

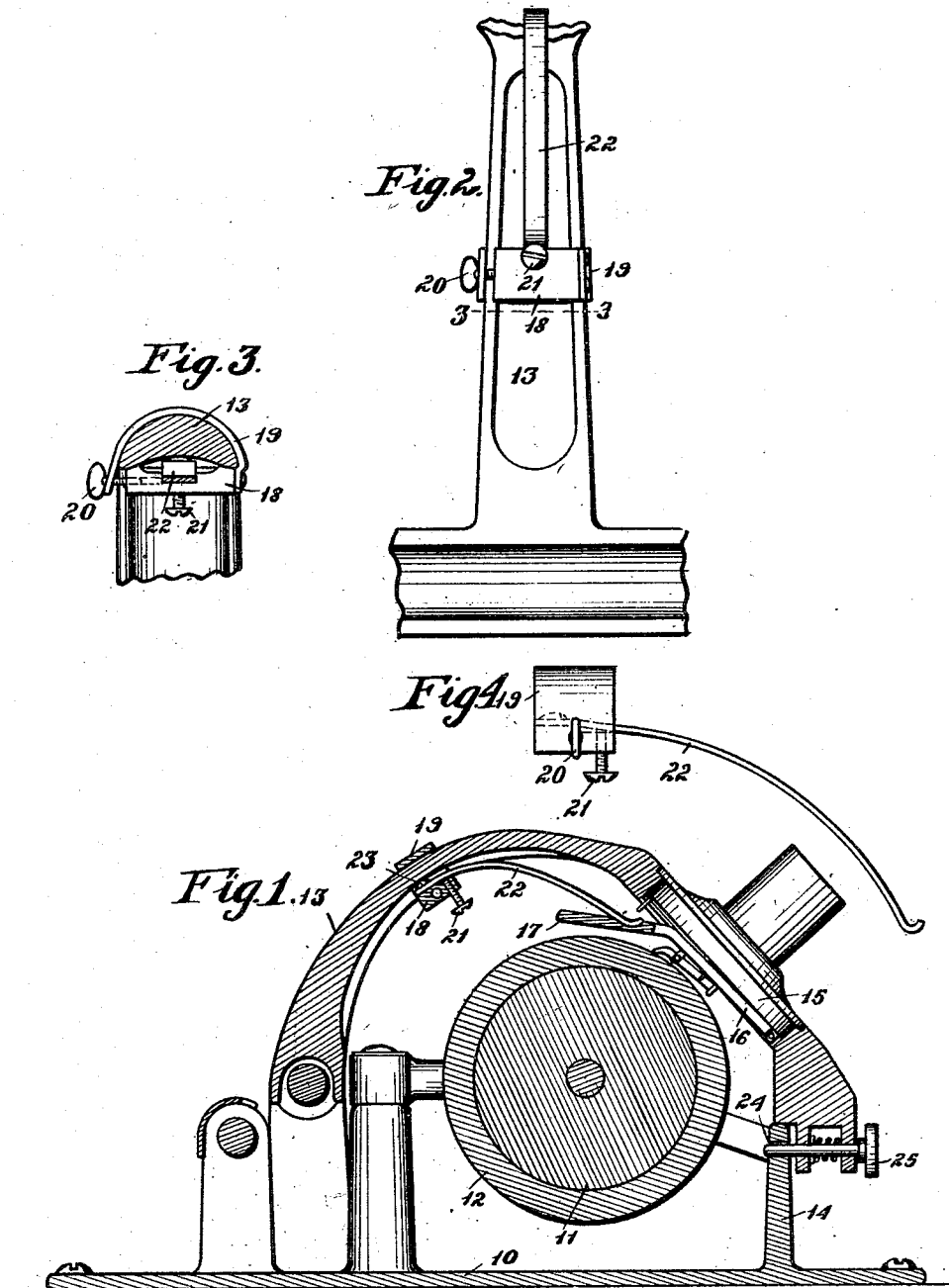
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PHONOGRAPH.

APPLICATION FILED MAY 5, 1910.

983,155.

Patented Jan. 31, 1911.



Witnesses.

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PHONOGRAPH.

983,155.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed May 5, 1910. Serial No. 559,513.

To all whom it may concern:

Be it known that I, WILLIAM W. McCAULEY, a citizen of the United States, residing at Madrid, in the county of Boone and State of Iowa, have invented a certain new and useful Phonograph, of which the following is a specification.

My invention relates to that class of phonographs in which the reproducing disk is provided with a weighted extension to yieldingly hold same in engagement with a phonographic record.

My object is to provide a device in the nature of an attachment that may be applied to phonographs of this class to apply a yielding pressure to the reproducing disk in order to yieldingly hold the reproducer to the record so that shocks and jars to the phonographic instrument will be prevented from throwing the reproducer out of its proper path of travel on the phonographic record so that in using extremely hard records of the kind ordinarily called indestructible records the follower may be held firmly to the record to thereby more accurately reproduce the sounds than is possible with a reproducing instrument that is held toward the record by a weight only.

