J. JANES.

PHONOGRAPH CABINET.

APPLICATION FILED NOV. 17, 1920.

1,414,086.

Patented Apr. 25, 1922.

4 SHEETS—SHEET 1.

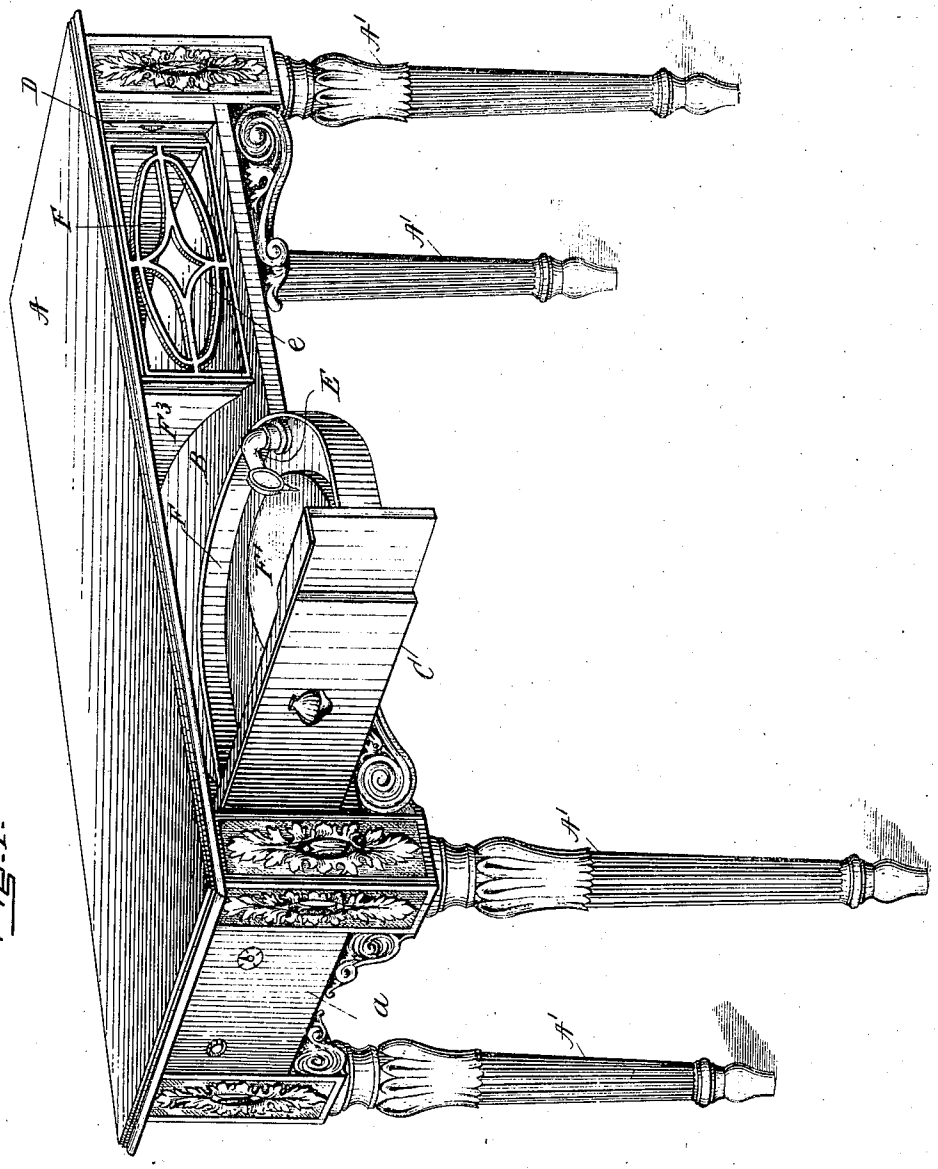


Fig. 1.

