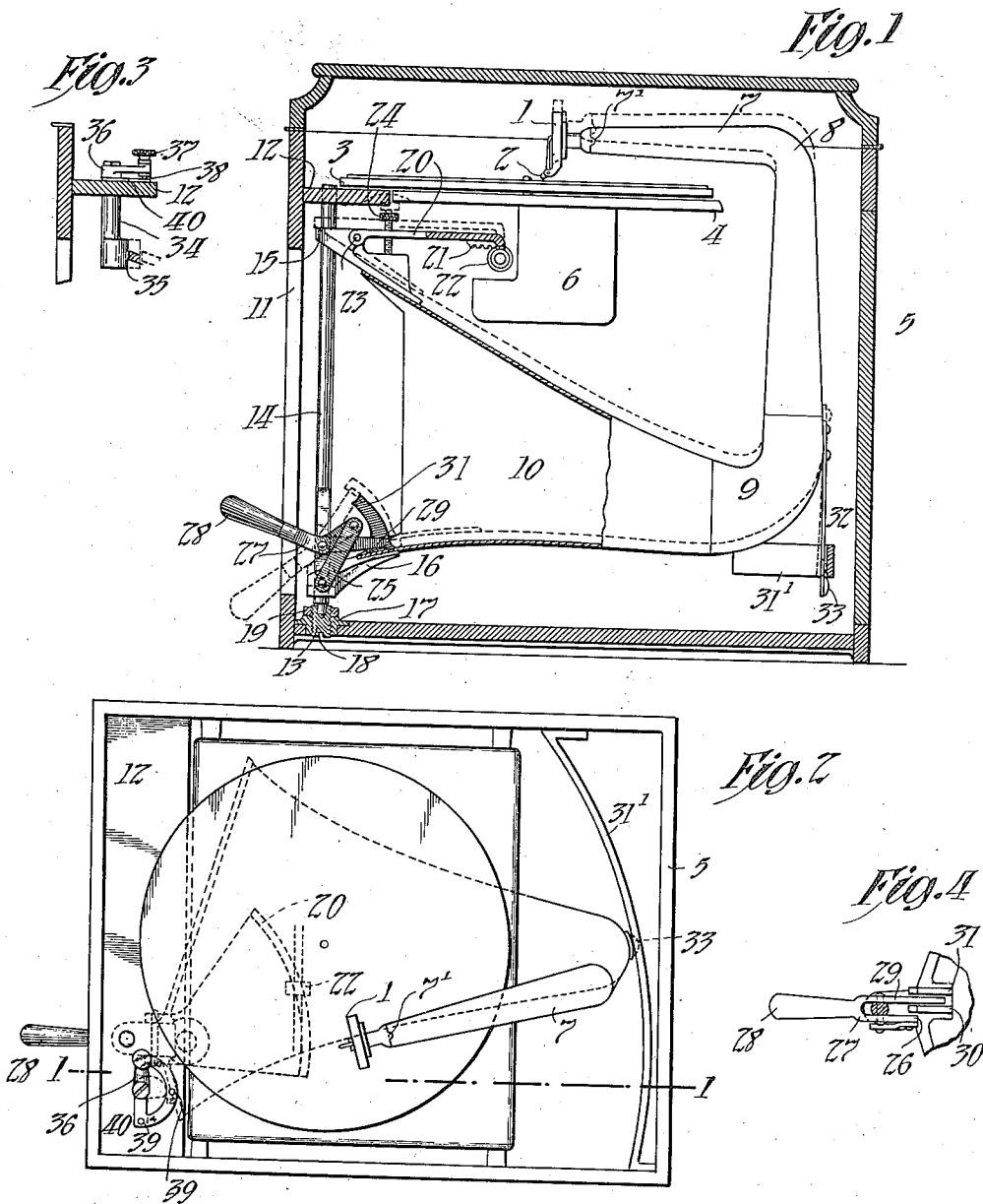


T. A. EDISON.  
 PHONOGRAPH OR TALKING MACHINE.  
 APPLICATION FILED FEB. 17, 1911.

1,184,333.

Patented May 23, 1916.



