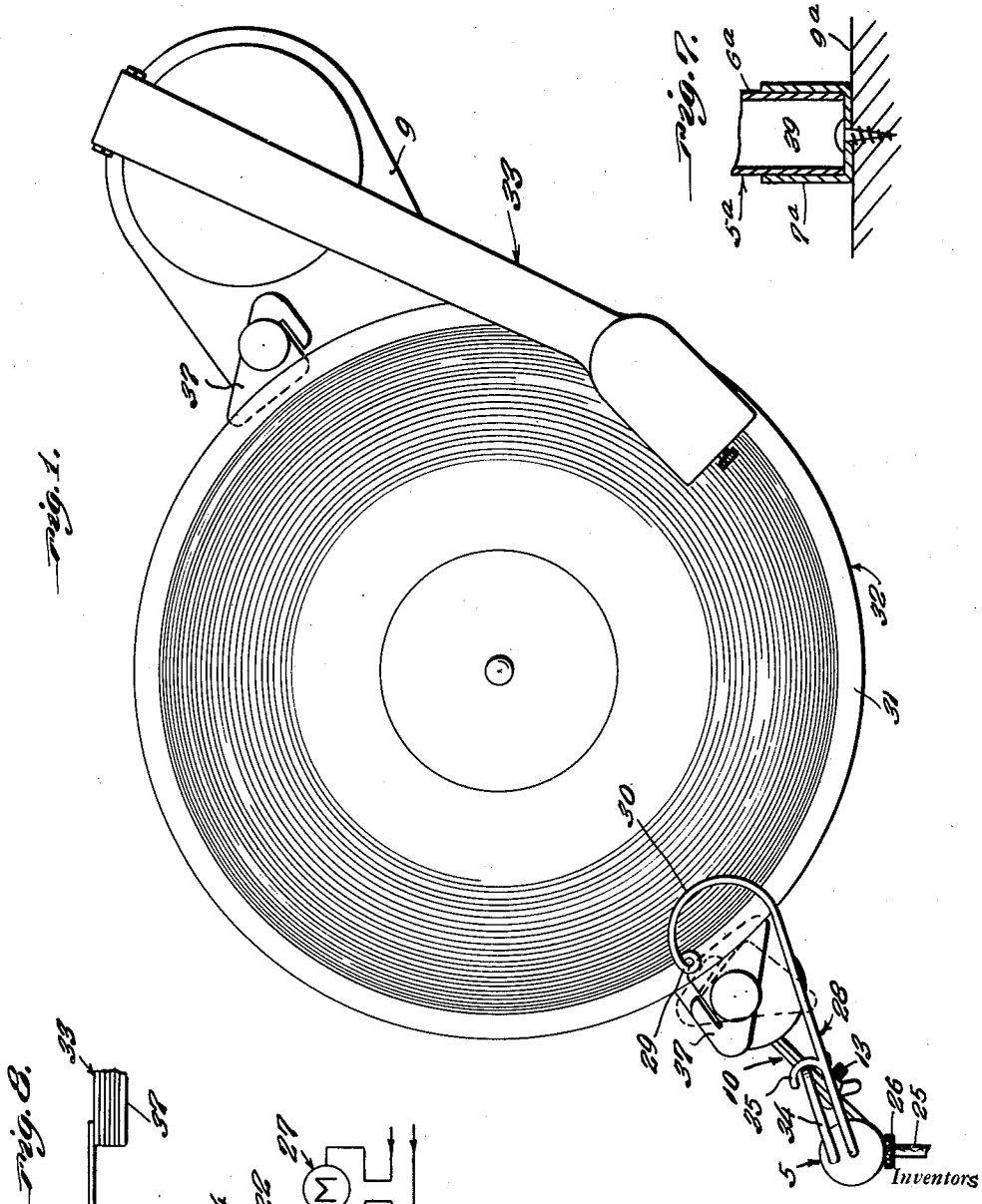
April 14, 1942. J. A. WALN ET AL 2,279,851

AUTOMATIC RECORD CHANGER STOP

Filed May 14, 1941 2 Sheets-Sheet 1



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AUTOMATIC RECORD CHANGER STOP

