

Dec. 23, 1941.

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2,266,875

RECORDING THREAD BRUSH

Filed April 16, 1940

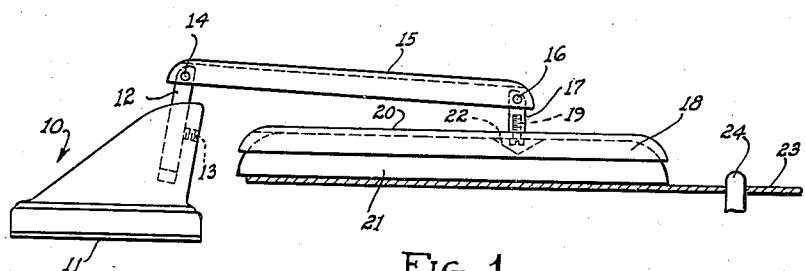


FIG. 1

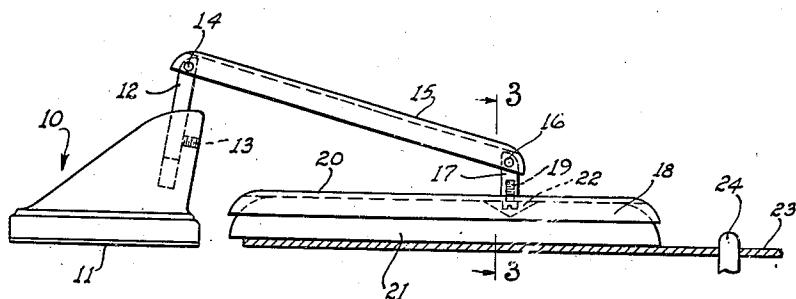


FIG. 2

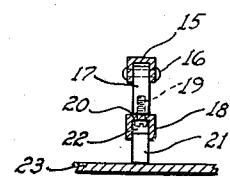


FIG. 3

FIG. 4

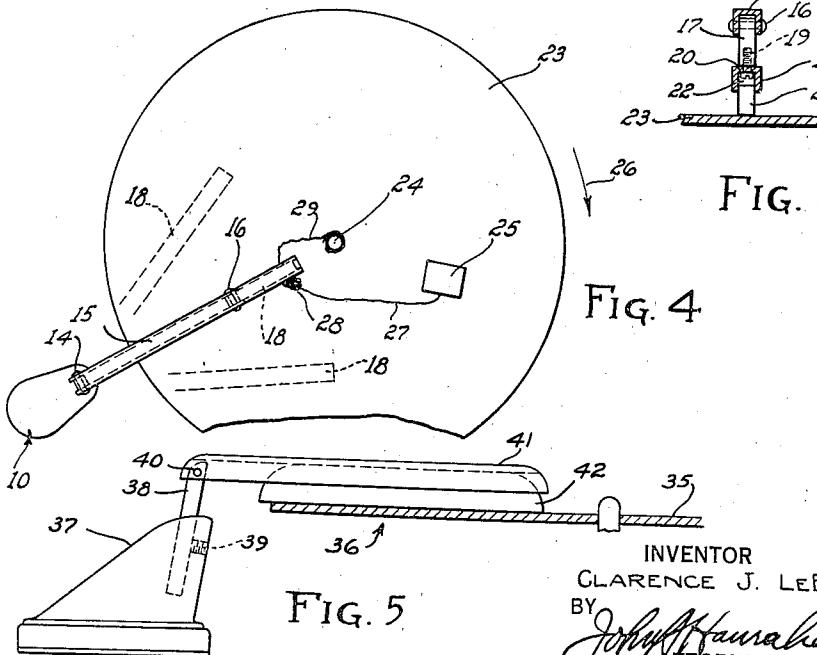


FIG. 5

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2,266,875

RECORDING THREAD BRUSH

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Application April 16, 1940, Serial No. 329,878

2 Claims. (Cl. 274—47)

This invention relates to new and useful improvements in the art of sound recording and has particular relation to a means for preventing the thread formed during the cutting of a record from becoming entangled with the recording stylus.

An object of the invention is to provide a recording thread brush of simple and inexpensive construction, which is easily positioned for use and which is dependable in performance.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing wherein a satisfactory embodiment of the invention is shown. However, it is to be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawing:

Fig. 1 is a side elevational view showing the brush of the invention in relation to a record, but a portion of the latter being shown;

Fig. 2 is a similar view but showing a somewhat different relation of the parts;

Fig. 3 is a sectional view taken as along the line 3—3 of Fig. 2;

Fig. 4 is a plan view showing the brush of the invention in association with a record blank during recording on the latter; and

Fig. 5 is a view similar to Fig. 1 but showing a modification.