*Witnesses:*  
 Frank D. Lewis  
 Frederick Packman

*Inventor:*  
 Thomas A. Edison  
 by Frank E. Ayer  
 His Atty.

# UNITED STATES PATENT OFFICE.

THOMAS A. EDISON, OF LLEWELLYN PARK, WEST ORANGE, NEW JERSEY, ASSIGNOR  
TO THOMAS A. EDISON, INCORPORATED, OF WEST ORANGE, NEW JERSEY, A COR-  
PORATION OF NEW JERSEY.

## PHONOGRAPH OR TALKING-MACHINE.

1,184,333.

Specification of Letters Patent.

Patented May 23, 1916.

Application filed February 17, 1911. Serial No. 609,100.

*To all whom it may concern:*

Be it known that I, THOMAS A. EDISON, a citizen of the United States, and a resident of Llewellyn Park, West Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Phonographs or Talking-Machines, of which the following is a description.

My invention relates to phonographs or talking machines particularly of the type in which disk or flat records are operated upon, and preferably in which the sound conveying and amplifying horn is inclosed within a suitable cabinet; and in a general way, my invention resembles that disclosed in my application Serial No. 596,007, filed December 7, 1910, and entitled phonographs or talking machines. In accordance with my invention, the sound reproducer is carried by the sound conveyer, which is connected with the interior of the reproducer, the arm of the sound conveyer to which the reproducer is secured preferably being integral and continuous with the large amplifying horn. The conveyer is pivotally mounted or suspended adjacent the large exit end of the amplifier in such a manner that the conveyer and reproducer oscillate about an axis through the pivotal means referred to during the reproduction of the record, the mounting of the horn or amplifier being preferably such as also to permit a simple manipulation or adjustment of the same to remove the reproducer from operative position when it is desired to change the record. Also, in the preferred embodiment of my invention the lateral movement of oscillation of the sound conveyer and reproducer during the reproduction of a record is obtained by the engagement of mechanical means with co-acting driving means, the said mechanical means being secured to the sound amplifier and so mounted as to cause the desired feeding movement of the latter, this mechanical means and the driving means being disengaged by the adjustment of the sound conveyer which places the reproducer in inoperative position.

The principal object of my invention is to improve the means for placing the reproducer and feed in inoperative position, these means preferably imparting a direct bodily elevation to the conveyer.

Another object of my invention is to provide means whereby the reproducer may be readily brought to a position above the starting point of the record groove, these means preferably being adjustable so as to adapt the same for use with records of different sizes.

Other objects of my invention will appear more fully in the following specification and appended claims.

In order that my invention may be more fully understood, attention is hereby directed to the accompanying drawings forming part of this specification, and in which:—

Figure 1 represents a vertical cross-section and a side elevation of a phonograph or talking machine mounted in an inclosing cabinet and embodying one form of my invention; Fig. 2 represents a top plan view thereof, the cover of the casing being removed; Fig. 3 represents a side elevation of my improved stop, the parts of the casing to which the same is connected being shown in section; and Fig. 4 represents a plan view of my improved means for adjusting the sound conveyer, the supporting rod to which same are connected being shown in cross section.

In all of the views corresponding parts are designated by the same reference numerals.

Referring to the drawings, the sound reproducer 1 carries the stylus 2, adapted to reproduce a record carried by the horizontal turntable or record support 3, which is mounted upon the horizontal bed plate 4 within the cabinet 5. A suitable motor for rotating turntable 3 is mounted within a casing 6 supported from bed plate 4. The reproducer is secured to and carried by a horizontal arm 7 of the sound conveyer by a joint 7' permitting a limited up and down and also lateral movement of the reproducer with reference to the arm 7 of the sound conveyer. The arm 7 is rearwardly directed from the reproducer, as shown, to a bend 8, whence it descends vertically past the platform 4 and motor casing 6, being joined by the curved portion 9 to the forwardly directed amplifying exit portion 10 of the horn or conveyer, from the mouth of which the sound reproduced and conveyed is given forth through the opening 11 in the front

side of the cabinet into the atmosphere. The sound conveyer and amplifier extends, as shown, from the joint 7' to its mouth without containing a flexible joint. My invention is not limited to this particular construction, but I consider it preferable.

