Oct. 24, 1933. E. E. COLLISON ET AL 1,931,487

AUTOMATIC PHONOGRAPH

Filed June 27, 1931 2 Sheets-Sheet 1

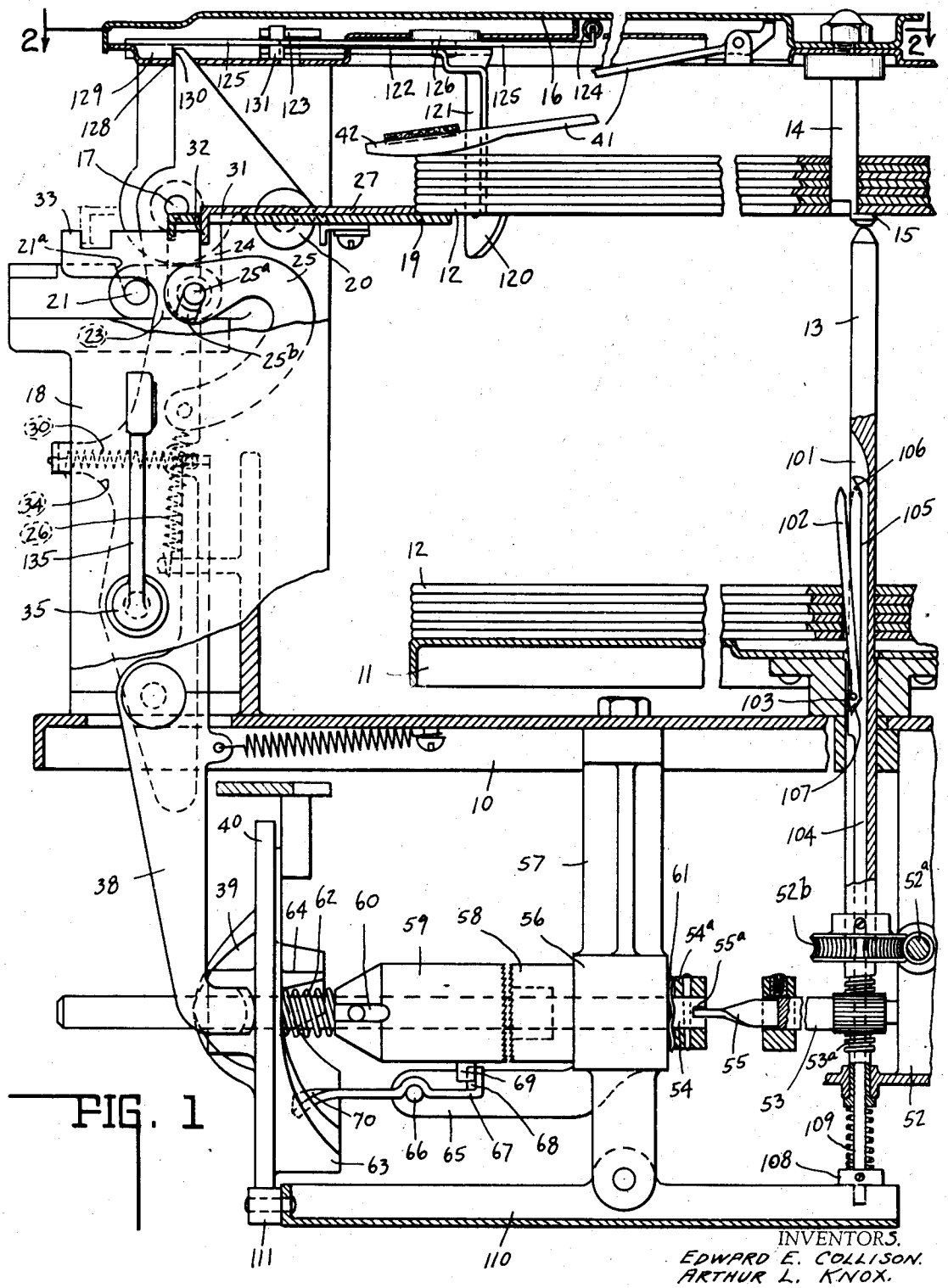


FIG. 1

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FIG. 2

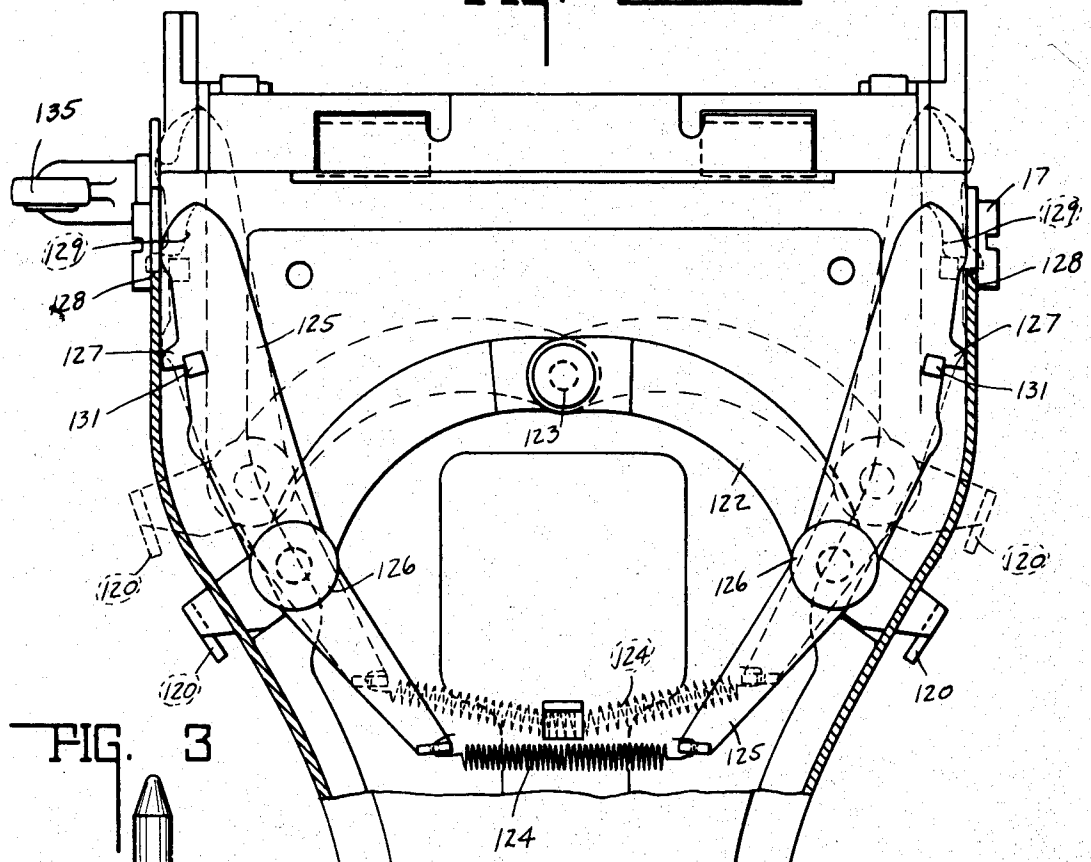
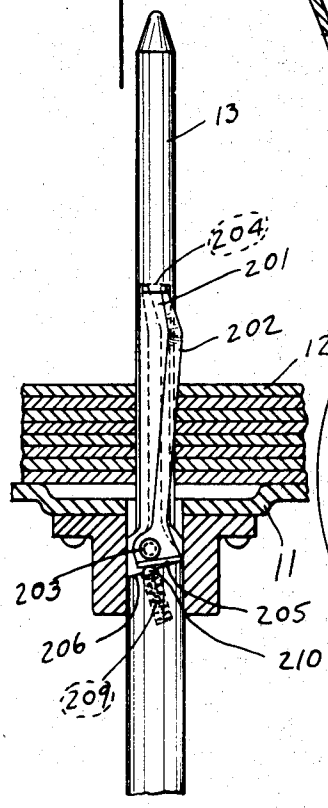


FIG. 3



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UNITED STATES PATENT OFFICE

1,931,487

AUTOMATIC PHONOGRAPH

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Application June 27, 1931. Serial No. 547,202

24 Claims. (Cl. 274—10)

This invention relates to an automatic phonograph of the semi-automatic type for playing disk records, as set forth and described generally in the copending applications Serial No. 471,218, filed August 23, 1930, and Serial No. 496,082, filed November 17, 1930.

