

An object of my invention is to provide a novel means whereby the string peg can be released for free rotation, so that a string can be easily and quickly replaced.

Another object of my invention is to provide a novel clutch release for the string peg in which the peg is held at each 180° of rotation, so that it can be quickly rewound with the string thereon to partly tension the string. After partial tension is obtained in the string the clutch can be engaged and fine tensioning or tuning of the string can be accomplished.

Still another object of my invention is to provide a novel clutch release for the string pegs of a musical instrument which is simple in construction, effective in operation, and which can be quickly and easily operated by the user.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

In the drawing:

FIGURE 1 is a fragmentary plan view of a musical stringed instrument with my clutch release mounted thereon.

FIGURE 2 is an enlarged fragmentary top plan view of the clutch release.

FIGURE 3 is a fragmentary side elevation viewed from the line 3—3 of FIGURE 2.

FIGURE 4 is a fragmentary side elevation viewed from the direction of the arrow 4 in FIGURE 3.

FIGURE 5 is a view similar to FIGURE 4 but showing the clutch in the released position.

FIGURE 6 is a fragmentary sectional view taken on line 6—6 of FIGURE 2.

Referring more particularly to the drawing, the numeral 1 indicates the head of a musical instrument, such as a violin, viola, base violin, etc. A plurality of rotatable tuning pegs 2 are mounted in the head 1, and particularly in the side flanges 3 of the head in the usual and well known manner. The various strings 4 of the musical instrument are wrapped at one end around the peg 2, and this peg is rotated to accomplish the necessary tensioning and tuning of the string, all of which is usual and well known in the art. If a string 4 should break it is necessary to release the peg 2 for free rotation in either direction, so that the broken string can be unwrapped from the peg and a new string rewrapped thereon, after which the peg is manually rotated to accomplish the rough tensioning of the string, and thereafter finally tuned or adjusted to accomplish the final tuning.

My clutch release construction consists of the following: A plate 5 is fixedly secured to the outer face of the flange 3 on the head of the musical instrument. The peg 2 extends through the plate 5 and the fine or worm gear adjustment of the peg 2 is accomplished as follows: A worm gear 6 is is journaled on the plate 5 by means of a sleeve 7 which projects from the outer face of the gear 6. The sleeve 7 is journaled in a bracket 8 which is secured to the plate 5. A second U-shaped bracket 9 is also secured to the plate 5 and is spaced outwardly from the bracket 8, so that the sleeve 7 is thus positioned between the brackets 8 and 9. The pin 2 extends entirely through the brackets 9—8 and the flanges 3, substantially as shown. To releasably secure the peg 2 to the sleeve 7 and the gear 6 a notch 10 is provided in the sleeve 7, and a pin 11 on the peg can be moved into or out of the notch 10, thus engaging or disengaging the peg with the sleeve 7 and the gear 6. The gear 6 is rotated by the worm 12 on the key 13, and the key is suitably journaled on the plate 5 in bearings 14. The pegs 2 can be pulled inwardly or outwardly relative to the flanges 3 for the purpose of engaging or disengaging the pin 11 with the notch 10, and when disengaged the pin 11 is in the position shown in FIGURES 5 and 6.

In order to hold the peg 2 against free rotation when the pin 11 is removed from the notch 10, I provide a latch or trip finger 15 which is pivotally mounted on the plate 5 or the bearing 16 by means of the screw 17 which extends through the finger 15 and into the bearing. A spring 18 engages the finger 15 to hold the outer end of the finger pressed downwardly against one end of the peg 2. The portion of the finger 15 which rides against the sleeve 7 or the peg 2 may be termed a stop lug 19, and this stop lug is normally positioned in the path of the pin 11 when the pin is released from the notch 10. Thus the stop lug 19 will engage the pin 11 at each 360° of rotation, and also will releasably engage the pin 11 to permit the peg 2 to be rotated in a direction to wind the string 4 thereon. That is, the peg 2 can be manually rotated when making a coarse adjustment of the string 4, and the peg 2 will be held against rotation by the stop lug 19 until a fine adjustment is required, and at that time the peg 2 will be moved inwardly so that the pin 11 enters the notch 10. Thereafter rotation of the key 13 will finally adjust the peg 2 to provide the proper tension in the string 4.

