No. 880,369. PATENTED FEB. 25, 1908.

W. N. DENNISON.

TILTING TURN TABLE FOR SOUND RECORDING AND REPRODUCING MACHINES.

APPLICATION FILED JAN. 24, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

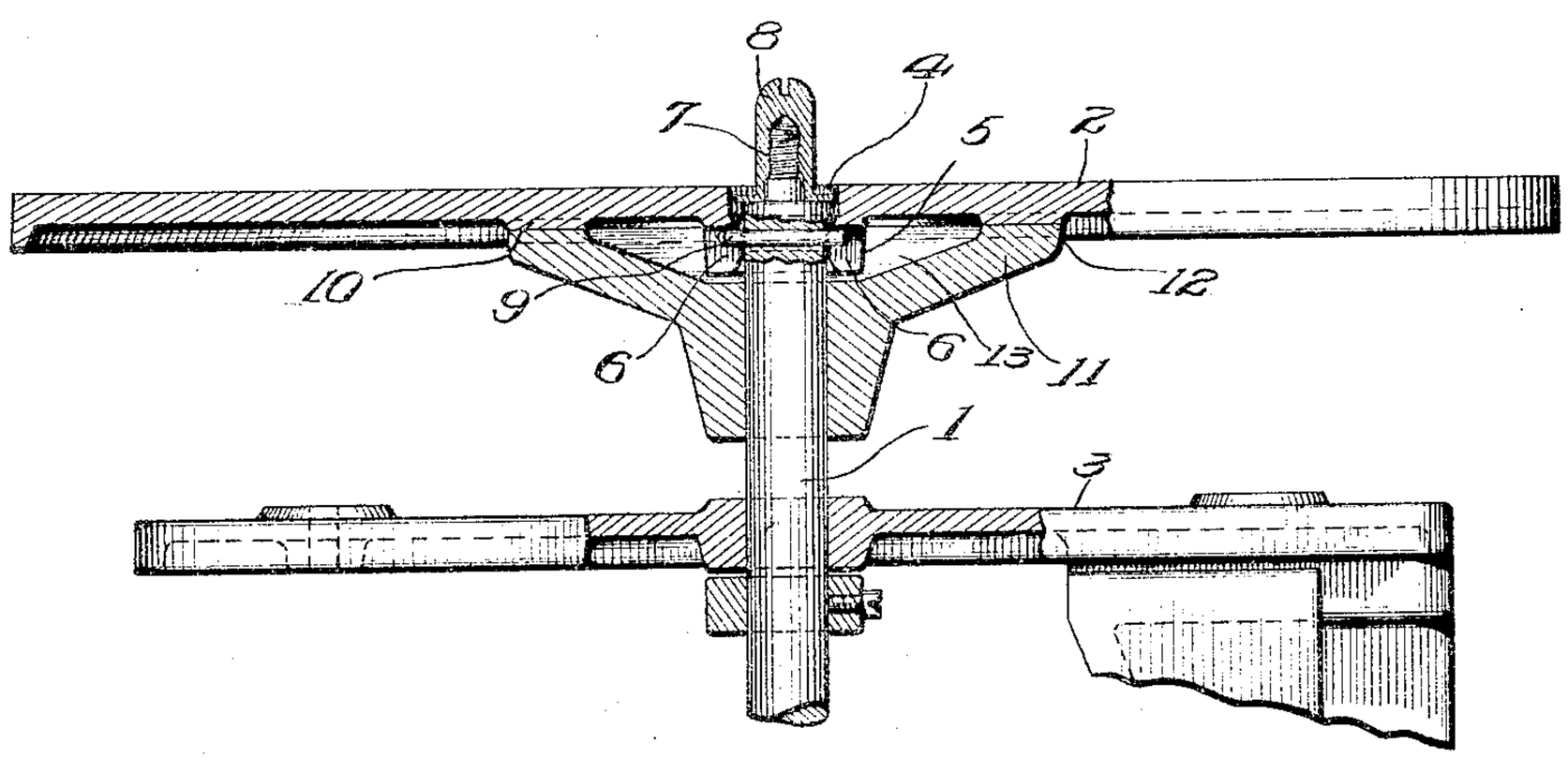
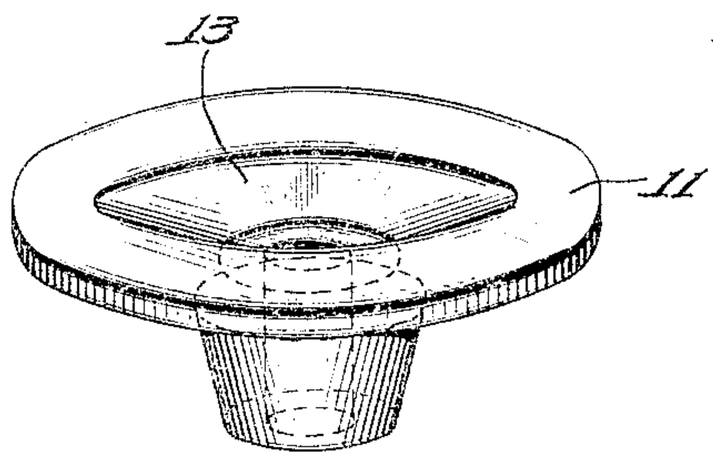


