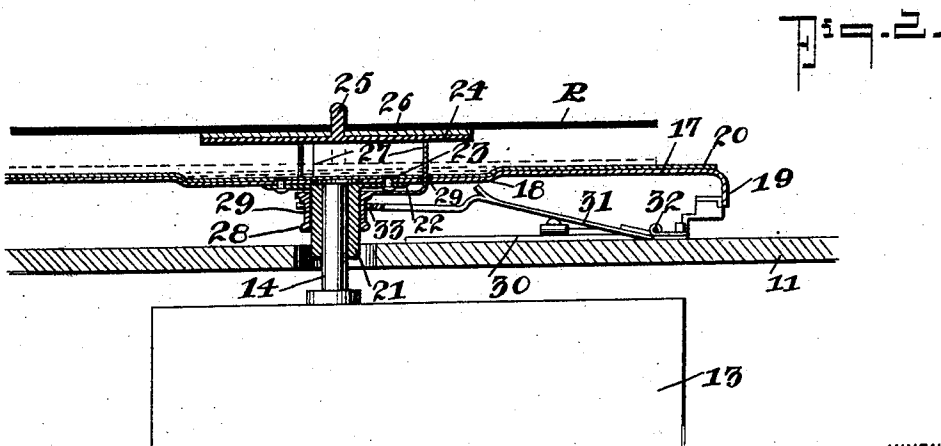
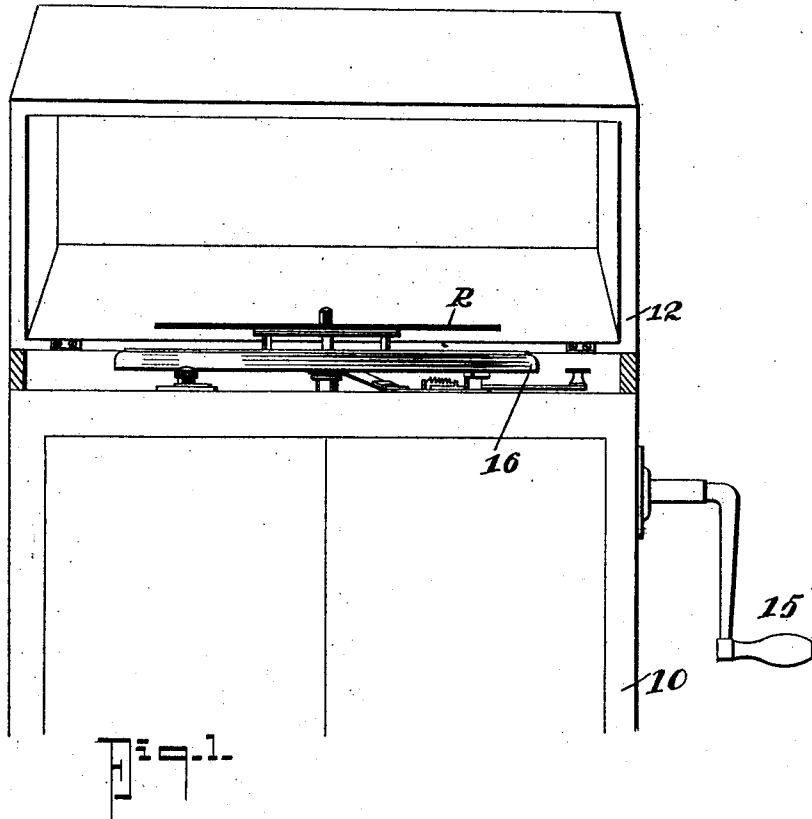


1,406,976.

J. A. CLARKE.
RECORD LIFTER.
APPLICATION FILED MAY 13, 1920.

Patented Feb. 21, 1922.

4 SHEETS—SHEET 1.



WITNESSES

Geo. V. Hall.
W. F. Buckley

INVENTOR

J. A. Clarke.

BY

Munn & Co.

