Feb. 6, 1923. 1,444,196.

J. M. LOGAN.

DAMPER FOR SOUND BOXES OF PHONOGRAPHS.

FILED MAR. 20, 1922.

FIG. 1.

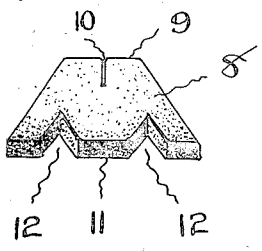


FIG. 2.

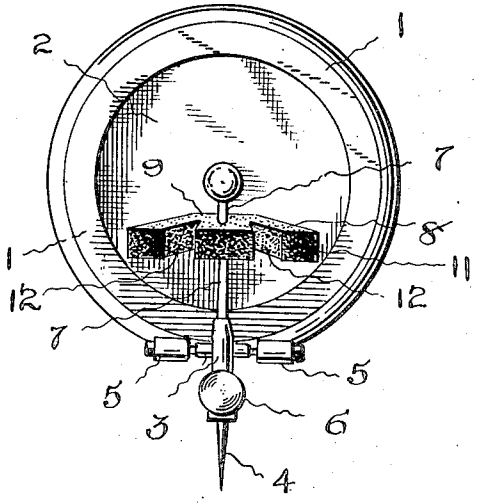
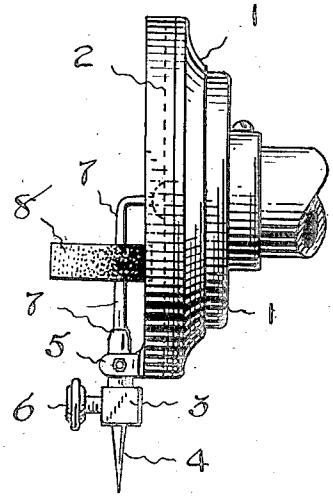


FIG. 3.



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Patented Feb. 6, 1923. 1,444,196

UNITED STATES PATENT OFFICE.

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DAMPER FOR SOUND BOXES OF PHONOGRAPHS.

Application filed March 20, 1922. Serial No. 545,238.

To all whom it may concern:

Be it known that JAMES MONROE LOGAN, a citizen of the United States, and resident of New Haven, in the county of New Haven and State of Connecticut, has invented certain new and useful Improvements in Dampers for Sound Boxes of Phonographs, of which the following is a specification.

The present invention relates to phonographs or sound reproducing machines and has for its object to provide an improved vibration dampening attachment for the sound box of such machines whereby the sound reproduced therewith is modified so as to be purer or more natural in tone.

The improved attachment may be applied to a sound-box of any ordinary type having a vibrating carrier or holder for the needle or stylus and a vibratory arm through which vibrations imparted to the stylus and carrier are transmitted to the diaphragm of the sound-box.

It will be understood in the transmission of the vibrations, to reproduce the original sound waves, counter or additional and excessive vibrations are created which have a tendency to cause harshness or grating in the reproduced sound; and by means of the improved attachment, all harshness and grating is eliminated.

Previously to this invention it has been proposed to provide a device built up with different parts in the form of a pair of jaws which are opened and closed by a spring so as to effect clamping of the device on the vibratory arm of the sound-box in different positions along the length thereof to produce a variable effect. The attachment or device forming the subject of this invention is designed to be an improvement of such previously known means as regards construction thereof and furthermore a more perfect result is attained with the improved attachment.

In carrying out the invention the improved attachment or device is composed of one piece or block of soft rubber or other suitable material having substantially the same physical property as soft rubber. The device is of a tapering shape having a slit in the small end and oppositely disposed notches in the large end which permit opening of said slit to engage the vibratory arm of the sound-box, when pressure is imparted to the sides of the device to open the slit. The device by reason of the elasticity of the material of which it is composed causes self-closing of the slit and maintains a tight grip so that the device will be retained in its various set positions.

The improved attachment will be hereinafter described with reference to the accompanying drawings wherein—

Figure 1 is a perspective view of the improved attachment.

Figure 2 is a bottom plan view of an ordinary sound box with the improved attachment shown in one of its positions on the vibratory arm of the sound box, and

Figure 3 is a side elevation of the sound box with the attachment mounted thereon.

Referring to the drawings, the sound box 1 may be of any suitable type having a diaphragm 2, a vibrating carrier or holder 3 for the stylus 4 and which carrier is pivotally mounted in bearings 5 and is provided with screw 6 for detachably securing the stylus. The arm 7 connects the carrier with the diaphragm in the usual manner so as to transmit vibrations imparted to the stylus to the diaphragm.

The particular construction and arrangement of the sound box and parts thereof, form no part of the present invention which consists alone or in combination with any suitable sound box, of the device 8 preferably tapered or in the form of a triangular-like shaped solid block of rubber having one corner cut off to form a straight edge 9, having the slit 10 therein, and in the base or bottom edge 11 of the block 8 notches 12 are cut.

The improved device is applied or adjusted with facility for the base is only pressed so as to close the notches 12 and open the slit 10. When pressure is released the device will by its own elasticity, return to its original shape in which the notches are opened and the slit closed tightly so as to hold the device in the determined position on the needle or vibratory arm 7. The device may thus be moved and held anywhere along the length of the arm 7. The effect of the device is to cause dampening of the vibrations and being composed entirely of a non-metallic substance, of a determinable size, shape and weight, an effective and determinate dampening action is produced and which effect is varied according to the position of the device relatively to the needle

or stylus carrier viz: when the device is close to the carrier the dampening action is less than when the device is further away from the carrier.

It will be understood the improved device is of such a shape and size and the slit 10 is of such a depth that the device will not come into contact with the diaphragm at any time, and having regard to this said device has what may be termed a floating movement with the vibratory arm thereby to better control the undesired vibrations of said arm.

I claim—

A device of the class described composed of a solid block of elastic material of a tapering shape, a slit and a pair of notches formed respectively in the small and large ends of said block whereby attachment of the device may be effected by applying pressure to the sides thereof.

Signed in New Haven, in the county of New Haven, and State of Connecticut, this 28th day of August, A. D. 1922.

JAMES MONROE LOGAN.