One feature of the invention resides in automatic means for gripping and locking the record being reproduced with the centering pin and turntable. It has been found that in machines of this character, wherein the record being reproduced is supported upon one or more records thereunder, that slippage sometimes occurs, particularly if the records are warped. This is due to the fact that the comparatively smooth surfaces of the records do not present sufficient frictional contact to rotate the record being reproduced with the same speed at all times as the turntable. Whereas in the ordinary turntable a felt is usually provided for providing the frictional contact, in machines of this character, wherein one or more records are interposed between the record being reproduced and the turntable, sufficient frictional engagement is not present. This has a tendency to occasionally permit a record to lag behind, creating a difference in tone which is objectionable.

By means of this invention a finger is pivotally mounted within the centering pin which is actuated by the record changing mechanism, whereby it will be drawn within the centering pin for permitting a new record to be dropped into place, and upon completing the record changing operation, the mechanism will permit the pin to be forced outwardly under spring tension against the inner edge of the center opening of the record so as to be in engagement therewith.

Another feature of the invention resides in the record retaining hooks for temporarily supporting the edge of the unplayed records in the stack while the record carrying bracket is lowered from loading position into feeding position. Without the provision of the temporary hooks, it is found that upon the records being mounted on their supporting pin when the bracket is in elevated position for loading, they are free to swing so that upon the bracket being lowered into horizontal or feeding position, the group of records will tilt or swing vertically so as to properly engage upon the peripheral supporting plate.

By means of the temporary supporting hooks, the records are held in a positive parallel relation to the supporting bracket while being lowered so that their edges engage upon the peripheral supporting plate in position to be discharged, whereupon the temporary hooks are automatically returned to inoperative position.

A further feature of the invention resides in the method of driving one of the clutch members of the record changing mechanism so as to create a sliding movement out of clutching position, whereby the engaging surfaces of the clutch will be sufficiently spaced apart so as to avoid chattering.

A further feature of the invention resides in the provision of manual means in addition to the automatic means for discharging a record from the magazine into playing position.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings, Fig. 1 is a side elevation of a portion of a machine shown and described in the above mentioned applications, with parts thereof shown in section. Fig. 2 is a plan view of the record supporting bracket with a portion thereof broken away. Fig. 3 is a modified form of the record engaging finger.

In the drawings, reference is specifically made to the structure shown and described in the above-mentioned applications, and particularly application Serial No. 496,082, upon which the following-described mechanism is an improvement, there being illustrated herein a supporting table 10 upon which a record turntable 11 is rotatably mounted for supporting a record 12 to be played. Rotatably mounted with the turntable and extending upwardly therefrom, there is an elongated centering pin 13 for centering and holding upon the turntable in playing position a plurality of records. Mounted above the centering pin there is a record retaining spindle 14 upon which a plurality of records is mounted and held suspended by an offset 15, said offset being in substantial alignment with the pin 13 and slightly spaced from the upper end thereof.

The spindle 14 extends downwardly from a bracket plate 16 pivotally mounted at 17 on a supporting standard 18 so as to swing upwardly thereon. The edge of the lower record 12 in the group of records held by the spindle 14 is supported upon a plate 19 projecting forwardly from the standard 18.

As more specifically described in the last-mentioned copending application, the plate 19 is slidably mounted in a pair of swivel trunnions 20, the trunnions being pivotally mounted in the standard 18, whereby said plate may slide forwardly and rearwardly of said trunnion while swiveling thereon.

Mounted below the bracket plate 16 and having its bearing in the standard 18, there is a shaft 21 operated by a lever not shown. Said shaft 21 is removable from the standard through the slots 21*a*. Keyed to the shaft 21 are links 23 pivotally connected to the downwardly-extending ears 24 mounted on the rear of the supporting plate. Thus, when the shaft 21 is rotated, it will cause the plate to swing upwardly and forwardly or upwardly and rearwardly, depending upon the direction of movement. For yieldingly positioning the plate in either forward or rearward position, there is provided a curved link 25 pivotally connected with one of the ears 24 by a pin 25*a* engaging in a slot 25*b* at one end thereof and connected by a spring 26 to another part of the mechanism as will be hereinafter described. Thus, the supporting plate is yieldingly held in one position or the other upon being moved past center, as is more fully set forth and described in the last-mentioned copending application.

