C. H. LIND.

TUNING HAMMER FOR TUNING PIANOS.

APPLICATION FILED JAN. 16, 1911.

**997,143.** **Patented July 4, 1911.**

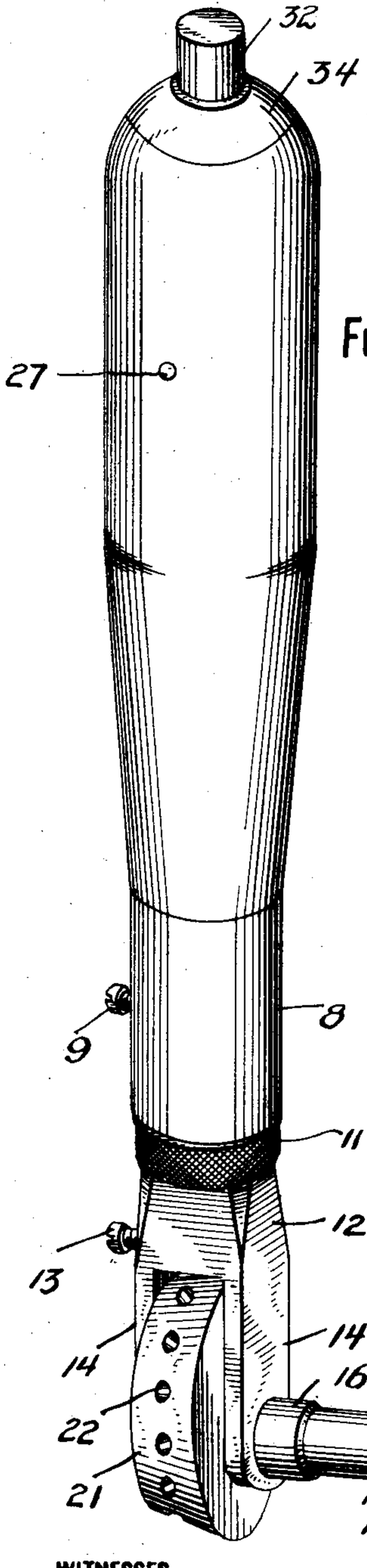


FIG. 1

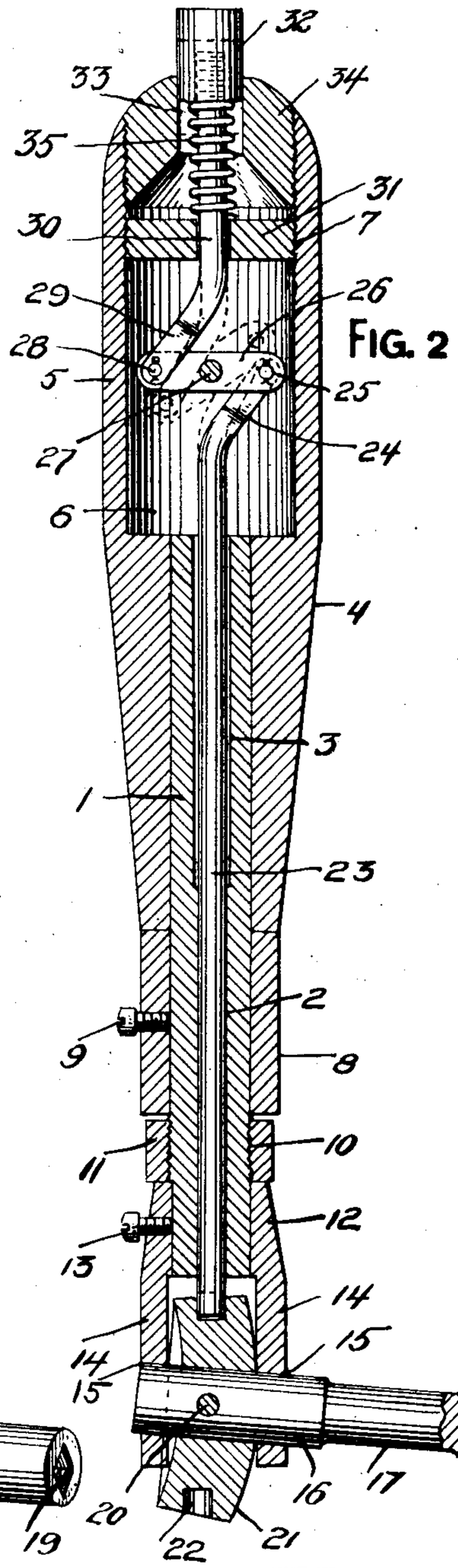


FIG. 2

WITNESSES

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# UNITED STATES PATENT OFFICE.

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## TUNING-HAMMER FOR TUNING PIANOS.

997,143. Specification of Letters Patent. Patented July 4, 1911.

Application filed January 16, 1911. Serial No. 602,895.

*To all whom it may concern:*

Be it known that I, CHARLES H. LIND, a citizen of the United States of America, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Tuning-Hammers for Tuning Pianos, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a tuning hammer for tuning pianos and large stringed instruments, and the primary object of the invention is to provide a novel instrument with means as will be hereinafter set forth whereby the key of the instrument can be easily rotated, particularly in inaccessible parts of a piano where an ordinary key could not be easily handled.

Another object of the invention is to provide a tuning hammer constructed upon the principle of a ratchet wrench, which permits of the operating handle of the hammer obtaining a fresh grip upon the tuning key.

I attain the above objects by a mechanical construction that will be hereinafter specifically described and then claimed, and reference will now be had to the drawing, wherein:—

Figure 1 is a perspective view of the hammer, and Fig. 2 is a vertical sectional view of the same.