Rotatably mounted at its respective ends in the bracket or similar support 12 secured to the upper part of the front wall of the cabinet and in the support 13 in the bottom of the cabinet is a vertical rod 14 on which the sound conveyer is arranged to slide vertically while being held against movement about an axis at an angle to the rod. As shown in Figs. 1 and 2, the rod 14 extends through bracket members 15 and 16 secured to and projecting forwardly from the exit portion of the horn. In order to permit vertical adjustment of the rod 14, the support 13 therefor is threaded into the member 17 secured to the bottom of the cabinet and is provided in its lower end with a slot 18 whereby it may be readily rotated. 19 represents a lock nut for securing the support 13 in place.

For feeding the reproducer across the record surface, a sector 20 having gear teeth 21 upon the lower side thereof, as shown, is secured to bracket member 15, the teeth 21 being adapted to engage with a gear 22, preferably a worm, which is rotated by appropriate gearing from the motor contained within the casing 6. The sector 20 is preferably made adjustable with reference to the bracket 15 by securing the same to the said bracket by a horizontal pivot 23 and by mounting therein an adjustable thumb screw 24 adapted to bear on the upper surface of the said bracket.

Pivoted at one end to the bracket 16 is a link 25, which is pivoted at its other end to the inner end of one of the prongs 26 of a forked lever 27. This lever is pivoted intermediate its ends to the rod 14 and extends at its outer end through the opening 11 in the cabinet, being provided at its outer end with a handle 28. The portion of the rod 14 to which the lever 27 is secured is preferably flattened, as shown, and is engaged between the two prongs 26 and 29 of the said lever. As considerable strain would be cast on the pivots of the members 25 and 27 if no other means for preventing relative movement between the rod 14 and the sound conveyer were provided, I have provided the inner surface of the sound conveyer adjacent its exit end with two parallel inwardly projecting segments 30 and 31 adapted to slidably engage between them the prong 29 of the lever 27. It will be seen that the forked end of the lever and the link 25 constitute a toggle by which the horn and the reproducer carried thereby may be readily raised when the handle 28 is lowered. The handle 28, as well as serving to move the horn vertically

or along the axis of rod 14, provides a means for readily moving the same laterally when the teeth 21 are disengaged from the gear 22. It will be seen that when the sound conveyer is in its position corresponding to the engagement of the reproducer with the record surface, the said conveyer will receive all of its support from the pivot means at its mouth.

When the parts of the device are assembled in position, the screw 24 is adjusted until the gear teeth 21 of the sector 20 are in position to engage gear 22. The record having been put in place, the reproducer is let down upon the same, and the parts occupy the position indicated in full lines in Fig. 1. When the machine is operated, gear 22 drives the segment 20 through the teeth 21 to cause the conveyer to swing laterally about the axis of rod 14 and to feed the reproducer across the record surface. In this feeding movement the rod 14 carrying the sound conveyer rotates in its bearings 12 and 13. By reason of the engagement of the prong 29 of the lever 27 with the sound conveyer when the latter is in the position shown in solid lines in Fig. 1, further downward movement of the conveyer is impossible, and the weight of the same is thus carried by the rod 14, the weight of the reproducer alone exerting pressure upon the record through the stylus 2. The gear teeth 21 are held in mesh with the gear 22 by the weight of the sector, the pivotal connection of the sector with the amplifier permitting an easy engagement of the sector with the worm when the stylus 2 is first placed in contact with the record groove of the sound record. When it is desired to disengage the feed and lift the reproducer to disengage the stylus from the record, the sound conveyer may be raised by lifting the horizontal arm 7 of the conveyer, or it may be raised by manipulating the handle 28. When the said handle is depressed from its full line position, shown in Fig. 1, to the dotted line position, the lower end of the link 25 moves vertically upward, thereby elevating the sound conveyer bodily, lifting the reproducer from the record, and disengaging the teeth 21 from the gear 22. The parts may be held in this position and the reproducer moved across the record surface by the handle 28.