INVENTOR=
Joseph Janes

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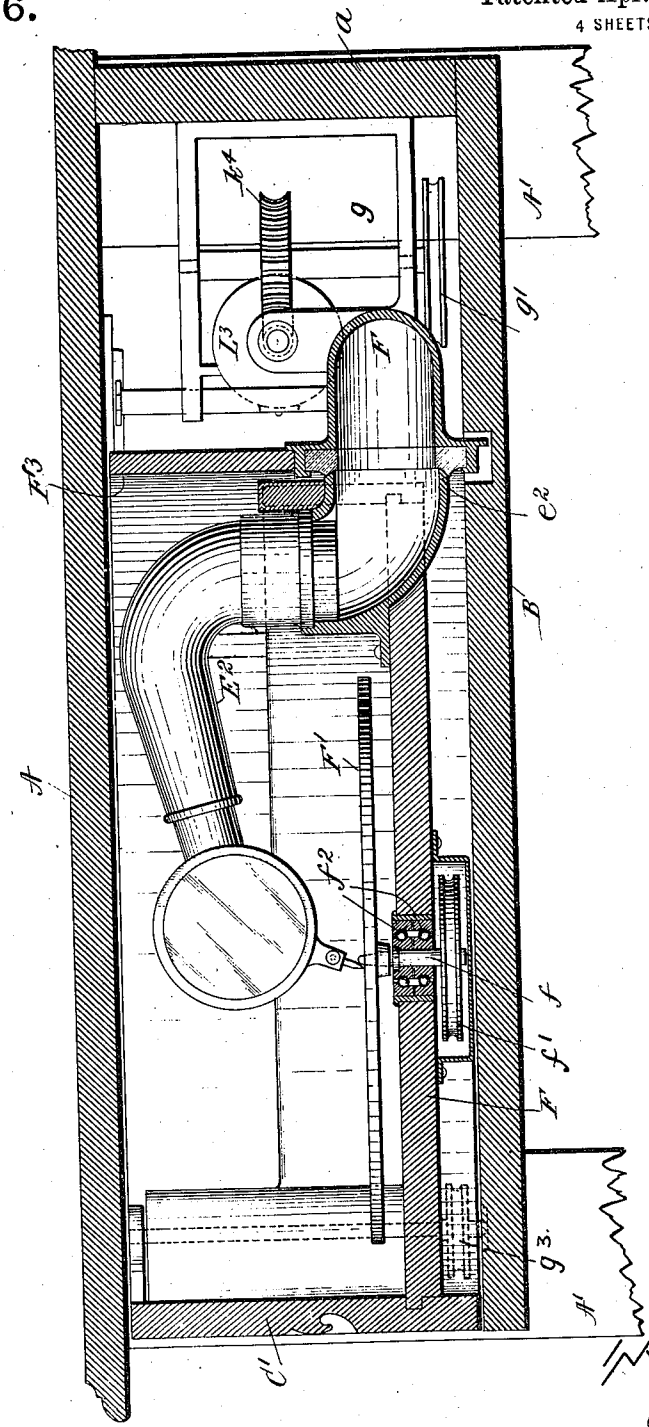


Fig. 2.

INVENTOR:
Joseph Janes

By

ATTORNEYS:

J. JANES.

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4 SHEETS—SHEET 3.

Fig. 3.

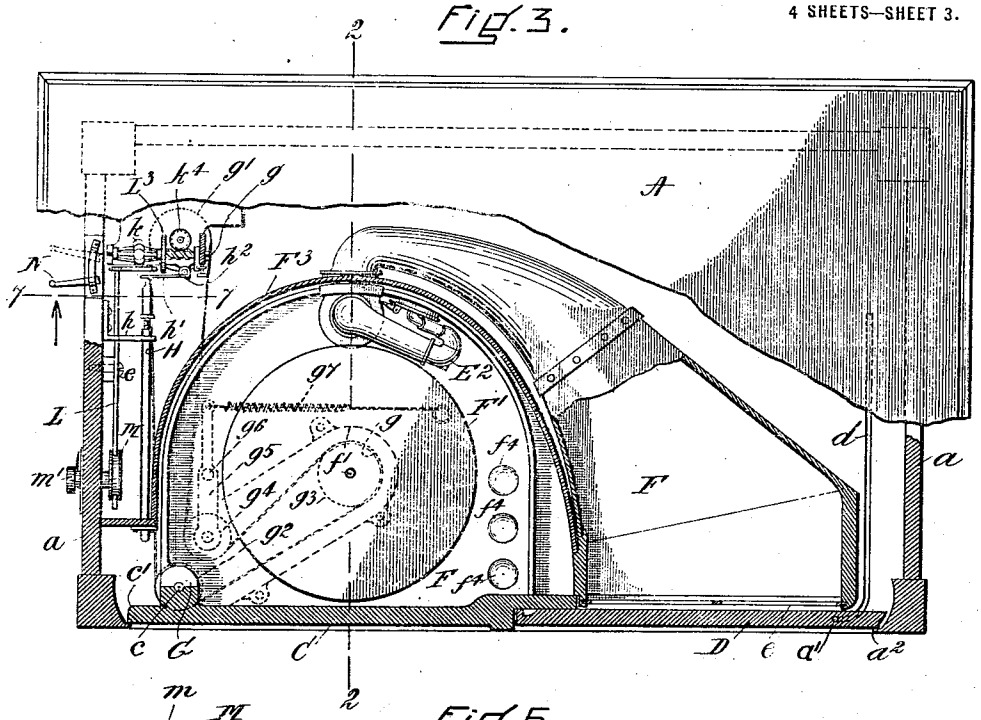
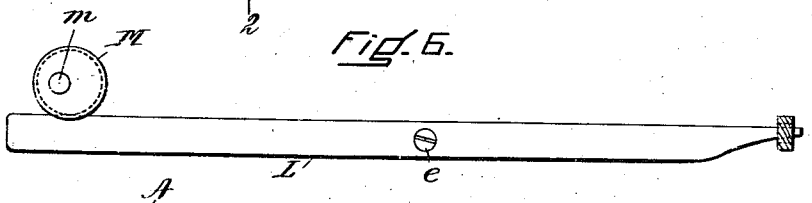


