July 31, 1945. C. W. DANN 2,380,727

PHONOGRAPH

Filed Nov. 7, 1942 2 Sheets-Sheet 1

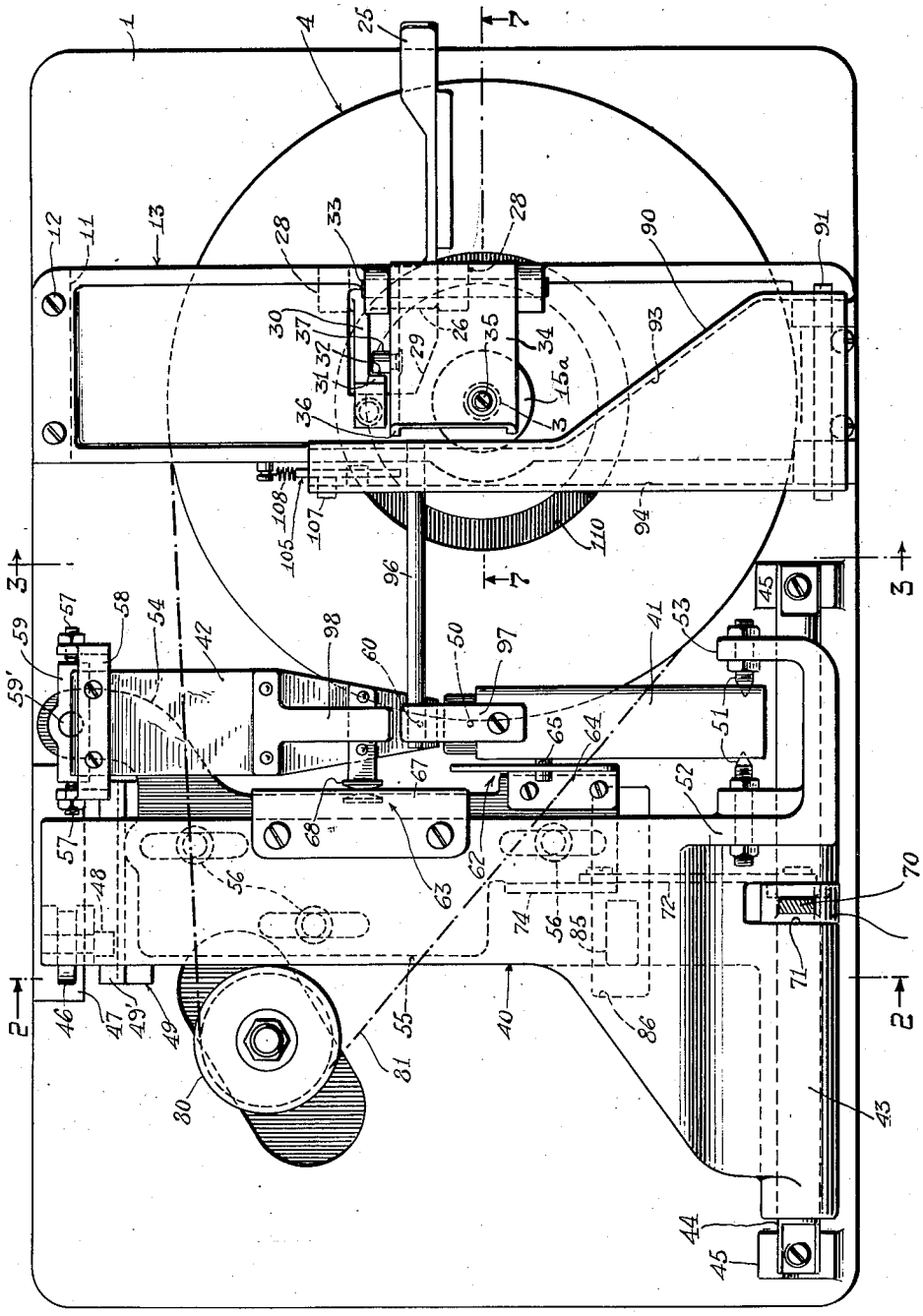


Fig. 1

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Fig. 2

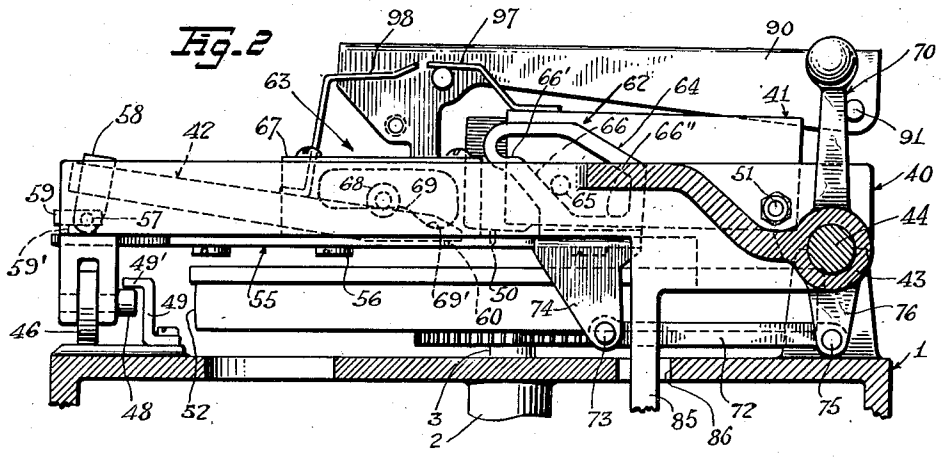


Fig. 3

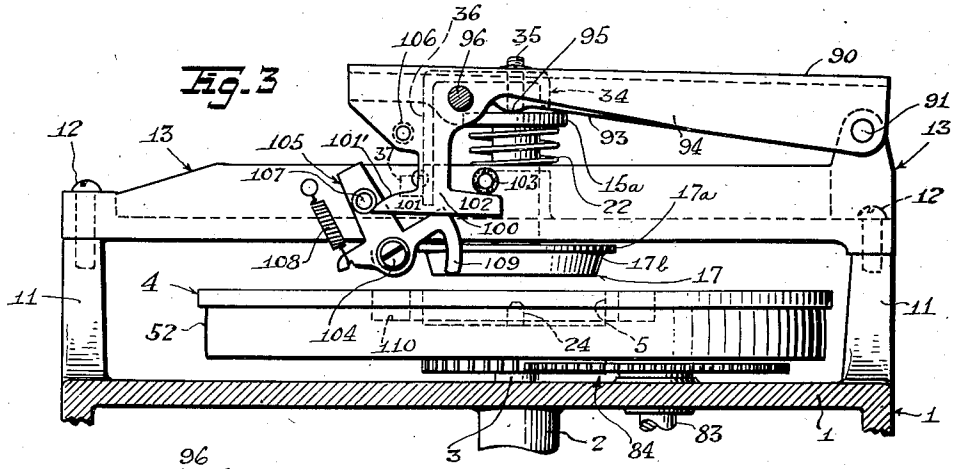


Fig. 4

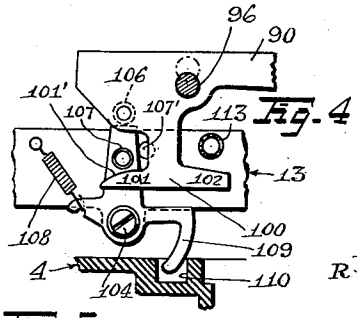


Fig. 5

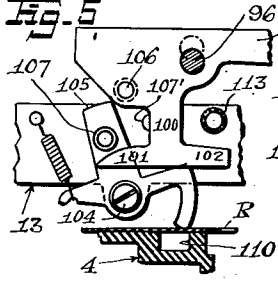


Fig. 6

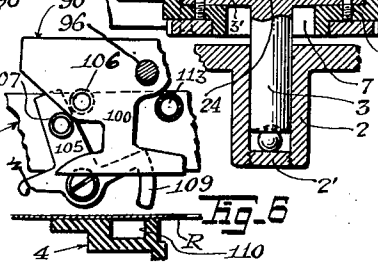
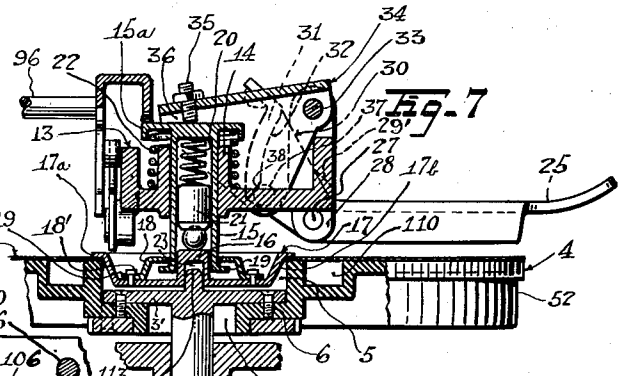


Fig. 7



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Patented July 31, 1945 2,380,727

UNITED STATES PATENT OFFICE

2,380,727

PHONOGRAPH

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Application November 7, 1942, Serial No. 464,834

15 Claims. (Cl. 274—13)

This invention relates to phonographic machines and more particularly to new and improved mechanisms for controlling such machines and safeguarding them against misoperation and misuse.