Fig 2.



WITNESSES:
F. J. Hartman.
Alston B. Moulton

INVENTOR
Wilburn N. Dennison
BY Howe & Hall.
ATTORNEY.

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2 SHEETS—SHEET 2.

Fig. 3.

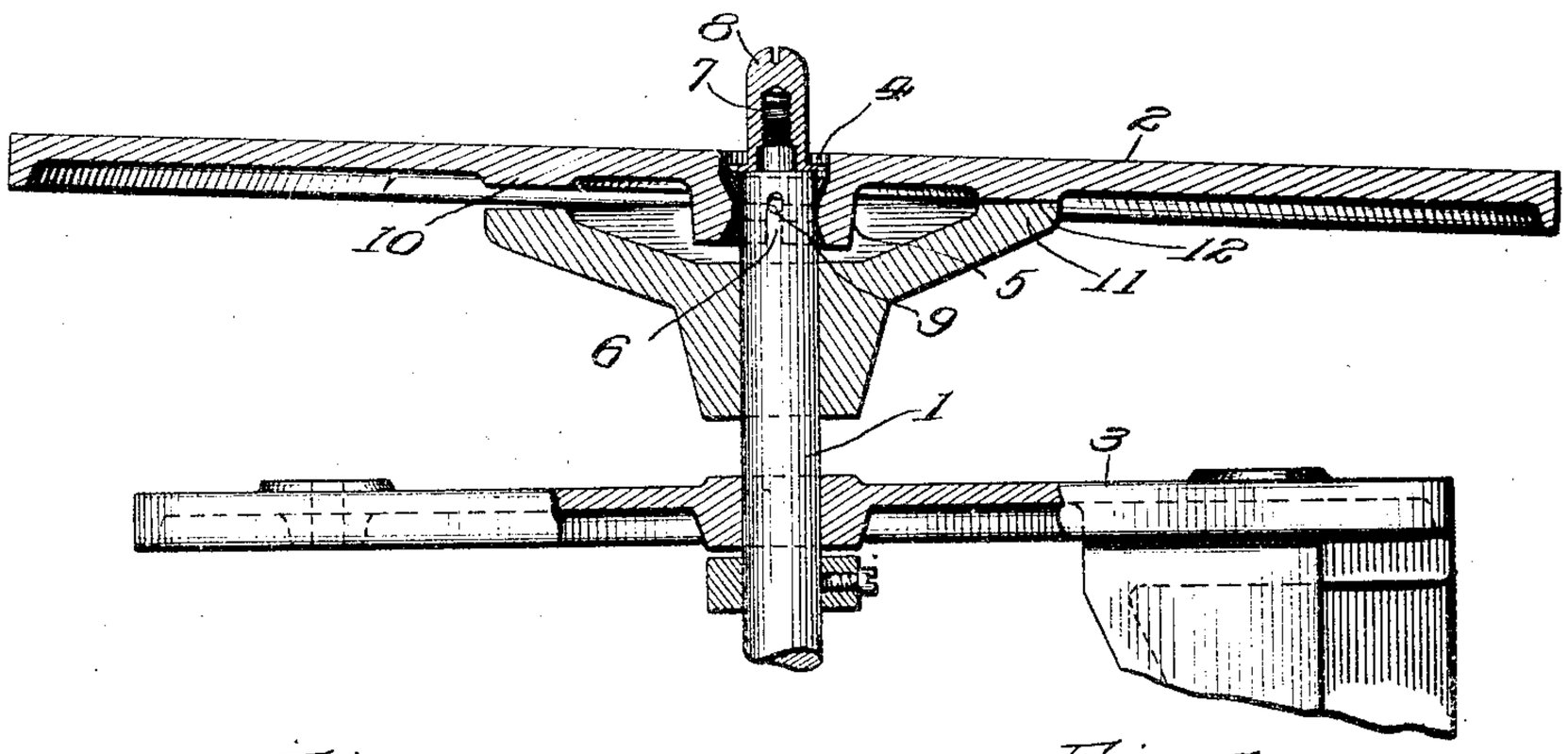


Fig. 4.

