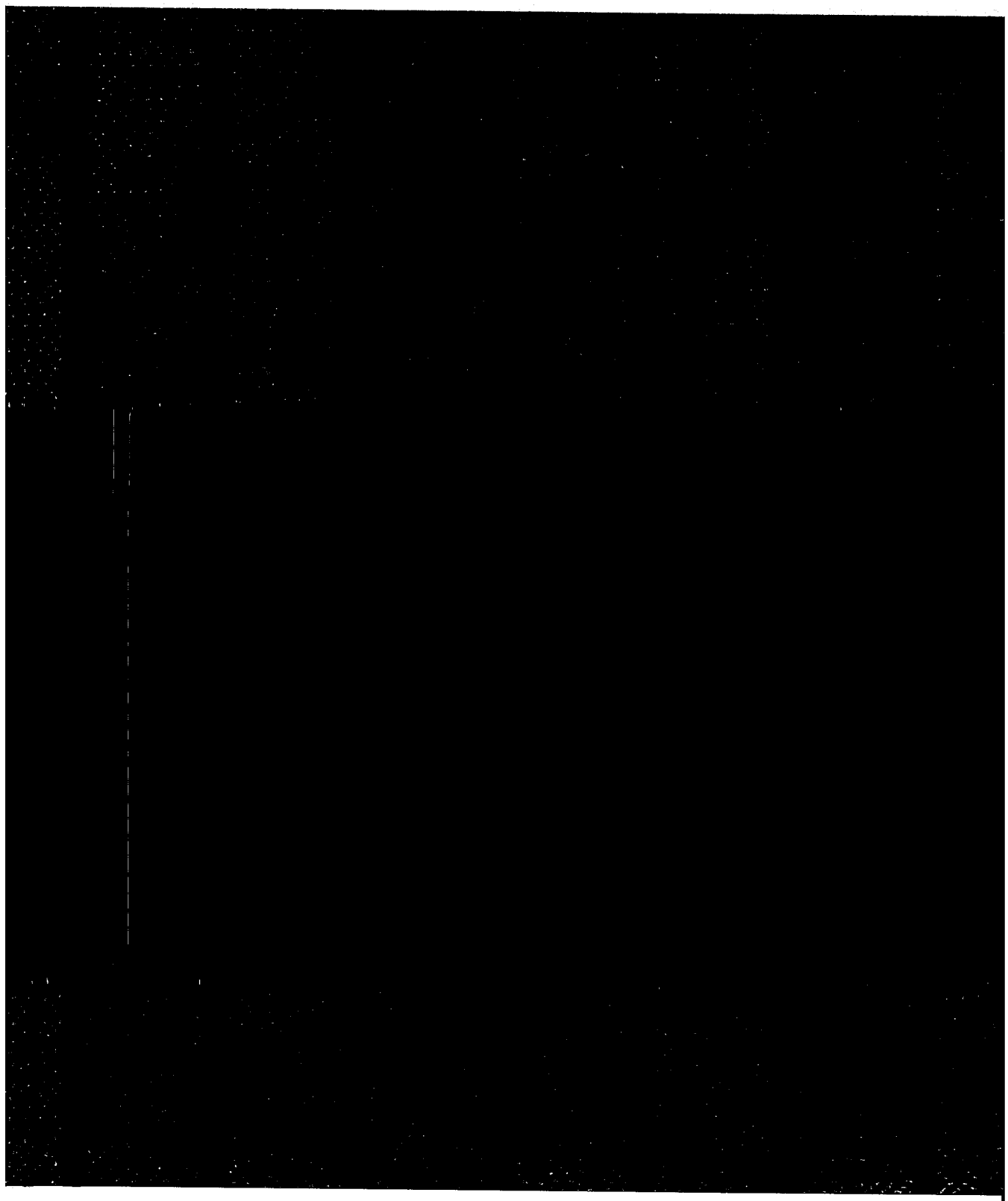


D. F. HARBAUGH.

CLEANING DEVICE FOR PHONOGRAPH RECORDS.

APPLICATION FILED JULY 1, 1916.

1,318,145.

Patented Oct. 7, 1919.

