

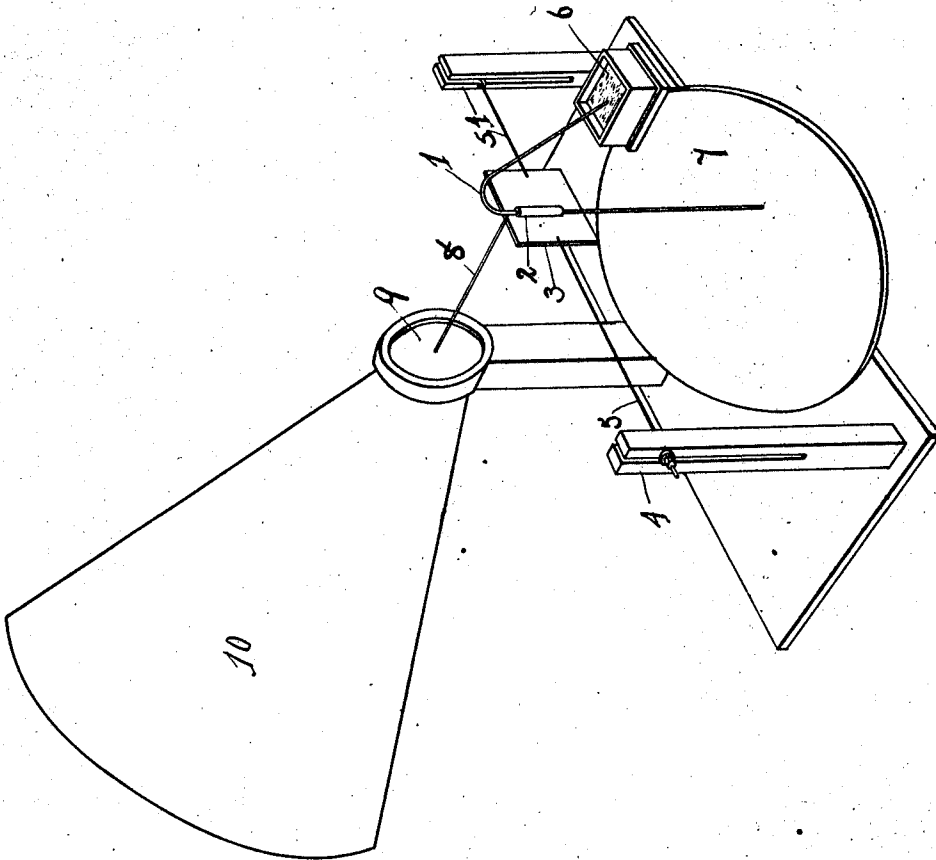
I. KITSEE.

PRODUCING PHONOGRAPHIC RECORDS.

APPLICATION FILED MAY 23, 1907. RENEWED JAN. 8, 1911.

990,144.

Patented Apr. 18, 1911.



WITNESSES:

Edith R. Kelley  
Mary C. Smith

INVENTOR

I. Kitsee

# UNITED STATES PATENT OFFICE.

ISIDOR KITSEE, OF PHILADELPHIA, PENNSYLVANIA.

PRODUCING PHONOGRAPHIC RECORDS.

990,144.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed May 23, 1907, Serial No. 375,234. Renewed January 6, 1911. Serial No. 601,242.

*To all whom it may concern:*

Be it known that I, ISIDOR KITSEE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Producing Phonographic Records, of which the following is a specification.

My invention relates to an improvement in means for producing phonographic records.

One of the objects of the invention is, to produce a record without actual contact between the means actuated by the vibrating diaphragm and the material on which the record is produced.

A second of the objects is to produce a recording device provided with means to adjust the same for the purpose of enlarging or reducing the undulating recording lines.

The drawing illustrates in perspective view a recording device embodying my invention.

In this device, 10 is the sound collector and 9 the vibrating diaphragm. The recording means are here illustrated as the siphon 1 dipping, with one terminal into the liquid 6, the other terminal being in juxtaposition to the plate adapted to have recorded thereon the record. The means to suspend the siphon 1 are here illustrated as consisting of the horizontal thread 5 secured to the uprights 4, 4. To this thread is secured the plate 3 and on this plate is the tube 2. One of the legs of the siphon is carried through this tube. The plate 3 is connected through the rod 8 with the vibrating disk 9.

The operation of this device is as follows: The disk 7 is rotated at the required speed through one of the speed-mechanisms usually employed in the production of phonographic records. The siphon 1 is then placed into the tube 2. If it is desired that the undulations should be of great amplitude, then the whole length of one of the legs of the siphon shall be drawn through the tube, and if it is desired that the undulations should be of lesser amplitude, then the siphon should be drawn upward, so that only part of one leg shall protrude from the tube 2. To produce records, of which part of the lines should be of large and part of the lines of small amplitude, it is only necessary that the person in charge should, dur-

ing the time that the sound waves are impinged on the vibrating diaphragm, raise or lower the siphon. The liquid 6 will, as is well understood, rise in one leg of the siphon and will issue from the other leg. This liquid may consist either of a dark liquid, such as ink, or may consist of an etching fluid, or an etching-resisting fluid. Such in broad outlines are the means for producing records and the means for changing the amplitude of these records at the will of the operator, without necessitating the changing of the means to produce the air-waves.

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

1. In a phonographic recorder, a vibrating diaphragm, recording means, means for yieldingly suspending said recording means independently of the diaphragm, means to permit the position of the recording means to be varied relatively to the suspending means, whereby the amplitude of the undulations may be varied, and means to connect said suspending means to the diaphragm.

2. In a phonographic recorder, a vibrating diaphragm, a recorder proper associated therewith, means for yieldingly suspending the recorder proper independently of the vibrating diaphragm, means for transmitting the vibrations of said diaphragm to said recorder proper, and a mounting for the recorder proper to permit the position of the recorder proper to be varied in relation to said suspending means, whereby to increase or decrease the amplitude of the recorded lines.

3. In a phonographic recorder, a vibrating diaphragm, a recorder proper associated therewith, means for yieldingly suspending the recorder proper independently of the vibrating diaphragm, means for transmitting the vibrations of said diaphragm to said recorder proper, and a connection between the recorder proper and said suspending means, whereby the position of the recorder proper may be shifted relatively to said suspending means to increase or decrease the amplitude of the recorded lines.

4. In a phonographic recorder, a vibrating diaphragm, a recorder proper associated therewith, means for yieldingly suspending the recorder proper independently of the vibrating diaphragm, means for transmitting the vibrations of said diaphragm to

said recorder proper, and means for slidably mounting the recorder proper upon the suspending means, whereby the position of the recorder proper may be varied in relation to said suspending means to vary the amplitude of the recorded lines.

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5. In a phonographic recorder, a vibrating diaphragm, a siphon, means for suspending said siphon independently of the diaphragm, a connection between said suspending means and said diaphragm, and means to permit the position of said siphon relatively to said suspending means to be changed, whereby to vary the amplitude of the recorded lines.

6. In a phonographic recorder, a vibrating diaphragm, a siphon, a support for said siphon yieldingly mounted independently of the diaphragm, a connection between said support and said diaphragm, and means to permit the position of said siphon relatively to said suspending means to be changed, whereby to vary the amplitude of the recorded lines.

In testimony whereof I affix my signature in presence of two witnesses.

ISIDOR KITSEE.

Witnesses:

MARY C. SMITH,  
EDITH R. STILLEY.