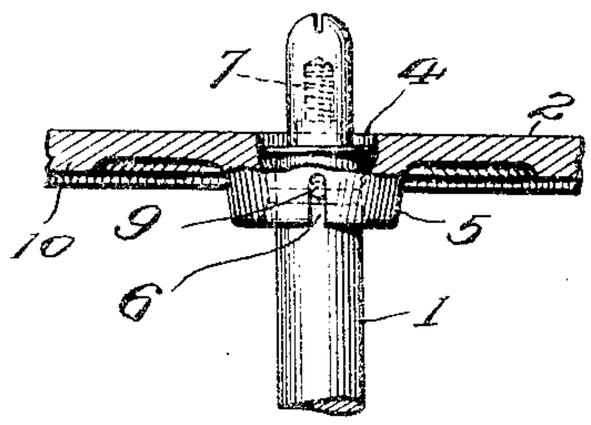
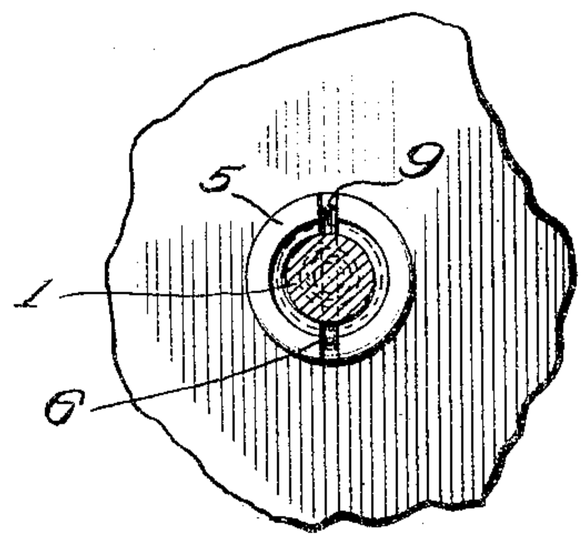


Fig. 5.



WITNESSES:
F. J. Hartmann
Alston B. Moulton

INVENTOR
Wilburn N. Dennison.
BY Howe & Ellis.
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILBURN N. DENNISON, OF MERCHANTVILLE, NEW JERSEY, ASSIGNOR TO VICTOR TALKING MACHINE COMPANY, A CORPORATION OF NEW JERSEY.

TILTING TURN-TABLE FOR SOUND RECORDING AND REPRODUCING MACHINES.

No. 880,369. Specification of Letters Patent. Patented Feb. 25, 1908.

Application filed January 24, 1907. Serial No. 353,775.

To all whom it may concern:

Be it known that I, WILBURN N. DENNISON, a citizen of the United States, and a resident of the borough of Merchantville, county of Camden, and State of New Jersey, have invented certain new and useful Improvements in Tilting Turn-Tables for Sound Recording and Reproducing Machines, of which the following is a full, complete, and exact disclosure.

One object of this invention is to provide a mounting for a turn-table used with the disk type of sound recording and reproducing machines, which will permit the turn-table to be tilted out of its normal position upon its driving spindle without bringing any undue stress upon the spindle to bend it.

Further objects of my invention are to support the turn-table independently of the spindle by which it is rotated, without having any relative motion between the said parts; to render this portion of the mechanism of a talking machine absolutely noiseless and frictionless; to simplify the construction and to reduce the cost of manufacture.

This invention consists in the novel construction, combination and arrangement of parts hereinafter described and more particularly pointed out in the claims and illustrated in the accompanying drawings, in which

Figure 1 is a central vertical section of a device constructed in accordance with this invention; Fig. 2 is a perspective view of a detail of the device; Fig. 3 is a vertical section of the device showing the turn-table in a tilted position; Fig. 4 is an elevation, partly in section of a central fragment of the device; and Fig. 5 is a bottom view of Fig. 4.

