Sept. 1, 1942. J. HESS 2,294,660

PHONOGRAPH RECORD CLEANER

Filed Feb. 4, 1942

Fig. 1.

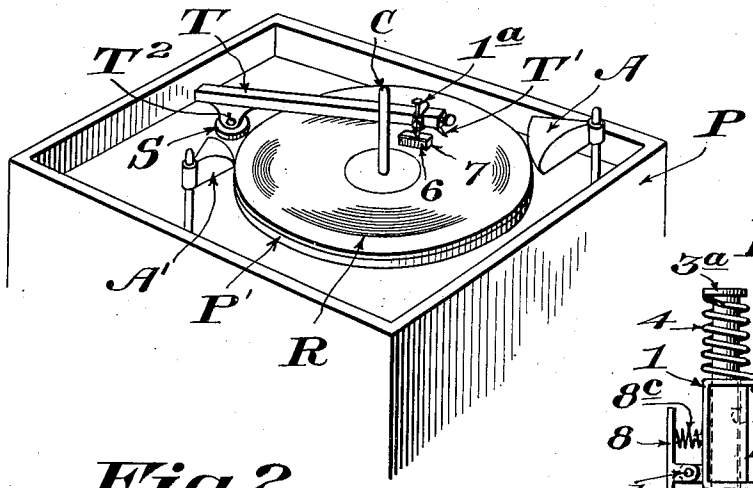


Fig. 4.

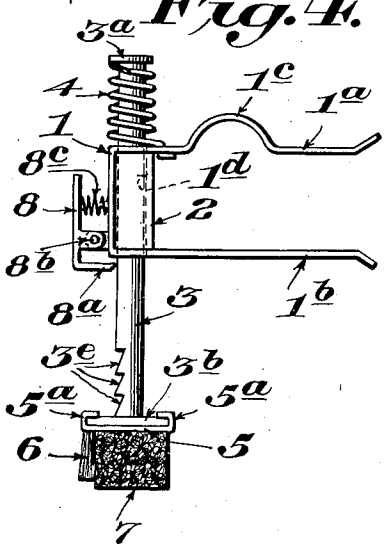


Fig. 2.

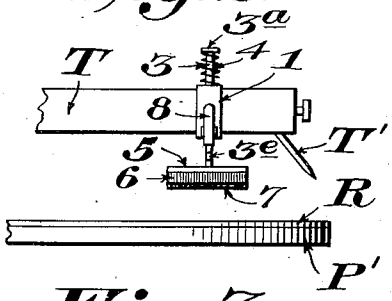


Fig. 3.

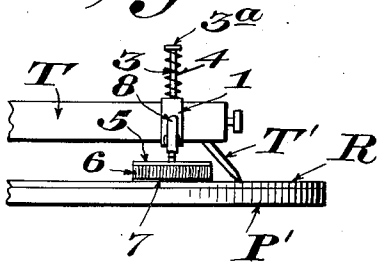


Fig. 5.

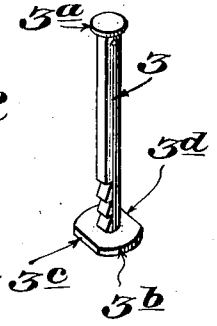
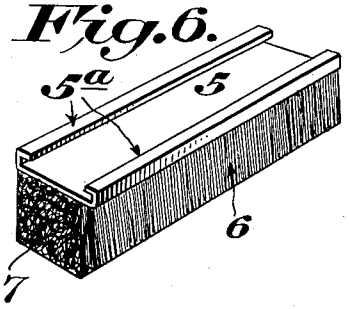


Fig. 6.



Inventor

John Hess

By Alexander Dowell

Attorneys

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PHONOGRAPH RECORD CLEANER

John Hess, Yonkers, N. Y.

Application February 4, 1942, Serial No. 429,563

13 Claims. (Cl. 274—47)

This invention is a novel improvement in phonographic record cleaners, and the principal object thereof is to provide an attachment for the tone or pick-up arm of phonographs or record players, particularly those which change records automatically, the attachment being carried by the tone or pick-up arm and including a novel brush so positioned that the brush will effectively sweep over the record being played, in advance of the needle of the tone or pick-up arm, the brush being made of soft hair backed by a wadding of lamb's wool so as to dislodge and hold dust or the like, resulting in better tonal qualities of the record, less record wear, less needle wear, and enabling the records to be well preserved with a minimum effort on the part of the owner.

Another object of the invention is to provide a record cleaner of the above type in which the brush is so constructed that the brush, per se, as a unit may be readily removed and replaced by a new brush without dismantling the cleaner from the tone arm.

