J. JETTER.

STYLUS OR NEEDLE FOR SOUND RECORDING AND REPRODJCING MACHINES.

APPLICATION FILED AUG. 2, 1906.

983,061. Patented Jan. 31, 1911.

Fig. 4

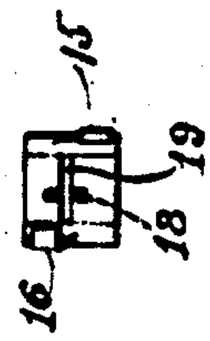


Fig 3

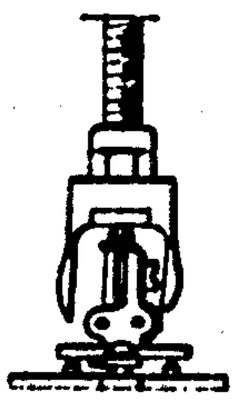


Fig. 1.

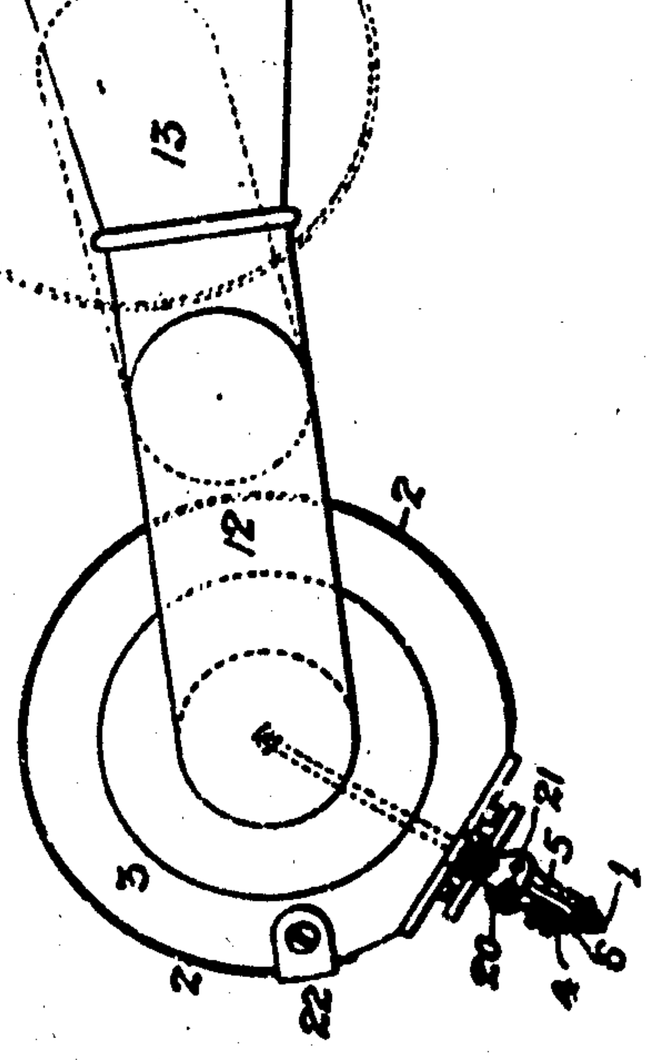
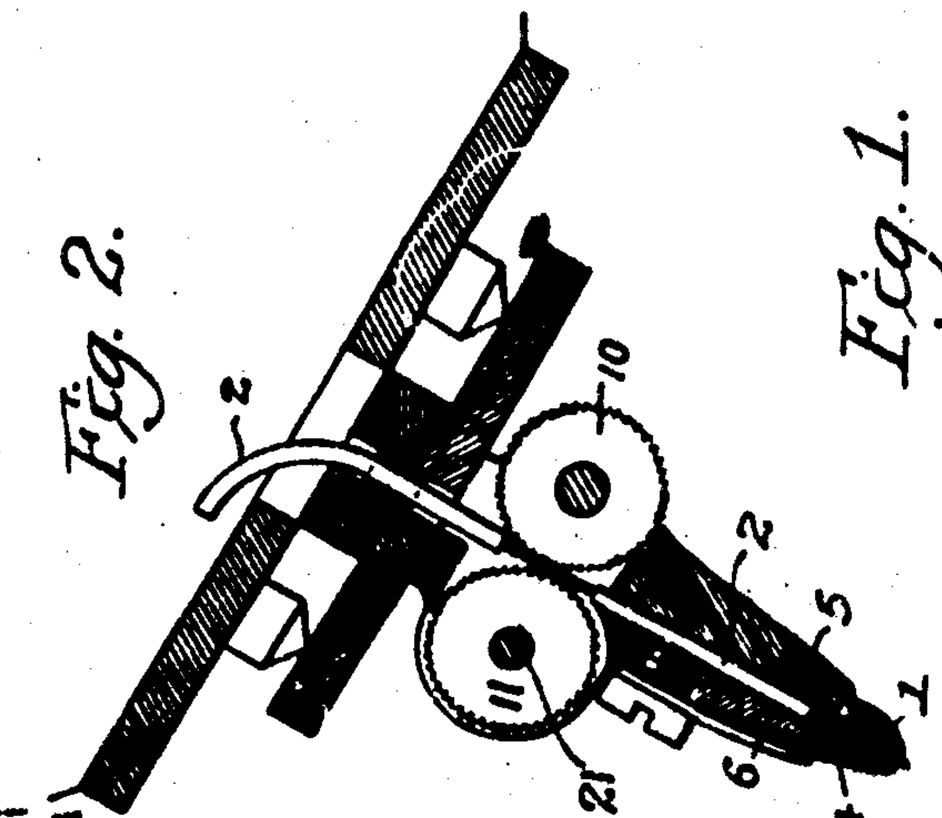