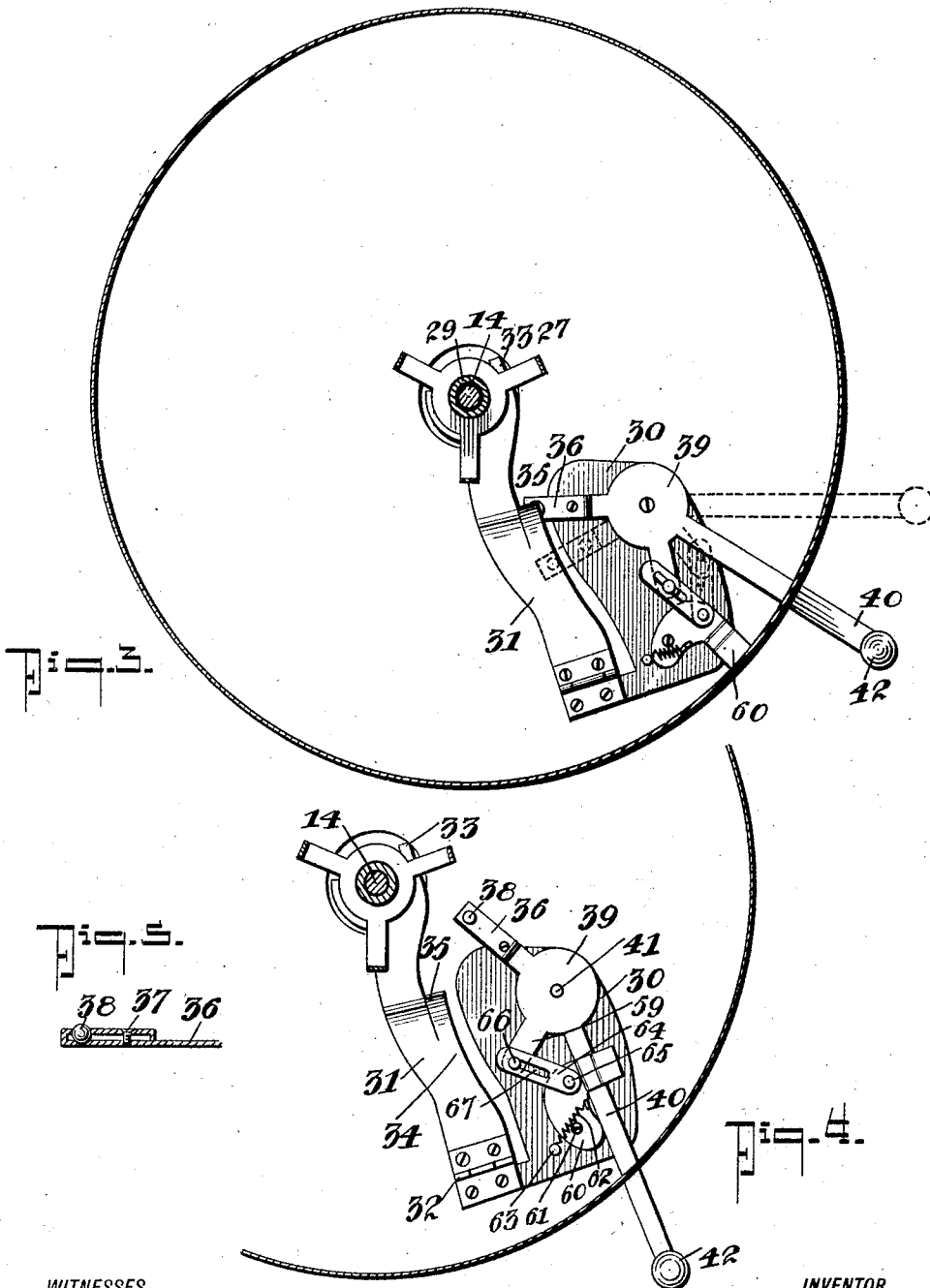
ATTORNEYS

J. A. CLARKE.
 RECORD LIFTER.
 APPLICATION FILED MAY 13, 1920.

1,406,976.

Patented Feb. 21, 1922.

4 SHEETS—SHEET 2.



WITNESSES
Geo. V. Hall.
W. F. Buckley.

