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Dec. 4, 1923.

E. T. HAILS

PROCESS FOR RESURFACING TALKING MACHINE RECORDS

Filed Oct. 21, 1922

Fig. 1

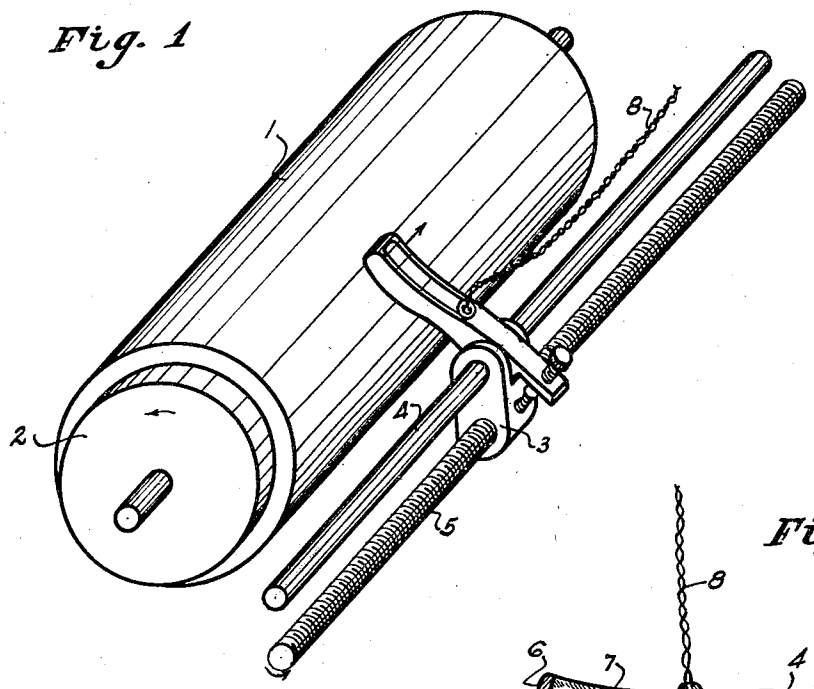
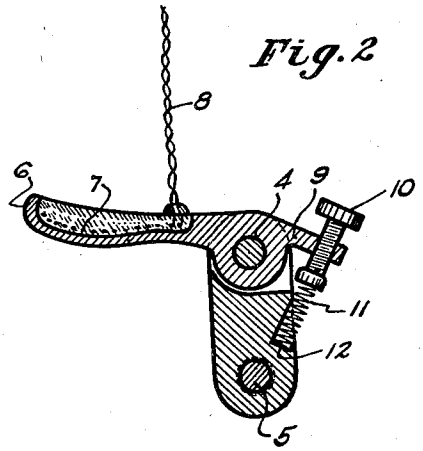


Fig. 2



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By

Attorney

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UNITED STATES PATENT OFFICE.

EDWARD TROY HAILS, OF MONTGOMERY, ALABAMA.

PROCESS FOR RESURFACING TALKING-MACHINE RECORDS.

Application filed October 21, 1922. Serial No. 596,163.

To all whom it may concern:

Be it known that I, EDWARD TROY HAILS, a citizen of the United States of America, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented certain new and useful Improvements in Processes for Resurfacing Talking-Machine Records, of which the following is a specification.

My invention relates to an improved process for the resurfacing of commercial talking machine records which, in the present practice, are formed by cylinders coated with a comparatively soft composition which is indented by the transscribing or recording instrument. The surface indentations or "talk" must be removed by a resurfacing treatment to permit the further use of the record.

Heretofore, in the resurfacing of a record of this character it has been the practice either to shave off sufficient of its surface to remove all indentations or "talk", or to treat the record with a solvent for removing sufficient of its outer composition surface to eliminate the indentations or "talk". The chief objections to the mechanical shaving process for resurfacing are that it requires an expensive apparatus, is a relatively slow treatment, and is attended by conditions objectionable for office practice. The chief objection to resurfacing by the solvent process is that it leaves a surface less smooth than is required for perfect reproduction on reuse of the record so that a further mechanical treatment of the record by buffing or smoothing is necessary which increases the cost of this treatment. Both treatments, are, moreover, subject to a further serious objection, namely, they rapidly cut or dissolve away the composition coating on the record so that its life is comparatively short.