Slidably mounted upon the upper surface of the plate 19 there is a record discharge plate 27. Said supporting plate 19 is provided with openings 31 in which the downwardly-extending ears 32 on plate 27, extend in position to be engaged by the fingers 33 upon the record discharge actuating arms 34. Said arms are secured to a shaft 35 supported by the standards 18. Pivotally mounted on the standards 18 there is a lever 38 adapted to be engaged by the cam surface 39 on the cam 40. The upper end of the lever is connected by a spring 30 to one of the arms 34 so that upon the lever 38 being actuated by the cam 40, the upper end thereof, through the spring 30, will yieldingly pull the arms 34 forwardly, through the shaft 35 for actuating the discharge plate 27.

It will be noted that the fingers 33, as above described, engage the ears 32 when the supporting plate 19 is in rearward position for supporting a twelve-inch record. When said plate is in forward position to support ten-inch records, the ears 32 would be engaged by the forward shoulders of the arms 34, so that in either position the arms 34 will move the plate 27 to discharge a record.

In order that the records will firmly seat upon the supporting plate 19, the bracket 16 is provided with a hinged arm 41, having a weight 42 at the free end thereof, the weight engaging the upper surface of the top record immediately above the plate 19.

The turntable is rotated continuously by the motor 52 through a drive shaft 52*a*, worm, and worm gear 52*b* which drive the elongated centering pin 13. A shaft 53 is driven through a worm and worm gear 53*a* from the centering pin. The shaft 53 is connected with a shaft 54 by a screw coupling 55. The shaft 54 is mounted in a bearing 56 supported by a bracket 57 from the table 10. Keyed to the shaft 54 there is a clutch member 58 having serrated teeth providing a clutching surface adapted to engage with the serrated teeth of a clutch member 59 slidably keyed to a shaft 60, said shaft 60 having a bearing at one end within the clutch member 58 and at the other end being supported by a suitable bracket, not shown, depending from the table 10. The screw coupling 55 slidably engages in a socket 55*a* and the end of the shaft 54. Keyed to the shaft 54 about the socket there is a collar 54*a* and surrounding said shaft intermediate the collar 54*a* and bearing 56, there is a spring washer 61 acting to maintain the clutch member 58 in retracted position away from the clutch member 59. The spring 62 normally maintains such clutch members in operative engagement when the member 59 is released.

The cam 40 is keyed to the shaft 60, and in addition to the cam surface 39 on one face thereof, there are provided cam surfaces 63 and 64 on the other face thereof. A supporting arm 65 extends from the bracket 57 for rotatably supporting a rod 66 on which a latch 67 is secured, having a cam face 68 adapted to be engaged by a pin 69 protruding from the clutch member 59. Said latch has an extension 70 thereon in position to be engaged by the cam surface 64 on the cam 40 for causing the latch 67 to engage the pin 69.

In operation, when the rod 66 is turned clockwise, through mechanism (not shown but fully described in the above-mentioned applications) actuated upon the reproducer reaching the end of the record, the latch 67 will release the pin 69 so that the spring 62 will force the clutch member 59 into engagement with the clutch member 58, thereby revolving the cam 40. The load thereby imparted to the shaft 54 will resist the driving shaft 53, whereupon the twisting force of the screw coupling therebetween will push the shaft 54 and clutch member 58 forwardly, compressing the spring washer 61. In that position, it will continue to drive the record changing mechanism through the cam 40. During this movement, a new record will be dropped on the turntable from the spindle 14.

When the cam surface 64 has completed one revolution, it will engage the extension 70, turning the rod 66 in the reverse direction so as to raise the latch 67 in position to cause the pin 69 to ride upon the cam surface 68 of said latch, compressing the spring 62 and disengaging the clutch members. Thereupon the cam 40 will come to rest and the spring washer 61 will force the shaft 54 and clutch member 58 to the right so as to separate the clutch surfaces a substantial distance to prevent chattering. Without the separating movement of the spring washer, it will be understood that immediately upon the serrated teeth of the clutching surfaces becoming sufficiently separated to prevent driving of the cam 40, there will be no further separation, and due to the continued rotation of the clutch member 58 with the surfaces in such close proximity, through inaccuracies in machining, there will be an occasional grinding or chattering where the serrated teeth of the clutching surfaces come in contact.