The invention has especial relation to a novel and improved control mechanism for a phonograph which is differentially responsive to the presence or absence of a mounted record on or from the record support. I have particularly applied my invention to, and do herein describe it in terms of, a mechanism for controlling the styli of a phonographic translating means to prevent the same from being accidentally or inadvertently impinged against the record support. The invention has especial application to phonographs which operate on a thin, flexible record disk or blank, since in such phonographs the styli may be impinged against the record support or turntable should the translating means be shifted to operative condition while the turntable is free of a mounted record. This impinging of the styli against the turntable in response to such a simple inadvertent operation on the machine places the styli under imminent danger of damage, particularly in view of the fragile character of the styli and of the usually hard surface with which the turntable is provided.

This danger of damage to the styli is particularly acute in recording phonographs. For example, recording phonographs of the embossing type operate with a heavy pressure of the stylus against the record, as of the order of from several to ten or more ounces, depending upon the record material used and the size of the stylus tip. Should the recorder proper of such a machine be let drop onto the turntable, the accumulated momentum acquired by the recorder in response to its biasing will cause the stylus to impinge heavily against the turntable and to be very likely broken. While in recording phonographs of the cutting type the stylus pressure is much less and the force with which the stylus may impinge against the turntable is materially reduced, yet there is here also imminent danger of stylus damage because of the very sharp and fragile cutting edge with which the stylus is provided.

It is an object of my invention to safeguard phonographs from possible damage of the character abovementioned.

It is another object of my invention to provide novel and improved restrictive arrangements for phonographs which will safeguard their use and operation.

It is another object to provide improved control mechanisms for a phonograph, which are differentially responsive to the presence and absence of a mounted record on and from the record support of the phonograph.

It is a further object of my invention to prevent a shifting of a phonographic translating device into a condition for operation unless a record is held in position for coaction with the device.

It is another object of my invention to permit a phonographic translating means to be moved into coaction with a mounted record only when that record is securely held to its support.

It is another object to prevent shifting a translating device to a condition for operation except when a record is both mounted on and securely held to its support.

It is a further object to fulfill the abovestated objectives in connection with a selectively controllable recorder-reproducer translating means.

A still further object of my invention is to so control a recorder-reproducer translating means as to bring each into co-action with a mounted record at substantially the same point.

Still other objects and features of my invention will more fully appear from the following description and the appended claims.

In the description of my invention reference is had to the accompanying drawings of which:

Figure 1 is a top plan view of a phonograph according to my invention, showing the parts of the record-clamping mechanism in the positions which they occupy when the mechanism is unactuated;

Figure 2 is a vertical sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is a partially elevational view showing the restrictive mechanism of my invention in the operative condition which it assumes when the record clamp is unactuated, and as it then appears from line 3—3 of Figure 1;

Figure 4 is a fractional view similar to Figure 3 but showing the restrictive mechanism in the operative condition it assumes when the record clamp is actuated and the turntable is free of a mounted record;

Figure 5 is a fractional sectional view similar to Figure 4, but showing the parts of the restrictive mechanism in initial positions which they assume when the record clamp is actuated and the turntable has a record mounted thereon;

Figure 6 is a view similar to Figure 5, but showing the parts of the restrictive mechanism in the final positions which they assume when the record clamp is actuated and the turntable has a record mounted thereon; and

Figure 7 is a vertical sectional view of the record-clamping and restrictive mechanism, for the condition of Figure 6, as taken on the line 7—7 of Figure 1.

In the accompanying drawings there is shown a phonograph wherein my invention is embodied and having a top frame plate 1. This plate is provided with a depending tubular part forming a bearing 2 for a vertical spindle 3 of a turntable 4, there being a thrust bearing 2' at the lower end of the bearing 2 for supporting the spindle. The turntable has a central well 5 the bottom wall of which comprises a flange 3' provided on the upper end of the spindle 3 and held to the turntable by screws 6, there being a central aperture 7 in the turntable down through which the spindle 3 passes.