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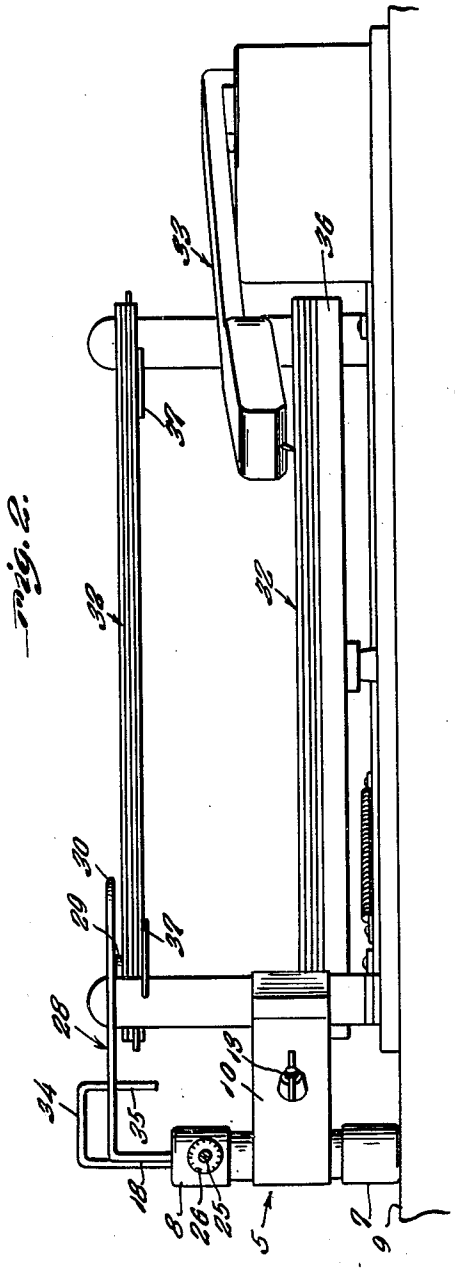


Fig. 6.

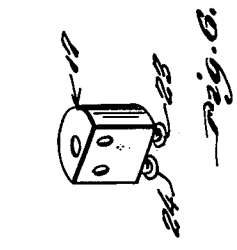


Fig. 8.

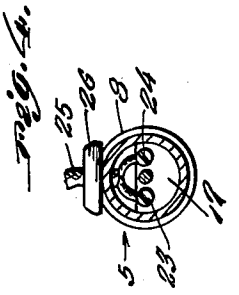


Fig. 7.

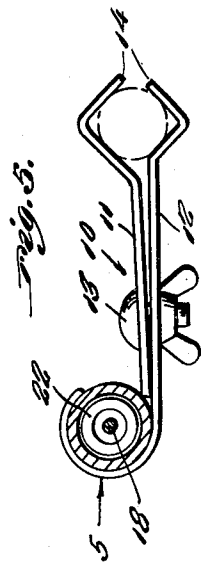


Fig. 9.

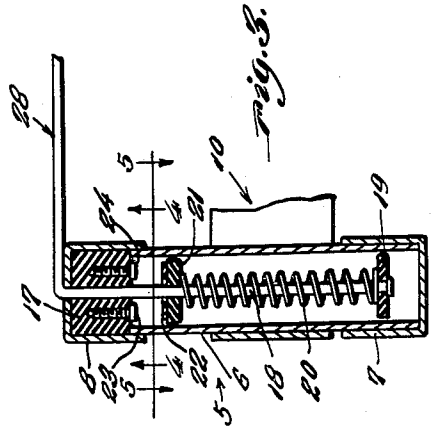


Fig. 5.

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AUTOMATIC RECORD CHANGER STOP

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Application May 14, 1941, Serial No. 393,448

3 Claims. (Cl. 274—10)

Our invention relates to means operative to automatically stop the motor of an automatic record changer when the last record has been dropped to the turntable and played, and the primary object of our invention is to provide an inexpensive arrangement of this character of simple and practical form, which can be built-in or provided as an accessory for attachment to conventional record players of the type indicated.

Other important objects and advantages of our invention will be apparent from a reading of the following description and the appended drawings, wherein a preferred embodiment of our invention is shown for illustrative purposes.

In the drawings:

Figure 1 is a top plan view of a record player of the automatic record changer type and showing the stop mechanism of the present invention applied thereto.

Figure 2 is a front elevational view of Figure 1.

Figure 3 is an enlarged fragmentary transverse switch assembly.

Figure 4 is a horizontal sectional view taken through Figure 3 along the line 4—4 and looking upwardly.

Figure 5 is a horizontal sectional view taken through Figure 3 along the line 5—5 and looking upwardly.

Figure 6 is a perspective view of the contact block of the switch assembly.

Figure 7 is a fragmentary transverse vertical sectional view taken through a switch assembly showing an alternative method of support therefor.

Figure 8 is a schematic wiring diagram showing the arrangement of the stop switch in the record player motor circuit.

Referring in detail to the drawings, the numeral 5 generally designates the switch assembly shown in Figures 1 through 6, comprising the vertical tube 6 capped at its lower end at 7 and capped at its upper end at 8, with the cap 7 resting on the surface of the top 9 of the record player support of a record player of the general type shown in Patent No. 2,031,440 granted February 18, 1936, to S. P. Arvidius. A clamp 10 comprising a pair of arms 11 and 12, traversed by a clamping bolt 13, have jaws 14 at their outer ends for clamping on the rotatable record player upright 15. The opposite end of the arm 12 has a tubular portion 16 securely embracing the tube 6 above the lower cap 7.