Heretofore efforts have been made in the direction of providing some means for removing from a record, as the latter is being recorded, the thread cut by the recording stylus. These efforts have taken various forms and with the suction mechanism which has been used the desired results have been accomplished. However, such mechanism is costly to purchase and to maintain and is not in general use particularly in small studios.

When a record is being cut the tendency of the cut or removed thread is to move toward the center pin about which the record is disposed. In the recording of a record from its center toward its outer edge the thread causes no difficulty but when the recording is being made from the outer edge of the record toward the center thereof, as is most usually the case, the thread, unless it is carefully removed, becomes entangled with the recording stylus and damages the recording. A skillful operator can remove the thread as it accumulates although when the operator is so engaged his attention is

diverted from his main business. Efforts to provide a simple brush means for accomplishing the desired purpose have, up until the present time, proved unsuccessful.

With the means of the invention the thread removed from the record body or lacquer coated disc on which the recording is being engraved is engaged with a brush means. After a slight accumulation the thread begins to pass under such means and moves in the direction of the center pin of the record and becomes wrapped thereabout in an out-of-the-way position. Thereafter, when the recording operation has been completed the thread may be safely and conveniently removed from about the pin. The brush means of the invention is simple and requires no special skill for its use and its position during the recording operation is not particularly critical.

Referring in detail to the drawing the brush means of the invention is shown as including a suitable base 10 provided on its underside with a felt or other pad 11. This base is preferably of cast iron or other metal whereby to have considerable weight for supporting in balanced relation the other portions or parts of the brush during use. A vertically disposed post 12 is partly received in a suitable socket in the base and may be adjusted vertically on the base and secured in adjusted position as by means of a set screw 13 provided for that purpose.

A pivot 14 attaches the rear end of the arm 15 to the upper end of the post 12 and any or a similar pivot means 16 attaches a lug 17 to the forward end of the said arm. Preferably the arm 15 is of metal of channel formation for the purpose of strength and light weight as well as for aesthetic reasons. It will be clear that with the arrangement described the arm 15 is movable vertically with or about the pivot 14 and that the lug 17 is rockable on or with the pivot 16.

Rigidly secured to the lower or free end of the lug 17 is a channel bar 18 open at its lower or outer side and closed at its top side. A screw or other means 19 passing through the top wall 20 of the bar 18 secures the latter to the free end of the lug 17. Partly received within the channel bar 18 is a strip 21 of felt or similar material. For example, the strip 21 may be of carpet or the like. When felt is used it may be of any grade although to avoid covering the record with fibres I prefer to use a hard felt such as S. A. E. grades F30, F1 or F10. However, this is not controlling as other grades of

felt and in fact other materials may be used for my purpose.

The felt or the like may be cemented or otherwise secured with its upper edge portion in the channel of the bar 18 and in such edge portion may be notched or cut away as at 22 for the reception of the head of the screw 19. As shown the felt strip is comparatively thick and the thickness is so related to the depth of the portion projecting below the lower edge of the bar 18 that such projecting portion is rather stiff although somewhat yielding.

In the use of the brush the base 10 is supported beyond the edge of the disc record body 23 which is to have sound recorded thereon. The arm 15 projects over said disc and the radial relation of the arm and the bar 18 to the center post or pin 24 is not critical. Thus the arm 15 and the parts carried thereby may be located without difficulty since they may be positioned at any place as between the dotted line showings in Fig. 4.

Additionally the vertical relation of the bar 12 to the disc 23 is not critical. Thus the upper end of such bar or post may within a wide range be in a rather indefinite location above the upper surface of the disc. In Figs. 1 and 2 the result of two different locations is indicated and in such figures, it will be noted that owing to the employment of the articulated structure shown the bar 18 with the felt strip 21 will lie flat across the disc 23 (in the manner desired) without any particular effort being made to adjust the post 12 with relation to the upper surface of the disc. Thus the base 10 may be resting on any support at the side of the disc and such support need not be in any particular vertical relation to the upper surface of the disc. Yet vertical adjustment of the post 12 will not be required.

During recording on a disc the device of the invention being located as in Fig. 4 wherein the recorder is designated 25 the record disc is being rotated in the direction indicated by the arrow 26. 27 indicates the thread cut by the recording stylus. If left to itself this thread tends to gather into a clump and may become entangled with the recording stylus spoiling the recording. With the present brush the thread gathers against the forward side of the felt 21 until a small amount of thread has accumulated and then it begins to feed under the felt in the form of a single thread.