In order to resist undesired oscillation of the sound conveyer when the feed is disengaged, frictional means are provided, these means being operative only when the feed is disengaged and preferably comprising an arcuate track 31' and a resilient slide 32, the track 31' being secured to the casing concentrically with the rod 14. The slide 32 comprises a resilient arm secured at its upper end to the vertically extending part of

the sound conveyer and provided at its lower end on the surface opposing the track 31' with a button 33 of friction material. The slide 32 is so located with reference to the track that when the conveyer is in its lowermost position, the button 33 is below the track and the arm 32 is slightly spaced from the track. When the conveyer is raised the button 33 engages the track and the friction between these two members resists lateral pivotal movement of the conveyer.

As records are made of various diameters, commonly 10, 12, and 14 inches, it is desirable to provide some means, preferably adapted for use with any of such records, for readily bringing the reproducer over the starting point of the record groove adjacent the periphery of the record. In Figs. 2 and 3 I have shown an improved adjustable stop designed for this purpose. This stop comprises a vertical rod 34 rotatably mounted in support 12 and provided at its lower end with a cam 35 adjacent the edge of the exit portion of the sound conveyer. A crank 36 secured to the upper end of the rod 34 is provided at its forward end with a thumb piece 37 having in its lower end a pin 38 adapted to resiliently engage any one of the depressions 39 in the plate 40, which is secured to the support 12. By properly adjusting the crank 36, the cam 35 can be brought into such a position relatively to the edge of the exit portion of the sound conveyer, as to limit the outward movement of the conveyer and reproducer when the latter is positioned above the starting point of the record groove.

It is to be understood that I am not limited to the exact details herein shown and described, but—

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. In a phonograph or talking machine, the combination of a record support, a reproducer having a stylus, a sound conveyer carrying said reproducer and having an exit portion extending at an angle to the vertical, said stylus being mounted with sufficient freedom of movement relatively to said conveyer to permit the stylus to accommodate itself to surface irregularities in a record carried by said support, and means comprising a pivot member, said means coacting with said exit portion and constituting the sole support for said conveyer when the stylus is in operative position, and means for moving said conveyer along the axis of said pivot member to remove the stylus from operative position, substantially as described.

2. In a phonograph or talking machine, the combination of a record support, a reproducer having a stylus, a sound conveyer

carrying said reproducer and having an exit portion extending at an angle to the vertical, said stylus being mounted with sufficient freedom of movement relatively to said conveyer to permit said stylus to accommodate itself to surface irregularities in a record carried by said support, means coacting with said exit portion and constituting the sole support for said conveyer when the stylus is in operative position, said means comprising a member along the axis of which said conveyer is movable to remove the stylus from operative position and about the axis of which the conveyer is movable during the reproduction of a record mounted on said record support, and manually operable means coacting with said member for moving said conveyer, substantially as described.

3. In a phonograph or talking machine, the combination of a record support, a reproducer having a stylus, a sound conveyer carrying said reproducer and having an exit portion extending at an angle to the vertical, said stylus being mounted with sufficient freedom of movement relatively to said conveyer to permit said stylus to accommodate itself to surface irregularities in a record carried by said support, supporting means coacting with the exit portion of said conveyer, said conveyer being bodily movable along a line extending at an angle to said record support, but immovable about an axis transverse to said line, and means for moving said conveyer along said line to move said reproducer away from said record support, substantially as described.

4. In a phonograph or talking machine, the combination of a record support, a reproducer having a stylus, a sound conveyer carrying said reproducer and having an exit portion extending at an angle to the vertical, said stylus being mounted with sufficient freedom of movement relatively to said conveyer to permit said stylus to accommodate itself to surface irregularities in a record carried by said support, supporting means coacting with the exit portion of said conveyer, said conveyer being bodily movable along and about a line extending at an angle to said record support, but immovable about an axis transverse to said line, and means for moving said conveyer along said line to move said reproducer away from said record support, substantially as described.

5. In a phonograph or talking machine, the combination of a record support, a reproducer, a movable sound conveyer connected with said reproducer, and manually operable means coacting with the exit portion of said conveyer for moving the conveyer to shift the reproducer across or away from the surface of a record carried by said support, said means comprising a member movable relatively to said conveyer to cause

movement of the latter, substantially as described.

6. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer pivotally supported thereby and axially movable thereof, a reproducer connected with said conveyer, and manually operable means coacting with said conveyer for oscillating the same about the axis of said support and shifting the same along said axis, said means comprising a member movable relatively to said conveyer to shift the same along said axis, substantially as described.
7. In a phonograph or talking machine, the combination of a record support, a reproducer, a movable sound conveyer connected with said reproducer, and manually operable means coacting with the exit portion of said conveyer and comprising a single controlling member for moving the conveyer to shift the reproducer across or away from the surface of a record carried by said support, said member being pivotally movable relatively to said conveyer to cause said conveyer to move and carry the reproducer away from said record support, substantially as described.
8. In a phonograph or talking machine, the combination of a cabinet, an amplifying sound conveyer within said cabinet, a reproducer carried by said conveyer, said conveyer having a substantially horizontal amplifying exit portion, a vertical rod supported in said cabinet and slidably supporting said horn at the exit portion thereof, and a toggle connected with said rod and conveyer and provided with a handle for shifting said conveyer on said rod to move said reproducer out of operative position, substantially as described.
9. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer pivotally supported thereby and movable longitudinally thereof, a reproducer carried by said conveyer, and a toggle connected with said conveyer and provided with a handle for manually oscillating said conveyer about the axis of said support or shifting the same longitudinally of said support, substantially as described.
10. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer pivotally supported thereby and movable longitudinally thereof, the said conveyer being provided with projecting means, a reproducer carried by said conveyer, and a toggle connected with said conveyer and provided with a handle having an extension engaging said projecting means to prevent relative rotation between said toggle and said conveyer substantially as described.
11. In a phonograph or talking machine, the combination of a support an amplifying sound conveyer movable longitudinally thereof, a reproducer connected with said conveyer, feeding means connected with said conveyer, means adapted to coact with said feeding means to drive the same, said feeding and driving means being connected or disconnected by the movement of said conveyer longitudinally of said support, and means for frictionally resisting lateral movement of said conveyer when said feeding and driving means are disengaged, substantially as described.
12. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer pivotally supported thereby and movable longitudinally thereof, a reproducer connected with said conveyer, feeding means carried by said conveyer, means adapted to coact with said feeding means to drive the same, said feeding and driving means being disconnected by the movement of said conveyer longitudinally of said support, a fixed friction member, and a second friction member secured to said conveyer and adapted to engage said first named friction member to resist oscillation thereof when said feeding and driving means are disengaged, substantially as described.
13. In a phonograph or talking machine, the combination of a sound conveyer having an amplifying mouth portion, a reproducer connected to said conveyer, means movably supporting said conveyer, an adjustable stop adapted to be engaged by the mouth of said conveyer to limit the movement thereof, and means for adjusting said stop and yieldingly holding the same in adjusted position, substantially as described.
14. In a phonograph or talking machine, the combination of a sound conveyer having an amplifying mouth portion, a reproducer connected to said conveyer, means movably supporting said conveyer, an adjustable stop adapted to be engaged by said conveyer to limit the movement thereof, and means for adjusting said stop and yieldingly holding the same in adjusted position, substantially as described.
15. In a phonograph or talking machine, the combination of a record support, a reproducer, a sound conveyer carrying said reproducer and having an amplifying exit portion extending at an angle to the vertical, pivot means coacting with said conveyer and extending at an angle to said record support said pivot means constituting the sole support for said conveyer when the reproducer is in operative position, and means for moving said conveyer, said moving means comprising a member pivotally movable relatively to said conveyer and pivot means to shift said conveyer along the axis of said pivot means, substantially as described.

16. In a phonograph or talking machine, the combination of a record support, a reproducer, a sound conveyer carrying said reproducer and having an amplifying exit portion, pivot means coacting with said conveyer and constituting the sole support for said conveyer when the reproducer is in operative position, and unitary means for moving said conveyer and reproducer along the axis of said pivot means and in an arcuate path about said axis substantially as described.

