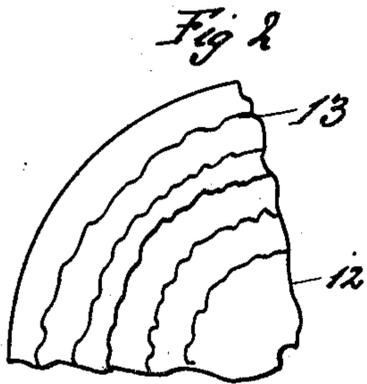
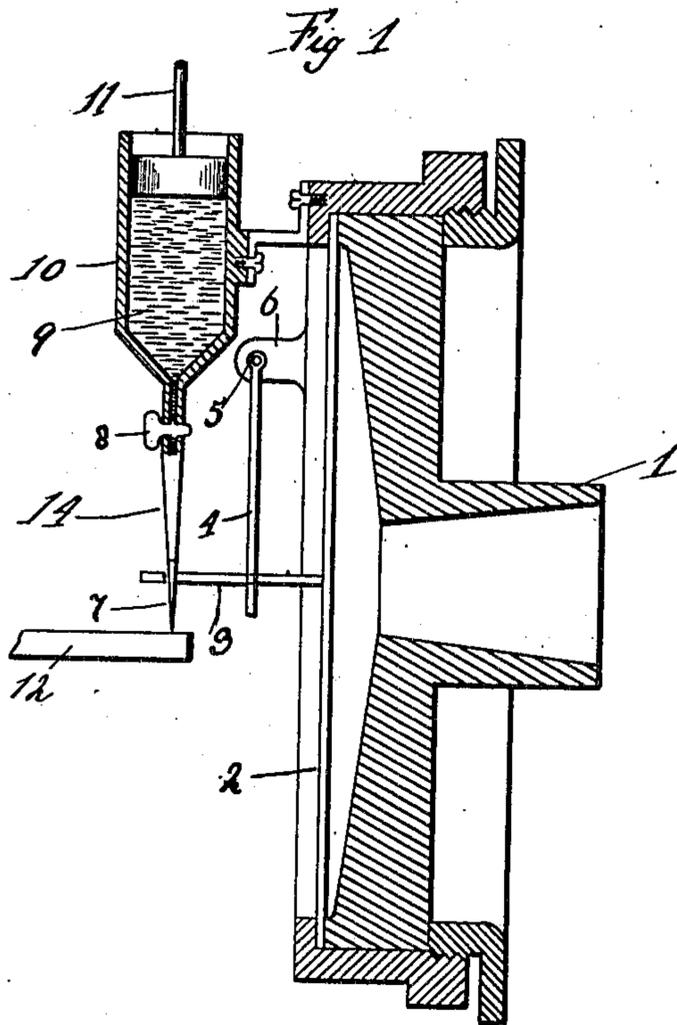


No. 871,511.

PATENTED NOV. 19, 1907.

I. KITSEE.
PRODUCTION OF SOUND RECORDS.
APPLICATION FILED MAY 17, 1907.



Witnesses
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PRODUCTION OF SOUND-RECORDS.

No. 871,511.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed May 17, 1907. Serial No. 374,213.

To all whom it may concern:

Be it known that I, ISIDOR KITSEE, 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 Production of Sound-Records, of which the following is a specification.

My invention relates to the production of sound records.

Most of the sound-records are to-day produced by what is called the "cutting-stylus", and the systems now employed differ from each other in that one reproduces the sound-waves by the depth of the cut and the others reproduce these sound-waves by removing an etch-resisting film on a solid plate. In all these cases a resistance is offered to the movements of the stylus, and through this resistance these movements are greatly retarded. The records therefore cannot reproduce the voice in its natural amplitude. It is the aim of my invention to obviate these difficulties.

As it is necessary to illustrate some means, whereby my invention may be carried out, I have illustrated in the accompanying drawing a simple arrangement to produce the undulatory line, it being understood that the details of the arrangement may differ without departing from the scope of my invention.

In the drawing, Figure 1 is a cross section of a recording mechanism attached to the vibrating diaphragm. Fig. 2 is a plan view of part of a record.

In Fig. 1, 1 is the mouth piece; and 2 the vibrating diaphragm connected to the guide 3. This guide is yieldingly guided by the lever 4 supported at 5 by the projection 6. 10 is a reservoir containing the fluid 9; 8 a valve to open or close the orifice of said reservoir; 11 are the means to force the fluid out of said reservoir; 14 is a flexible connection connecting the orifice 7 with the reservoir 10; 12 is the material adapted to have deposited thereon the opaque line; and 13 are the recording lines.

In experiments, I found that it is best to produce the line out of diluted ink of the variety known in commerce as "india ink" and generally used for the production of drawings. For the material on which the

line is deposited, I found that glass answers the purpose best. It is obvious that the glass plate has to be moved in the usual manner and I have not illustrated the means to move this plate, because such means are well known to persons versed in the art.

After the record is produced in the manner aforesaid, the plate is subjected, preferably, to what is known in the art as the "photo engraving process", whereby a negative may be produced in suitable metal and wherefrom the copies may then be reproduced in any desired manner.

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

1. The method of reproducing sound waves in permanent records, which consists in causing a fluid, opaque to the rays of light, to be deposited in accordance with the vibrations of a diaphragm actuated by said sound waves on a material transparent to said rays of light.

2. The method of producing sound records, which consists in causing to be deflected the flow of a fluid opaque to the rays of light, in accordance with the vibrations of a diaphragm, and causing the so deflected opaque fluid to be deposited on a solid surface transparent to said rays of light.

3. The method of producing sound records, which consists in causing a material, colored so as to be opaque to the rays of light to be deposited on a transparent surface, in accordance with the vibrations of a phonographic diaphragm, and causing then to be produced a photographic copy of said deposited material.

4. The method of producing sound records without actual contact of a stylus connected to the diaphragm, which consists in causing said stylus to guide the orifice of a reservoir containing an opaque fluid, causing said fluid to be deposited on the surface of a transparent material, and causing the so produced record to be reproduced with the aid of the photo-gravure process.

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

ISIDOR KITSEE.

Witnesses:

MARY C. SMITH,
ALVAH RITTENHOUSE.