For the purpose of interlocking the record being reproduced with the turntable and centering pin so as to secure constant rotation and prevent slippage, the centering pin is provided with an elongated recess 101 in which a finger 102 is pivotally mounted at 103. Slidably mounted in said recess behind the pivoted finger, there is a bar 104 extending downwardly through the lower end of the centering pin shaft. Said bar is provided with a recessed portion 105 for permitting the finger 102 to nest therein when in inoperative position, as shown in full lines. The upper end of the bar is provided with a sloping surface 106 adapted to engage with a corresponding surface on the upper end of the finger 102. The bar is also provided with a sloping surface 107 in registry with a corresponding surface on the lower end of the pin 102. The bottom of the bar is provided with a collar 108 against which a spring 109 is adapted to bear, the other end of said spring abutting the bearing of the centering pin shaft. Thus, the spring 109 normally forces the bar downwardly so that the beveled surface 106

thereof will tend to force the finger 102 outwardly, as shown in dotted lines, under spring tension. Pivotally mounted at the lower end of the bracket 57 there is a lever 110, one end of which is provided with a roller 111 adapted to be engaged by the peripheral surface of the cam 40 and the other end of which bears against the collar 108 for forcing the bar 104 upwardly for releasing it.

In operation, when the record changing mechanism is in position to change a record by causing the lower record of the group to drop over the centering pin, the cam 40 has caused the lever 110 to raise the bar 104 against the spring tension of the spring 109. This action causes the surface 107 to engage the corresponding surface of the finger 102 which will retract the finger and cause it to nest within the centering pin so as not to obstruct the dropping of the record thereover. After the record changing mechanism has returned to normal position and the record is in playing position, the cam 40 will act upon the lever 110 to release the bar 104 and permit the spring 109 to force it downwardly, whereupon the surface 106 thereof will engage the finger 102 and force it forwardly into record locking position, as shown in dotted lines.

For holding the records in the top group in parallel relation with the bracket 16 while the bracket is being lowered into horizontal position, there is provided a pair of hooks 120 formed on the end of the rods 121 which are bent at right angles to the curved arms 122. Said arms are pivotally connected at 123 within the bracket 16, for permitting the arms and hooks to slide back and forth to and from the positions shown in full and dotted lines in Fig. 2. A spring 124 normally holds said arms in forward position, as shown in full lines, through its engagement with the adjacent ends of the levers 125 to which the arms 122 are pivotally connected at 126. The rear ends of the levers 125 are provided with projections 127 which slide within the wall of the bracket 16 in position to engage in a slot 128 formed therein, wherein twelve-inch records are mounted on the bracket. The downwardly projecting lugs 129 are so positioned on the levers 125 as to contact with the rigid projections 130 as the bracket 16 is lowered into operating position, wherein ten-inch records are mounted thereon. Wherein twelve-inch records are mounted thereon, a similar projection 131 is provided for likewise engaging with the rigid projection 130.

In operation, as will be noted from the above-mentioned copending applications, the records are loaded onto the supporting bracket 16 when it is in elevated or vertical position, being swung about the pivotal mounting 17. In this position, the spindle 14 extends laterally and the records hang in vertical position thereon. The lower edges of the records while being loaded, are forced over the hooks 120 so as to be engaged by the rods 121 and held firmly in position on the spindle under tension of the spring 124. If ten-inch records are thus being mounted, the levers which actuated the rods and hooks are in the position shown in full lines. As the bracket is lowered, the lower edges of the records are thereby supported and steadied by the hooks 120 upon which the bottom record rests so as to maintain the records at all times during the lowering movement in parallel relation to the bracket, whereby they will be properly seated upon the supporting plate 19. As the bracket approaches lowered position and the records are in position to be supported by the plate 19, the hooks 120 are withdrawn by engagement of the lugs 129 with the projections 130. The records are thereby freed from the hooks so that they may be readily discharged into playing position. When twelve-inch records are mounted on the bracket, the hooks are forced back to the position shown in dotted lines in Fig. 2, and the ears 127 engage in the recess 128. Thus, they are held in position so that upon the bracket being lowered into operative position, the projections 131 will be in position to engage on the projections 130 for drawing the hooks away from record engagement.