17. In a phonograph or talking machine, the combination of a record support, a reproducer having a stylus, a sound conveyer carrying said reproducer, said stylus being mounted with sufficient freedom of movement relatively to said conveyer to permit said stylus to accommodate itself to surface irregularities in a record carried by said support, pivot means coacting with said conveyer and constituting the sole support therefor when the stylus is in operative position, means for shifting said conveyer along the axis of said first means for moving said stylus away from the surface of the record, and feeding means for moving said conveyer about said axis, said feeding means being automatically rendered inoperative by the shifting of the conveyer to move the stylus away from the record surface, substantially as described.

18. In a phonograph or talking machine, the combination of a record support, a reproducer, a sound conveyer carrying said reproducer and having an amplifying exit portion directed at an angle to the vertical, said stylus being mounted with sufficient freedom of movement relatively to said conveyer to permit said stylus to accommodate itself to surface irregularities in a record carried by said support, pivot means constituting the sole support for said conveyer, said means comprising a member along the axis of which the said conveyer is shiftable to move said stylus out of operative position, and feeding means comprising a member carried by said conveyer for moving said conveyer about said axis, said means being automatically rendered inoperative by the shifting of the conveyer to move the stylus out of operative position, substantially as described.

19. In a phonograph or talking machine, the combination of a record support, a reproducer, a sound conveyer carrying said reproducer and having an amplifying exit portion directed at an angle to the vertical, pivot means constituting the sole support for said conveyer, said means comprising a rod coacting with opposite sides of said conveyer, means for shifting said conveyer along the axis of said rod to move said reproducer out of operative position, and feed-

ing means comprising a member carried by said conveyer for moving said conveyer about said axis, said feeding means being automatically rendered operative or inoperative by the shifting of the conveyer to move the reproducer into or out of operative position, substantially as described.

20. In a phonograph or talking machine, the combination of a record support, a reproducer, a sound conveyer carrying said reproducer and having an amplifying exit portion directed at an angle to the vertical, pivot means constituting the sole support for said conveyer, said means comprising a rod coacting with opposite sides of said exit portion and constituting the sole support for said conveyer, means for shifting said conveyer along said rod to move said reproducer out of operative position, and feeding means comprising a member carried by said conveyer for moving said conveyer about said axis, said means being automatically rendered inoperative by the shifting of the conveyer to move the reproducer out of operative position, substantially as described.

21. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer mounted thereon and movable longitudinally of the axis thereof, and means yieldingly resisting lateral movement of said conveyer when the latter is in a given position longitudinally of said axis but permitting free lateral movement of the conveyer when the latter is in a different position longitudinally of said axis, substantially as described.

22. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer mounted thereon and movable longitudinally of the axis thereof, and means frictionally resisting lateral movement of said conveyer when the latter is in a given position longitudinally of said axis but permitting free lateral movement of the conveyer when the latter is in a different position longitudinally of said axis, substantially as described.

23. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer pivotally supported thereby and movable longitudinally of the axis thereof, and means yieldingly resisting lateral movement of said conveyer when the latter is in a given position longitudinally of said axis but permitting free lateral movement of the conveyer when the latter is in a different position longitudinally of said axis, substantially as described.

24. In a phonograph or talking machine, the combination of a support, an amplifying sound conveyer pivotally supported thereby and movable longitudinally of the axis thereof, and means frictionally resisting lateral movement of said conveyer when

the latter is in a given position longitudinally of said axis but permitting free lateral movement of the conveyer when the latter is in a different position longitudinally of said axis, substantially as described.

25. In a phonograph or talking machine, the combination of a cabinet having an opening therein, a record support, a reproducer in proximity to said support, a sound conveyer connected with said reproducer and having its mouth within said cabinet opposite said opening, supporting means for said sound conveyer, and means projecting through said opening for shifting said conveyer along the axis of said supporting means to move said reproducer away from the surface of a record carried by said record support, substantially as described.

26. In a phonograph or talking machine, the combination of a cabinet having an opening therein, a record support, a reproducer in proximity to said support, a sound conveyer connected with said reproducer on one side of said support and having its mouth on the other side of said support, within said cabinet and opposite said opening, and pivot means coacting with said conveyer and constituting the sole support therefor when the reproducer is in operative position, said conveyer being shiftable along the axis of said pivot means for moving said reproducer toward or away from the surface of a record carried by said record support, substantially as described.

