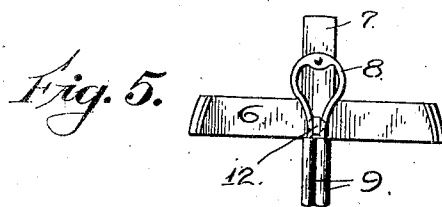
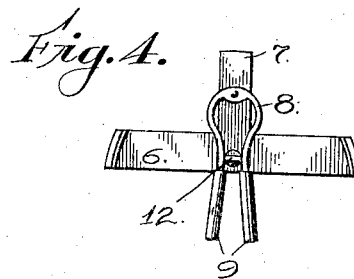
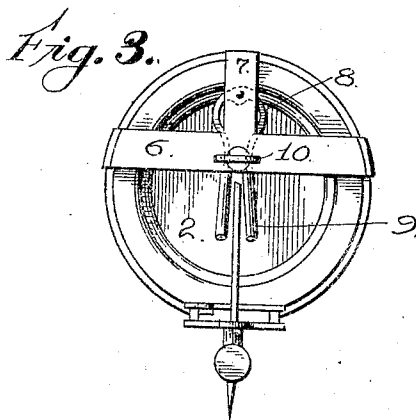
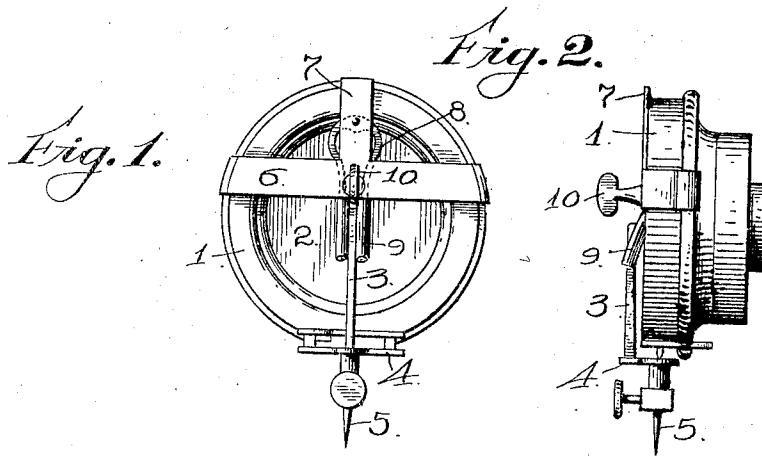


E. McLAREN.
TONE MODIFIER.
APPLICATION FILED JUNE 18, 1910.

983,509.

Patented Feb. 7, 1911.



Witnesses:
Arthur L. Lee.
Arthur White

Inventor:
Edward M. Lacer

UNITED STATES PATENT OFFICE.

EDWARD McLAREN, OF OAKLAND, CALIFORNIA.

TONE-MODIFIER.

983,509.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed June 18, 1910. Serial No. 567,627.

To all whom it may concern:

Be it known that I, EDWARD McLAREN, a citizen of the United States, residing in the city of Oakland, county of Alameda, State of California, have invented a new and useful Improvement in Tone-Modifiers, of which the following is a specification.

My invention relates to tone modifiers for phonographs and has for its object the modification of the reproduced vibrations emanating from the record through the medium of the reproducing needle and its connections with the reproducing diaphragm, the sequence being softer in tone without diminishing the number of reproduced vibrations. I accomplish this by the device illustrated in the drawings appended herewith, in which—

Figure 1 is a front elevation of the "reproducer" of the phonograph, with my device attached and in contact with the vibrator. Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a view similar to Fig. 1, showing the tone modifier attached to the "reproducer" but not in contact with the vibrator. Fig. 4 is a rear view of the modifier detached, with the fingers extended. Fig. 5 is a similar view with the fingers closed.

The numeral 1 is used to designate a hollow metal drum having a circular diaphragm 2, to the approximate center of which is rigidly secured a "vibrator" arm 3 terminating in a balanced contact piece 4, to which is secured the needle 5.

By causing the needle 5 to remain in contact with a revolving "record", the vibration of the record is reproduced through the needle 5, transmitted through the piece 4 and vibrator arm 3 to the diaphragm 2, where the vibrations are greatly intensified by reason of the greatly increased area of the said diaphragm exposed to the atmosphere. Thus far the mechanism is common and is such as is commonly used on all phonographs of the flat disk type.

My invention has to do with the modifications of the vibrations of the vibrator 3. A spider 6 is adapted to engage the periphery of the drum 1 and has secured to its upper arm 7 on the rear side, a bifurcated spring 8, terminating in two fingers 9, said ends being provided with a resilient or vibration absorbing material, preferably rubber. A thumb piece 10 is pivotally secured to the lower portion of the spider 6 extend-

ing through the same and terminating in a shouldered piece 12, which extends between the fingers 9. The piece 12, when lying with its greater width parallel to the fingers 9, allows said fingers to close together and grip the vibrator arm 3. This brings the vibration absorbing material on the fingers 9 to come in contact with the vibrator arm 3 and partially absorb the vibrations which have been reproduced therein. While this does not reduce the rapidity of the vibrations, it tends to reduce their density, thereby producing a softer tone. By making a quarter revolution of the thumb piece 10, the greater dimension of the shouldered piece 12 is brought between the fingers 9, forcing them apart and out of contact with the vibrator 3, allowing the full density of the vibrations as reproduced, to pass to the diaphragm 2. It is obvious that by absorbing a portion of the vibrations, any harshness or mechanical vibrations will be reduced in proportion, giving a softer and more harmonious tone.

The details of construction are so susceptible to variation, that I do not wish to confine myself to the precise construction shown herein, but rather to avail myself of any modification that may fall properly within the scope of my invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is—

1. In a tone modifier, for phonographic reproducers, the combination of a frame adapted to engage the reproducer, a bifurcated spring secured to the back of the frame and adapted to engage the vibration transmitter and a shouldered thumb piece interposed between the bifurcations and adapted to separate said bifurcations from contact with the vibration transmitter, for the purpose set forth.

2. In a tone modifier for phonographic reproducers, the combination of a vertical frame having a horizontally disposed bar, whose ends terminate in spring grips, the distance between said grips being slightly less than the diameter of the reproducer, a vertical bar extending upward from the center of the horizontal bar two spring fingers secured to the back of the vertical bar and extending downward, the lower ends of the said fingers being provided with vibration absorbing material, a rectangular piece in-

terposed between the fingers and pivotally
secured to the horizontal bar, said rectangular
piece adapted to separate the fingers
when turned with its greater width perpendicular
5 to the fingers, for the purpose set
forth.

In witness whereof, I hereunto set my sig-

nature in the presence of two subscribing
witnesses.

EDWARD McLAREN.

Witnesses:

ARTHUR L. SLEE,
WALTER E. RODE.