

No. 775,383.

PATENTED NOV. 22, 1904.

W. H. PORTER.
TUNING HAMMER.

APPLICATION FILED FEB. 20, 1904.

NO MODEL.

Fig. 1.

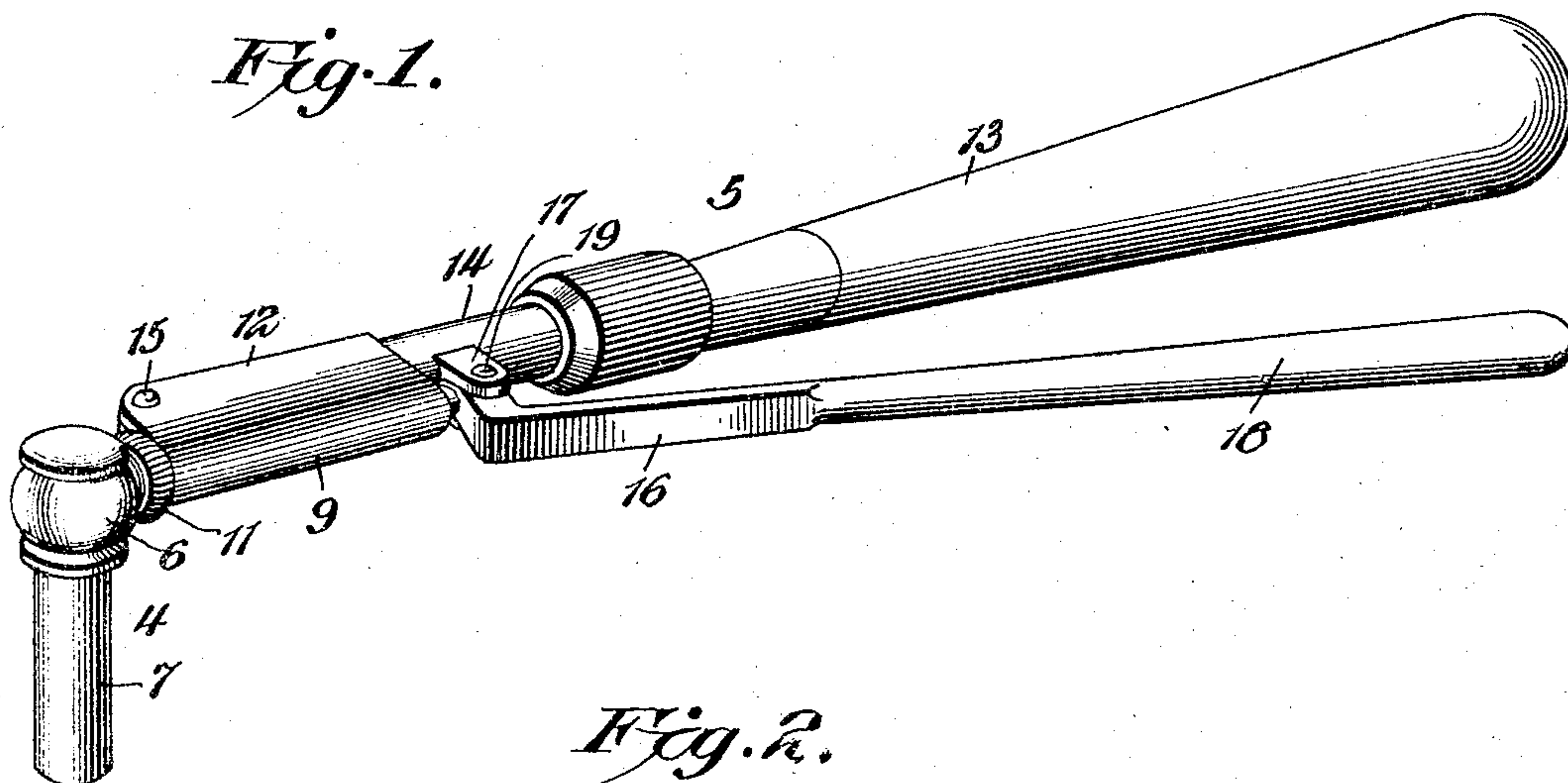


Fig. 2.