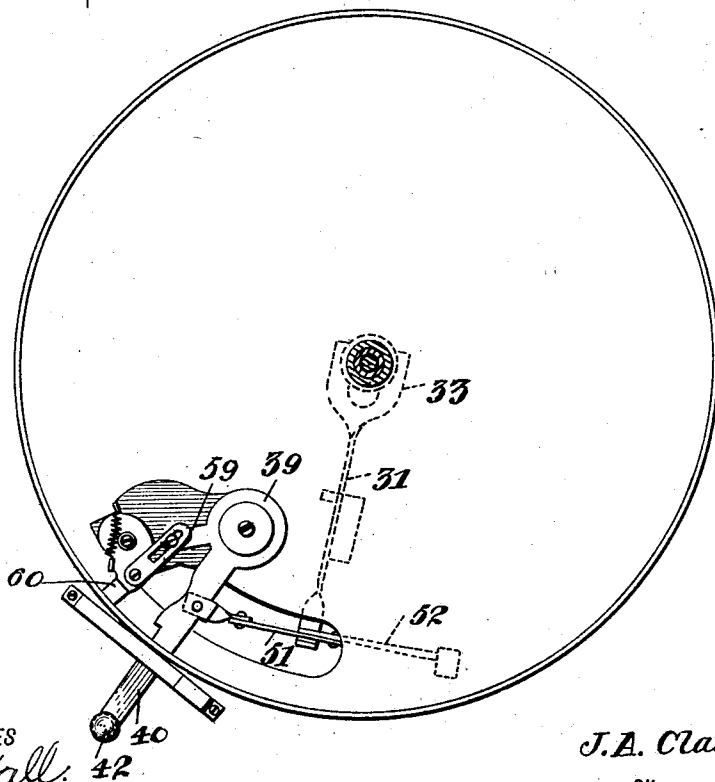
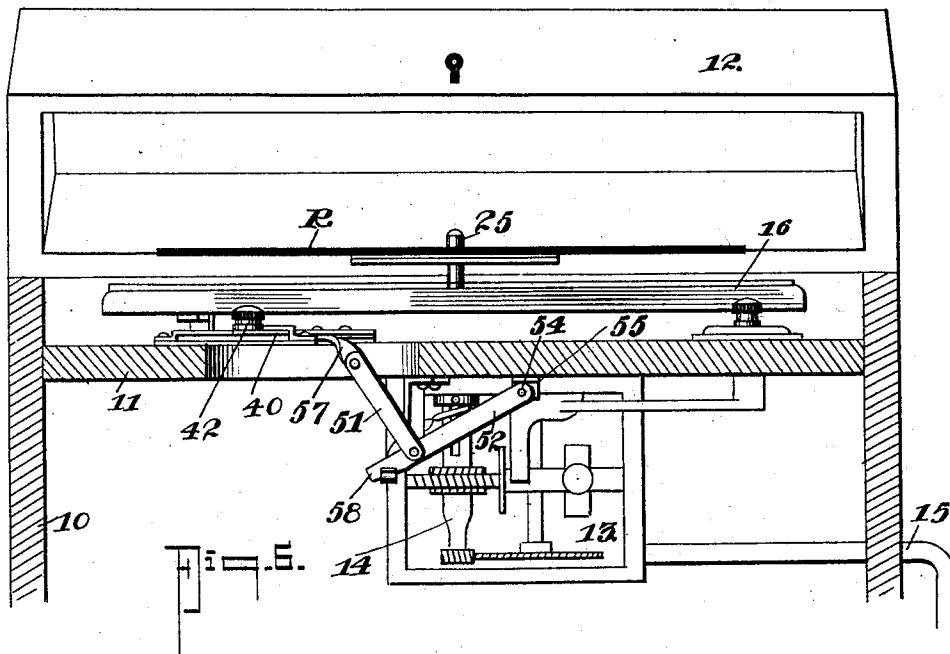
INVENTOR
J. A. Clarke.
 BY *Mumme & Co.*
 ATTORNEYS

J. A. CLARKE.
 RECORD LIFTER.
 APPLICATION FILED MAY 13, 1920.

1,406,976.

Patented Feb. 21, 1922.

4 SHEETS—SHEET 3.



WITNESSES
Geo. V. Hall.
W. F. Duckley

INVENTOR
J. A. Clarke.

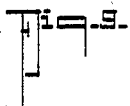
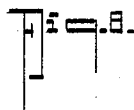
BY *Munn & Co.*
 ATTORNEYS

RECORD LIFTER.

Patented Feb. 21, 1922.

4 SHEETS—SHEET 4.

1,406,976.



WITNESSES

Geo. V. Hall.

W. F. Buckley

INVENTOR

J. A. Clarke

BY

BY *Mum Ho*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JUSTIN A. CLARKE, OF VINCENNES, INDIANA, ASSIGNOR OF ONE-THIRD TO THOMAS E. BENISH, OF VINCENNES, INDIANA.

RECORD LIFTER.

1,406,976.

Specification of Letters Patent. Patented Feb. 21, 1922.

Application filed May 13, 1920. Serial No. 381,131.