Fig. 6.



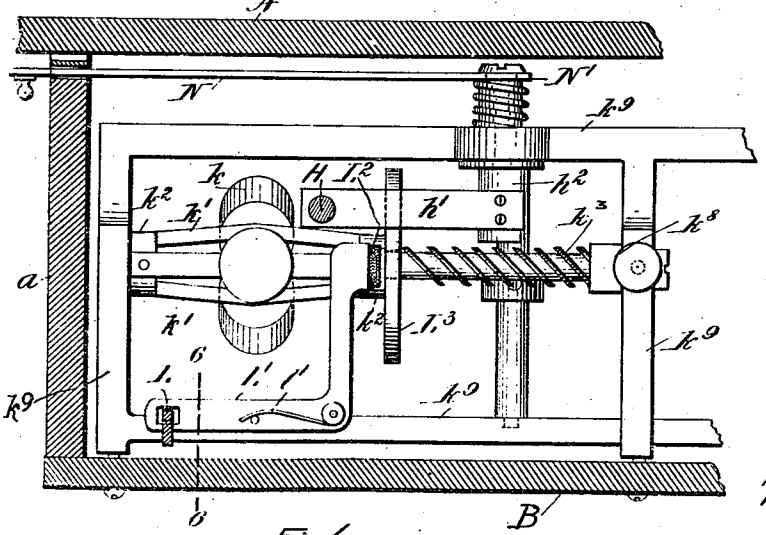


Fig. 7.

INVENTOR:
Joseph Janes

By

ATTORNEYS:

J. JANES.

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4 SHEETS—SHEET 4.