To permit the record to be manually discharged from the supported group onto the turntable into playing position, there is provided a handle 135 mounted on the shaft 35, which shaft is adapted to actuate the record discharge plate 27, as set forth above and in the co-pending applications. Thus, it is not necessary to depend upon the mechanism for automatically discharging the record, but where desired, a record may be manually discharged.

In the modified form of the record engaging finger shown in Fig. 3, the centering pin 13 is provided with a recess 201 in which the record engaging finger 202 is pivotally mounted at 203. A slot 204 is provided at the top of the recess into which the end of the finger extends for holding it in the recess adjacent the centering pin. The finger is provided with a base 205 adjacent the shoulder 206 of the recessed portion in which the spring 209 is mounted, which spring has a head 210 bearing against the base 205.

By means of this construction, the finger is normally forced outwardly under spring tension to the position shown in full lines so as to engage and interlock with the edge of the center hole of the record. However, the tension of the spring is sufficiently light to permit the finger to be forced inwardly out of the way as the record drops down over the centering pin.

The invention claimed is:

1. In a phonograph for playing disk records having a center opening therein, the combination with a longitudinally fixed turntable, of a rigid centering pin rotatable therewith for extending through the center opening in the record, a member mounted on said centering pin and movable relative thereto for engaging the inner edge of the center opening for locking it in playing position, and means for moving said member to non-engaging position when the record is mounted over the centering pin and to record-engaging position upon the record being supported by the turntable in playing position.

2. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a centering pin rotatable therewith for extending through the center opening in the record, said centering pin being provided with a recess therein, a locking finger mounted in said recess in position to permit the record to be mounted over said pin, and means for forcing said finger away from said recess into engagement with the inner surface of the center opening in the record when in playing position.

3. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a centering pin rotatable therewith for extending through the center opening in the record, said centering pin being provided with a recess therein, a locking finger mounted in said recess in position to permit the

record to be mounted over said pin, means for yieldingly forcing said finger out of said recess into locking engagement with the inner surface of the center opening in the record, and means for retracting said finger into said recess during the positioning of a record thereover.

4. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a rigid centering pin rotatable therewith for extending through the center opening in the record, said centering pin being provided with a recess therein, a finger pivotally mounted in said recess, an actuating bar slidably mounted in said centering pin, means for causing said bar to force said finger into locking engagement with said record when in playing position, and means for actuating said bar to retract said finger for permitting a record to be mounted over the centering pin.

5. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a centering pin rotatable therewith for extending through the center opening in the record, said centering pin being provided with a recess therein, a finger pivotally mounted in said recess, an actuating bar slidably mounted in said centering pin, yielding means for causing said bar to force said finger into locking engagement with said record when in playing position, and positive means for actuating said bar to retract said finger for permitting a record to be mounted over the centering pin.

6. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a centering pin rotatable therewith for extending through the center opening in the record, said centering pin being provided with a recess therein, a finger pivotally mounted in said recess, a bar longitudinally slidable in said recess, means for actuating said bar, and means on said bar for forcing said finger into locking engagement with a record when moved in one direction and retracting said finger out of locking engagement when moved in the opposite direction for preventing a record from being mounted over said centering pin.

7. In a phonograph, the combination with a longitudinally fixed turntable for receiving and rotating a record having a center opening therein, of a centering pin rotatable with said turntable, a group of records adjacent said turntable, mechanism for transferring a record from the group to the turntable so as to be positioned thereon over said centering pin, means associated with said centering pin for engaging the inner periphery of the center opening in a record for locking it therewith when in playing position, and means actuated by said mechanism for moving said locking means to disengaging position for permitting a new record to be transferred into playing position over said centering pin.