In positions diametrically opposite of the turntable, there are upright standards 11 provided on the top plate 1. Bridging these standards, and held thereto by screws 12, is a channeled bar 13 (see Figures 3 and 7). This channeled bar has a bearing 14 axially in line with the turntable and supporting a tubular member 15 having a flat cap 15a at the top thereof. On the lower portion of this tubular member there is a dish-shaped clamping member 17. This clamping member has a short central stem 16 received loosely by the tubular member 15, and has therein a shallow inverted cup member 18 (held to the clamping member by screws 18') which has a central over-sized aperture receiving the tubular member, there being a flange 19 on the lower end of the tubular member which is for retaining the clamping member to the member 15. Within the tubular member 15 there is a compression spring 20 acting through a plunger and bearing 21 against the stem 16 to normally hold the clamping member 17 in a lowermost position relative to the tubular member—which position is determined by the abutment of the member 18 against the flange 19. When the record clamp is unactuated, the clamping member 17 is held raised above the turntable by a compression spring 22 which is interposed between the cap 15a and the channeled bar 13. When the tubular member is however pressed down against the force of the spring 22, the clamping member 17 enters the well 5 of the turntable and a rim flange 17a of the clamping member comes to bear against the turntable at the edge of the well 5.

The engaging of the clamping member with the turntable is adapted to centralize and secure a record disk R to the turntable, which disk is to have a central circular aperture equal substantially in diameter to that of the upper part of the inclined portion 17b of the dish-shaped clamping member, it being understood that the centralizing is accomplished by the engagement of this inclined portion of the clamping member with the central hole of the record disk and that the securing is accomplished by the clamping pressure of the flange 17a against the turntable. To assure accurate centralizing of the clamping member, the same is provided with a small bottom cylindrical recess 23, and the spindle 3 is provided with a short upstanding guide pin 24 which is adapted to enter the recess 23 and localize the clamping member as the latter engages the turntable.

For actuating the record-clamping means above described, there is a handle 25 having a hub 26 (see Figure 1) which is pivoted on a cross rod 27 held in a pair of depending lugs 28 of the channeled bar 13. This handle extends rightwardly from its pivot axis across the turntable 4, and is moved downwardly into a substantially horizontal position to actuate the record-clamping means. Extending leftwardly from the hub of the handle, through an opening 29 in the channeled bar 13, is an arm 30. This arm is provided with a rib 31 of which the inner surface forms an eccentric cam face 32. Pivoted at 33 to the channeled bar 13 is a lever 34 which overlies the tubular member 15 and which has an adjustable screw 35 therein abutting against the cap 15a of this member. Depending from this lever at the side of the arm 30 is a side wall 36 carrying a pin 37. It is against this pin that the cam face 32 acts.

When the handle 25 is in a raised position, the pin contacts the upper portion of the cam face 32 at the longer radius and the lever 34 is held raised by the spring 22 acting on the tubular member 15. As the handle is moved downwardly, however, the lower and shorter radially spaced portion of the cam face 32 moves into engagement with the pin 37 to cam the lever 34 downwardly and thus to actuate the record clamp. In the final movement of the handle into its downward position, however, the cam face 32 is moved from the pin 37 and an end surface 38 of the rib 31 is moved to engage the pin, this surface 38 having such inclination that the pressure exerted thereagainst by the pin 37 (under influence of the spring 22) will detent the handle 25 in its downward position—the position defined by contact of the arm 30 against the channeled bar 13 at 29' (see Figure 7).

Movably mounted on the top plate 1 to the left of the turntable is a carriage 40 for respective recorder and reproducer translating units 41 and 42. At the front the carriage has a long leftwardly projecting sleeve 43 mounted slidably on a cross rod 44 that is supported by a pair of standards 45 of the top plate. At the rear the carriage has a caster 46 secured thereto which rides on a smooth flat portion 47 of the top plate. For holding the rear end of the carriage from being upwardly tilted, the shaft 48 of the caster 46 is projected forwardly and a bracket 49 is mounted on the top plate and provided with a horizontal ledge 49' which overlies the projecting end of the shaft.

The recorder unit 41, which may typically have an oblong shape as is shown, is carried at the right of the carriage and directly pivotally connected to the front part thereof for up and down freedom of movement. This pivotal connection is made by a pair of adjustable cone pivots 51 of which the leftward one is threaded through a vertical wall portion 52 of the carriage and the rightward one is carried by a right-angle arm 53 of the carriage. At its rearward end the recorder unit has a stylus 50 depending therefrom for coaction with a mounted record disk R on the turntable 4. By way of example, the recorder unit and stylus 50 may be adapted to record on the record disk R by the embossing method, in which case the recorder unit will have a substantial bias toward the record.