To all whom it may concern:

Be it known that I, JUSTIN A. CLARKE, a citizen of the United States, and a resident of Vincennes, in the county of Knox and State of Indiana, have invented certain new and useful Improvements in Record Lifters, of which the following is a specification.

The present invention relates generally to phonographs, and more particularly to a record lifter therefor.

The object of the invention is to provide a record lifter or handler for use with phonographs which will serve to lift or raise the record away from the turn-table of the phonograph so as to place the record in a position of convenient grasping or handling.

Another important object is to provide a record lifter of this character which is associated with the control of the phonograph whereby the control may be exercised in the usual manner, and when the control is so exercised to stop the rotation of the turn-table, the record lifter may be actuated to move the record away from the turn-table and thereby permit of the ready grasping and removal of the record.

Another object is to provide a device of this character of simple and durable construction, reliable in operation and easy and inexpensive to manufacture.

Other objects and advantages reside in certain novel features of construction, combination and arrangement of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings in which:

Figure 1 is a perspective view, showing my device applied to a phonograph of conventional construction;

Figure 2 is a transverse vertical section;

Figure 3 is a plan view of the operating mechanism of the record lifter and the associated control mechanism of the phonograph, the turn-table and the record lifter being removed and other parts being shown in section for the purpose of illustration, the parts being shown in full lines in the stop position of the control mechanism and in dotted lines in the raised position of the record lifter;

Figure 4 is a fragmentary view similar to Figure 3, showing the parts in the position assumed when the phonograph is running;

Figure 5 is a detail view of the lifting arm.

Figure 6 is a side elevation of a modified form of my invention, the phonograph cabinet being shown in section for the sake of illustration;

Figure 7 is a plan view thereof, the turn-table and record being removed and other parts being shown in section for the purpose of illustration;

Figure 8 is a transverse vertical section;

Figure 9 is a detail perspective view through the lifting bar and its actuating mechanism; and

Figure 10 is a sectional view, illustrating a modified form of lifting plate supporting mechanism.

Referring to the drawings, it will be seen that my invention contemplates a phonograph which may be of any conventional construction. The phonograph embodies a cabinet 10 having a top wall 11 and a hinged cover 12. The mechanism of the phonograph includes a motor 13, the motor spindle 14 of which extends through a suitable opening provided therefor in the top 11 of the cabinet 10. The motor is wound by the usual crank 15 and the motor spindle 14 is rotated by the motor in the usual manner.

A turn-table 16 is rotated by the motor spindle 14, the turn-table being constrained to partake of all of the motion of the motor spindle. The turn-table consists of a flat circular portion 17 of metallic construction having an integral central circular depression 18 and a depending peripheral rim 19. A covering 20 of felt or other material is provided. The turn-table is preferably secured to the motor spindle through the medium of a bearing sleeve 21 fixed to the motor spindle and having an annular flange 22 riveted as at 23, to the turn-table. However the annular flange and rivets may be dispensed with and the bearing sleeve fixed to the motor spindle in any suitable manner as illustrated in Figure 8.

A record lifter preferably in the form of a flat circular disk or plate 24 is normally seated in the central depression 18 of the turn-table, as seen in dotted lines in Figure 2. It is thus seen that the turn-table normally supports the record R but that the record lifter may be employed to support the record, as shown in full lines in Figure 2. The plate 24 is preferably of metallic con-

struction and is provided with an integral centrally arranged vertically upstanding pin 25 which extends through the central aperture of the record to maintain the record in position both on the record carrier and on the turn-table. A cover 26 of felt or similar material may also be provided for the record lifter.

In the form of my invention shown in Figures 1 to 5, the circular plate 24 is carried at the upper ends of the arms 27 of the spider. Each of the arms extends through a suitable aperture 29 provided therefor in the turn-table and have their lower portions bent upwardly and integrally formed or otherwise secured to the slidable collar 28, as clearly shown in Figure 2. The slidable collar 28 is operatively mounted on the bearing sleeve 21. The periphery of the collar 28 is provided with an annular groove 29.

As shown in Figure 6 the lifting plate 24 may if desired rest loosely upon the upper ends of the spider arms 27. In this construction the pin 25 is preferably pressed outwardly from the metal of the plate and is integrally threaded to engage with the externally threaded end of the guide rod 25' which is slidably mounted in a suitable bore provided in the motor spindle 14.

