Patented Mar. 6, 1934 1,949,840

UNITED STATES PATENT OFFICE

1,949,840

SOUND REPRODUCING METHOD

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No Drawing. Application February 17, 1930, Serial No. 429,220. In France July 24, 1929

4 Claims. (Cl. 274—4)

It has already been proposed for the purpose of registering sounds, noises, music, words or otherwise produced vibrations, to use a steel wire passing through a magnetic field the variations of which are dependent upon the vibrations of a microphone.

Devices hitherto constructed in accordance with the foregoing method do not appear to have given perfect results and it would seem as if one of the chief difficulties encountered arose from the mutual influence of adjacent magnetized masses. On the other hand, the required use of a wire, offering some resiliency so as to permit of the same being handled, bars the use of special alloys which, while but little ductile, would be endowed with a higher magnetic susceptibility and a steadier power of resistance.

The object of this invention is to provide for the replacing of the wire by a special strip adapted to do away with the above mentioned inconveniences and to ensure a number of further advantages.

I have found that the strip used for registering, according to the well known method, is advantageously formed of a resilient support or backing made of nonmagnetic material and one face of which is covered with iron, steel or a special alloy endowed with the magnetic properties best calculated to foster registration and reproduction.

The portion forming the backing may be made of paper and the magnetic metal may be laid on the surface thereof, either as a thin strip stuck thereon or as metal powder or filings fixed thereon by any suitable means. For this purpose any of the common methods used in metallized paper manufacturing practice may be used, as well as the well known method of spray metallization or any other process. I may also substitute for the powder or filings elements of small size but of known and defined shape such as, for instance, suitably sized wire elements or parts of any other shape.

In all cases, I am able, at the time when such elements are being fixed on the backing, to ensure their setting in a predetermined direction by causing a constant magnetic field to take action thereon, the resulting permanent magnetization being next annulled by a well known method.

In order to protect said sensitive layer, which might prove frail, I may cover it with a second very thin strip or layer of nonmagnetic material fixed by any suitable means to the backing, or varnished, or enamelled on.

The use of paper for constituting the strip or layer is indicated merely as an example and the paper may be replaced by any other nonmagnetic material and even by metal.

The strip or layer, so made and serving for registering, may be holed, notched or indented so as to ensure a steady drive or feed. It may also be goffered in such a manner that, while remaining sufficiently resilient or yielding, it will permit of the various turns being kept spaced on being wound on the drum.

The strip may also include a free portion arranged in any suitable manner so as to permit of notes, references, drawings or photographic images being inscribed or imprinted by any convenient method. In this manner, such bands or strips will be usable also for kinematographic registering.

In the latter case I may use a transparent backing and cause the magnetic metal element to be laid only on part of the surface, or again, where possible, make use of the images through reflection.

Having now particularly ascertained and described the nature of my said invention as well as the manner in which the same is to be performed I declare that what I claim is:

1. The method of forming a magnetic sound record strip composed of a backing of non-magnetic material and an active magnetic layer composed of a powder of magnetic material which comprises utilizing a constant magnetic field for setting the magnetic material as it is laid upon the backing material and thereafter annulling the resultant permanent magnetization.

2. The method of forming a magnetic sound record strip composed of a non-magnetic backing material and a layer of magnetic particles which comprises subjecting said particles during their application to said backing to a constant magnetic field for arranging them in a definite relation to said backing.

3. The method of forming a magnetic sound record strip composed of a backing of non-magnetic material and an active magnetic layer composed of a powder of magnetic material which includes laying said magnetic material upon said backing, and subjecting it to a constant magnetic field for setting its particles in a predetermined direction during their application to said backing.

4. The method of forming a magnetic sound record strip composed of a backing of non-magnetic material and an active magnetic layer composed of a powder of magnetic material which includes laying said magnetic material upon said backing, subjecting it to a constant magnetic field for setting its particles in a predetermined direction, and protecting the active layer thus formed by the addition of a second layer of nonmagnetic material.

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