

Jan. 8, 1924.

1,480,100

S. NELSON

PHONOGRAPH NEEDLE

Filed April 9, 1923

Fig. 1.

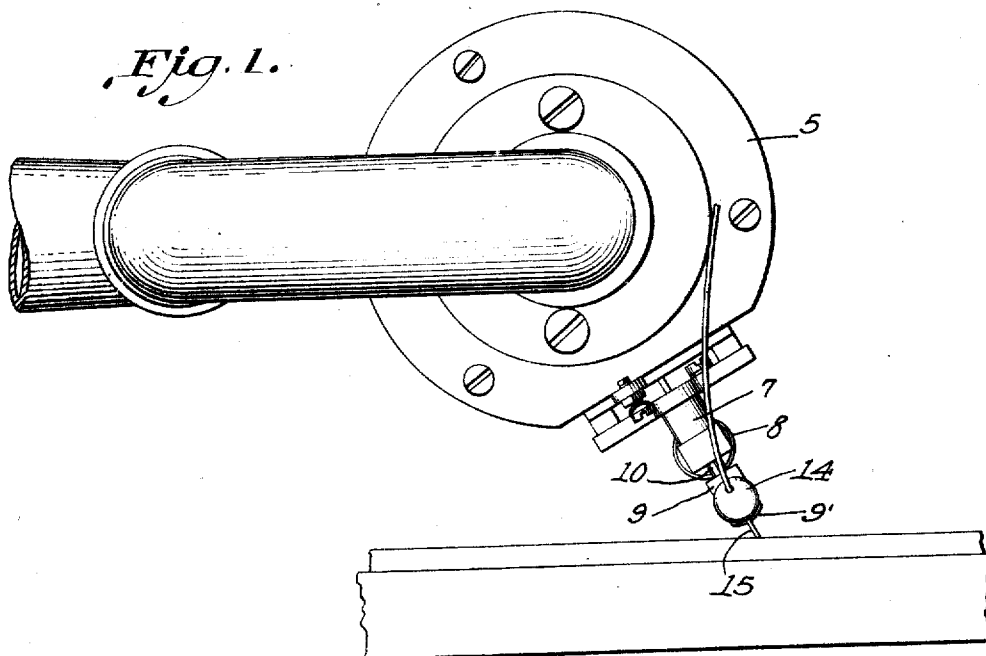


Fig. 2.

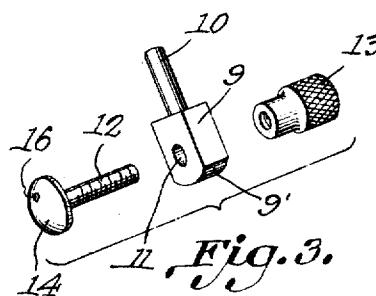
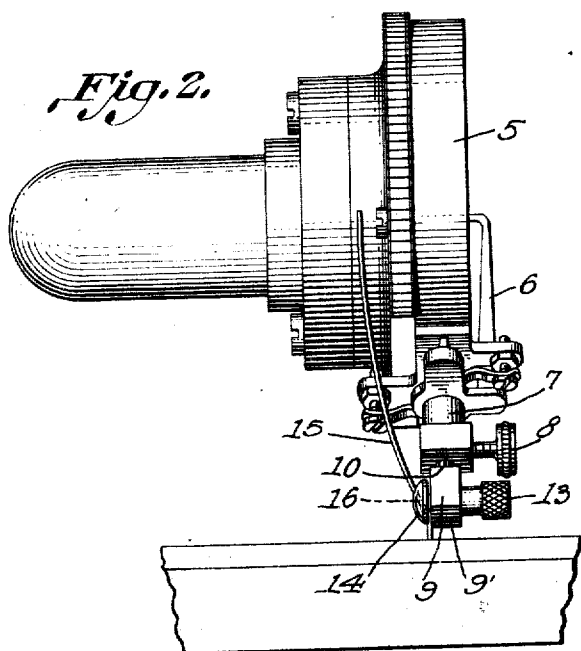


Fig. 3.

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UNITED STATES PATENT OFFICE.

