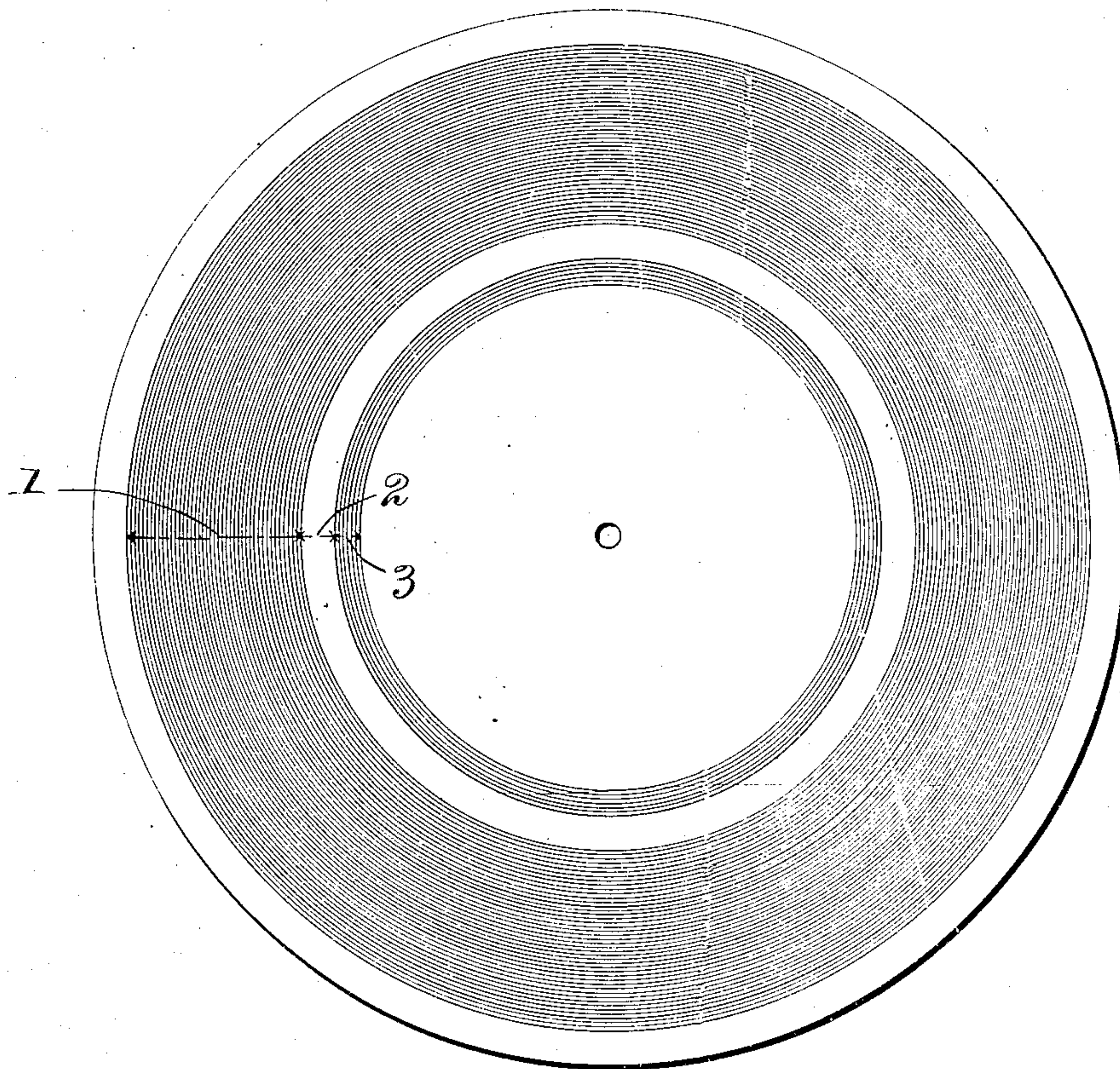


No. 786,347.

PATENTED APR. 4, 1905.