The control mechanism for the phonograph and the lifting or actuating mechanism for the record lifter are both arranged beneath the turn-table and are associated with a bed plate 30 which is secured to the top 11 of the phonograph cabinet. The lifting or actuating mechanism for the record lifter comprises a lifting bar 31 having one end pivoted as at 32, and having its opposite end yoked as at 33, and arranged in the annular groove 29 of the slidable collar. The yoke 33 thus permits the collar 28 to rotate relative to the lifting bar but the vertical motion of the lifting bar is connected to the collar. A cam surface 34 is provided on the lifting bar and an up-struck tongue 35 serves to guide the cooperating member into engagement with the cam surface. This cooperating member comprises a lifting arm 36 which as shown in detail in Figure 5 is constructed of resilient metal and has its outer end bent back upon itself, the inner edge of the bent-back portion being inwardly extended at right angles and a screw or other fastening means 37 securing the bent back portion in position, the in-turned edge serving to properly space the bent-back portion. A ball bearing 38 or other anti-friction element is seated on the outer end of the lifting arm and is adapted to engage the cam surface 34 of the lifting bar. It is obvious that as the lifting arm is moved along the cam surface 34 of the lifting bar toward the pivotal connection 32 thereof it will move the lifting bar vertically and the vertical motion of the lifting bar

being transmitted through the collar and spider arm will raise the record lifter to elevate the record or move the same away from the turn-table.

The lifting arm 36 is preferably carried on the hub 30 of the lever 40 pivoted at 41 to the bed-plate 30. The outer end of the lever 40 extends beyond the turn-table and is provided with an operating knob 42. The lever 40 may be grasped by the knob 42 and moved to actuate the lifting arm 36.

In the form of my invention shown in Figures 6 and 9 the motor spindle 14 is provided with an axial bore 43 which communicates at its upper end with an aperture 29 in this instance formed centrally through the turn-table and at its lower end with diametrically-extending elongated slots 44. The lifting plate 24 is provided with a single, and preferably integral, depending arm 27 in lieu of the arms of the spider. The lower end of this arm is secured to the slidable collar 28 by means of a cross pin 46 which extends through the slidable collar, the slots 44 and across the bore 43 and bears against the lower end of the arm 27.

The lifting bar 31 is pivoted intermediate its ends, as shown at 47, to the bracket 48 which depends from the lower face of the wall 11. A stop 49 is formed on the bracket to limit the downward movement of the yoke and of the lifting bar. The lifting bar in this form of the invention is not provided with the cam surface 34 or upstruck tongue 35 but its end remote from the yoke 33 is provided with a dished bearing surface 50 adapted for engagement with the lifting arm. The lifting arm embodies a toggle consisting of a pair of links 51 and 52 pivoted together, as at 53. The link 52 has its free end pivoted at 54 to the bracket 55 also depending from the lower ends of the wall 11. The free end of the link 51 is pivoted at 56 to an offset 57 provided on the lever 40. The end of the link 52 adjacent the pivotal connection 53 of the links is extended, as at 58, and arranged to engage the dished bearing surface 50 of the lifting bar. It is obvious that as the lever 40 is moved the pivotal connections 54 and 56 approach, thus moving the pivot 53 downwardly along with the extension 58 of the link 52. This depresses the outer end of the lifting bar and raises the yoke end so as to raise the record lifter to elevate the record or move it away from the turn-table.

The lever 40 in both forms of my invention preferably constitutes a common control lever not only for the lifting mechanism but also for the brake mechanism so that it functions both as a lift lever and a brake lever. To this end the hub 39 of the control lever is provided also with a brake arm 59. A brake 60 is pivotally arranged upon the bed-plate 30 as shown at 61, the brake

being adapted to engage the inner face of the peripheral rim 19 of the turn-table to arrest the motion of the turn-table and thereby stop the same, as shown in Figures 2, 3 and

7. The brake 60 is preferably spring actuated to either operative braking position or non-operative non-braking position. This feature is obtained by providing a retractile coiled spring 62 having one end secured to the brake lever and the other end secured to an abutment 63, the arrangement being such that in one position of the brake as shown in Figure 3, the line of pull of the spring with respect to the fulcrum of the brake is such as to throw the brake into braking engagement with the peripheral surface of the turn-table whereas in the other position of the brake the line of pull of the spring as shown in Figure 4 is such with respect to the fulcrum of the brake that the spring tends to maintain the brake in non-braking inoperative position. The lever 40 exercises a control over the brake through the brake arm 49 and a link 64 which is positively and pivotally connected at one end, as at 65, to the brake and has a pin and slot connection at the other end to the brake arm 59. This pin and slot connection comprises a pin 65 carried by the brake arm 59 which is received in and operates in an elongated slot 67 formed in the link 64.