27. In a phonograph or talking machine, the combination of a cabinet having an opening therein, a record support, a reproducer in proximity to said support, a sound conveyer connected to said reproducer on one side of said support and extending without flexible joint from a point in proximity to said reproducer to a point within said cabinet opposite said opening and on the other side of said support, and pivot means coacting with said conveyer and constituting the sole support therefor when the reproducer is in operative position, said conveyer being shiftable along the axis of said pivot means for moving said reproducer toward or away from the surface of a record carried by said record support, substantially as described.

28. In a phonograph or talking machine, the combination of a cabinet having an opening therein, a record support, a reproducer in proximity to said support, a sound conveyer carrying said reproducer and having its mouth within said cabinet opposite said opening, and pivot means coacting with the exit portion of said conveyer and having its axis a substantial distance from said reproducer, said pivot means constituting the sole support for said conveyer when the reproducer is in operative position, and means coacting with said pivot means and said

conveyer for shifting said conveyer along the axis of said pivot means to move said reproducer away from the surface of a record carried by said support, substantially as described.

29. In a phonograph or talking machine, the combination of a cabinet having an opening therein, a record support, a reproducer in proximity to said support, a sound conveyer connected with said reproducer on one side of said support and having its mouth on the other side of said support, within said cabinet and opposite said opening, and pivot means coacting with the exit portion of said conveyer and having its axis a substantial distance from said reproducer, said pivot means constituting the sole support for said conveyer when the reproducer is in operative position, and said conveyer being shiftable along the axis of said pivot means for moving said reproducer toward or away from the surface of a record carried by said record support, substantially as described.

30. In a phonograph or talking machine, the combination of a cabinet having an opening therein, a record support, a reproducer in proximity to said support, a sound conveyer connected to said reproducer on one side of said support and extending without flexible joint from a point in proximity to said reproducer to a point within said cabinet opposite said opening and on the other side of said support, and pivot means coacting with the exit portion of said conveyer and having its axis a substantial distance from said reproducer, said pivot means constituting the sole support for said conveyer when the reproducer is in operative position, and said conveyer being shiftable along the axis of said pivot means for moving said reproducer toward or away from the surface of a record carried by said record support, substantially as described.

31. In a phonograph or talking machine, the combination of a record support, a reproducer having a stylus, a sound conveyer carrying said reproducer and having an exit portion extending at an angle to the vertical, said stylus being mounted with sufficient freedom of movement relatively to said conveyer to permit said stylus to accommodate itself to surface irregularities in a record carried by said support, supporting means coacting with the exit portion of said conveyer, said conveyer being bodily movable along a line extending at an angle to said record support but immovable about an axis transverse to said line, and means coacting with said supporting means for moving said conveyer along said line to move said stylus away from said record support, substantially as described.

32. In a phonograph or talking machine, the combination of a record support, a re-

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producer above said support, a sound conveyer carrying said reproducer and extending downwardly and then forwardly under said record support, and a pivotal mounting  
5 for said conveyer sufficiently in advance of said reproducer to permit the reproducer to travel across a record carried by said support, said conveyer being capable of rectilinear movement to permit said reproducer  
10 to be engaged with or disengaged from the record, substantially as described.

33. In a phonograph or talking machine, the combination of a record support, a reproducer above said support, a sound conveyer carrying said reproducer and extending  
15 downwardly and then forwardly under said record support, a pivotal mounting for said conveyer sufficiently in advance of said reproducer to permit the reproducer to travel  
20 across a record carried by said support, said conveyer being capable of rectilinear movement to permit said reproducer to be engaged with or disengaged from the record, and feeding means for effecting the  
25 pivotal movement of the conveyer, substantially as described.

34. In a phonograph or talking machine, the combination of a record support, a reproducer above said support, a sound conveyer carrying said reproducer and extending  
30 downwardly and then forwardly under said record support, the said conveyer being mounted for pivotal movement about an axis sufficiently in advance of said reproducer to permit said reproducer to travel  
35 across a record carried by said support and also for rectilinear movement to permit said reproducer to be engaged with or disengaged from the record, and means for  
40 effecting the rectilinear movement of said conveyer, substantially as described.