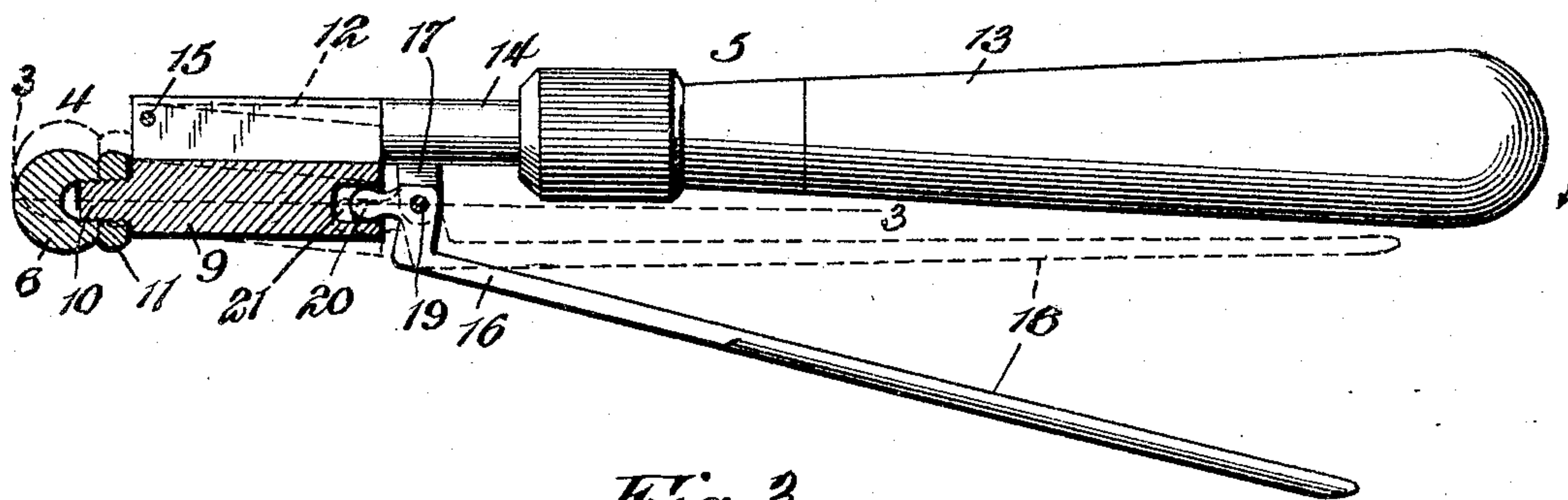
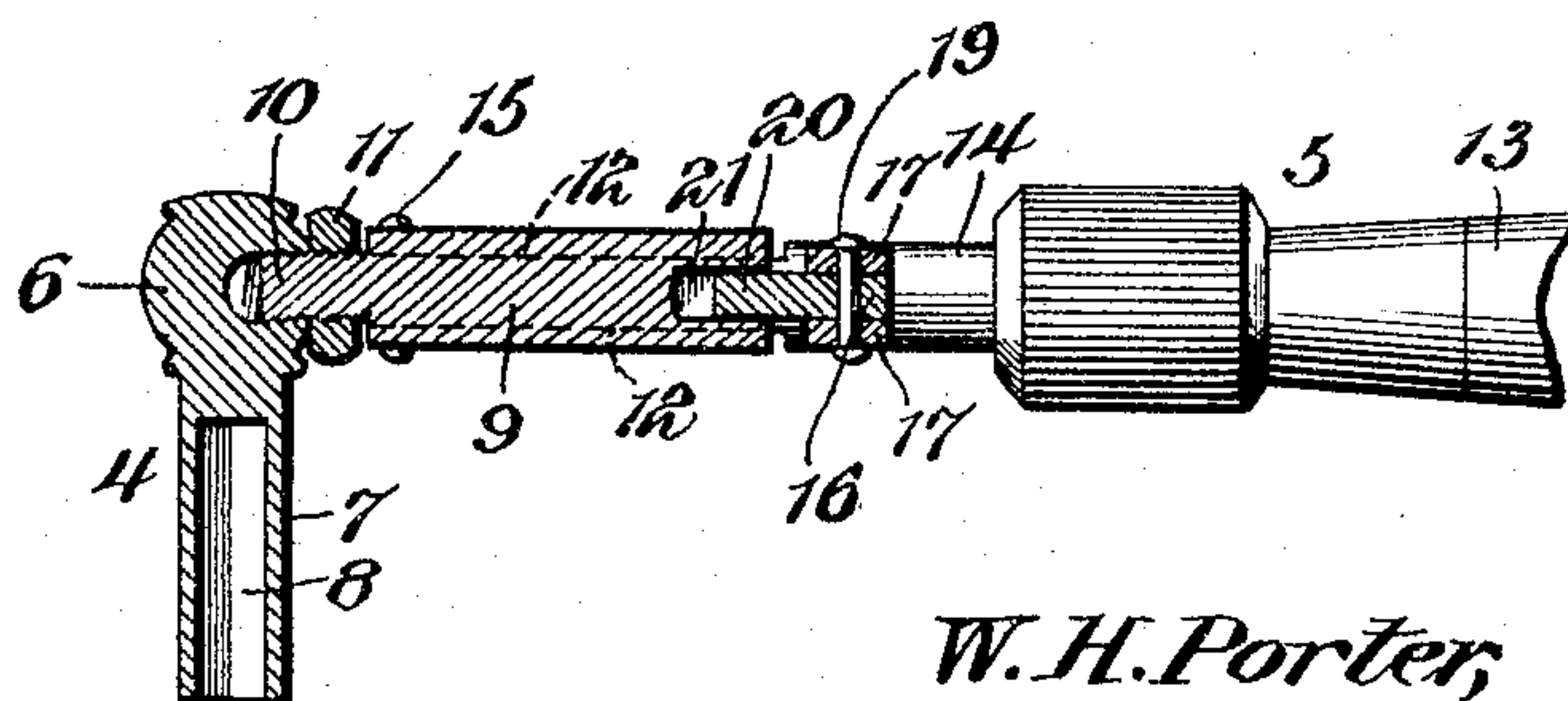