I claim:

1. In a phonograph of the character described, in combination, a turn-table for the record, a lifting plate adapted to move the record away from the turn-table, a lifting bar, means for transmitting the motion of the lifting bar to the lifting plate, a lifting arm for actuating said lifting bar, a brake, a control lever carrying said lifting arm, a brake arm carried by said control lever, a link pivotally connected to the brake and provided with an elongated slot, a pin carried by the brake arm operatively received in the slot, all as and for the purposes set forth.

2. In a phonograph of the character described, in combination with a turn table for the record, means for lifting the record to move the same away from the turn table, a lifting bar, means for transmitting the motion of the lifting bar to the lifting plate, a brake, and a common control lever for the brake and the lifting bar and having a loose connection with the brake whereby the means for lifting the record may be operated independently of the brake.

3. A phonograph of the character described including a support, a motor spindle having an axial bore and transverse slots communicating with said bore, a turn-table constrained to rotate with the motor spindle and having an aperture communicating with the axial bore thereof, a lifting plate, a lifting bar, and means for transmitting the motion of the lifting bar to the lifting plate including an arm depending from the plate and operatively arranged in the axial bore and a loose connection between the bar and the arm.

4. A phonograph of the character described including a support, a motor spindle having an axial bore at its upper end and elongated diametrically extending slots communicating with the lower portion of said bore, a turn-table constrained to rotate therewith, said turn-table having a depression provided with an aperture communicating with the axial bore, a lifting plate normally seated in the depression and adapted to be elevated to lift the record, a collar slidably arranged on the motor spindle, a lifting bar having a yoked end engageable with the collar and means for transmitting the motion of the lifting bar to the lifting plate includ-

5 7. The brake 60 is preferably spring actuated to either operative braking position or non-operative non-braking position. This feature is obtained by providing a retractile coiled spring 62 having one end secured to the brake lever and the other end secured to an abutment 63, the arrangement being such that in one position of the brake as shown in Figure 3, the line of pull of the spring with respect to the fulcrum of the brake is such as to throw the brake into braking engagement with the peripheral surface of the turn-table whereas in the other position of the brake the line of pull of the spring as shown in Figure 4 is such with respect to the fulcrum of the brake that the spring tends to maintain the brake in non-braking inoperative position. The lever 40 exercises a control over the brake through the brake arm 49 and a link 64 which is positively and pivotally connected at one end, as at 65, to the brake and has a pin and slot connection at the other end to the brake arm 59. This pin and slot connection comprises a pin 65 carried by the brake arm 59 which is received in and operates in an elongated slot 67 formed in the link 64.

In operation it will be seen that when the phonograph is not in use, the brake prevents the motion of the turn-table, and as the lifting arm does not engage the lifting bar, the lifter is disposed in the recess or depression of the turn-table out of engagement with the record, as shown in dotted lines in Figure 2. It is to be noted that in this position of the parts the pin 66 of the pin and slot connection between the brake arm and the brake occupies an intermediate position in the slot 67. If it is desired to lift the record from the turn-table so as to provide for the free grasping and handling of the same, the control lever 40 is swung further in a counter-clockwise direction to the position shown in dotted lines in Figure 3. This movement of the control lever causes the lifting arm to engage the lifting bar and move the record R away from the turn-table, as shown in Figures 1, 2 and 6 to permit the same to be readily and easily handled. The pin and slot connection between the brake arm and the link connecting the brake arm and the brake allows this action to take place without affecting or in anywise disturbing the action of the brake. To return the record lifter to its normal position it is only necessary to swing the control lever back to the position shown in full lines in Figure 3. If it is desired to start the phonograph the control lever is swung further in a clockwise direction to the position shown in Figure 4. This continued

ing an arm extending through the aperture of the turn-table and having one end secured to the lifting plate, and a cross pin extending through the collar, the slots and across the bore and bearing against the lower end of the arm.

5. In a phonograph of the character described, in combination, a turn-table for the

record, a lifting plate adapted to move the record away from the turn-table, a lifting bar having a dished end, and a lifting arm consisting of a toggle having one of its links extended and said extension engaging the dished end of the lifting bar.

JUSTIN A. CLARKE.