

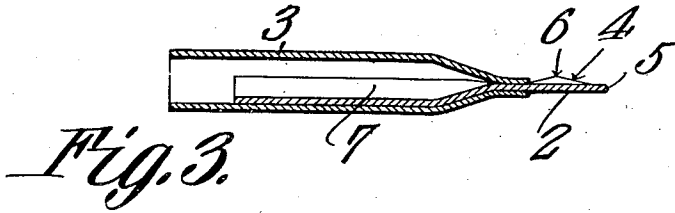
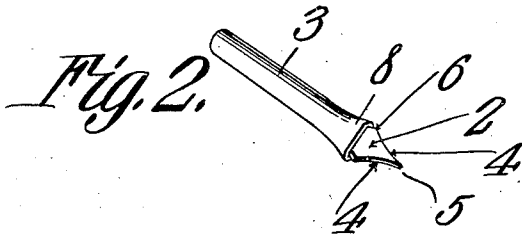
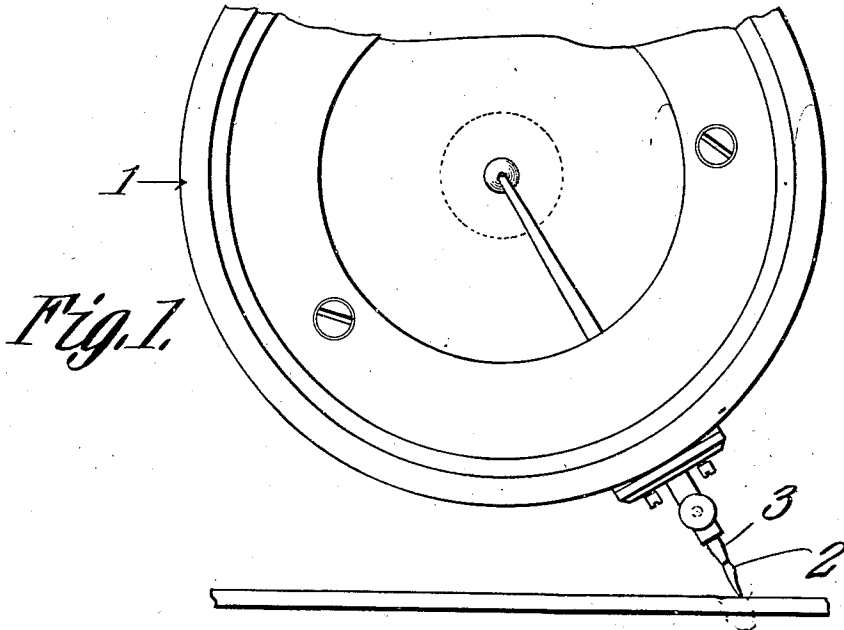
No. 890,777.

PATENTED JUNE 16, 1908.

S. LEVIN.

STYLUS FOR SOUND REPRODUCING MACHINES.

APPLICATION FILED NOV. 16, 1907.



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SAMUEL LEVIN, OF HIGHLAND PARK, ILLINOIS.

STYLUS FOR SOUND-REPRODUCING MACHINES.

No. 890,777.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed November 16, 1907. Serial No. 402,491.

To all whom it may concern:

Be it known that I, SAMUEL LEVIN, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented a new and useful Stylus for Sound-Reproducing Machines, of which the following is a specification.

This invention has reference to improvements in the reproducing point or stylus for sound-reproducing machines, and its object is to provide a stylus which will give a mellow and soft-toned reproduction, more particularly from flat or disk-shaped records wherein the sound record is represented by a sinuous groove of even depth.

The present invention is an improvement upon the invention disclosed in my application #361,122, for stylus for sound-reproducing machines filed March 7, 1907. In the said application, the stylus is made of a thin piece of horny, homogeneous material, such as quill, with one end bent into a cylinder of a size to fit the stylus holding socket of a sound box, while the other end is flat, thin and tapering and is adapted to engage in the sound record groove.

The present invention utilizes the same material for the record groove engaging point, while the body or shank of the stylus is made of metal or other rigid material closely embracing the quill and extending comparatively close to the operating point thereof. This metallic shank is made cylindrical through the greater portion of its length to fit the socket in the end of the stylus lever and at the free end the shank is flattened to conform to the flattened end of the working point of the stylus, and also to operate to transmit the vibrations imparted to the stylus point with less loss of amplitude than occurs with an all-quill stylus.

