

No. 851,311.

PATENTED APR. 23, 1907.

E. T. PALMER.
TALKING MACHINE.
APPLICATION FILED AUG. 31, 1906.

Fig. 1.

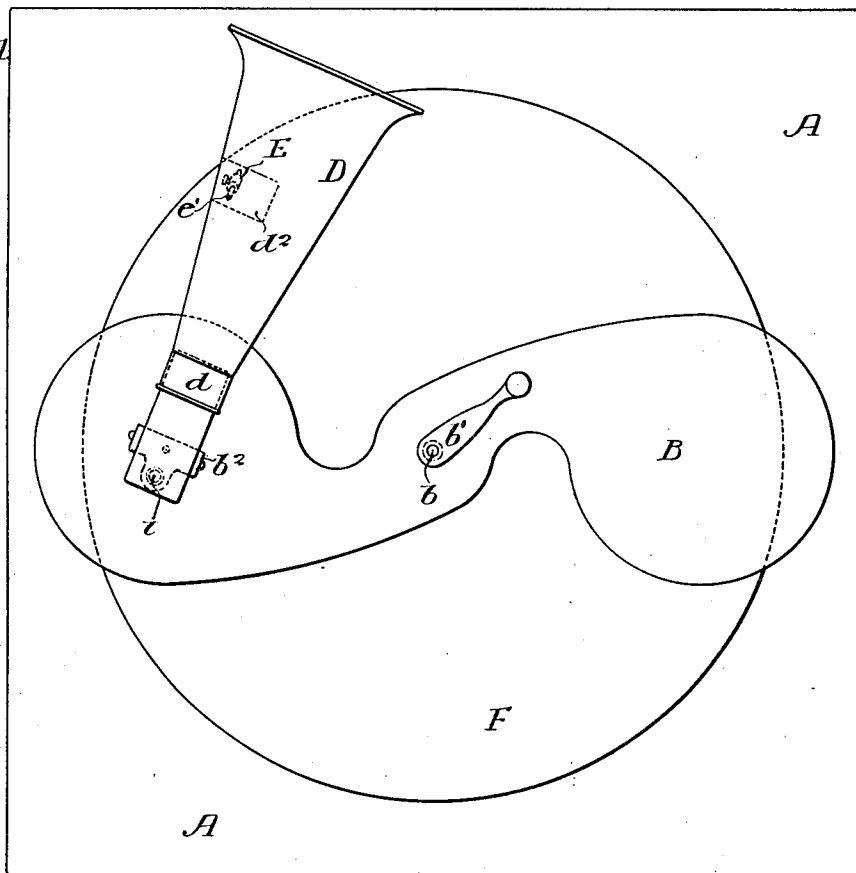


Fig. 2.

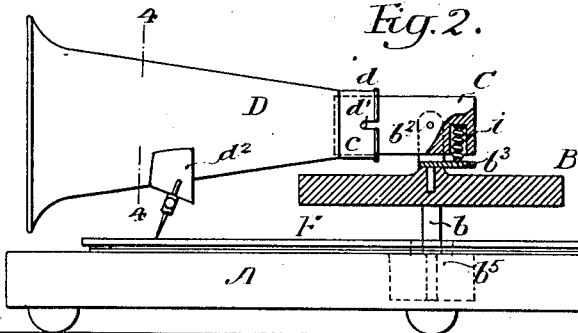


Fig. 3.

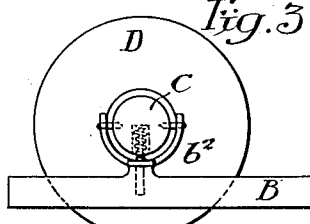


Fig. 4.

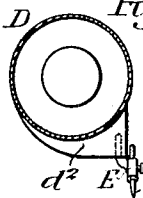


Fig. 5.

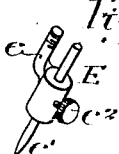


Fig. 6.

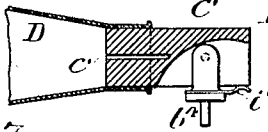


Fig. 7.



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TALKING-MACHINE.

No. 851,311.

Specification of Letters Patent.

Patented April 23, 1907.

Application filed August 31, 1906. Serial No. 332,729.

To all whom it may concern:

Be it known that I, EDWARD T. PALMER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Talking-Machines, of which the following is a specification.

One object of my invention is to provide a sound recording and reproducing machine in which the stylus and its supporting member shall be revolubly supported relatively to a stationary record, which may be of the ordinary disk type.

It is further desired to provide a device commonly known as a "talking machine," especially designed for use with records of the disk form, which shall have but few parts and these of a relatively simple and inexpensive nature. I also desire to produce a talking machine which shall require but little attention and be of such a nature as to not easily get out of order.

These objects I attain as hereinafter set forth, reference being had to the accompanying drawing, in which:—

Figure 1, is a plan view of the machine made in accordance with my invention; Fig. 2, is a side elevation, partly in section, of the device shown in Fig. 1; Fig. 3, is an end view; Fig. 4, is a sectional view on the line 4—4, Fig. 2; Fig. 5, is a perspective view of the stylus; and Figs. 6 and 7, are views of a modification.

In the above drawing, A is a base or stand of any suitable form having at its center a bearing in which is removably supported a vertical spindle *b*. This spindle has at its upper end a crank *b'*, there being also fixed to it and extending in a substantially horizontal plane, a relatively heavy and preferably metallic plate B, which may advantageously be of the elongated shape shown in the figures, although I do not limit myself to such form. On one of the lobes of this plate is carried a U-shaped or forked piece *b''* movable on a vertical pivot.

