

Nov. 27, 1923.

C. J. FERGUSON

1,475,227

TALKING MACHINE NEEDLE HOLDER

Filed Sept. 1, 1922

Fig. 1.

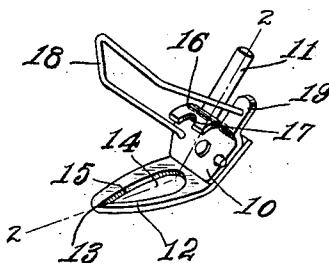


Fig. 2.

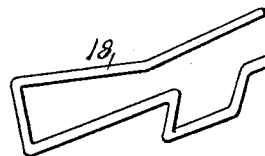
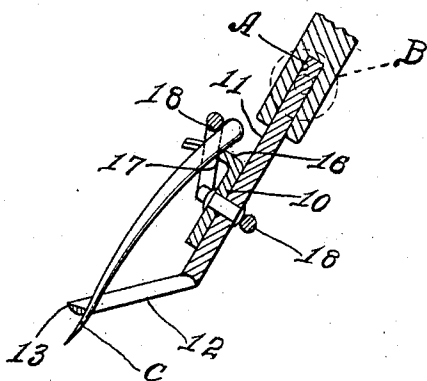


Fig. 3.

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WITNESS:

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UNITED STATES PATENT OFFICE.

CLARENCE J. FERGUSON, OF CASPER, WYOMING.

TALKING-MACHINE-NEEDLE HOLDER.

Application filed September 1, 1922. Serial No. 585,715.

To all whom it may concern:

Be it known that I, CLARENCE J. FERGUSON, a citizen of the United States, residing at Casper, in the county of Natrona and State of Wyoming, have invented new and useful Improvements in Talking-Machine-Needle Holders, of which the following is a specification.

This invention relates to the reproducing mechanism of talking machines and has for its object the provision of a novel holder designed to be used in the ordinary needle socket and designed for the purpose of holding a cactus thorn, yucca point or other slender thorns or the like or splinters of vegetable matter so that such articles may be used effectively to replace the ordinary stylus or needle, the advantage being that these slender thorns are much more delicate than the ordinary well known bamboo points and will therefore reproduce with greater faithfulness and with less objectionable noise.

It is well known that it requires a fine point to follow the minute variations in the cuts of talking machine records to secure proper reproductions. The well known metallic styli have the disadvantage of producing sounds which have a metallic character and which are not a faithful reproduction of the sounds employed in the making of the original record. The non-metallic rigid points, sapphire, diamond and the like are costly and also wear the records rapidly. The bamboo "needles" are efficient but are rather blunt so that while the sounds produced are of good quality and tone many of the finer notes and more delicate graduations are lost.

It is with all the above facts in view that I have designed the present device which operates to hold a slender thorn or other similar piece of vegetable matter in such a way that it will have sufficient rigidity to accomplish the purpose and it is moreover an object to construct this holder in such a way that the degree of protrusion of the pointed end beyond the holder may be varied for producing loud or soft playing in a manner similar to the use of long or short metallic needles.

An additional object is the provision of a device of this character which will be simple and inexpensive in manufacture, which may be used in connection with the ordinary stylus holding socket of a reproducer, which

will permit ready insertion and removal of the points, and which will be a general improvement in the art.

With the above and other objects and advantages in view the invention consists in the details of construction to be hereinafter more fully described and claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the device,

Figure 2 is a vertical section therethrough showing a thorn held in place and showing the device mounted in the needle holding socket of a reproducer, the section being taken on the line 2—2 of Figure 1.

Figure 3 is a perspective view of the spring.

Referring more particularly to the drawings the numeral 10 designates the body of the device which is formed of metal and which is provided at one end with a reduced extension 11 adapted for insertion within the needle holding socket A of a reproducer to be engaged by the usual thumb screw B for holding the device stationary. The lower end of this body 10 is preferably curved or inclined at its side edges as indicated at 12 so as to terminate in a substantial point 13 and formed in this lower portion is an opening 14 which is of wedge shape or V-shaped with the vertex of the angle adjacent the point 13. The edges of the opening 14 are beveled as shown so that the lower corners will be sharp as illustrated at 15.

Either formed upon or secured to the body 10 is a forwardly extending flange 16 provided with a V-shaped notch 17 having its edges beveled. Secured at one end to the underside of the flange 16 or some other convenient location is a spring 18 which has its free end disposed above the flange. If preferred an upstanding lug 19 may be provided for limiting the movement of the free end of the spring toward the extension 11 when there is no stylus in the device.

As above stated the device is held by inserting and clamping the extension 11 within the needle holding socket A. A point C such as a slender cactus thorn, yucca point or the like is inserted from underneath up through the opening 14 and engaged within the notch 17, the free end of the spring engaging the butt of the thorn or the like which extends above the flange 16. The

spring operates to rock the thorn or other point in the notch so that the small end of the thorn will be forced into the narrow end of the opening 14.