Fig. 3.



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UNITED STATES PATENT OFFICE.

WELLS HERBERT PORTER, OF ALBION, NEW YORK, ASSIGNOR OF ONE-HALF TO FRANK G. SHERWOOD, OF ALBION, NEW YORK.

TUNING-HAMMER.

SPECIFICATION forming part of Letters Patent No. 775,383, dated November 22, 1904.

Application filed February 20, 1904. Serial No. 194,558. (No model.)

To all whom it may concern:

Be it known that I, WELLS HERBERT PORTER, a citizen of the United States, residing at Albion, in the county of Orleans and State of New York, have invented a new and useful Tuning-Hammer, of which the following is a specification.

This invention relates to devices for turning the posts or pins holding the strings of musical instruments.

The particular object of the present invention is to provide a novel combination of elements for effecting an accurate movement of the key various distances in order that the post operated upon may be similarly turned and the string held by said post properly tensioned without difficulty, so as to produce the sound desired.

The preferred embodiment of the invention is illustrated in the accompanying drawings; but an inspection of the claims hereto appended will clearly indicate that various changes may be made and equivalent elements employed without departing from the spirit or scope of the invention.

In the drawings, Figure 1 is a perspective view of the improved tuning-hammer. Fig. 2 is a longitudinal sectional view through the same. Fig. 3 is a sectional view on the line 3 3 of Fig. 2.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a pin-engaging element 4 and a hammer element 5 are employed, which elements are relatively movable. The pin-engaging element comprises a head 6, carrying a spindle 7, provided with an angular pin-receiving socket 8. The head has also attached thereto an offset arm 9. The arm 9 in the present structure is detachable from the head, being provided with a nipple 10, screwed thereinto and ordinarily held against accidental disassociation and turning by a jam-nut 11. The arm 9 is provided on one side with longitudinally-disposed spaced guide-flanges 12. The hammer element 5 comprises a handle 13, carrying at one end a longitudinally-disposed stem 14, ar-

ranged longitudinally of the arm 9 and fitting between the flanges 12, the free end of the stem 14 being pivoted, as shown at 15, to the ends of the flanges which are contiguous to the head 6. It will therefore be observed that the hammer element 5 is relatively movable with respect to the pin-engaging element, and that a portion of said pin-engaging element, or, in other words, the offset arm 9, is disposed in the path of movement of the stem 14 of the hammer element, which is adapted, therefore, to strike against the same between the flanges 12.

In order to accomplish the relative movement of the two elements 4 and 5, an actuating-lever 16 is employed, pivoted to and between a pair of ears 17, carried by the stem 14 of the handle and located adjacent to the free end of the offset arm 9. This lever 16 extends longitudinally of the handle 13 and is also provided with a handle portion 18, co-acting with said handle 13. The portion of the lever through which the pivot 19 passes is offset, as shown, and is furthermore provided with a rounded head or knob 20, that is engaged in a recess or seat 21, formed in the free end of the offset arm 9.

The operation of this device may be briefly described as follows: The pin-engaging element is properly positioned upon the pin or post to be turned by placing said pin or post in the socket 8, and if the post is to be turned some distance direct pressure can be applied to the handle 13 by the operator. If, however, the adjustment is to be very accurate and the movement slight, the handle portion 18 of the lever is moved toward the handle 13, while the operator at the same time exerts considerable pressure against said handle 13, but not sufficient to move the post. The position of the parts after this movement has been made is substantially as indicated in dotted lines in Fig. 2. The stem 14 of the hammer element will be spaced from the offset arm 9 of the pin-engaging element. As soon as the lever is released the hammer element, acting under pressure from the operator, will swing around and strike the arm 9, giving a sudden jar or tap, which will effect a partial

movement of the arm and a corresponding partial revolution of the shank 7. The force of the blow thus imparted can be regulated as desired, and great accuracy of movement on the part of the post thereby obtained, so that the device has proven very advantageous over the well-known devices of this character, not only on account of the accuracy obtained, but also because of the ease and rapidity of manipulation. If a post or stem is to be turned in an opposite direction, it will be apparent that by loosening the jam-nut 11 the offset arm, with the handle, can be reversed, so as to act in an opposite direction.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element freely movable for a limited distance in one direction with respect to the pin-engaging element, said pin-engaging element having a portion disposed in the path of movement of and arranged to be struck by the hammer element during its movement in the opposite direction, the impact of such blows effecting the movement of the pin-engaging element.

2. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element attached to the pin-engaging element and having a free movement for a limited distance with respect thereto in one direction, said pin-engaging element having a portion disposed in the path of movement of and arranged to be struck by the hammer element when moving in an opposite direction, the impact of such blows effecting the movement of the pin-engaging element.

3. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element pivoted to the pin-engaging element and having a free swinging movement thereupon for a limited distance in one direction, said pin-engaging element having a portion disposed in the path of movement of and arranged to be struck by the hammer element when moved in an opposite direction, the impact of such blows effecting the movement of the pin-engaging element.

4. In a tuning-hammer, the combination with a pin-engaging element comprising a head and an offset arm, of a hammer element pivoted to the pin-engaging element, said hammer element having a free movement for a limited distance in one direction and arranged to strike the offset arm thereof when moved in an opposite direction, the impact of such blows effecting the movement of the pin-engaging element.

5. In a tuning-hammer, the combination with a pin-engaging element comprising a head having a pin-engaging socket and an offset arm, of a hammer element comprising a handle having a stem disposed alongside the arm and pivoted thereto.

6. In a tuning-hammer, the combination with a pin-engaging element comprising a socketed head and an offset arm provided with spaced longitudinally-disposed flanges, of a hammer element comprising a handle having a stem that is pivoted to the arm and is movable between the flanges thereof.

7. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element freely movable for a limited distance in one direction with respect to the pin-engaging element, said pin-engaging element having a portion disposed in the path of movement of and arranged to be struck by the hammer element during its movement in an opposite direction, and means for relatively moving the elements to effect the engagement of the hammer element with and its disengagement from the pin-engaging element.

8. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element freely movable for a limited distance in one direction with respect to the pin-engaging element, said pin-engaging element having a portion disposed in the path of movement of and arranged to be struck by the hammer element during its movement in an opposite direction, and a lever associated with the elements for relatively moving said elements.

9. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element movable with respect to the pin-engaging element, said pin-engaging element having a portion disposed in the path of movement of and arranged to be struck by the hammer element, and a lever pivoted on the hammer element and having an engagement with the pin-engaging element for relatively moving said element.

10. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element pivoted thereto and having a handle, and a lever pivoted to the hammer element, one end of the lever constituting a handle that coacts with the handle of the hammer element, said lever having an engagement with the pin-engaging element.

11. In a tuning-hammer, the combination with a pin-engaging element comprising a socketed head having an offset arm, of a hammer element comprising a handle having a stem pivoted to the arm and movable with respect thereto, said arm being disposed in the path of movement of the hammer element, and a lever pivoted upon and disposed longitudinally of the hammer element, said lever having an engagement with the offset arm of the pin-engaging element.

12. In a tuning-hammer, the combination with a socketed head having an offset arm, of a handle having a stem pivoted to the arm, said arm being disposed in the path of movement of the handle-stem and having a socket in its free end, and an actuating-lever pivoted

upon the handle and having a handle portion disposed longitudinally thereof, said lever being provided with a knob that engages in the socket of the arm.

5 13. In a tuning-hammer, the combination with a pin-engaging element, of a hammer element movable with respect to the pin-engaging element, said pin-engaging element having a portion disposed in the path of movement of and arranged to be struck by the hammer element, and means for reversing the hammer element to permit the blow thereof being effected in opposite directions.

15 14. In a tuning-hammer, the combination with a pin-engaging element including a head, an offset arm revolubly associated with the head, and a hammer element coacting with the head to impart a blow thereto.

20 15. In a tuning-hammer, the combination with a pin-engaging element having a head, of an offset arm revolubly associated with the

head, means for locking the arm against its revoluble movement, and a handle pivotally associated with the head and revoluble therewith. 25

16. In a tuning-hammer, the combination with a head having a pin-receiving socket, of an offset arm revolubly mounted on the head, a jam-nut mounted on the arm and arranged to engage the head to hold said arm against its revoluble movement, and a hammer element pivoted to and arranged to strike against the arm, said hammer element being revoluble with the arm. 30

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 35

WELLS HERBERT PORTER.

Witnesses:

HERBERT T. REED,
H. A. BLAKE.