Thus in Fig. 4 the portion of the thread from the recorder is indicated at 27 and it has to some limited extent accumulated at 28 against the forward side of the felt 21 and at 29 is shown leaving the rear side of the felt. As the thread leaves the brush at 29 it moves sharply inwardly toward the center pin 24 and gathers about the latter where it is out of the way and may be removed after the recording operation is completed.

Attention is directed to the fact that the lug 17 is secured to the bar 18 toward the outer end thereof or toward that end which is nearer the center pin 24 during the making of a record. It is preferred that the location of this lug be from one-third to one-quarter of the length of the bar from the mentioned end thereof. This particular location is preferred for aesthetic reasons and may be varied. However, when the location of the lug is as described or at least is toward the mentioned end from the middle of the bar certain desirable results follow. The device in such case may be used during the recording on discs of small as well as those of large diameter with-

out tilting upwardly off or from the record surface.

It is noted that according to the invention the strip of felt or similar material is rigidly held in the bar 18 and is pressed against the record surface by the weight of said bar and by additional weight if desired. In this connection it will be apparent from Figs. 1 and 2 that the full weight of the bar 18 is disposed on the felt when the latter is in engagement with the record irrespective of some differences in the height of the support on which the base 10 is resting as compared with the upper surface of the record blank.

Referring now to the form of the invention shown in Fig. 5 it is noted that a somewhat simpler construction is there shown. In said figure a portion of a record disc is designated 35 and associated with it is a brush means generally designated 36 and including a base 37 in which is vertically adjustable a post 38, a screw 39 or the like being provided for securing the post in the desired position of vertical adjustment.

A pivot 40 secures the inner end of an arm 41 to the upper end of the post 38. Arm 41 is of channel formation and partly receives a felt strip 42 of the construction of the strip 21 above described. The construction of Fig. 5 omits the pivot 16, lug 17 and channel bar 20 of the Figs. 1 through 4 and is therefore more inexpensive to make. However, with the modified construction it is necessary to adjust the post 38 so as to align the felt 42 with the surface of the record 35 in each instance. Such adjustments are not necessary with the construction first described although aside from the matter of the adjustments the devices function in the same manner.

Having thus set forth the nature of my invention, what I claim is:

1. In a recording thread brush, a vertical post, a weighted base supporting said post, means securing the post against turning movement relative to said base, an elongated rigid arm, a horizontal means pivotally securing one end of the arm to the upper end of the post, an elongated rigid bar having a channel opening through its lower side, a strip of felt partly received in said channel and extending below the edges of the bar, a lug, a horizontal means fixed at the other end of the arm and pivotally connecting the lug with the other end of said arm, said bar located at the under side of and in vertical alignment with said arm, said lug rigidly connected at its lower end with said bar, both said pivot means free whereby said bar and felt are self aligning to maintain the lower edge of the felt flat on successive horizontal record surfaces on which the felt may be disposed even though such surfaces are in different horizontal planes, and said lug located with respect to said bar at a point on the latter approximately two-thirds to three-fourths of the way toward the end of the bar remote from said post whereby the bar will not rock about the edge of a small diameter record in a manner to lift the end of the bar and felt remote from the post away from such record.

2. In a recording thread brush, a vertical post, a weighted base supporting said post, means securing the post against turning movement relative to the base, a rigid channel shaped elongated arm receiving the upper end of said post between the side walls of its inner end portion, a horizontal means passing through said walls and pivotally securing the inner end of the arm to the upper end of the post, an elongated rigid bar having a channel opening through its lower side,

a strip of yielding material partly received in said channel and extending below said bar, a lug having its upper end located between the side walls of the outer end portion of said arm, a fixed horizontal means passing through said walls and pivotally securing the upper end of the lug to the outer end portion of the arm, said bar located at the under side of and in vertical alignment with said arm, means passing through the top wall of said bar and into the lower end of said lug and rigidly connecting the lug and bar with the lower end of the lug against the top side of the bar, both said pivot means free whereby said bar and yielding material are

5 self aligning to maintain the lower edge of the yielding material flat on successive horizontal record surfaces on which the material may be disposed even though such surfaces are in different horizontal planes, and said lug located with respect to said bar at a point on the latter approximately two-thirds to three-fourths of the way toward the outer end thereof whereby the bar will not rock about the edge of a small diameter record in a manner to lift the outer end portion of the bar and yielding material away from such record.

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