5 When the record is rotated in the usual manner the direction of rotation is such that the drag of the point upon the record will assist in holding the point within the narrow end of the opening 14, thus causing
10 the point to be firmly seated and insuring the transmission of the vibrations to the diaphragm of the reproducer. A feature to be observed is that the position of the thorn may be varied so as to cause the point to
15 project to a greater or less extent below the bottom portion 12 of the holder, thus making it possible to change the loudness in the same manner as using long and short needles or ordinary types.

20 While I have shown and described the preferred embodiment of the invention it is of course to be understood that I reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention
25 or the scope of the subjoined claims.

Having thus described my invention I claim:

30 1. A device of the character described comprising a body formed at one end with an extension adapted to be held within the needle holding socket of a reproducer, a
35 foot member at the bottom of said extension formed with a wedge shaped opening, a notched flange at the intermediate portion of the body having the notch in alignment with said wedge shaped opening, the opening
40 being designed to receive the smaller end of a stylus and the notch being designed to receive the larger end thereof, and a spring at the upper portion of the body engageable with the upper end of the stylus
45 for rocking the same at the notch to cause the smaller end to fit snugly against the narrow end of the opening.

2. A device of the character described comprising a body member provided with means for support from the stylus holding
50 socket of a talking machine reproducer, said body being provided at its lower end with a substantially horizontal projection having a stylus receiving opening therein, a
55 guide at the intermediate portion of the body for receiving the upper portion of a stylus, and means engageable with the stylus for holding the same within the guide and the opening.

3. A device of the character described comprising a body member provided with
60 means for support from the stylus holding socket of a talking machine reproducer, said body being provided at its lower end with a substantially horizontal projection having a stylus receiving opening therein, a guide at
65 the intermediate portion of the body for re-

ceiving the upper portion of a stylus, and means engageable with the stylus for holding the same within the guide and the opening, consisting of a spring having one end secured and the other end free and engaging
70 the stylus above the guide.

4. A device of the character described comprising a body member formed at one end with an extension designed to be secured
75 within the stylus holding socket of a reproducer and formed at its other end with a foot member extending at an angle and provided with a V-shaped opening, a flange formed at the intermediate portion of the body provided with a V-shaped notch arranged
80 above said opening, a stop lug projecting upwardly from said flange, said opening being designed to receive the smaller end of a stylus member and said notch being designed to receive the upper end thereof,
85 and a spring having one end secured and its other end free and extending above said flange to engage the upper end of the stylus, said lug operating to limit the movement of the free end of the spring when the stylus
90 is removed.

5. A device of the character described comprising a body member provided with means for support from the stylus holding
95 socket of a talking machine reproducer, said body being provided with a projection having a stylus receiving opening therein, fulcrum means on the body for guidably receiving the stylus, and spring means for clamping the stylus within the guide and opening,
100 the stylus being flexed over said fulcrum.

6. A device of the character described comprising a body member designed to be held within the stylus holding socket
105 of a reproducer and formed with a foot having an opening therein, a fulcrum on the body having a notch, and spring means on said body for clampingly engaging a stylus above the fulcrum and urging the lower end of the stylus into one end of said
110 opening.

7. A device of the character described comprising a support adapted to be carried by the reproducer of a talking machine, said
115 body having an angular portion constituting a foot, said foot being formed with a slot, a stylus guide on the body, and spring means on the body above the guide for clamping a stylus against the guide with its lower end projecting beyond the foot and in engagement
120 with one end of said opening.

8. A device of the character described comprising a supporting body having means for connection within the stylus holding
125 socket of a talking machine reproducer, said body having a guide slot adapted to have a stylus extended therethrough, a combined guide and fulcrum on the body for the stylus, and a spring clamp engaging the upper end of the stylus for urging the lower end there-
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of into engagement with one end of the slot.

9. A device of the character described comprising a supporting body provided at one end with means for connection within the stylus holding socket of a talking machine reproducer, said body having its other end terminating in an angularly extending foot formed with a slot, a notched guide on the intermediate portion of the body serving as a fulcrum for a stylus engaged therein with its lower end projecting through the slot, and means on the body engaging the stylus above said guide for urging the lower end thereof into engagement with the end of said slot most remote from the body.

10. A device of the character described comprising a supporting body provided at one end with means for connection within

the stylus holding socket of a talking machine reproducer, said body having its other end terminating in an angularly extending foot formed with a slot, a notched guide on the intermediate portion of the body serving as a fulcrum for a stylus engaged therein with its lower end projecting through the slot, and means on the body engaging the stylus above said guide for urging the lower end thereof into engagement with the end of said slot most remote from the body, said means including an elongated substantially U-shaped spring having one end secured to the body below the guide and its other end disposed above the guide in contact with the stylus.

In testimony whereof I affix my signature.
CLARENCE J. FERGUSON.