The reproducer unit 42 is also carried at the right of the carriage 40 but is positioned directly behind the recorder unit. This unit, which may also have an oblong shape, is pivotally connected at its rearward end to a rightwardly extending arm 54 of a slide 55 which is mounted by screws 56 to the under side of the carriage for forward and rearward back and forth movement. The pivotal connection of the unit 42 to the arm 54

is made through a pair of axially horizontal pivots 57. These pivots are held to the unit by a U-bracket 58 and engage a block 59 that is centrally pivoted on a vertical axis, as at 59', to the arm 54. At the front the reproducer unit has a reproducing stylus 60 depending therefrom for coaction with the mounted record disk R.

The translating units 41 and 42 are selectively adjustable into and out of coaction with the record R by means of respective cam mechanisms 62 and 63 (see Figures 1 and 2) which are operated by shifting the slide 55 relative to the carriage. The cam mechanism 62 comprises a vertical cam member 64 mounted on the slide 55, and a leftwardly extending pin 65 mounted on the unit 41 near the free end thereof which rides on a cam face 66 of this cam member. The cam mechanism 63 comprises a vertical cam member 67 bracketed to the carriage 40, and a cam follower 68 which is fastened to the unit 42 near the free end thereof and which rides on a cam face 69 of the cam member 67. The cam face 66 has a short upper dwell 66' at its rearward end and inclines downwardly at a steep angle from that dwell to a lower level 66''. The cam face 69 has instead a long rearward dwell and a short forward depression 69'. When the slide 55 is in a mid-position, the pin 65 engages the inclined portion of cam face 64 intermediately thereof, and is effective to hold the recorder unit raised from the record; at the same time the cam follower 68 engages the dwell of cam face 69 and holds the reproducer unit also raised from the record. When the slide 55 is moved rearwardly from mid-position, the cam 64 is moved therewith to place the lower dwell 66'' below the pin 65, this dwell being at a sufficiently low level to permit the recorder unit to now engage the record in response to its own weight. Also, as the slide is so moved the cam follower 68 is maintained on the dwell of cam face 69 to yet hold the reproducer unit raised from the record. When, however, the slide 55 is moved forwardly the pin 65 is cammed up onto the dwell 66' of cam member 64 to raise the recorder unit to an even higher position than is had when the slide was in mid-position, and the reproducer unit and cam follower 68 are moved forwardly, the reproducer unit to below the recorder unit and the follower 68 into the depression 69' of cam 67, to permit the reproducer unit to engage the record in response to the downward force of its own weight.

For moving the slide 55 to adjust the translating units relative to a mounted record R, there is provided a control lever 70. This lever has its hub inset in a recess 71 of the carriage and pivoted on the support rod 44. A coupling of this control lever to the slide 55 is had through a link 72 which is pivotally connected at 73 to a depending arm 74 of the slide and pivotally connected at 75 to a depending arm 76 of the lever. When the control lever is in an upright position—the position it occupies in Figure 2—the slide is held in the mid-position abovementioned and both translating units then occupy inoperative positions. When the control lever is shifted forwardly into what is herein termed its "recording position", the slide is shifted rearwardly to place the recorder unit into coaction with a mounted record. Conversely, when the control lever is shifted rearwardly into a "reproducing position," the slide is shifted forwardly to place the reproducer unit into coaction with the record.

It will be understood that the reproducer unit is provided with a lateral freedom of movement through the pivoting at 59' of the unit to the arm 54. This lateral freedom of movement is provided to permit the unit to track freely the groove convolutions of a rotating record R. In order however to centralize the reproducer unit, with respect to directions lateral of the machine, each time the unit is lifted from the record, the cam follower 68 aforementioned is provided in the form of a V-grooved member, as is shown.

It is a feature of the adjusting mechanism above described that in placing the translating units 41 and 42 into contact with a mounted record R there is produced a relative movement between them across the face of the record. This movement is utilized advantageously for the purpose of placing each unit into coaction with the record at substantially the same point. In the present instance, this is accomplished by placing the units end to end and shifting the reproducer unit to a position underneath the recorder unit when the machine is conditioned for reproducing, it being understood that the recorder unit is cammed sufficiently upwardly so as not to obstruct the reproducer unit when it is so shifted.