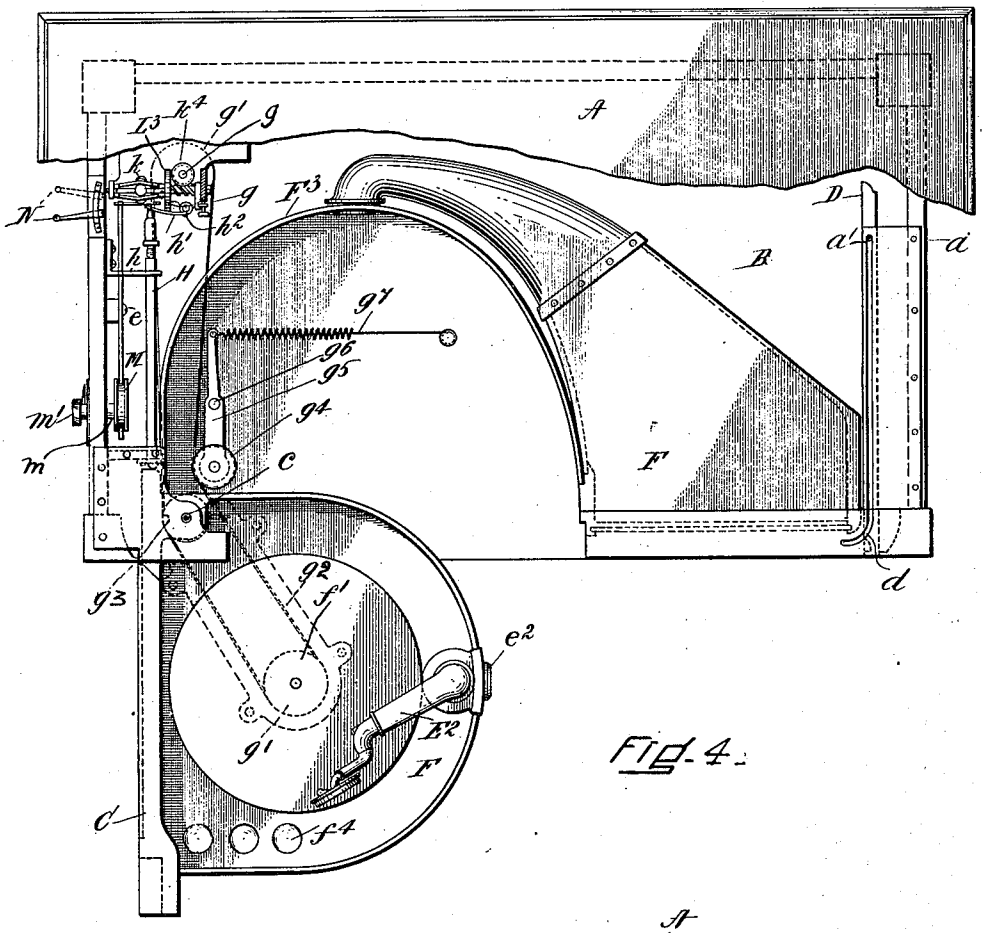


Fig. 4.

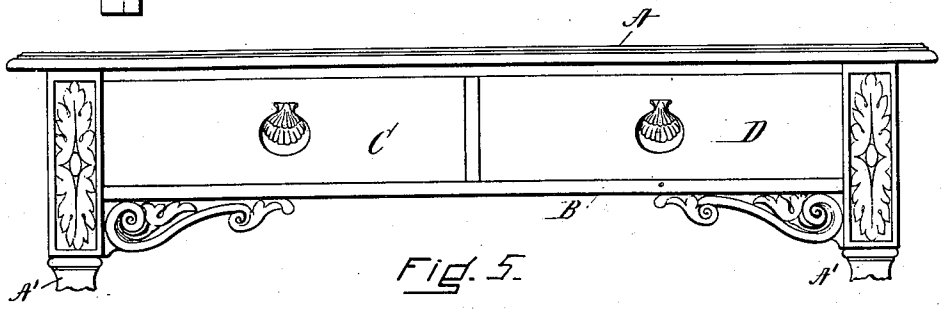


Fig. 5.

INVENTOR:
Joseph Janes

By

ATTORNEYS:

UNITED STATES PATENT OFFICE.

JOSEPH JANES, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO G. CLAY COX, OF ROCHESTER, NEW YORK.

PHONOGRAPH CABINET.

1,414,086. Specification of Letters Patent. Patented Apr. 25, 1922.

Application filed November 17, 1920. Serial No. 424,648.

To all whom it may concern:

Be it known that I, JOSEPH JANES, of Somerville, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Phonograph Cabinets, of which the following is a specification.

My improvement consists in a phonograph cabinet of such character that it may be used as an ordinary library table for writing, holding books, a lamp, etc., thus combining in one the functions of the two articles of furniture, especially desirable in a small apartment. It comprises means for supporting the phonograph mechanism, starting, stopping it, etc., automatically in a way convenient for changing records.

My invention will be understood by means of the drawings in which it is shown in the most convenient form now known to me, although it may otherwise be embodied.

Figure 1 is a perspective view of a table, the phonograph support or drawer being open to enable the record to be changed or the needle adjusted.

Fig. 2 is a cross section on line 2—2 of Fig. 3.

Fig. 3 is a partial horizontal section showing the parts as ordinarily arranged when out of use.

Fig. 4 is a corresponding view, the drawer carrying the record table being open.

Fig. 5 is a partial front elevation of the table when the drawers are closed and the phonograph out of use, and

Figs. 6 and 7 are details to be described below.

A is the table top which forms the top of the phonograph cabinet and is mounted on a frame of ordinary construction, A^1 being the supporting legs. The cabinet itself comprises a flooring B supported between the legs A^1. The front of the cabinet comprises a hinged drawer C and a sliding drawer D which preferably overlap. In Figs. 3 and 5 both drawers are closed. In Figs. 1 and 4 both drawers are open. The details of the sliding drawer will not be described except to say that it comprises a front having a pin a^1 projecting from its top, running in a suitable curved guideway d supported from one of the side walls a of the cabinet, so that upon pushing the drawer to the right it will slide round and lie at right angles to its normal position and when it has been so slid round it will expose the mouth of the horn E, the front of the mouth being preferably covered by a grill e of some kind (see Figs. 1 and 4). This drawer has a corresponding pin projecting from its bottom and running in a corresponding groove in the flooring B.

The door C is hinged on a pivot c and is adapted to be opened from the position shown in Fig. 3 to the position shown in Figs. 1 and 4 after the drawer D has been slid back, the right hand edge of the drawer C preferably overlapping an extension of the drawer D as will be seen from Fig. 3, so that the drawer C cannot be opened until the open end of the horn has been exposed.