A block C is pivoted to the arms of the U-shaped piece *b''*, as illustrated clearly in Figs. 2 and 3, and on the end of this block is secured the horn D, the horn in the present instance having a reduced portion *d* which passes over the end of the block C and is prevented from turning thereon by a pin *c* on the block which extends into a slot *d'* in the horn.

Directly secured to a projection *d''* on the

horn D is a stylus holder E; this holder E has a screw threaded arm which enters an opening in the projection *d''*, the stylus *e'* passes through the holder and is held in place by a set screw *e''*. The shape of the stylus holder may be modified if desired.

F is the record disk which is mounted on the base A, preferably on a sheet of felt or other soft material, as indicated in Fig. 2. The record disk is stationary and the horn with the stylus turn on the spindle *b* as a pivot.

Mounted between a projection *b''* and the block C is a coiled spring *i*, the spring entering a cavity in the block, as illustrated in Fig. 2. This spring tends to keep the stylus down onto the record, overcoming the centrifugal force due to the rotation of the metallic plate B which carries the horn and stylus.

It will be seen that there is a direct connection between the stylus and the horn, thus I dispense with an intermediate carrier.

In some instances the block C may be permanently secured to the horn D, but I preferably make it detachable, as shown.

In Figs. 6 and 7, I have illustrated a modification in which there is a saw kerf cut in the block C' into which projects a standard extending from the pivot plate *b''*. In Fig. 6, I have also shown a flat spring *i'* in place of the coiled spring illustrated in Fig. 2. The block C' in this instance is slotted at *c'* so that the end of the block will yield when the horn is forced over it, thus there is sufficient elasticity in the block to hold the horn rigidly in position without other fastenings.

When it is desired to operate the machine the spindle *b* with the plate B and its parts is removed from the base A, after which a record disk F is placed on said base concentric with the bearing *b''*, said spindle *b* and its attached parts are then replaced and the stylus *e'* permitted to rest upon the disk F. On revolving the plate B by turning the crank *b'* the stylus, which is carried by the horn, follows the spiral record groove in the disk, causing vibration of the horn which in turn causes sound waves to be produced. The sound waves are reproductions of the waves originally recorded on the disk, being due to the co-operation of the stylus and its parts with the record in the manner understood by those skilled in the art.

Owing to the fact that the forked support b^2 is free to move on a vertical pivot the horn D is free to move both vertically and horizontally so as to freely follow the spiral record groove from the periphery of the disk to a point adjacent to the center thereof.

Under operating conditions the records reproduced by this instrument are found to be clear as well as of suitable intensity, and it is obvious that the plate B can be turned at any desired speed to give a suitable reproduction of the record.

It is to be noted that the device has but few parts and even these are of the simplest and inexpensive construction.

In some instances any suitable device which will cause the sound waves to be reproduced can be used in place of the horn, although I prefer to use a horn in most instances.

I claim:—

1. The combination of a support, a stationary disk thereon, a revoluble member having turning means, a sound reproducer carried by said revoluble means, with a stylus mounted on said sound reproducer, substantially as described.

2. The combination of a support, a stationary record disk thereon, a revoluble member having a supporting spindle concentric with said disk, a sound reproducer on said member movable on a vertical pivot, and a stylus carried by said sound reproducer placed to engage the disk, substantially as described.

3. The combination of a support, a stationary disk thereon, a revoluble member having turning means, and a horn carried by said member, with a stylus on the horn, substantially as described.

4. The combination of a support, a stationary disk thereon, a revoluble member, a horn pivoted to said revoluble member, a stylus carried by the outer end of the horn and bearing directly on the disk, a spring tending to force the horn and its stylus towards the disk, substantially as described.

5. The combination of a support, a stationary disk thereon, a revoluble member having a supporting spindle concentric with the disk, a forked piece pivoted to the said member, a horn pivoted to the forked piece, a stylus carried by the horn, and a spring tending to force the stylus onto the record disk, substantially as described.

6. The combination of a support, a stationary disk thereon, a revoluble member having a supporting spindle concentric with the disk, a pivoted piece mounted on the revoluble member, a block pivoted to said

piece, a horn secured to the block, and a stylus carried by the horn, substantially as described.

7. The combination of a support, a stationary disk thereon, a revoluble member having a supporting spindle concentric with said disk, a piece pivoted to said member, a block pivoted to the said piece, a horn detachably secured to the block, and a stylus secured to the horn and bearing upon the record disk, substantially as described.

8. The combination of a support, a stationary disk thereon, a weighted revoluble member, a forked piece pivoted to said member, a block pivoted to the forks of said piece, a spring mounted between an extension of said piece and the rear portion of the block, a horn secured to the opposite end of the block, a stylus secured to a projection on the horn and bearing upon the record, substantially as described.

9. The combination of a support, a stationary disk thereon, a revoluble member, means for turning said member, a horn carried by said member, a stylus holder perforated for the passage of the stylus and having a screw threaded arm arranged to enter an opening in the projection on the horn, substantially as described.

10. The combination of a supporting structure having on it a relatively stationary record disk, with a reproducer removably mounted above said disk, and means for revolving said reproducer in a substantially horizontal plane, substantially as described.

11. The combination of a stationary record, a reproducer removably supported adjacent to said record, and means for revolving said reproducer, at any desired speed, with its stylus in engagement with the record, substantially as described.

12. A talking machine comprising a relatively fixed disc record, a reproducer movable to follow the record grooves in said disc, and a pivotal support for said reproducer in axial alignment with the axis of said disc.

13. A talking machine comprising a relatively fixed record disc, a support pivoted in axial alignment with the axis of said disc, and a reproducer supported by said support and movable around the axis of said record disc and toward and from the axis of said record disc to follow the record groove thereon.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

EDWARD T. PALMER.

Witnesses:

WILL. A. BARR,
JOS. H. KLEIN.