The drive mechanism for the phonograph may comprise a drive pulley 80 mounted above the top plate 1 and coupled by a belt 81 directly to the turntable, there being a face 52 on the lower rim portion of the turntable with which the belt 81 engages. For concurrently feeding the carriage as the turntable is rotated there may be provided any suitable feed mechanism (not shown) which may be operated, for example, by the turntable through a shaft 83 and gear train 84. Coupling of this feed mechanism to the carriage may be had by way of an arm 85 depending from the carriage and passing through an opening 86 provided in the top plate 1.

In phonographs which are to operate on thin record disks it is impractical to so limit the movement of the translating units toward the turntable, as they are shifted into their respective operative conditions, that the styli will not reach the surface of the turntable should the turntable be free of a mounted record when the units are so shifted, for the record disk R will typically have a thickness of from only .01'' to .015''. According to the present invention, however, a possible impinging of the translating units against the turntable when the units are shifted to operative condition is prevented by the provision of a restrictive or withholding mechanism which permits the translating units to be moved to contact a mounted record only when there is a record in place in the machine for coaction with the translating units. This mechanism—which operates to render the above-described adjusting mechanism ineffective to control the translating units—is differentially controlled according to whether or not a record is mounted on the turntable and is operated as an incident to a normal act performed in conditioning the machine for operation. Preferably, I have the restrictive mechanism operated as an incident to securing a mounted record to the turntable 4—that is, to moving the handle 25 downwardly to actuate the record-clamping mechanism—and do herein describe my invention accordingly.

This restrictive mechanism includes a lever 90 operable to withhold the translating units from being lowered onto the turntable, and hereinafter termed the "restrictive lever." This is a substantially horizontal lever pivoted at 91 to

the front part of the channeled bar 13 for up and down freedom of movement, and having turned-down flanges 93 and 94 at the sides, of which the right flange 93 rests at 95 on the cap 15a of the record-clamping mechanism to support the free rearward end of the restrictive lever. Secured to this free rearward end of the lever is a leftwardly extending stop finger 96, and mounted on the recorder and reproducer units 41 and 42 are respective tabs 97 and 98 of which the tab 97 permanently overlies this stop finger. When the record-clamping mechanism is released or unactuated, the restrictive lever 90 is held raised by the cap 15a and occupies an operative position wherein the stop finger 96 is effective to prevent the recorder unit from being lowered onto the record or turntable. If the control lever 70 is now shifted to reproducing position in an effort to lower the reproducer unit into coaction with the record R, the forward movement received by the reproducer unit as the control lever is so shifted places the tab 98 above the stop finger 96 and, as a result, the reproducer unit is also withheld by the stop finger from contact with the record or turntable, it being understood that the tab 97 is raised out of the path of the tab 98 as the control lever is shifted to reproducing position in view of the recording unit being raised when the control lever is shifted to reproducing position.

When the record-clamping mechanism is actuated by pressing down the handle 25, the cap 15a is lowered to permit the restrictive lever 90 to move down, under the influence of its own weight, into an inoperative position wherein the stop finger 96 is ineffective to withhold the translating units from the mounted record R. Whether or not the restrictive lever 90 will however be so lowered is, according to my invention, dependent upon the presence or absence of a record disk R on or from the turntable 4.

The means for so differentially controlling the lowering of the restrictive lever 90 includes a member 100 depending from the left flange 94 of the restrictive lever and terminating in a rearwardly extending cam 101, this cam having a rearwardly and downwardly inclined cam face 101' along its top edge. While the member 100 has also a forwardly extending arm 102, this arm serves only as an abutment for contact with a stop pin 103 on the bar 13 whereby to prevent the lever 90 from being accidentally raised above its normal range of movement. Pivoted to the bar 13 at a point below the cam 101, as at 104, is a detent lever 105 which is movable into an upright or operative position below a pin 106 provided on the lever 90, to lock the restrictive lever 90 against downward movement into its inoperative position. When the lever 90 is in the upper operative position which it occupies when the record clamp is unactuated, the tip of the cam 101 engages a roller 107 provided on the detent lever and holds this lever in a rearwardly inclined or inoperative position—which is the position it occupies in Figure 3. When the restrictive lever 90 is moved downwardly by its own weight from this upper position, in response to actuating the record-clamping mechanism, the cam 101 is moved downwardly relative to the roller 107 and the detent lever is swung forwardly into operative position against stop pin 107' under the influence of a tension spring 108 acting on the lever. On the detent lever however there is a forwardly extending arm provided with a depending finger 109, which finger may be hereinafter termed a "record detecting finger." If a record disk R is mounted on the turntable this record detecting finger is impinged against the inner hub portion of the mounted record in response to the initial lowering movement of the restrictive lever from its upper position, and the detent lever is prevented from reaching its operative position, it being stopped in a position back of the pin 106 as is shown in Figure 5. The presence of a record disk R on the turntable serves thus to render ineffective the detent means for the restrictive lever 90 and, as a result, the restrictive lever now moves to inoperative position as the record-clamping mechanism is actuated. When the restrictive lever does so move to inoperative position, the pin 106 will engage the forward side of the detent lever and cam it slightly rearwardly to withdraw the detecting finger from contact with the record, as is indicated in Figure 6.