Fig. 2.



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UNITED STATES PATENT OFFICE.

JULIUS JETTER, OF CAMDEN, NEW JERSEY.

STYLUS OR NEEDLE FOR SOUND RECORDING AND REPRODUCING MACHINES.

983,031. Specification of Letters Patent. Patented Jan. 31, 1911.

Application filed August 2, 1906. Serial No. 328,955.

To all whom it may concern:

Be it known that I, JULIUS JETTER, a citizen of the United States, and a resident of Camden, Camden county, New Jersey, have invented an Improved Stylus or Needle for Sound Recording and Reproducing Machines, of which the following is a specification.

My invention relates to the sound recording and reproducing mechanism of phonographs and other sound recording and reproducing instruments, and it consists of an improved form of stylus or needle applicable more particularly to the reproduction of sound from disk records.

My invention comprises further means for adjusting or feeding such stylus or needle whereby all wear upon the same is compensated for.

In the accompanying drawings illustrating my invention: Figure 1 is a view in elevation of a sound-box carrying the improved form of stylus forming the subject of my invention, showing the same in the position of use, and showing also, in dotted lines, the position of the sound-box when it becomes necessary to feed the needle or stylus forward, and Figs. 2, 3, and 4 are views illustrating details of my invention.

The needle or stylus made in accordance with my invention, consists of hard steel wire, preferably piano wire, of a gage sufficiently fine to provide the necessary point to fit the groove of the record. This wire, indicated at 1 in the accompanying drawing, is carried by a tubular body or holder 2, encircling the casing 3 of the sound-box or reproducer, and it extends between jaws 4 and 5 which are normally held together by a spring 6. The wire forming the needle or stylus is so disposed that but a short piece projects beyond the end of the jaws, sufficient only to engage the groove of the record.

Carried by each of the jaws and in engagement with the wire are milled wheels 10 and 11, and by turning these wheels by suitable means the wire may be fed after it becomes worn. This feeding operation is accomplished in the following manner: The sound-box or reproducer is carried by an arm 12 jointed to another arm 13 to which the usual horn may be attached; the arm 12 being so arranged that the reproducer may be lifted at regular intervals to permit either a resetting for another reproduction of the same record or for the placing of a new record, and when this lifting is done the feeding operation may take place.

Disposed in proper position with relation to the jaws carrying the stylus when the sound-box or reproducer is lifted and swung on its pivot, are pawls 15 and 16 carried by a pivoted and adjustable stem 17, which has also a pair of fingers 18 disposed in such position as to pass over the jaws 4 and 5 and engage the spring 6 normally closing said jaws, and displace it to a certain extent. The head carrying these pawls and fingers is also slotted at 19 for the passage of the needle or stylus point. When the release of the spring 6 takes place, one of the pawls engages the milled wheel 10 in engagement with the needle or stylus and the other pawl engages a supplementary wheel 20, also milled, carried on the stem or spindle 21 of the other milled wheel 11 in engagement with said needle or stylus. The total movement effected by the pawls is very slight, but it is enough to keep the stylus projected a sufficient distance for the work, thereby avoiding the constant replacing of new points as is common with the sound-boxes or reproducers in ordinary use.

