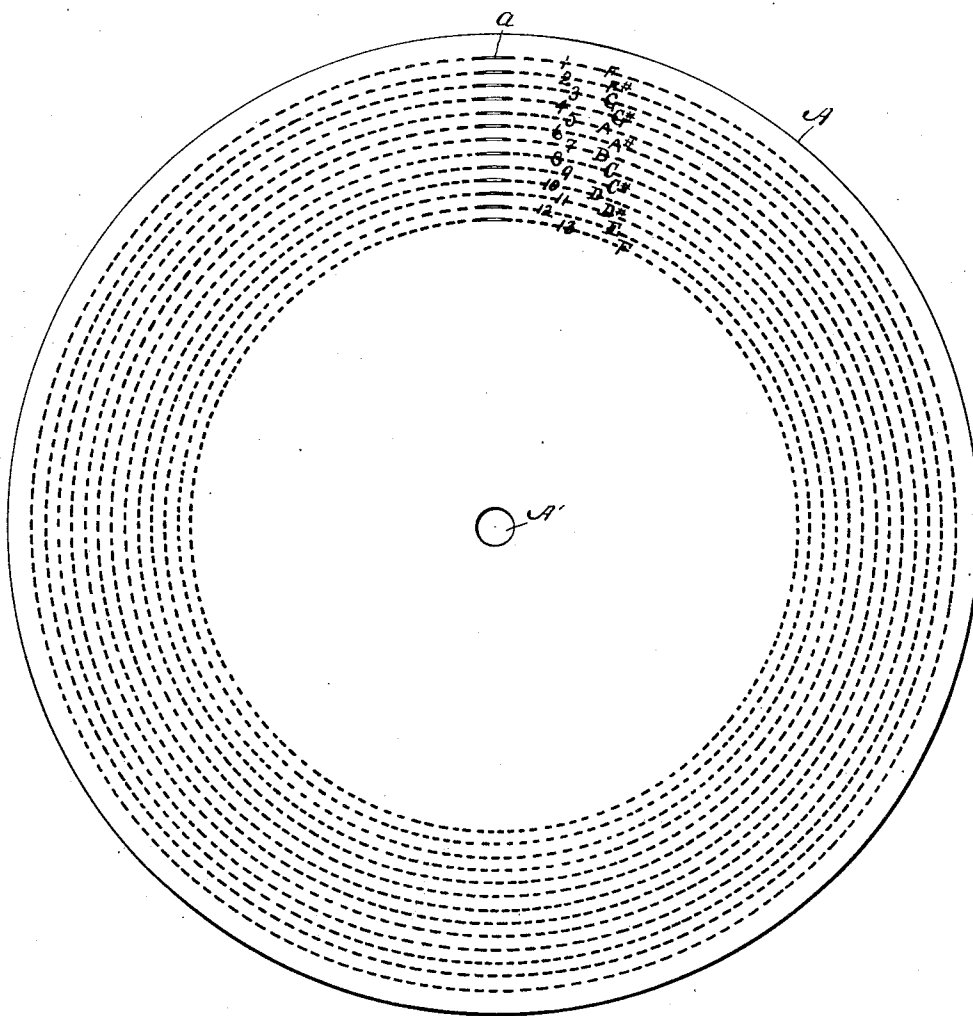


No. 802,135.

PATENTED OCT. 17, 1905.

N. BRYANT.
PHONOGRAPHIC RECORD.
APPLICATION FILED JAN. 30, 1905.



Witnesses:

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UNITED STATES PATENT OFFICE.

NILES BRYANT, OF BATTLECREEK, MICHIGAN.

PHONOGRAPHIC RECORD.

No. 802,135.

Specification of Letters Patent.

Patented Oct. 17, 1905.

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To all whom it may concern:

Be it known that I, NILES BRYANT, a citizen of the United States, residing in the city of Battlecreek, county of Calhoun, State of Michigan, have invented certain new and useful Improvements in Phonographic Records, of which the following is a specification.

This invention relates to improvements in phonographic records.

My improved phonographic record is particularly adapted for the use of piano-tuners or tuners of musical instruments, although it is desirable for use in other relations.

The main object of this invention is to provide an improved phonographic record by the use of which a tone may be sustained for any desired period.