2 SHEETS—SHEET 1.

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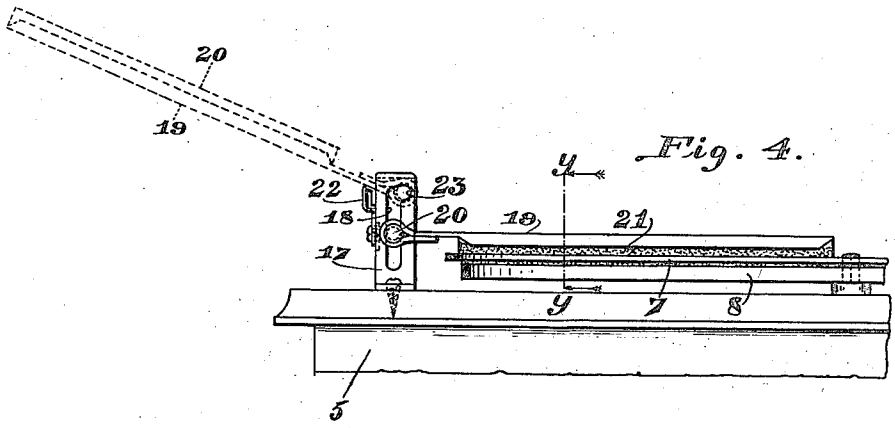


Fig. 4.

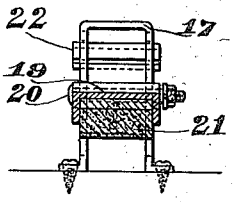


Fig. 6.

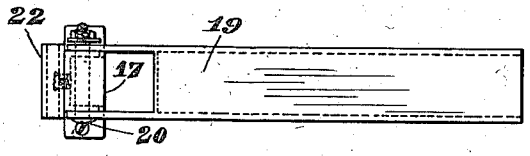


Fig. 5.

Witnesses:
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A. A. Olsen

Inventor,
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his Attorney.

UNITED STATES PATENT OFFICE.

DELL F. HARBAUGH, OF CHICAGO, ILLINOIS.

CLEANING DEVICE FOR PHONOGRAPH-RECORDS.

1,318,145. Specification of Letters Patent. Patented Oct. 7, 1919.

Application filed July 1, 1916. Serial No. 107,166.

To all whom it may concern:

Be it known that I, DELL F. HARBAUGH, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Cleaning Devices for Phonograph-Records, of which the following is a specification.

My invention relates to improvements in cleaning devices for phonograph records, and has for its object the production of a device of this character which will be adapted to effectually remove from a record, during rendition of the same, all dirt, dust and other foreign matter which may be found upon the record.

A further object is the production of a cleaning device, as mentioned, which will be adapted to enter the sound grooves of the record as well as to rest upon the outer surface of the latter in order to effectually rid the surfaces of the record with which the needle contacts, in the rendition of the record, of all foreign matter.

A still further object is the production of a cleaning device which will be of simple and economical construction, and one which may be readily and easily applied to a phonograph.

Other objects will appear hereinafter.

With these objects in view the invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which;

Figure 1 is a fragmental side elevation of a phonograph equipped with a cleaning mechanism embodying the invention,

Fig. 2 is a front view of the construction shown in Fig. 1,

Fig. 3 is an enlarged detail section taken on line *x—x* of Fig. 1,

Fig. 4 is a fragmental elevation of a phonograph equipped with a cleaning device of slightly modified form,

Fig. 5 is a top plan view of a cleaning device shown in Fig. 4, and

Fig. 6 is a section taken on substantially line *y—y* of Fig. 4.

The form of construction illustrated in Figs. 1, 2 and 3, comprises a circular band or clamp 1 which is adapted for engagement with the hub 2 of a conventional sound box 3 provided at the outer end of the tone arm 4 of the ordinary reproducing machine or phonograph 5. The ends of band 2 are secured together to effect clamping of the band upon the hub 2 by means of a screw 6 and coöperating nut 6′. Said member 1 serves as a support for an engaging element which is connected with the lower end thereof for contact with the upper side of the record disk 7 which is mounted upon the turn table 8 of the phonograph.

Said engaging element comprises an elongated hollow body 9 which is adapted, when the device is in use, to contain a liquid lubricant, which is adapted to escape from the interior of said body through openings 10 provided in the under side thereof. Secured to the under side of member 9 is a pad 11 of felt or other suitable material which is adapted to contact with the upper side of the record disk, said pad, in the operation of the device, being saturated with the oil escaping through openings 10 from the body or reservoir 9. Removable screw plugs 12 are provided in the upper side of member 9 through which the lubricant may be introduced.

Projecting laterally from one side of the member 9 is a lug 13 which is pivotally connected at 14 with ears 15 formed at the lower extremity of one of the ends of member 1.