W. S. DARBY.  
RECORD FOR SOUND REPRODUCING MACHINES.  
APPLICATION FILED JAN. 12, 1905.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## RECORD FOR SOUND-REPRODUCING MACHINES.

SPECIFICATION forming part of Letters Patent No. 786,347, dated April 4, 1905.

Application filed January 12, 1905. Serial No. 240,723.

*To all whom it may concern:*

Be it known that I, WILLIAM SINKLER DARBY, a citizen of the United States of America, and a resident of Berlin, Germany, have invented certain new and useful Improvements in Records for Sound-Reproducing Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to improvements in record disks or cylinders for sound-reproducing machines, and has for its object the provision of certain means for determining the correct speed at which said disks or cylinders should revolve in order that the sound produced thereby will have the same pitch as the sounds of the original voice or instrument which are being reproduced therefrom.

Heretofore there has been some difficulty in adjusting the speed of motors used in connection with sound-reproducing machines to cause the disks or cylinders to rotate at the correct speed required to give out the same number of vibrations per second or pitch that constituted the original sounds when recorded. For this purpose in some instances speed-indicators in connection with governors for talking-machine motors have been used; but such devices are not susceptible of delicate adjustment and, added to differences in the quality and consistencies of the material forming the parts of such governors, have varied greatly in different machines. By the use of the present invention these objections have been avoided in a simple, efficient, and accurate manner and without in any way increasing the cost of making a particular record and without complicating the construction of the talking or reproducing machine.

For a detailed description of one form of my invention reference may be had to the following specification and drawing, forming a part thereof, in which the figure of the drawing shows a plan view of a record embodying my invention.

In said drawing the numeral 1 denotes the space covered by the main record-groove, which contains the sound vibrations corresponding to a particular selection.

2 denotes an auxiliary spiral groove which contains the vibrations only of a particular note or tone. The auxiliary groove 2 is preferably separated from the main groove 1 by means of a narrow blank space or gap 3.

In forming the original or master record in accordance with this invention the record of the voice or instrument is made in the usual way, after which the recording instrument is shifted slightly and caused to form a groove while the original record is still rotating at the same speed as when forming the groove constituting the record of the voice or instrument; but in forming the auxiliary groove only one note or tone is sounded, and such note or tone is a series of successive vibrations caused by the sound produced by one key or note of an instrument or one tone of a voice. The instrument for forming the vibrations of the auxiliary groove may be a reed diaphason, the tuning-fork, the pitch-pipe, or other suitable standard instruments. The original or master record is then reproduced or multiplied in any of the usual ways for supplying duplicates to the trade.

When the records are sold, a standard instrument having the same pitch as the instrument used in forming the auxiliary record-groove is supplied to the users of the machine. By the aid of this instrument the user can quickly and accurately adjust the speed of the turn-table or cylinder motor, so that when the stylus or needle of the sound-box is applied to the auxiliary groove the sound produced thereby is exactly of the same pitch as the standard instrument. This may be accomplished in the usual manner of securing unison when tuning a violin or other similar musical instrument. When perfect unison has been secured between the sound produced by the auxiliary groove and the standard tuning instrument, the main record will be revolving at the correct speed, and the reproducing apparatus may then be shifted so as to traverse the groove of said main record. It will thus be seen that I have produced a very simple means of determining the correct speed at which a record should revolve, and it is obvi-

ous that changes in form and arrangement of parts may be made without departing from the spirit and scope of my invention; but

What I claim as my invention, and desire to protect by Letters Patent, is—

1. In a record for talking-machines, the combination with the main record-groove, of an auxiliary record-groove comprising simple vibrations of definite pitch.

2. In a record for talking-machines, the combination with the main record-groove, of an auxiliary record-groove comprising simple vibrations of a key-note.

3. In a record for talking-machines, the combination with the main record, of an auxiliary record-groove comprising similar vibrations of such a number per inch in the length of the groove as will give a key-note of definite pitch when the record is revolving at the correct speed.

In witness whereof I have hereunto set my hand this 14th day of December, 1904.

WILLIAM SINKLER DARBY.

Witnesses:

S. W. B. MORTMAN,  
E. H. CHRISTENSEN.