Referring to the drawings, the spindle 1 drives the turn-table or record support 2 which is rotatably mounted as usual in the frame 3 of the machine and is actuated by any suitable means. The record support 2 is provided with a central aperture 4 and with a downwardly extending hub 5, provided with oppositely disposed radial slots 6 in the lower edge thereof. The said aperture 4 converges inwardly from both sides of the support. The said shaft 1 is provided with a reduced upper end 7 which is threaded to receive a nut 8. The nut 8 is in the form of an elongated cylinder having a screw slot at its upper end and a flange at its lower end which bears against the shoulder of the shaft and projects into the end of the aperture in the record support, and has a diameter greater than the smaller diameter of the aperture in the support so as to prevent the record support from being entirely withdrawn from the shaft without the removal of the nut. The nut also furnishes a bearing for the record when it is placed upon the record support. The upper end of the shaft is provided with a pin 9 which extends through the shaft and projects laterally therefrom and engages in the said slots 6 of the record support to form a means of rotating said support. The lower face of the record support 2 is provided with a downwardly facing circular track 10, concentric with the support. Rigidly secured to the shaft 1 below the record support is the disk 11, which is provided with an upwardly facing circular bearing 12 engaging against the said tracks of the record support to carry the same. The upper surface of the disk 11 is provided with a central recess 13 into which extends the said hub of the record support. With this construction in mind it is evident that the record support 2, when tilted upon its bearing, slides longitudinally upon its driving shaft, and the shape of the central aperture of the record support is such that no lateral pressure is brought to bear upon the driving shaft to bend it.

Having thus described my invention, what I claim and desire to protect by Letters Patent of the United States, is:

1. In a sound recording and reproducing machine, a record support, means for rotating the same, and a bearing for said record support rotated by said means, said record support being freely tiltable away from and towards said bearing.

2. In a sound recording and reproducing machine, a record support, means for rotating the same, a bearing for said support rotated by said means, said record support being freely movable away from and towards said bearing.

3. In a sound recording and reproducing machine, a record support, means for rotating the same, and a rigid bearing for said record support, rotated by said means, said support being freely tiltable away from and towards said bearing.

4. In a sound recording and reproducing machine, a record support provided with a central aperture, a driving spindle therefor extending through said aperture, and a

bearing for said record support rotated by said spindle, said record support being freely tiltable away from and toward said bearing.

5. In a sound recording and reproducing machine, a record support provided with a doubly tapering central aperture, a driving spindle therefor extending through said aperture and a bearing for said record support rotated by said spindle, said record support being freely tiltable away from and towards said bearing.

6. In a sound recording and reproducing machine, a record support provided with a doubly tapering central aperture and a slot extending therefrom, a driving spindle therefor extending through said aperture, a projection upon said spindle engaging said slot, and a bearing for said record support rotated by said spindle, said record support being freely tiltable upon said bearing.

7. In a sound recording and reproducing machine, a record support provided with a bearing surface and a central aperture, a driving spindle therefor extending through said aperture, a disk rigidly fixed upon said spindle and having an upwardly facing circular bearing for said track, said record support being freely tiltable towards and away from said bearing.

8. In a sound recording and reproducing machine, a record support provided wi h a downwardly facing bearing surface, a downwardly extending hub provided with a central aperture, a driving spindle therefor extending through said aperture, and a disk rigidly fixed upon said spindle and having an upwardly facing bearing and a central recess in its upper face, said record support being freely tiltable towards and away from said bearing.

9. In a sound recording and reproducing machine, a record support provided with a downwardly facing circular bearing surface, a downwardly extending hub provided with a central aperture and a slot in the lower edge thereof, a driving spindle therefor extending through said aperture, a projection from said spindle engaging in said slot, a disk rigidly fixed upon said spindle, having an upwardly facing bearing for said bearing surface, and a central recess in its upper face, said record support being freely tiltable away from and towards said bearing.

10. In a sound recording and reproducing machine, a record support provided with a downwardly facing circular bearing surface a downwardly extending hub provided with a central aperture and a slot in the lower edge thereof, a driving spindle therefor extending through said aperture, a projection upon said spindle engaging in said slot, means upon said spindle for limiting the motion of said record support long tudinally thereof, a disk rigidly fixed upon said spindle and having an upwardly facing circular bearing for said bearing surface and a central recess in its upper face, said record support being freely tiltable from and towards said bearing.

11. In a sound recording and reproducing machine, a record support provided with a downwardly extending hub provided with a central aperture and a slot in the lower end thereof, a driving spindle therefor extending through said aperture, a projection upon said spindle engaging said slot, said spindle having a reduced upper threaded end, a nut upon said end bearing against the shoulder of said spindle and limiting the upward motion of said record support, a disk rigidly fixed upon said spindle and having an upwardly facing circular bearing for said record support and a central recess in its upper face, said record support being freely tiltable from and toward said bearing.