SAMUEL NELSON, OF WATERLOO, IOWA

PHONOGRAPH NEEDLE.

Application filed April 9, 1923. Serial No. 630,557

To all whom it may concern:

Be it known that I, SAMUEL NELSON, a citizen of the United States, residing at Waterloo, in the county of Black Hawk and State of Iowa, have invented certain new and useful Improvements in Phonograph Needles, of which the following is a specification.

My invention relates to phonograph needles.

An important object of the invention is to provide a phonograph needle, the record engaging element of which is longitudinally adjustable, to regulate the loudness of the playing, and also to compensate for wear upon the playing element.

A further object of the invention is to provide a phonograph needle of the above mentioned character, the playing element of which may be relatively long, for adjustment to compensate for wear, and which may be replaced by a new playing element, when completely used up.

A further object of the invention is to provide a device of the above mentioned character, which is extremely simple in construction, inexpensive to manufacture, and easy to use.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same.

Figure 1 is a side elevation of a needle embodying my invention,

Figure 2 is an edge elevation of the same, and,

Figure 3 is a perspective view of certain of the elements embodied in the needle.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a sound box, equipped with the usual diaphragm, actuated by the vibratory lever 6, to which is connected in the usual manner, a socket 7, provided with a clamping screw 8.

My improved needle embodies a body portion or block 9, having a longitudinally extending shank or pin 10, preferably integral therewith. The block 9 is provided with a transverse opening 11, for slidably receiving a screw threaded pin 12. The wall of the opening 11 is smooth and the

screw 12 has no screw threaded engagement therewith, but may slide therein. The numeral 13 designates an adjusting nut engaging the screw threaded end of the pin 12. The pin 12 is provided at its opposite end with a relatively large head 14, the inner face of which is preferably substantially flat, while its outer face may be rounded. The head 14 projects radially beyond the pin 12 for a substantial distance. Particular attention is called to the fact that the block or body portion 9 is provided at its forward or lower end with a relatively wide smooth rounded face 9', projecting downwardly a slight distance below or in advance of the nut 13 and head 16. In the event that the playing element, to be described, should bend or break, the face 9' will slide upon the record without injury to the same, and prevent the nut 13 and head 16 from contacting with the record.

The numeral 15 designates a playing element, which is preferably formed of a section of wire having the desired stiffness. This wire may be formed of any suitable metal, alloy, or any other suitable material. The playing element or wire may be in any suitable or convenient length. The head 14 is provided with a diagonal opening 16, passing through the outer face of the head, at a point inwardly of its periphery, and through the inner flat face thereof, at a point adjacent to the pin 12. The playing element 15, which is of the same diameter throughout its entire length, is adapted to be inserted through this diagonal opening and its forward end portion is adapted to be clamped between the flat face of the head 14 and the flat face of the body portion or block 9, as clearly illustrated in Figure 2.

In view of the foregoing description, it will be obvious that the playing element 15 may be fed forwardly by slightly unscrewing the nut 13, and again clamped in the adjusted position by screwing up this nut. The diagonal opening through the relatively large head 14 renders it convenient to thread a new playing element through the opening. The construction is extremely simple and inexpensive to manufacture.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit

of my invention or the scope of the sub-joined claims.

Having thus described my invention, I claim:

- 5 1. A phonograph needle comprising a body portion having an opening formed therein, a shank carried by the body portion for insertion within the socket of the diaphragm mechanism, a screw threaded
10 pin for insertion within the opening of the body portion and provided at one end with a head, said head having a diagonal opening which passes through the outer and inner faces thereof, a nut engaging the
15 screw threaded end of the pin, and a play-

ing element adjustably mounted within the diagonal opening and adapted to be clamped between the inner face of the head and the coacting face of said body portion.

2. A phonograph needle comprising a
20 body portion having an opening, a shank carried by the body portion, a pin mounted within said opening and having an opening formed therein, a nut carried by the pin, and a longitudinally adjustable playing ele-
25 ment arranged within the opening of said pin.

In testimony whereof I affix my signature.

SAMUEL NELSON.