The arrangement is such that the cleaning device will be arranged immediately behind the needle or stylus of the sound box so as to engage with the record just before the same reaches said needle or stylus. This being the case, any dirt, dust, grit or other foreign matter contained upon the upper side of the record will be wiped therefrom and retained by the pad 11. The fibers of said pad will penetrate the sound grooves of the record and thus serve to effectually remove any foreign matter therefrom, the result being that the entire upper surface of the record including the hollows as well as the crests of the grooves will be wiped clean of all foreign matter. The oil or lubricant with which the pad is saturated serves to facilitate the collection and removal of the foreign matter, inasmuch as the dampness of the pad will result in any particles which may be brought in contact

therewith, adhering thereto. The lubricant also serves to soften any coating of foreign matter on the record so as to facilitate removal of the same, and at the same time lubricates the surface of the record in order to alleviate friction between the same and the needle or stylus. The oil which it has been found is best for this purpose is cocoanut or neat's-foot oil, although any vegetable oil or animal fat may be used.

The cleaning device being connected with the sound box will move simultaneously therewith across the face of the record disk during the rendition of the same, traversing the entire grooved or operative surface of the record in this movement as will be readily understood. By engaging the holding member 1 with the hub of the sound box, proper operation and functioning of the latter is not in anyway interfered with, such as would be the case were it necessary to remove any of the fastening screws or nuts of the sound box or to clampingly engage therewith in such a manner as to interfere with the vibrations of the diaphragm thereof.

At the lower extremity of the end of member 1 with which the engaging member is connected, is also provided a stop lip 16 which is adapted to limit the amplitude of downward rocking of said engaging member when the sound box is rotated in order to carry the needle socket upwardly in changing the needle. With this arrangement it will be seen that when the sound box is rotated as mentioned, and as shown in dotted lines in Fig. 1, the record engaging member will be prevented from lagging behind and swinging to an inoperative position, the arrangement being such with the construction adopted that the record engaging member will always be held in a substantially horizontal position so that when the sound box is rocked to its initial or operative position, after the insertion of a new needle, the engaging member will of itself assume proper operative relation with the upper side of the record disk. Further it will be seen that the record engaging member remains in contact with the record disk by its own weight or by gravity, the contact with the record being so light as to offer no appreciable resistance to the rotation of the record disk during operation of the machine.

In the form in Figs. 4, 5 and 6 a post 17 is employed which is mounted at the upper side of the phonograph cabinet, adjacent the periphery of the turn table. Said post 17 is substantially inverted U-shape, being provided at its opposite sides with elongated slots 18. In this form the record engaging member, shown at 19, has no connection with the sound box of the machine, the same, instead, being pivotally connected by means of a screw 20 with the post 17. Said screw 20 passes loosely through the slots 18, so as to permit of free vertical as well as pivotal movement of the engaging member 19. The free end of said engaging member, in this form, is provided with a channel for the reception of the engaging pad 21 as shown in the several views, said pad, being adapted to engage by gravity with the upper side of the record disk in the same manner as before described. In changing the record upon the phonograph, the member 19 may be rocked upwardly to the dotted line position shown in Fig. 4 in which position the same will be supported by a stop 22 provided upon the post. The upper ends of the slots 18 are provided with off-sets or notches 23 adapted for engagement with the pivot member 20 in order to releasably lock the same against vertical movement when the engaging member is in inoperative position.

In this form of the device the engaging member will simply float upon the record disk, the same being of sufficient length to entirely traverse the grooved portion at one side of the record. The pad may be saturated with oil manually, or if desired a reservoir for the lubricant may be embodied directly in the engaging member as in the form before described. The results obtained with the two forms of the device will be precisely the same namely, that of effectually cleaning and lubricating any record disk which may be used in connection with a machine equipped with the device.

While I have illustrated and described the preferred forms of construction for carrying my invention into effect, these are capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. As an article of manufacture, a supporting member comprising an interrupted band adapted to clamp the tone arm of a sound-reproducing mechanism, one end of said band projecting downwardly, and a cleaning and lubricating element pivotally connected with said downwardly projecting end, and adapted to engage with a phonograph record used in connection with said mechanism, the lower end of said downwardly projecting member being offset to form a stop, against which said cleaning element is adapted to rest when lifted from said record, substantially as described.

2. As an article of manufacture, a supporting member comprising an interrupted band adapted to clamp the tone arm of a sound-reproducing mechanism, one end of

said band projecting downwardly; a cleaning and lubricating element pivotally connected with said downwardly projecting end and adapted to engage with a phonograph record used in connection with said mechanism; and means on said downwardly projecting end forming a stop for said cleaning element, substantially as described.

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

DELL F. HARBAUGH.

Witnesses:
JOSHUA R. H. POTTS,
HELEN F. LILLIS.