8. In a phonograph, the combination with a turntable for receiving and rotating a record having a center opening therein, of a centering pin rotatable with said turntable, a group of records adjacent said turntable, mechanism for transferring a record from the group to the turntable, so as to be positioned thereon over said centering pin, means associated with said centering pin for engaging and locking a record therewith when in playing position, a spring for yieldingly forcing said means into locking position, and positive means actuated by said mechanism for withdrawing said record locking means from engagement therewith.

9. In a phonograph, the combination with a longitudinally fixed turntable for receiving a plurality of records having central openings therein, of an elongated centering pin extending upwardly therefrom, a group of records supported above said turntable in position to permit the records to be released one at a time over said centering pin, automatically-controlled mechanism for releasing said records, outwardly swinging record locking member associated with said centering pin for engaging and locking the record to be reproduced therewith, yielding means for holding said locking member outwardly in record engaging position under spring tension, and means actuated by said record changing mechanism for retracting said member from record engaging position to permit a new record to freely pass over said centering pin into playing position, whereupon said member will be released to engage and lock said record.

10. In a phonograph, the combination with a turntable for receiving a plurality of records, of an elongated centering pin extending upwardly therefrom and having a longitudinal recess therein, a group of records supported above said turntable in position to permit the records to be released one at a time over said centering pin, automatically-controlled mechanism for releasing said records, a record-locking finger pivotally mounted within the recess of said centering pin, a sliding bar associated therewith in said recess adapted to engage said pin and force the same into locking position when moved in one direction and retract the same within said recess out of locking position when moved in the other direction, a spring for yieldingly moving said bar into position and yieldingly force said finger into locking position, and means actuated by said mechanism for positively forcing said bar in the other direction for retracting said finger against the pressure of said spring while said mechanism is causing a new record to be dropped over said centering pin into playing position.

11. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a centering pin rotatable therewith for extending through the center opening in the record, said centering pin being provided with a recess therein, an outwardly swinging locking finger mounted in said recess, and a spring for forcing said finger outwardly from said recess into locking engagement with the inner periphery of the center opening in the record under spring tension.

12. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a centering pin rotatable therewith for extending through the center opening in the record, a locking finger pivotally mounted in said recess, a spring for forcing said finger into locking engagement with the record under spring tension, and a curved shoulder adjacent the upper portion of said finger adapted to be engaged by a record as it passes over said centering pin for forcing said centering pin inwardly under spring tension for allowing the record to pass thereover.

13. In a phonograph for playing disk records having a center opening therein, the combination with a turntable, of a centering pin rotatable therewith for extending through the center opening in the record, said centering pin being provided with a recess therein, a locking finger pivotally mounted in said recess, said recess being provided with a slot in which the free end of said finger is slidable for holding said finger

in operative position, a base on the opposite side of the pivotal mounting of said finger, and a compression spring positioned in the centering pin adapted to bear against said base for normally forcing said pin outwardly into record engaging position while permitting said finger to be forced inwardly against the tension of said spring to permit a record to pass thereunder.

14. In an automatic record changing phonograph, the combination with a turntable, of a group of records to be transferred into playing position, mechanism for effecting the transfer of a record from the mechanism to the turntable, a motor, clutch members for connecting said motor with said mechanism upon completion of a record, said clutch members being adapted to move toward and away from each other for engagement and disengagement of the clutch faces, and means for forcing one of said members toward the other after engagement therebetween and retracting the same upon disengagement therewith, whereby the distance between the disengaged clutch faces will be increased.

15. In an automatic record changing phonograph, the combination with a turntable, of a group of records to be transferred into playing position, mechanism for effecting the transfer of a record from the mechanism to the turntable, a motor, clutch members for connecting said motor with said mechanism upon completion of a record, said clutch members being adapted to move toward and away from each other for engagement and disengagement of the clutch faces, a yielding member for normally maintaining one of said members in spaced relation to the other, and a screw coupling for driving said last-mentioned member and forcing it forwardly for compressing said yielding member upon the clutch faces being engaged and resisting the rotary movement imparted by said screw coupling, whereby upon release of said clutch members, said yielding member will return said last-mentioned clutch member to normal position in spaced relation to the other clutch member.

16. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plurality of records thereabove pivotally mounted with respect to said turntable and having a spindle for supporting said records through the center opening thereof, said supporting bracket being adapted to swing upwardly into vertical position for loading and downwardly into horizontal position for supporting said records over the turntable, a supporting plate for supporting the peripheries of the records when in horizontal position, and a member associated with said supporting bracket for engaging the peripheries of the records when loaded thereon and hold them in parallel relation to said bracket while being lowered into horizontal position.

17. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plurality of records thereabove pivotally mounted with respect to said turntable and having a spindle for supporting said records through the center opening thereof, said supporting bracket being adapted to swing upwardly for loading and downwardly into operative position for supporting said records over the turntable, a supporting plate for supporting the peripheries of the records when in operative position, a member associated with said supporting bracket for engaging the peripheries of the records when loaded thereon and hold them in parallel relation to said bracket while being lowered into operative position, and means for automatically releasing said member from said records upon their being lowered onto said plate.

18. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plurality of records thereabove pivotally mounted with respect to said turntable and having a spindle for supporting said records through the center opening thereof, said supporting bracket being adapted to swing upwardly for loading and downwardly into operative position for supporting said records over the turntable, a supporting plate for supporting the peripheries of the records when in operative position, a member associated with said supporting bracket for engaging the peripheries of the records when loaded thereon and hold them in parallel relation to said bracket while being lowered into operative position, means for automatically releasing said member from said records upon their being lowered onto said plate, and means associated with said member for automatically adjusting it to releasing position for varying size records.

19. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plurality of records thereabove pivotally mounted with respect to said turntable and having a spindle for supporting said records through the center opening thereof, said supporting bracket being adapted to swing upwardly for loading and downwardly into operative position for supporting said records over the turntable, a supporting plate for supporting the peripheries of the records when in operative position, and a pair of hook members pivotally mounted on said bracket and yieldingly held in position to be engaged by the records when loaded thereon for supporting the peripheries thereof when in loading position and while being lowered into operative position.

20. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plurality of records thereabove pivotally mounted with respect to said turntable and having a spindle for supporting said records through the center opening thereof, said supporting bracket being adapted to swing upwardly for loading and downwardly into operative position for supporting said records over the turntable, a supporting plate for supporting the peripheries of the records when in operative position, a pair of hook members pivotally mounted on said bracket and yieldingly held in position to be engaged by the records when loaded thereon for supporting the peripheries thereof when in loading position and while being lowered into operative position, and means for retracting said hooks from engagement with said records upon being lowered into horizontal position for permitting the free discharge thereof.

21. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plu-

rality of records thereabove pivotally mounted with respect to said turntable and having a spindle for supporting said records through the center opening thereof, said supporting bracket being adapted to swing upwardly for loading and downwardly into operative position for supporting said records over the turntable, a supporting plate for supporting the peripheries of the records when in operative position, a pair of hook members pivotally mounted on said bracket and yieldingly held in position to be engaged by the records when loaded thereon for supporting the peripheries thereof when in loading position and while being lowered into operative position, means for retracting said hooks from engagement with said records upon being lowered into operative position for permitting the free discharge thereof, said hooks being normally positioned for smaller size records, and interlocking members for automatically retaining said members in position for retraction from larger size records upon said records being mounted thereon.

22. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of means for supporting a plurality of records adapted to be transferred into playing position onto said turntable, mechanism for automatically transferring said records one at a time upon completion of the reproduction of the preceding record, a shaft actuated by the automatic mechanism, and a handle on said shaft for normally actuating the same independently of said automatic mechanism for transferring a record.

23. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plurality of records thereabove, means for releasing a record from said bracket to drop over the centering pin into playing position on said turntable, mechanism for automatically actuating said releasing means upon completion of a reproduced record, and a manually operable member operable independently of said mechanism for actuating said releasing means for releasing a record into playing position.

24. In an automatic phonograph of the character described, the combination with a turntable for receiving a plurality of records in playing position, of a bracket for supporting a plurality of records thereabove, means for releasing a record from said bracket to drop over the centering pin into playing position on said turntable, a shaft having means thereon for actuating said releasing means, mechanism for automatically actuating said shaft upon completion of a reproduced record, and a manually operable member operable independently of said mechanism for actuating said shaft for releasing a record into playing position.

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