If it is desired to quickly and entirely release the peg 2 for free rotation in both directions, the peg 2 is first manually pulled outwardly so that the pin 11 is pulled out of the notch 10. The pin 11 will then rotate a short distance until it engages the end of the stop lug 19. Thereafter the latch member 15 is pulled upwardly manually, thus moving the stop 19 out of the path of the pin 11, thereby permitting free rotation of the peg 2 for the purpose of unwinding the string 4 therefrom and reinserting a new one. When the string 4 has been reinserted on the peg 2 the latch 15 is released and the spring 18 returns the stop 19 to a position where it is in the path of the pin 11, and rotation of the pin in direction to wind the string on the peg 2 will permit the pin to pass under the stop 19 against the tension of the spring 18, and the stop will again snap into position back of the pin 11 to prevent counter rotation of the peg 2. When partial tensioning of the string has been accomplished the pin 11 is reinserted in the notch 10 and fine adjustment is accomplished by the worm gear 6 which is rotated by the key 13.

Having described my invention, I claim:

1. A clutch release for the peg of a musical instrument including a tuning peg journaled in the head of the musical instrument, a pin projecting from the peg adjacent one end thereof, a plate, means fixedly securing the plate to the head of the musical instrument, a sleeve journaled in said plate, said sleeve having a notch therein, said notch receiving said pin in one position of the parts, means on the sleeve for rotating the sleeve in the plate, a finger mounted on the plate adjacent said peg and the pin projecting from the peg, a stop lug on the finger, said stop lug engaging the pin on the peg in one position of the parts to prevent rotation of the peg in one direction.

2. A clutch release for the peg of a musical instrument including a tuning peg journaled in the head of the

musical instrument, a pin projecting from the peg adjacent one end thereof, a plate, means fixedly securing the plate to the head of the musical instrument, a sleeve journaled in said plate, said sleeve having a notch therein, said notch receiving said pin in one position of the parts, means on the sleeve for rotating the sleeve in the plate, a finger mounted on the plate adjacent said peg and the pin projecting from the peg, a stop lug on the finger, said stop lug engaging the pin on the peg in one position of the parts to prevent rotation of the peg in one direction, and spring means engaging the stop lug to yieldably hold the stop lug in the path of rotation of said pin.

3. A clutch release for the peg of a musical instrument including a tuning peg journaled in the head of the musical instrument, a pin projecting from the peg adjacent one end thereof, a plate, means fixedly securing the plate to the head of the musical instrument, a sleeve journaled in said plate, said sleeve having a notch therein, said notch receiving said pin in one position of the parts, means on the sleeve for rotating the sleeve in the plate, a bracket on said plate, one end of said peg extending through the bracket, a finger pivotally mounted on the plate, a lug on the finger, said lug being positioned within the path of the pin and adjacent said bracket, said pin engaging the lug in one direction of rotation of the peg to limit rotation of said peg in one direction, said lug being manually movable out of the path of rotation of said pin to permit free rotation of said peg.

4. A clutch release for the peg of a musical instrument including a tuning peg journaled in the head of the musical instrument, a pin projecting from the peg adjacent one end thereof, a plate, means fixedly securing the plate to the head of the musical instrument, a sleeve journaled in said plate, said sleeve having a notch therein, said notch receiving said pin in one position of the parts, means on the sleeve for rotating the sleeve in the plate, a bracket on said plate, one end of said peg extending through the bracket, a finger pivotally mounted on the plate, a lug on the finger, said lug being positioned within the path of the pin and adjacent said bracket, said pin engaging the lug in one direction of rotation of the peg to limit rotation of said peg in one direction, said lug being manually movable out of the path of rotation of said pin to permit free rotation of said peg, and spring means engaging said lug urging said lug into the path of rotation of said pin.

References Cited in the file of this patent

UNITED STATES PATENTS

360,186	White	Mar. 29, 1887
361,500	Gardner	Apr. 19, 1887
486,785	Lawrence et al.	Nov. 22, 1892
1,309,658	Sage	July 15, 1919