A further object is to provide a record cleaner adapted to be attached to the tone or pick-up arm by means of a spring clip so shaped that it may be readily fitted to a rounded or rectangularly shaped tone or pick-up arm.

A still further object is to provide novel means for automatically adjusting the vertical position of the brush with respect to the tone or pick-up arm of the record player in accordance with the number of superimposed records on the turntable of the record player while permitting the brush to be yieldably depressed against the uppermost record being played.

Other minor objects of the invention will be hereinafter set forth.

I will explain the invention with reference to the accompanying drawing which illustrates one practical embodiment thereof, to enable others familiar with the art to adopt and use the same; and will summarize in the claims, the novel features of construction, and novel combinations of parts, for which protection is desired.

In said drawing:

Fig. 1 is a perspective view of a record player or phonograph illustrating my record cleaning attachment applied to the tone or pick-up arm thereof; and also indicating diagrammatically the automatic recording changing elements.

Fig. 2 is a side elevation of the attachment applied to the tone or pick-up arm, the said arm being shown raised above the record.

Fig. 3 is a view similar to Fig. 2 but showing the needle of the tone or pick-up arm engaging the uppermost record on the turntable.

Fig. 4 is an enlarged side elevation of the record cleaning attachment, detached.

Fig. 5 is a perspective view of the brush carrying rod of the attachment, detached.

Fig. 6 is a perspective view of the replaceable brush unit of the record cleaner, detached.

As shown in Fig. 1, the phonograph or record player P is provided with the usual turntable P', and with a tone or pick-up arm T carrying a removable needle T' in the usual manner, the arm T being vertically pivotable, as at T2, upon a horizontal swivel S in the usual manner, whereby the tone arm may be lifted vertically and may be swung horizontally with respect to the records R on turntable P', which turntable is provided with a record centering post C in the usual manner upon which a plurality of records R may be superimposed or removed with respect to turntable P'. The phonograph or record player is also provided with automatic record changing devices indicated generally by the reference numerals A and A', the operation of which forms no part of my present invention, the function of which being to place in succession, from a suitable source contained in the phonograph casing, records R upon the turntable P', so that a series of records may be played in succession without manual manipulation.

My novel record cleaner preferably comprises a spring clip having a base 1, an upper leg 1*a*, and a lower leg 1*b*, said legs being preferably spaced to conform with the average width or thickness of the tone or pick-up arm T. Preferably the upper leg 1*a* is provided with an upright arcuate bulge 1*c* so that the spring clip may be applied to either a rounded or a substantially rectangular shaped tone or pick-up arm T, the leg 1*a* engaging the upper face or surface of the said arm, and the leg 1*b* engaging the lower face of the arm T.

At the base 1 of the clip is a vertically disposed substantially half-round bore 1*d* registering with similarly shaped openings in the legs 1*a*—1*b*, said bore being preferably formed between the base 1 and a preformed plate 2 having its ends flanged and secured to base 1 in any desired manner, such as by brazing or by extraneous fastenings. Bore 1*d* is adapted to receive a vertically slidable rod 3 (Fig. 5) of corresponding substantially half-round shape, the function of the half-round shape of the rod and bore being to prevent rotation of the rod in the

bore 1*b* while permitting axial or vertical movement thereof.

On the upper end of the rod 1*d* above the leg 1*a* is a head 3*a*, and a coil spring 4 is disposed around the upper portion of rod 3 having its upper end secured to head 3*a* and its lower end secured to the upper leg 1*a* of the spring clip so as to exert a yieldable downward pull upon the rod 3 for the purpose of maintaining the brush, hereinafter described, carried at the lower end of the rod in yieldable engagement with the uppermost record R in turntable P' which is being played.

The lower end of rod 3 carries a disk-like head 3*b* having opposed parallel side edges 3*c*—3*d*, disk 3*b* being adapted to enter guide slots 5*a* formed at opposite sides of the top of the brush unit, said top of the brush unit preferably comprising a plate 5 having its side edges upturned and inturned as indicated in Fig. 6, the flattened edges 3*c*—3*d* of the disk 3*b* slidably engaging the upturned portions of the slots 5*a* to prevent the brush unit from rotating with respect to rod 3.