The invention will be best understood from the following detail description, taken in connection with the accompanying drawing forming part of this specification, in which drawing,

Figure 1 is a side elevation, upon an enlarged scale, of a portion of the sound-reproducing sound box with the improved stylus in place therein. Fig. 2 is a perspective view of the improved stylus upon a larger scale than is shown in Fig. 1. Fig. 3 is a longitudinal section of the stylus upon a still larger scale.

Referring to the drawings, there is shown a sound box 1 which may be of any desired construction such as is used in connection with sound-reproducing machines using flat disk records, and no special description of such sound box is necessary, since, in itself, it forms no part of the present invention.

The stylus is formed of two parts, 2, 3. The part 2 is composed of a piece of horny, homogeneous, hard material, such as a thin piece of horn, or goose quill, celluloid, or some such substance. One end of the part 2 is spread out into a nearly flat shape with the sides 4 approaching each other until they finally emerge into a point 5 of such size as to enter the sound record groove of the well-known sound disk records. Back of the wide portion 6 of the stylus point or head the quill may be continued a distance, as indicated at 7. The part 3 of the stylus, which may be termed the shank of the stylus, is formed of a metallic tube of cylindrical shape of such external diameter as to fit snugly but easily into the usual stylus receiving socket of the stylus carrying lever of the sound box. This shank extends onto the part 2 as near to the operating end 5 thereof as may be found practicable. In the drawing, the metal tube 3 is shown as reaching to a point just back of the widest portion 6 of the part 2, but it is within the scope of the invention to extend the metal tube still closer to the working end 5. In order that the tube 3 may grasp the part 2 closely about the flat portion thereof, that end of the tube contiguous to the working point of the part 2 is flattened, as shown at 8, so as to grasp the working point 2 both on the sides and ends in order that there may be no lost motion between the parts 2 and 3. The extent of projection of the part 7 into the tube 3 is immaterial and may be much less than that shown, as long as the parts 2 and 3 are firmly united and the part 2 is prevented from any movement in, or independent of, the part 3.

By making the part 3 of sufficient rigidity, and by allowing the part 2 to project but little beyond the outer end of the part 3, there is produced a stylus having a rigid, unyielding shank with an operating point or end for engaging the sound groove which will have no wearing or other injurious effects upon the walls of the groove, and therefore the life of the record tablets is indefinitely

prolonged. Furthermore, the harsh, grating noises, so obtrusive when all-metal stylus points are used, are practically eliminated.

The present invention retains all the advantages of the structure set forth in my aforesaid application, while adding thereto the additional advantage of a stiff and unyielding shank for the stylus. The structure of the aforesaid application is well adapted for the so-called "soft tone" reproductions of sound records, but where louder and more brilliant reproductions are desired, the stylus made entirely of quill or like material fails to produce the desired brilliancy and loudness of reproduction. This is due to the elasticity of the material used and the consequent absorption of a material proportion of the amplitude of vibration imparted by the groove to the stylus before the vibrations reach the stylus carrying lever. The metal sleeve, however, is much less elastic than the horny substance employed and, consequently, there is little, if any, loss of amplitude of vibration between the sound record groove and the stylus carrying lever. The result is that the brilliancy and loudness of the reproduced sound is practically equal to the reproduction through an all-metal stylus used for loud-toned reproductions, while the harsh, grating, extraneous noises are practically eliminated and the wear of the stylus upon

the walls of the record groove is inappreciable.

I claim:—

1. A stylus for sound-reproducing machines composed of a sound-groove-engaging portion consisting of a thin piece of horny, homogeneous material having one end approximately flat with the sides approaching and merging into a sound-groove-engaging point, and a shank composed of a cylinder of metal-receiving the end of the piece of horny material remote from the point thereof and flattened down upon said horny material.

2. A stylus for sound-reproducing machines composed of a thin piece of quill pointed at one end to engage a sound record groove; and a cylindrical shank piece, of metal, receiving the other end of the quill and flattened to engage the same.

3. A stylus for sound-reproducing machines having a sound record groove-engaging point of horny homogeneous material and a shank portion of another material of more rigid character than the point portion.

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

SAMUEL LEVIN

Witnesses:

HERBERT MOON,
CHARLES F. GRANT.