A hammer in accordance with this invention comprises a tubular shank 1 having the bore 2 thereof enlarged at one end, as at 3, the enlarged end 3 of the bore being approximately one-half the length of the shank 1. Fitted upon the upper end of the shank 1 is the reduced end 4 of a handle 5, said handle having the upper end thereof provided with an annular recess 6 with the upper walls thereof threaded, as at 7.

Mounted upon the shank 1 and against the reduced end 4 of the handle 5 is a collar 8, said collar being secured to the shank by a set screw 9. The shank 1 adjacent to the collar 8 is exteriorly screw threaded, as at 10 to receive a knurled nut 11, and mounted upon the extreme end of the shank 1 is a bifurcated head 12, said head being retained upon the shank by a set screw 13 or other fastening means. The head has the arms 14 thereof provided with oppositely disposed longitudinally alining openings 15, these openings having the longitudinal axis thereof at an angle to said head to receive the rear enlarged end 16 of an angularly disposed tuning key 17, said key having the outer end thereof enlarged, as at 18 and provided with the ordinary socket 19 to receive the end of a string-pin of an instrument.

Mounted upon the enlarged end 16 of the key 17 by a pin 20 or other fastening means is a concavo-convex wheel 21 having the periphery thereof provided with seats or sockets 22 adapted to receive the end of a rod 23 movably mounted in the bore 2 of the shank 1. The rod extends into the recess 6 and is bent at an angle and flattened, as at 24 and pivotally connected by a pin 25 to a lever 26 fulcrumed upon a pin 27, arranged transversely of the recess 6. The opposite end of the fulcrumed lever 26 is pivotally connected by a pin 28 to the lower curved and bifurcated end 29 of a plunger 30. The plunger 30 is slidably mounted in a combined guide and abutment 31 detachably retained within the upper end of the recess 6 by the screw 17. The upper end of the plunger 30 is provided with a detachable button 32 slidably mounted in an opening 33 provided therefor in a plug 34 detachably retained in the recess 6 by the thread 7. Encircling the plunger 30 between the combined guide and abutment 31 and the button 32 is a coiled retractile spring 35 adapted to normally retain the plunger 30 in an elevated position and the rod 23 in a lowered position with the end thereof seated in one of the sockets 22 of the wheel 21.

By placing the key 27 at an angle relatively to the handle of the hammer, the handle is sufficiently removed from the pinboard of an instrument, when the key is placed upon a pin, to permit of the hand readily gripping the handle and rotating the key 17. In other words, the handle will extend outwardly at an angle from the pinboard and thus permit of the key being readily rotated. With the end of the rod 23 normally engaging in one of the seats or sockets 22, the key 17 can be easily rotated and should it be impossible to completely rotate the key, a fresh grip can be obtained upon the wheel 21 by pressing inwardly upon the button 32 to move the rod out of engagement with the wheel. Then the handle can be swung, the button 32 released and a fresh grip obtained upon the wheel.

The nut 11 is employed for facilitating the removal of the head 12 after the set screw 13 has been loosened.

It is thought that the operation and utility of the hammer will be apparent without further description, and while in the drawing there is illustrated a preferred embodiment of the invention, it is to be understood that such changes in the size and materials as fall within the scope of the appended claims can be resorted to without departing from the spirit of the invention.

What I claim is:—

1. A tuning hammer comprising a tubular shank, a head secured to one end thereof, a laterally-disposed key journaled in said head and extending at an inclination with respect to the head, a wheel mounted in the head and connected to the key and having its periphery provided with a plurality of sockets, a handle mounted upon and projecting from the shank and having its projecting end recessed, a rod extending through said shank and engaging in the sockets of the wheel to arrest movement of the latter, a lever arranged within said recesses and pivoted intermediate its ends, said rod having its upper end angularly disposed with respect to its remaining portion and connected to one end of said lever, a spring-controlled plunger mounted in the handle and having its lower portion angularly disposed with respect to its remaining portion and connected to the other end of said lever, and a button carried by the plunger and projecting from the handle.

2. A tuning hammer comprising a tubular shank, a head secured to one end thereof, a laterally-disposed key journaled in said head and extending at an inclination with respect to the head, a wheel mounted in the head and connected to the key and having its periphery provided with a plurality of sockets, a handle mounted upon and projecting from the shank and having its projecting end recessed, a rod extending through said shank and engaging in the sockets of the wheel to arrest movement of the latter, a lever arranged within said recesses and pivoted intermediate its ends, said rod having its upper end angularly disposed with respect to its remaining portion and connected to one end of said lever, a plunger mounted in the handle and having its lower portion angularly disposed with respect to its remaining portion and connected to the other end of said lever, a button carried by the plunger and projecting from the handle, a combined guide and abutment within the handle, said plunger extending through said guide, and a coil spring interposed between the combined guide and abutment and said button and surrounding the plunger.

3. A tuning hammer comprising a tubular shank, a head carried thereby, a key rotatably mounted in the head, a wheel mounted within the head and secured to the key, a handle carried by the shank, a rod extending through the shank and into the handle and adapted to engage said wheel to lock the key against rotation, said rod having its upper end angularly disposed with respect to its remaining portion, a lever pivotally mounted in the handle and having one end connected to the upper end of the rod, and a spring-controlled plunger extending in the handle and having its lower end angularly disposed with respect to its remaining portion and pivotally connected to the other end of the handle.

In testimony whereof I affix my signature in the presence of two witnesses.

CHARLES H. LIND.

Witnesses:
LOUIS HARTWEG,
EDGAR SVENSEN.