I have conceived that the present processes for resurfacing the records would be greatly improved and, in fact, perfected if means could be provided which would resurface the record in a simple, quick and effective manner without the appreciable removal or destruction of the composition coating on the record, which would require but comparatively inexpensive mechanical equipment, and which could be carried out without features objectionable to office practice. To this end I have conceived my present process for resurfacing records of the character described, according to which I subject the record while rotating to the action of a heated smoothing iron, preferably of relatively narrow width to reduce its friction load on the cylinder, and which is adapted to be moved lengthwise along the spinning surface of the cylinder to the end that the indentations or "talk" in the latter are ironed or smoothed out and a polished or smooth surface obtained without the elimination or removal of any appreciable portion of the composition surfacing or coating of the record.

The construction of the heating iron can be varied and the temperature to which the iron is heated in service will be dependent upon the heat resistant characteristic of the composition coating of the record and upon the speed of rotation of the record. As the speed of rotation of the record is decreased the temperature of the smoothing iron can be reduced but the time required for a resurfacing treatment increases. To reduce the time of treatment, I increase the speed of rotation of the record and I raise the temperature of the iron so that during the shorter period of contact it will still impart sufficient heat and pressure to the surface of the fast spinning record to effectively smooth and resurface it. It is not material to the successful practice of my process how this iron is heated or how the cylinder is rotated under treatment, nor does the width or shape of the iron itself enter particularly into the process so long as it presents a smooth and heated surface which is forced with adequate pressure against the rotating composition surface of the cylinder under treatment.

As illustrative of an apparatus capable of carrying my process into effect, reference is made to the accompanying drawings, in which:—

Fig. 1 is a perspective view of a typical talking machine record mounted on a mandril with the ironing appliance in engagement therewith.

Fig. 2 is a cross-sectional view through the ironing appliance and its carriage.

Similar reference numerals refer to similar parts throughout the drawings.

A talking machine record 1, conventionally illustrated, is mounted on mandrils 2 and is rotated preferably at a rapid speed in the direction of the arrow. A carriage 3 is mounted to slide on a smooth guide rod 4

and adapted to be fed back and forth by a screw 5. The carriage has pivotally mounted thereon an ironing tool 6 containing an electrical resistance or heating coil 7 supplied with current by the electric leads 8 so as to effectively heat its smooth under ironing face. This heating means is typical of any suitable heater for the iron. At the rear the iron carries a lug 9 in which a screw 10 is threaded with its inner end cupped and engaging a coil compression spring 11 mounted in a suitable seat 12 in the carriage 3. By turning the screw pressure exerted through the spring on the iron to hold it to its work is regulated.

In operation, having brought the iron to the desired heat, the latter is presented to the fast spinning surface of the record and is fed along this surface by its screw 5, acting by heat and pressure on the indented surface of the record to iron or smooth out the "talk" on the record so as again to provide a smooth refinished surface on the record which will then be ready to be used again.

Though I have described with great particularity the details of the embodiment of the invention herein shown, it is not to be construed that I am limited thereto, as changes in arrangement and substitution of equivalents may be made by those skilled in the art without departing from the invention as defined in the appended claims.

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

1. The hereindescribed process for resurfacing a talking machine record, which consists in subjecting the rapidly rotating surface of the record to a heat and pressure treatment until its irregularities have been ironed out.

2. The hereindescribed process for resurfacing talking machine records, which consists in rotating the record and subjecting the portion thereof to be resurfaced to the action of heat and a smoothing iron.

3. The hereindescribed process for resurfacing talking machine records, which consists in rotating the record and subjecting the portion thereof to be resurfaced to the action of a smoothing iron which is heated and caused to move across the surface of the record under treatment.

In testimony wherof I affix my signature.

EDWARD TROY HAILS.

Witness:

NOMIE WELSH.