My object is further to provide convenient means for adjusting the spring tension to meet the requirements of use.

My invention consists in certain details, in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim and illustrated in the accompanying drawings, in which:

Figure 1 shows a sectional view of a part of an ordinary phonograph having my improved spring pressure appliance connected therewith. Fig. 2 shows an enlarged, detail view of the arm that supports the reproducer of a phonograph with my improved spring attachment applied thereto. Fig. 3 shows a sectional view on the line 3-3 of Fig. 2, and Fig. 4 shows a side elevation of the attachment disconnected from the phonographic instrument.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate the frame of a phonograph, 11 the record cylinder and 12 the record. Hinged to the frame is an arm 13 having its free end slidingly mounted upon a guide 14. The said arm carries a reproducer 15 and a disk

16 is pivotally connected therewith and provided with a weighted extension 17 to yieldingly hold the disk 16 toward the record. All of the parts above described are of the ordinary construction now in general use and a further detailed description thereof is deemed unnecessary.

My improvement consists in the nature of an attachment that may be applied to any of the phonographs of the class above mentioned.

It consists of a metal block 18 designed to fit against the under surface of the arm 13. At one side of the block I have fixed a metal strap 19 which is designed to pass over the reproducer arm and which is provided with a set screw 20 having its end seated in the side of the block 18 opposite from the side to which said strap is fixed so that the block may be adjustably and detachably connected with the arm and so that it may be firmly fixed in any position in which it is placed. Extended through the block 18 from its under side is a set screw 21 for purposes hereinafter made clear.

The spring for engaging the reproducing disk comprises a curved body portion 22 having one end inserted between the block 18 and the arm 13 and preferably provided with a rounded lug 23 to engage the arm 13. The other end of the spring is placed in position against the upper surface of the extension 17 and is preferably placed in a small groove in said extension 17 to thereby prevent lateral movement of the extension relative to the spring. The arrangement of this spring is such that its tension, as applied to the extension 17, can be adjusted and regulated by a manipulation of the set screw 21. In addition to this I have provided means whereby the sliding carriage containing the arm 13 may be held against up and down movement so as to smoothly and evenly slide from one end of the frame to the other as follows: In the guide 14, I have provided a longitudinal slot 24 and in the overlapping part of the arm 13, I have provided a spring actuated pin 25 designed to enter said slot and be yieldingly held therein by the spring. When this pin is in the slot it prevents up and down movements of the arm 13 and when it is desired to raise the arm the operator grasps the pin and pulls it forwardly until it is out of the slot and then elevates the arm.

In practical operation it is obvious that

the block 18 may be readily, quickly and easily attached and firmly secured in position on the arm of a phonographic instrument with the spring 22 thereof in engagement with the weighted extension 17 of the reproducer. The tension of said spring may be varied to suit the requirements of an adjustment of the set screw 21. I have found that with a reproducer having a weighted extension only, any jarring motion applied to the support on which the phonograph stands will tend to cause the reproducer arm to vibrate up and down to an extent sufficient to interfere with the production of sound and in some instances the reproducing point will even move laterally relative to the record out of its normal path of travel, thus wholly interrupting the continuous reproduction of sounds as recorded on the record. The application of the spring serves a number of important functions. First, it will yieldingly hold the reproducer toward the record in such a manner as to prevent rebound of the reproducing point relative to the record and in addition to this it prevents lateral movements of the reproducing disks and point so that the point will not pass out of the groove in the record even though the instrument is moved or jarred during the process of reproducing sounds thereon. This attachment is of especial advantage in connection with the use of records of the kind known as indestructible records which are hardened so that the reproducing points will not wear the records. Further when such hard records are used there is more tendency for the reproducing point to vibrate and be shaken out

of the normal path of travel on the record and I have found that by means of the improved spring attachment the reproducing point may be guided more accurately and held more firmly to the record than by the use of the weighted extension alone regardless of the amount of the weight.

I claim as my invention:

The combination with a phonograph having a reproducing disk and a weighted extension connected with said disk for normally holding the reproducing disk toward a record, said weighted extension being provided with a notch in its upper surface and an arm for supporting said disk, of a block placed adjacent to the under surface of the arm, a flexible strip fixed at one end to the block, and passed around the top of the arm and having a set screw therein seated in the block for adjustably and detachably securing the block to the arm, a spring having a rounded lug thereon interposed between the block and the arm with its rounded lug in engagement with the arm, a set screw seated in the block to engage the spring, the said spring being extended to position with its free end resting in the notch of said weighted extension for applying a yielding pressure to the weighted extension and for limiting the lateral movements of said weighted extension, substantially as and for the purposes stated.

Des Moines, Iowa, March 12, 1910.

WILLIAM W. McCAULEY.

Witnesses:

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