Further objects and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined, and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, which is a plan view thereof.

Referring to the drawing, my improved phonographic record is illustrated in the form of a disk A. The disk is provided with a central opening A' to receive the shaft or arbor of the machine on which it is to be used. A phonographic record is made on this disk, consisting of a series of concentric tone-circles or circles of indentations or undulations produced phonographically, each circle being made by a single or sustained tone. In the record I have illustrated there are thirteen of these tone-circles, representing what is known to musicians as the "equal temperament"—that is, thirteen notes within the scope of one octave. Piano-tuners usually lay the temperament within the octave F, in the middle of the keyboard, beginning with the note called "middle C," which is first tuned to a tuning-fork or a pitch-pipe. F below middle C is then tuned, not to a perfect fifth, but slightly sharp, until there result three beats in five seconds. Next, the fourth below middle C, which is G, is tuned slightly flat until there results one beat per second. All the fourths and fifths must be toned likewise, slightly flat or imperfect. By so doing the result is a perfect octave when the temperament is finished. This is necessary in order to produce harmony in the octaves when com-

pletely tuned. This method of tuning requires a delicate musical sense and the most careful attention and skill. My invention includes the whole temperament so equalized as to give the operator an absolute guide. By placing the phonographic reproducer in the proper tone-circle any tone may be sustained for an indefinite period, so that the user may give his entire attention to the proper adjusting of the instrument which is being tuned.

While I have illustrated a record adapted to produce thirteen tones, as F, F#, G, G#, A, A#, B, C, C#, D, D#, E, and F, this number, it is evident, may be increased as desired; but for the purpose of a guide in tuning instruments it is all that is required.

In order that the tone may be sustained as perfectly as possible and with as slight a break as possible, in making the record the recording device is checked just before it reaches the point at which it was started in the circle, as if it overlapped it would produce an imperfect tone. The ends of the tone-record lines are joined by guiding-grooves, as a, for the reproducer-stylus, which grooves are shown considerably exaggerated in this drawing, so that the same may clearly appear.

With my improved record-roll a tone can be produced and sustained at an even pitch as long as may be desired. This is of course of very great advantage in tuning instruments and is of advantage in other relations, as will readily appear.

I have illustrated and described my improved phonographic record in a disk form. It is evident that it is applicable to the well-known form of cylindrical record-rolls, and other modifications will readily appear to those skilled in the art to which the invention relates. I wish to remark that I desire to claim my invention specifically in the form illustrated as well as broadly.

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

1. As a new article of manufacture, a phonographic-record tuning-disk having a record thereon consisting of a series of thirteen concentric circles of indentations or undulations, each circle constituting a record of a sustained note different from the others, said tones comprising an equal temperament.

2. As a new article of manufacture, a phonographic-record tuning-disk having a record thereon consisting of a series of concentric circles of indentations or undulations, each

circle constituting a record of a sustained note different from the others.

3. As a new article of manufacture, a phonographic tuning-tablet having a record thereon consisting of a series of thirteen lines of indentations or undulations, the ends of each line being joined by a groove, each line constituting a record of a sustained note different from the others, said tones comprising an equal temperament.

4. As a new article of manufacture, a phonographic tuning-tablet having a record thereon consisting of a series of lines of indentations or undulations, the ends of each line being joined by a groove, each line constituting a record of a sustained note different from the others.

5. As a new article of manufacture, a phonographic tuning-tablet having a record thereon consisting of a series of thirteen lines of indentations or undulations, the ends of each line being joined, each line constituting a rec-

ord of a sustained note different from the others, said tones comprising an equal temperament.

6. As a new article of manufacture, a phonographic tuning-tablet having a record thereon consisting of a series of lines of indentations or undulations, the ends of each line being joined, each line constituting a record of a sustained note different from the others.

7. As a new article of manufacture, a phonographic-record tuning-disk, the record of which consists of a line of indentations or undulations constituting a record of a sustained note, the beginning and end of which line are in proximity, whereby the record can be repeated indefinitely.

In witness whereof I have hereunto set my hand and seal in presence of two witnesses.

NILES BRYANT. [L. s.]

Witnesses:

FRED W. ERWIN,
EDWIN F. EDMONDS.