On the underside of brush plate 5 under one edge thereof is a narrow brush 6 preferably formed of soft hair adapted to initially engage the record R as the same rotates upon turntable P' and to clean the record grooves; and in rear of brush 6 is a wadding 7 formed of lamb's wool or the like to pick up and hold the dust which is swept from the grooves by brush 6 as the record revolves on the turntable. The cleaning of the grooves of the record in advance of the needle T' results in better tonal qualities of the record, and also results in less record wear, less needle wear, and maintains the records well-kept with a minimum of effort on the part of the owner. When the brush is mounted upon the disk-like base 3*b* of rod 3, the slots 5*a* may be mashed slightly to keep the disk 3*b* from sliding longitudinally of the slots 5*a*. However, in event the lamb's wool, wad or pad 7 becomes ineffective due to accumulation of dirt, it may be desirable to replace the brush 5—6—7. This may be conveniently done by again raising the mashed portions of slots 5*a*, and removing the brush unit 5—6—7 and inserting a refill or replacement unit conforming in all respects to that shown in Fig. 6, which replacement may be readily made while the attachment is applied to the tone arm T.

In order to maintain the brush unit 5—6—7 at substantially the desired position with respect to the point of needle T' of tone or pick-up arm T in accordance with the number of records superimposed upon the turntable P, and to prevent the rod 3 from unduly bobbing up and down in bore 1*d* of the spring clip during manipulation of arm T and during changing of records, a novel catch is provided on the base 1 of the spring clip, as shown more particularly in Fig. 4. Said catch preferably comprises a lever 8 pivoted as at 8*b* upon lugs extending from the outer face of base 1, the lower end of lever 8 extending below leg 1*b* and being flanged as at 8*a* to slidably engage the flat portion of rod 3. A coiled spring 8*c* is interposed between the lever 8 and the base 1 to maintain the lower end 8*a* of lever 8 in yieldable engagement with the face of rod 3. As the number of records are built up upon the turntable P' by action of the automatic record changer, it is obvious that the brush 5—6—7 should be normally positioned at an elevation nearer to the lower leg 1*b* of the spring clip, and therefore a series of notches 3*e* is provided in the lower portion of rod 3 immediately above base 3*b* so that the spring clip may automatically engage, in succession, the notches of the series as the records build up upon the turntable, thus maintaining the brush 5—6—7 when arm T is raised at a position somewhat lower than the actual working level of the brush with relation to the number of records on the turntable, without however interfering with the action of spring 4 in pressing the brush down upon the uppermost record on the turntable. The action of the lever 8 is entirely automatic, and the lever need not be manually manipulated until the pile of records on the turntable has been removed and a single record is positioned thereon.

My novel record cleaner is simple in construction and efficient in operation, and obviously is not limited to the record players or phonographs which change records automatically, since the same may with equal efficiency be applied to the tone arm or record players which are not automatic as far as the record changing feature is concerned. Also, I do not limit my invention to the exact form shown in the drawing, for obviously changes may be made therein within the scope of the claims.

I claim:

1. A record cleaner, adapted to be mounted on the needled tone or pick-up arm of a record player having a turntable supporting the record to be played, comprising a clip adapted to be mounted on said arm, said clip having a vertically disposed bore; a rod slidably mounted in said bore; means for yieldably depressing said rod in the bore; a brush mounted at the lower end of the rod and adapted to contact the record on the turntable in advance of the needle; a spring pressed lever on the clip having a tooth slidably engaging the rod below the clip; and said rod having a series of spaced notches at its lower end adapted to be engaged by the tooth, for limiting the downward movement of the rod substantially according to the height of the arm above the record on the turntable, while permitting the rod to yield upwardly in maintaining the brush depressed upon the record.

2. In a record cleaner as set forth in claim 1, said yieldable depressing means comprising a coiled spring around the rod above the clip having its ends secured to the upper end of the rod and to the clip respectively.

3. In a record cleaner as set forth in claim 1, said rod carrying a head at its lower end provided with opposed parallel sides; and said brush comprising a replaceable unit consisting of a top plate having deformable slots at its upper edges slidably receiving the head; and a wadding of dust removing material on the underside of the plate.

4. A record cleaner, adapted to be mounted on the needled tone or pick-up arm of a record player having a turntable supporting the record being played, comprising a substantially U-shaped clip adapted to yieldably embrace the said arm, said clip having a vertically disposed bore extending therethrough and disposed adjacent the base of the clip and being aligned with correspondingly shaped holes in the legs of the clip, the walls of the bore being formed between the base of the clip and a preformed plate secured to the base at the inner side thereof and extending between said legs; a rod slidably mounted in said bore; means for yieldably depressing said rod in the bore; a brush mounted at the lower end of the rod and adapted to contact the record on

the turntable in advance of the needle; and means on the clip and rod for limiting the downward movement of the rod substantially according to the height of the arm above the record on the turntable, while permitting the rod to yield upwardly in maintaining the brush depressed upon the record.