35. In a phonograph or talking machine, the combination of a record support, a reproducer above said support, a sound conveyer carrying said reproducer and extending  
45 downwardly and then forwardly under said record support, the said conveyer being mounted for pivotal movement about an axis sufficiently in advance of said reproducer to permit said reproducer to travel  
50 across a record carried by said support and also for rectilinear movement to permit said reproducer to be engaged with or disengaged from the record, and manually operable means for moving said conveyer about  
55 said axis, substantially as described.

36. In a phonograph or talking machine, the combination of a record support, a reproducer above said support, a sound conveyer carrying said reproducer and extending  
60 downwardly and then forwardly under said record support, the said conveyer being mounted for pivotal movement about an axis sufficiently in advance of said reproducer to permit said reproducer to travel  
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across a record carried by said support and also for rectilinear movement to permit said reproducer to be engaged with or disengaged from the record, and unitary means for effecting the aforesaid pivotal and rectilinear movements of said conveyer, substantially as described. 70

37. In a phonograph or talking machine, the combination of a record support, a reproducer above said support, a sound conveyer carrying said reproducer and extending  
75 downwardly and then forwardly under said record support, the said conveyer being mounted for pivotal movement about an axis sufficiently in advance of said reproducer to permit said reproducer to travel  
80 across a record carried by said support and also for rectilinear movement to permit said reproducer to be engaged with or disengaged from the record, feeding means for  
85 effecting the pivotal movement of said conveyer, and unitary means for shifting said conveyer to disengage said reproducer from the record and for rendering said feeding means inoperative, substantially as described. 90

38. In a phonograph or talking machine, the combination of a record support, a reproducer, a sound conveyer carrying said reproducer and extending downwardly and  
95 then forwardly under said record support, said conveyer being bodily movable along a line extending at an angle to said record support but immovable about an axis transverse to said line, and means for moving  
100 said conveyer along said line to move said reproducer away from said record support, substantially as described.

39. In a phonograph or talking machine, the combination of a record support, a cabinet, a reproducer, a sound conveyer carrying  
105 said reproducer and extending downwardly and then forwardly under said record support within said cabinet, supporting means for said conveyer permitting bodily  
110 movement thereof along a line extending at an angle to said record support while preventing movement thereof about an axis transverse to said line, and means coaxing  
115 with said supporting means for moving said conveyer along said line to move said reproducer away from said record support, substantially as described.

40. In a phonograph or talking machine, the combination of a record support, a reproducer, a cabinet, a sound conveyer carrying  
120 said reproducer and extending downwardly past said record support and then forwardly under the same within said cabinet, pivot means supporting said conveyer,  
125 said means comprising a rod coaxing with opposite sides of said conveyer to prevent movement of the latter about an axis at an angle to said rod, and means for shifting said conveyer along the axis of  
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said rod to move said reproducer out of operative position with respect to said record support, substantially as described.

41. In a phonograph or talking machine, the combination of a record support, a reproducer, a cabinet, a sound conveyer carrying said reproducer and extending downwardly past said record support and then forwardly under the same within said cabinet, pivot means supporting said conveyer, said means comprising a rod coaxing with opposite sides of said conveyer to prevent movement of the latter about an axis at an

angle to said rod, means for shifting said conveyer along the axis of said rod to move said reproducer out of operative position with respect to said record support, and means for adjusting the said rod axially, substantially as described.

This specification signed and witnessed this 15th day of February 1911.

THOS. A. EDISON.

Witnesses:

FREDERICK BACHMANN,  
ANNA R. KLEHM.

Corrections in Letters Patent No. 1,184,333.

It is hereby certified that in Letters Patent No. 1,184,333, granted May 23, 1916, upon the application of Thomas A. Edison, of Llewellyn Park, West Orange, New Jersey, for an improvement in "Phonographs or Talking-Machines," errors appear in the printed specification requiring correction as follows: Page 5, line 25, claim 17, for the word "first" read *pivot*; same page, line 59, claim 19, for the word "agle" read *angle*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of February, A. D., 1917.

[SEAL.]

Cl. 181-3.

R. F. WHITEHEAD,  
*Acting Commissioner of Patents.*