Slidably traversing the upper cap 8 and a dielectric semi-cylindrical contact block 17 fitted in the cap and resting on the upper end of the tube 6, and extending into the lower part of said tube is the vertical plunger rod 18. A dielectric stop 19 is fixed on the lower end of the rod 18 and a helical spring 20 circumposed on said rod has its lower end resting on the stop 19.

In its fully expanded position and with the rod 18 in its most depressed position the upper end of the spring 20 is substantially spaced below the contact block 17. Resting on the upper end of the spring and slidable on the rod 18 and in the tube 6 is a dielectric block 21 carrying on its top an annular contactor 22 whose opening is spaced circumferentially from the rod 18 at all times. The contact block 17 has two diametrically opposed contacts 23 and 24, respectively, exposed at its lower end for bridging by the contactor 22. The wires to the contacts are in a conduit 25 passing through a grommet 26 on the side of the upper cap 8.

As indicated in Figure 8, showing an electrically driven record player, the record player electric motor 27 has one side connected to one side of the power source (not shown), said motor having its remaining side connected with the switch assembly contact 24, the contact 23 being connected to the remaining side of the power source. When the contactor 22 is in bridging relation to the contacts 23 and 24 the motor 27 is energized and operates the record player including the automatic record changing mechanism thereof. When the contactor falls away from the said contacts, the motor 27 is deenergized and operation of the record changer and record player ceases.

The upper end of the plunger rod 18 of the switch assembly is provided with a laterally projecting horizontal arm 28 which may be of the same gauge and material as the plunger. The arm 28 preferably is in the form of a hook with the slightly depressed terminal 29 of the crook 30 harmlessly return bent as shown in Figure 1 of the drawings, the said terminal being provided to normally slidably rest on or near the smooth margin 31 of the uppermost record 32. As shown, this is on the same side of the record as the tone arm 33 which in this instance is shown as supported diametrically opposite to the switch assembly.

The arm 28 has a limit stop 34 in the form of an inverted U-shaped rod projecting from the cap 8 in position to be engaged by the arcuate projection 35 on the record side of the arm 28 to prevent unwanted swinging of the arm 28 beyond proper record engaging position while

permitting withdrawal of said arm to clear the records.

When the arm 28 is raised sufficiently to position the terminal 29 on the margin 31 of the uppermost record of a stack of records, the spring 20 of the switch assembly is compressed and the contacts 23 and 24 are bridged by the contactor 22 to energize the electric player motor. This bridging is maintained by the expansion of the spring 20 as the arm 28 subsides with the dropping of individual records 32 from their elevated position to the turntable 36, until the arm 28 finally comes to rest on the record support 37 on which the last dropped record rested. As the playing of the last mentioned record on the turntable is completed, the record support 37 moves out of the way and permits the arm 28 to drop, as in the case of a record, thereby allowing gravity and the action of the spring 20 to depress the contactor out of engagement with the contacts 23 and 24 and deenergize the player motor 27. When the arm 28 is in this depressed position it clears the stop element 34 and may be swung to one side out of the way of removal of the records 32 from the turntable 36.

In the arrangement shown in Figure 7 of the drawings, the clamp 10 is absent and the switch assembly is mounted instead by a screw 38 passing through the lower cap 7*a* into the supporting surface 9*a*.

Although we have shown and described herein a preferred embodiment of our invention it is to be definitely understood that we do not wish to limit the application of our invention thereto except as may be required by the scope of the subjoined claims.

Having described the invention, what is claimed as new is:

1. In combination, an automatic record-changer equipped record player comprising a turntable driven by a motor, means for supporting a stack of records above said turntable including a retractible element to permit the lowermost record of the stack to drop onto and be played on said turntable, a vertically movable arm engaging the uppermost record of said stack, said retractible element being disposed in the path of downward movement of said arm for engagement by the arm when the last record of the stack has dropped and is being played on said turntable, said arm being released by the retractible element as said retractible element automatically retracts at the finish of the playing of the said last record, a circuit breaker including stationary contact means and movable contactor means connected in the circuit of said motor, said movable contactor means being operatively connected to said arm, and means maintaining said contactor means electrically engaged with said contact means during partial depressing movement of the arm and in advance of the release of the arm by said retractible element, said last-named means being rendered ineffective so as to release the contactor and de-energize the motor when said arm is in its fully depressed position.

2. In combination, an automatic record-changer equipped record player comprising a turntable driven by a motor, means for supporting a stack of records above said turntable including a retractible element to permit the lowermost record of the stack to drop onto and be played on said turntable, a vertically movable arm engaging the uppermost record of said stack, said retractible element being disposed in the path of downward movement of said arm for engagement by the arm when the last record of the stack has dropped and is being played on said turntable, said arm being released by the retractible element as the latter automatically retracts at the finish of the playing of the said last record, and circuit-breaker means for the motor operatively connected to said arm and arranged for movement into circuit-opening position upon releasing of the arm by said retractible element.

3. The combination recited by claim 2 wherein said arm is swingably mounted to clear the records.

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