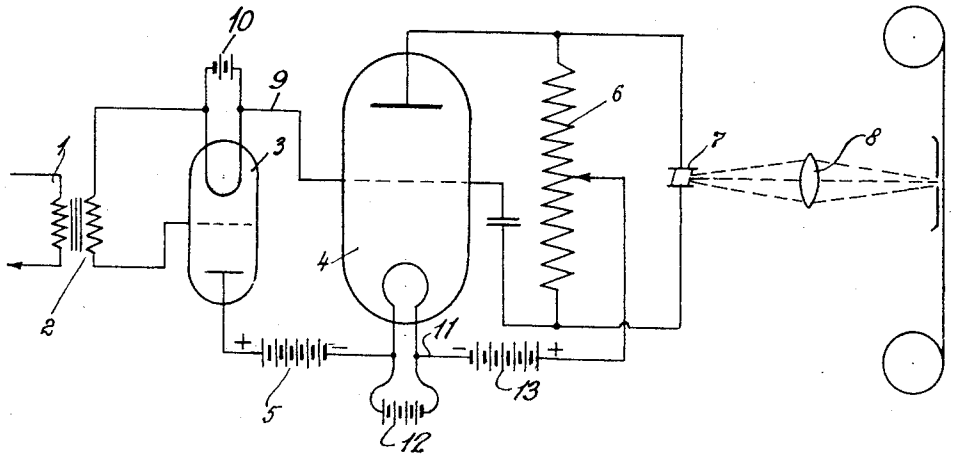
Dec. 8, 1931. H. J. KÜCHENMEISTER 1,835,226

METHOD OF AND APPARATUS FOR MAKING PHOTOGRAPHIC PHONOGRAPH RECORDS

Filed Jan. 3, 1928



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Patented Dec. 8, 1931 1,835,226

UNITED STATES PATENT OFFICE

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METHOD OF AND APPARATUS FOR MAKING PHOTOGRAPHIC PHONOGRAPH RECORDS

Application filed January 3, 1928, Serial No. 244,332, and in Germany January 3, 1927.

My invention relates to a method of, and apparatus for, making photographic phonograph records, that is, recording sound vibrations by photographic means, and it is an object of my invention to provide an apparatus of this type in which the necessity of high amplification is eliminated. To this end, I utilize as the source of light the luminous discharge of a vibrating crystal, such as a quartz rod.

The known method of the type above referred to has the disadvantage that it operates with a glow-light discharge and considerable amplification is necessary for controlling such discharge. On the other hand, by utilizing a vibrating crystal as in my invention, the need for such amplification is eliminated.

In performing my novel method, I may provide a high-frequency generator for causing the luminous discharge of the crystal, and I may arrange the crystal in a rarefied or compressed gas other than air, or rarefy or compress the air by which the crystal is surrounded. Any optical means, for instance, a condenser lens, may be provided for applying the light to a sensitized layer.

For controlling the light intensity by sound intensity the high-frequency vibration which supplies energy to the crystal is so influenced by the sound vibration that its electric amplitudes are proportional to the sound intensities to be received. This may be performed by any method for influencing electric vibration of high-frequency transmitters.

In the drawing, an apparatus in which my method is performed is illustrated diagrammatically by way of example.

Referring now to the drawing, 1 is a microphone transformer, the microphone not being shown, 3 is an amplifier, 5 is an auxiliary battery, 4 is a high-frequency generator, 6 is a tuning circuit, 7 is a crystal, and 8 is a condenser lens.

9 is the circuit of the filament in the tube 3, with a battery 10. The circuit 9 is connected with the grid of the tube 4. 11 is the circuit of the filament in the tube 4, with a battery 12, and 13 is a battery in the circuit connecting the filament with the tuning circuit 6.

The current variations effected in the microphone by the sound, speech or the like, are amplified and the amplified vibrations are impressed on the high-frequency generator 4. In consequence of the varying amplitude of the latter the crystal discharges light of varying intensity and the intensity variations are recorded.

It is understood that I am not limited to employing a crystal as the source of light as any body able to emit luminous discharges may be used for the same purpose.

I claim:

1. An apparatus for recording sounds by photographic means comprising a circuit, means for varying the current in said circuit by impressing acoustic vibrations thereon, and a light-emitting crystal in said circuit of which the intensity of light emitted is governed by the variations of the current in said circuit.

2. An apparatus for recording sounds by photographic means comprising a circuit, means for varying the current in said circuit by impressing acoustic vibrations thereon, a light-emitting crystal in said circuit of which the intensity of light emitted is governed by the variations of the current in said circuit, and means for concentrating the light emitted by said crystal.

In testimony whereof I affix my signature.

HEINRICH J. KÜCHENMEISTER.