Should there however be no record mounted on the turntable when the record-clamping mechanism is actuated, the detecting finger enters an annular groove 110 provided in the turntable and the detent lever moves into operative position below the pin 106 to lock the restrictive lever 90 in its operative position. This movement of the detent lever will take place in response to the initial lowering movement of the restrictive lever 90 from its upper position, but the restrictive lever is locked while it is in a yet sufficiently raised position to be effective to prevent lowering of either translating unit onto the record or turntable. The distance between this yet operative position of the restrictive lever 90 and its uppermost position is herein termed "the operative range of the restrictive lever," and is the distance between the full line and dash-dot line positions of the stop finger 96 indicated in Figure 4.

When the record-clamping mechanism is released from an actuated condition the restrictive lever 90 is restored to its uppermost position. As the restrictive lever is so restored, the detent lever is cammed back to its rearward inoperative position, by action of the cam 101 on the roller 107, and the detent lever is made ready to again perform its differential control function over the restrictive lever 90 when the record-clamping mechanism is next actuated.

I have herein particularly shown and described my invention in terms of a preferred embodiment thereof, but it will be understood that I intend no unnecessary limitation of my invention to this embodiment as the same is subject to many changes and modifications without departure from the scope of my invention, which I endeavor to express according to the following claims.

I claim:

1. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a mounted record to said support, and a record cooperable translating device: the combination of means associated with said translating device and operable to adjust the device into and out of operative condition in relation to a mounted record; restrictive means operatively coupled to said securing means for rendering said adjusting means ineffective, said restrictive means being released by said securing means for movement to ineffective position when said securing means is actuated; and means operatively coupled to said restrictive means and operatively associated with said support for controlling the release of the restrictive means according to whether or not a record is mounted on said support.

2. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a mounted record to said support, and a record cooperable translating device: the combination of adjusting means associated with said translating device and movable into first and second positions for placing the device into and out of operative condition in relation to a mounted record; means operatively coupled to said securing means for withholding said translating device from being put into operative condition by said adjusting means while said securing means is out of operation; and means operatively coupled to said withholding means and differentially operated, upon actuating said securing means, according to whether or not a record is mounted on said support whereby to cause said withholding means to be moved to ineffective position upon actuating said securing means while a record is mounted on said support and to cause said withholding means to be retained in effective position upon actuating said securing means while said support is free of a mounted record.

3. In a phonograph including a support onto and from which a record may be mounted and removed, a record cooperable translating device, and means to adjust said device into and out of operative condition in relation to a mounted record: the combination of means actuatable to secure a mounted record to said support; restrictive means operatively coupled to said securing means for rendering said adjusting means ineffective, said restrictive means being released by said securing means for movement to ineffective position when said securing means is actuated; and means operatively coupled to said restrictive means and operatively associated with said support for controlling the release of said restrictive means according to whether or not a record is mounted on said support.

4. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a mounted record to said support, a record cooperable translating device, and means operable to adjust said device into and out of operative condition in relation to a mounted record: the combination of restrictive means operatively coupled to said securing means for rendering said adjusting means ineffective, said restrictive means being released by said securing means for movement to ineffective position when said securing means is actuated; and means, operatively coupled to said restrictive means and operatively associated with said support, for controlling the release of said restrictive means according to whether or not a record is mounted on said support.

5. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a mounted record to said support, a record-cooperable translating device, and means to adjust said device into and out of operative condition in relation to a mounted record: the combination of restrictive means operable to render said adjusting means effective and ineffective; means for moving said restrictive means into ineffective and effective positions as an incident to actuating and releasing said securing means; and means, operatively associated with said record support and restriction means and responsive to said securing means when said support is free of a mounted record, for locking said restrictive means from movement into ineffective position.

6. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a mounted record to said support, and a record-cooperable translating device: the combination of means for adjusting said device into and out of contact with a mounted record; releasable means for rendering said adjusting means ineffective; and means, associating said releasable means with said securing means and said record support and operated upon actuating said securing means, for differentially controlling the release of the releasable means according to whether or not a record is mounted on said support.

7. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a mounted record to said support and a record-cooperable translating device releasable to engage a record on said support: the combination of means operatively associated with said securing means for withholding said device from engaging the record, said withholding means having a range of movement in which it is in effective condition and having an ineffective position, and said withholding means being released by said securing means for movement from said effective range into said ineffective position upon actuating said securing means; and means, associated with said record support and withholding means and responsive to the withholding means upon movement of the latter within said effective range while said support is free of a mounted record, for restricting said withholding means to its effective range.

8. In a phonograph including a support onto and from which a record may be mounted and removed, a record-cooperable translating device and means for adjusting said device into and out of contact with a mounted record: the combination of a restrictive means movable to ineffective and effective positions for rendering said adjusting means effective and ineffective respectively; and means, associated with said support and said restrictive means and effective when said support is free of a mounted record, for limiting the restrictive means from movement into an ineffective position.

9. In a phonograph including a support onto and from which a record may be mounted and removed, and a record-cooperable translating device releasable to engage a record mounted on said support: the combination of a movable member for withholding said device from engaging the record; a detent member operatively coupled with said withholding member for detenting the latter in an effective position; and means, associated with said detent member and record support and effective when said support is free of a mounted record, for rendering said detent member effective.

10. In a phonograph including a support onto and from which a record may be mounted and removed and a record-cooperable translating device releasable to engage a record on said support: the combination of means for withholding said device from engaging said record, said withholding means being releasable to ineffective position; means for releasing said withholding means; and means, associated with said record support and withholding means and responsive to release of said withholding means by said releasing means upon said support being free of a mounted record, for restricting the withholding means to an effective position.

11. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a record to said support, a record-cooperable translating device and means to adjust said device into and out of operative condition in relation to a mounted record: the combination of restrictive means for rendering said adjusting means ineffective, said restrictive means having a range of movement whreein the same is in effective condition and having an ineffective position; detent means associated with said restrictive means for locking the latter in its said effective range; means associated with said detent means for moving the detent means to an effective position in response to movement of said restrictive means through an initial portion of its effective range; and means, operatively associating said detent means with said record support and effective when a record is mounted on said support, for restricting the detent means to an ineffective position.

12. In a phonograph including a support onto and from which a record may be mounted and removed, means actuatable to secure a record to said support, a record-cooperable translating device and means associated with said device for adjusting it into and out of cooperative relation with a mounted record: the combination of withholding means operatively associated with said securing means for rendering said adjusting means ineffective, said withholding means having a range of movement in which it is in effective condition and having an ineffective position, and said withholding means being released by said securing means from movement from said effective range into said ineffective position upon actuating said securing means; a detent member released by said withholding means upon movement of the latter through a first portion of said effective range for latching the withholding means in a final portion of said range; and a record-contacting means associated with said detent means and effective upon a record being mounted on said support for impinging against said record as said detent member is released whereby to limit the detent member to an ineffective position and permit said withholding means to move to ineffective position upon said securing means being actuated while a record is mounted on said support.

13. The subject matter set forth in claim 12 including means operated by said withholding means upon movement thereof to ineffective position for withdrawing said record-contacting means from contact with said record.

14. In a phonograph including a support onto and from which a record may be mounted and removed, a record-cooperable translating device, and means associated with said device for adjusting it into and out of cooperation with a mounted record; the combination of releasable means for rendering said adjusting means ineffective, said releasable means having a range of movement in which it is in effective condition and having an ineffective position; a detent member associated with said releasable means for latching the latter in its said effective range; and a record-contacting means associated with said detent member and said record support, and effective upon a record being mounted on said support, for impinging against said record as said releasable means is moved through a first portion of its said effective range whereby to estop the detent member from reaching an effective position.

15. The subject matter set forth in claim 14 including means, operatively associated with said releasable means and responsive to movement of the releasable means into ineffective position, for withdrawing said record-contacting means from contact with said record.

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