

UNITED STATES PATENT OFFICE.

OSCAR PHELPS AUSTIN, OF WASHINGTON, DISTRICT OF COLUMBIA.

PROCESS OF RESURFACING PHONOGRAM-BLANKS.

SPECIFICATION forming part of Letters Patent No. 429,079, dated May 27, 1890.

Application filed February 11, 1890. Serial No. 340,059. (No specimens.)

To all whom it may concern:

Be it known that I, OSCAR PHELPS AUSTIN, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Resurfacing Phonograph and Graphophone Cylinders, of which the following is a specification.

The cylinders of phonographs and graphophones as now made consist of waxy or resinous compositions, in which spiral grooves of varying depths are formed during the revolutions of the cylinders by the actions of the needles fixed on the diaphragms in a manner well known.

In graphophone-cylinders but a single record has heretofore been made upon each cylinder in the ordinary use to which they have been applied; but efforts have been made to resurface the same by means of pressure applied to crush or break down the ribs between the grooves, so as to fill up the latter and form a more or less even surface. One objection to this mode of resurfacing is the length of time required for a tool to follow the spiral rib to crush and flatten the same. In order to avoid this loss of time, which is as great as the time required to place a record upon the entire length of the cylinder, and further to avoid the necessity of discovering apparatus for resurfacing, and to secure a better surface than would result from breaking down the ribs between the grooves, I make use of a suitable solvent, which I apply in a thin film upon the surface of the cylinder, so as to reduce the ribbed portion thereof to a semi-liquid or pasty condition, and I then spread this dissolved material over the surface of the cylinder, forming a new surface, which will be as hard, smooth, and regular as the original surface.

The above-described operation may be effected without the use of any other appliances than a brush or rag, or both, and a small quantity of suitable solvent, and may be effected in a few moments.

In practice the cylinder is placed upon the machine in its usual position and is revolved as rapidly as possible, and a flat brush with a small portion of solvent is applied, so as to coat the ribbed surface with a film of solvent sufficient to dissolve the fine thin ribs

without materially affecting the solid body beneath. This solvent action may result in a few moments, after which the brush is passed quickly back and forth along the surface of the revolving cylinder, so as to spread the pasty material anew over said surface, after which the cylinder is polished off by the use of a silk or woolen rag or a piece of soft paper, or, preferably, by the hand.

In order to reduce the time required, I prefer to use a volatile solvent, as chloroform, ether, benzine, or gasoline, depending upon the character of the composition of the roller or cylinder. Such a volatile solvent acts rapidly to reduce the ribbed surface to a pasty condition, and as the paste is spread upon the surface of the cylinder the solvent evaporates, so that by the time the cylinder is polished the surface is as solid and as hard as before.

The same operations may be pursued in resurfacing the cylinders of phonographs, thereby avoiding the necessity of recutting the latter. In either case the life of the cylinder is greatly increased without the use of any special apparatus and without the consumption of time necessary for a tool to traverse the entire record-path of the cylinder.

Without limiting myself to the use of any special solvent or to the precise means described in applying the same, I claim—

1. The within-described method of resurfacing the cylinders of graphophones and phonographs, the same consisting in applying a solvent to the ribbed surface of the cylinder to reduce the latter to a pasty condition and spreading, drying, and polishing the paste to form a new surface, substantially as set forth.

2. The method of resurfacing the cylinders of phonographs and graphophones, consisting in dissolving the ribbed surface portion of the cylinder by a volatile solvent to form a paste and spreading the paste and polishing the surface, substantially as set forth.

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

OSCAR PHELPS AUSTIN.

Witnesses:

J. S. BARKER,

W. S. MCARTHUR.