12. In a sound recording and reproducing machine, a record support provided with a downwardly facing circular bearing surface a downwardly extending hub provided with a central aperture and a slot in the lower edge thereof, a driving spindle therefor extending through said aperture, a projection upon said spindle engaging in said slot, said spindle having a reduced upper threaded end, an elongated cylindrical nut upon said end bearing against the shoulder of said spindle to limit the upward motion of the record support and to form a means for retaining a record upon said support, a disk rigidly fixed upon said spindle and having an upwardly facing circular bearing for said bearing surface and a central recess in its upper face, said record support being freely tiltable from and towards said support.

13. In a sound recording and reproducing machine, a record support provided with a central aperture, a driving spindle therefor extending through said aperture, a bearing for said record support rotated by said spindle, and means for limiting the motion of said record support with respect to said shaft, said means consisting of a nut secured to the end of said shaft and extending into and projecting upwardly from said aperture.

14. In a sound recording and reproducing machine, a record support provided with a central aperture, a driving spindle therefor extending through said aperture, a bearing for said record support rotated by said spindle and means for limiting the motion of said record support with respect to said shaft, said record support being freely tiltable with respect to said shaft, said means consisting of a nut secured to the end of said shaft and projecting upwardly from the face of the record support and adapted to receive a record thereover.

15. In a sound recording and reproducing machine, a record support provided with a central aperture, a driving spindle therefor extending through said aperture, a bearing

for said record support rotated by said spindle, means for limiting the motion of said record with respect to said shaft, said means consisting of a cylindrical nut secured to the end of said shaft and extending into said aperture and projecting above the face of said support to receive a record freely thereover, said nut being of greater diameter at its lower end than the small diameter of the aperture in the record support.

16. In a sound recording and reproducing machine, the combination with a record support provided with an aperture, of a spindle extending into said aperture, and means secured to said spindle for limiting the longitudinal motion of said record support with respect thereto, said record support being freely tiltable with respect to said spindle.

17. In a sound recording and reproducing machine, the combination with a record support provided with an aperture, of a spindle extending into said aperture, and a nut secured to the end of said spindle for limiting the longitudinal motion of said record support with respect to said spindle, said record support being freely tiltable with respect to said spindle.

18. In a sound recording and reproducing machine, the combination with a record support provided with a central aperture, of a spindle extending loosely through said aperture, and a nut mounted upon the end of said spindle and extending into said aperture for limiting the longitudinal motion of said record support with respect to said spindle.

19. In a sound recording and reproducing machine, a record support, means for rotating the same, and a rigid bearing for said record support in a plane parallel thereto rotated by said means, said record support being freely tiltable away from and towards said bearing.

20. In a sound recording and reproducing machine, a record support, means for rotating the same, a rigid bearing for said support in a plane parallel thereto rotated by said means, said record support being freely movable away from and towards said bearing.

21. In a sound recording and reproducing machine, a record support, means for rotating the same, and a rigid bearing for said record support in a plane parallel thereto rotated directly by said means, said support being freely tiltable away from and towards said bearing.

22. In a sound recording and reproducing machine, a record support provided with a central aperture, a driving spindle therefor extending through said aperture, and a rigid annular bearing for said record support surrounding said aperture and rotated directly by said spindle, said record support being freely tiltable away from and toward said bearing.

23. In a sound recording and reproducing machine, a record support provided with a doubly tapering central aperture, a driving spindle therefor extending through said aperture and a rigid bearing for said record support surrounding said aperture and rotated direct by said spindle, said record support being freely tiltable away from and towards said bearing.

24. In a sound recording and reproducing machine, a record support provided with a doubly tapering central aperture and a slot extending therefrom, a driving spindle therefor extending through said aperture, a projection upon said spindle engaging said slot, and a rigid bearing for said record support rotated direct by said spindle, said record support being freely tiltable upon said bearing.

25. In a sound recording and reproducing machine, a record support, a bearing for said record support, and means for rotating said record support and said bearing at the same speed, said support being freely tiltable away from and toward said bearing.

In witness whereof I have hereunto set my hand this 22nd day of January, A. D. 1907.

WILBURN N. DENNISON.

Witnesses:
HARRY COBB KENNEDY,
ALSTON B. MOULTON.