The tube 2 containing the wire, which may be of rubber, is preferably held down by a suitable clamp 22, and if desired a number of these clamps may be disposed around the casing of the sound-box or reproducer.

I claim:

1. The combination of a sound box for sound recording and reproducing machines, a continuous length stylus carried by said sound box, a pivotal mounting for said box, and means brought into action by the movement of the sound box on its pivot for engaging and feeding said stylus.

2. The combination with a sound box for sound recording and reproducing machines, of a continuous stylus, jaws between which the same is fed, and a spring for closing said jaws.

3. The combination with a sound box for sound recording and reproducing machines, of a continuous stylus encircling the sound box, jaws between which said stylus is disposed, said sound box being mounted for pivotal movement, and means brought into operation by the movement of the sound box on its pivot for feeding the stylus between said jaws.

4. The combination with a sound-box for sound recording and reproducing machines,

of a continuous stylus, means for feeding the same, jaws between which the stylus is disposed, and means for closing said jaws, such means being engaged by the feeding mechanism to cause the jaws to open slightly.

5. The combination with a sound-box for sound recording and reproducing machines, of a continuous stylus, means for feeding the same, jaws between which the stylus is led, and a spring arm for closing said jaws, said arm being engaged by the feeding mechanism to permit the jaws to open slightly.

6. The combination with a sound-box for sound recording and reproducing machines, of a continuous stylus of wire encircling the sound-box casing.

7. The combination with a sound-box for sound recording and reproducing machines, of a continuous stylus of hard steel wire encircling the sound-box, and a covering for the same.

8. The combination with a sound-box for sound recording and reproducing machines, of a continuous stylus of wire, a tubular covering inclosing the same, and means for feeding said stylus, the covering being discontinued at the point of engagement of the feeding means.

9. The combination with a sound-box for sound recording and reproducing machines, of a continuous stylus of hard steel wire, a tubular covering inclosing the same, and means for feeding said stylus, the covering being discontinued at the point of engagement of the feeding means.

10. The combination with a sound-box for sound recording and reproducing machines, of a continuous stylus, a pair of jaws between which the same is led, feeding wheels in engagement with said stylus, and means for operating said wheels.

11. The combination with a sound-box for sound recording and reproducing machines, of a continuous stylus, a pair of jaws between which the same is led, milled feeding wheels in engagement with said stylus, and means for operating said wheels.

12. The combination of a sound-box for sound recording and reproducing machines, a pivotal mounting for the same, a continuous stylus, jaws between which the same is led, milled wheels carried by said jaws in engagement with the stylus, and means in the path of movement of the sound-box on its pivot for engagement with said milled wheels whereby the stylus can be fed through such engagement.

13. The combination of a sound-box for sound recording and reproducing machines, a pivotal mounting for the same, a continuous stylus, jaws between which the same is led, milled wheels carried by said jaws in engagement with the stylus, and pawls mounted in the path of the sound-box when turned on its pivot for engagement with said milled wheels whereby the stylus can be fed through such engagement.

14. The combination of a sound-box for sound recording and reproducing machines, a pivotal mounting for the same, a continuous stylus, jaws between which said stylus is led, milled wheels engaging said stylus, pawls for engaging said wheels, a stem carrying said pawls, and a pivotal mounting for the same.

15. The combination with a sound-box for sound recording and reproducing machines, of a pivotal mounting for the same, a continuous stylus carried thereby, jaws for guiding said stylus, milled wheels for feeding the stylus, a pivoted member having pawls for engagement with said wheels to move the stylus, a spring tending to close said jaws, and projecting means carried by said pawl carrying member for engaging said spring, releasing the jaws and permitting the stylus to be fed through the same.

16. The combination of a sound box for sound recording and reproducing machines, a continuous stylus, a protective covering for the same, jaws carried by said sound box between which the stylus is disposed, said protective covering being discontinued adjacent the jaws, and movable means directly engaging said stylus for feeding the same longitudinally between said jaws.

17. The combination of a sound box for sound recording and reproducing machines, a continuous stylus, jaws between which the stylus is disposed, means for feeding the stylus longitudinally through said jaws, and means for closing said jaws.

18. The combination of a sound box for sound recording and reproducing machines, a continuous stylus, self-closing jaws carried by said sound box between which the stylus is fed longitudinally, and movable means directly engaging said stylus to impart the longitudinal movement to the same.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JULIUS JETTER.

Witnesses:
FREDRICK FORSTER,
WILLIAM JETTER.