5. In a record cleaner as set forth in claim 4, one leg of said clip having an arcuate bulge therein whereby the clip will embrace arms of rounded or squared cross-section.

6. In a record cleaner as set forth in claim 4, said yieldable depressing means comprising a coiled spring around the rod above the clip having its ends secured to the upper end of the rod and to the clip respectively.

7. In a record cleaner as set forth in claim 4, said rod carrying a head at its lower end provided with opposed parallel sides; and said brush comprising a replaceable unit consisting of a top plate having deformable slots at its upper edges slidably receiving the head, a strip of relatively soft bristles mounted on the underside of the plate along one edge thereof; and a wadding of dust holding material on the underside of the plate in rear of the strip of bristles.

8. In a record cleaner as set forth in claim 4, said limiting means comprising a spring pressed lever on the base of the clip having a tooth slidably engaging the rod below the clip; and said rod having a series of spaced notches at its lower end adapted to be engaged by the tooth.

9. A record cleaner adapted to be mounted on the pivoted and swiveled needled tone or pick-up arm of a record player having a turntable supporting the record being played, said record player having means for building up in succession a stack on the turntable of the records which have been played thereby changing the angularity of the pick-up arm with respect to the upper record on the stack; said cleaner comprising a clip adapted to be mounted on said arm, said clip having a vertically disposed bore; a rod slidably mounted in said bore; means for yieldably depressing said rod in the bore; a brush mounted at the lower end of the rod and adapted to contact the uppermost record on the stack in advance of the needle; and means on the clip and rod for limiting the downward movement of the rod substantially according to the height of the stack of records on the turntable while permitting the yieldable means to maintain the brush depressed upon the uppermost record in the stack.

10. In a record cleaner as set forth in claim 9, said yieldable depressing means comprising a coiled spring around the rod above the clip having its ends secured to the upper end of the rod and to the clip respectively.

11. In a record cleaner as set forth in claim 9, said rod carrying a head at its lower end provided with opposed parallel sides; and said brush comprising a replaceable unit consisting of a top plate having deformable slots at its upper edges slidably receiving the head, a strip of relatively soft hair mounted on the underside of the plate along one edge thereof, and a wadding of lamb's wool on the underside of the plate in rear of the hair strip.

12. In a record cleaner as set forth in claim 9, said limiting means comprising a spring pressed lever on the clip having a tooth slidably engaging the rod below the clip; and said rod having a series of spaced notches at its lower end adapted to be engaged in succession by the tooth as the stack of records on the turntable increases in height.

13. A record cleaner, adapted to be mounted on the pivoted and swiveled needled tone or pick-up arm of a record player having a turntable supporting the record being played, said record player having means for building up in succession a stack on the turntable of the records which have been played thereby changing the angularity of the arm with respect to the upper record on the stack; said cleaner comprising a substantially U-shaped clip adapted to yieldably embrace the said arm, said clip having a vertically disposed non-circular bore extending therethrough; a correspondingly shaped rod slidably mounted in said bore; means for yieldably depressing said rod in the bore; a brush mounted at the lower end of the rod and adapted to contact the uppermost record on the stack in advance of the needle; and means on the clip and rod for limiting the downward movement of the rod substantially according to the height of the stack of records on the turntable while permitting the yieldable means to maintain the brush depressed upon the uppermost record in the stack.

14. In a record cleaner as set forth in claim 13, one leg of said clip having an arcuate bulge therein whereby the clip will fit arms of rounded or squared cross-section.

15. In a record cleaner as set forth in claim 13, said bore being disposed adjacent the base of the clip and being aligned with correspondingly shaped holes in the legs of the clip, the walls of the bore being formed between the base of the clip and a preformed plate secured to the base at the inner side thereof and extending between said legs of the clip.

16. In a record cleaner as set forth in claim 13, said yieldable depressing means comprising a coiled spring around the rod above the clip having its ends secured to the upper end of the rod and to the clip respectively.

17. In a record cleaner as set forth in claim 13, said rod carrying a head at its lower end provided with opposed parallel sides; and said brush comprising a replaceable unit consisting of a top plate having deformable slots at its upper edges slidably receiving the head; a strip of relatively soft hair mounted on the underside of the plate along one edge thereof, and a wadding of lamb's wool on the underside of the plate in rear of the hair strip.

18. In a record cleaner as set forth in claim 13, said limiting means comprising a spring pressed lever on the base of the clip having a tooth slidably engaging the rod below the clip; and said rod having a series of spaced notches at its lower end adapted to be engaged in succession by the tooth as the stack of records on the turntable increases in height.

JOHN HESS.