The drawer C carries a flooring or bottom F on which is mounted in the usual way the record table F^1 on which the record is mounted in the usual way. The record table F^1 is mounted on a shaft f which passes down through the flooring F. A strap or housing f^1 attached to the under side of the drawer bottom serves as a belt housing. f^2, f^2 are ball bearing boxes of usual construction mounted in the usual way to reduce friction.

Only so much of the power mechanism is shown as is necessary to the understanding of my invention. It comprises a shaft g with the necessary means for rotating it. This shaft g has at its lower end a pulley g^1 which is connected by means of a belt g^2 with the pulley f^1 on the bottom of the shaft f passing around the pulley g^3 mounted on the pivot c below the flooring F and the tension pulley g^4, this latter pulley being mounted on a lever g^5 pivoted at g^6, the further end of the lever being controlled by the spring g^7.

These parts are so arranged as shown in Fig. 3 that the pulley g^4 takes up a proper amount of slack in the belt so that when the pulley g^1 is turned by the motor the record table F will also be turned by the belt (see Fig. 3). In Fig. 4 the drawer C is open and the arrangement is preferably such that the tension of the pulley g^4 on the belt will be somewhat released, preferably to such an extent that sufficient power will not be carried by it from the pulley g^1 to the record table, and the device will be inoperative, thus allowing the user to change his record,

needle, etc. and set the parts in operative relation for the next reproduction. When thereafter the drawer is closed, the angle of the belt about the pulley g^4 is decreased and by means of the spring g applies sufficient tautening to the belt g^2 to rotate the record table again. Thus the record table will stop when the drawer is open wide and will be started again as the drawer is closed.

It is desirable that the record table shall be stopped. For this purpose I have provided a push rod H mounted in brackets h, one end of the rod being located to be struck by the heel c^1 of the drawer when the drawer is open as shown in Fig. 4 and when the drawer is closed as shown in Fig. 6 to be withdrawn from its closing position. For this purpose its further end engages a spring h^1 mounted on a stud h^2, which spring when the drawer is open is engaged by one end of the rod H and is pushed against a disk L^3 mounted on the shaft k^3 which carries the governor (see Fig. 7). The governor is of usual construction comprising weighted members k mounted on spring members k^1 which are carried by collars k^2 (one of these collars being loose) on a worm shaft k^3, this worm shaft being operated by a worm gear k^4 on the shaft g. As the shaft g is rotated by the motor it rotates the disk L^3. The free end of the worm is mounted in a bearing k^8 attached to a frame (the various parts of which are lettered k^9) in which the further end of the governor is also mounted. The motor may be stopped by the lever N on shaft N^1 in the usual way.

This construction is such that in order to operate the phonograph the door D is first slid back from the position shown in Fig. 3 to the position shown in Fig. 4. The drawer C is then swung open thus preventing any movement of the motor, and the record is then placed on the table and the needle adjusted in the usual way. The motor having been energized as by clockwork or an electrical connection, the drawer C is then swung to and because of the rod H, which is thrown back by the spring h^1 or by the adjustment of the tension of the belt g^2 through the spring g^7, power is applied to the record table and it begins to rotate until either the motor has run down or the drawer is again opened or stopped by the lever N.

To secure a change in the speed of rotation I have provided a lever L pivoted at e and having at one end engagement with a bell crank L^1 controlled by a spring l^1. At the upper end of this lever L^1 is mounted a piece of felt or the like L^2 located to engage the disk L^3 on the shaft k^7. It will be seen that by lifting the outer end of the horizontal arm L^1 the felt bearing L^2 will engage the disk L^3 and by friction control its rapidity of movement and hence the movement of the shaft k^8, which control will pass back to the motor through the various connections. In order to give this movement to the lever L^1 and lever L, I provide an eccentric M mounted on a stud m which has at its outer end a spring-controlled button m^1 so that by turning the stud m the arm of the lever L engaging the eccentric M will be moved a greater or less degree and so a greater or less degree of pressure or no pressure at all will be exerted by the felt pad L^2 on the disk L^3. The preferred location of this mechanism is shown in Figs. 4, 6 and 7.

The horn F is made in two parts, one part extending from the grill e to a point where it will register with a suitable opening in the back of the drawer or flange F^3 forming part of the table support F. The table support carries the small end of the horn and the sound box E^2 and where these two parts meet when the drawer is closed and the apparatus is in operative position I prefer to use a washer or gasket e^2 made of felt, rubber or the like to make a tight joint. It will be noted that the connection is a thrust connection made by the swinging of the drawer which thrusts one part into the other, thus making a tight joint instead of wiping one part over the other as is usual in jointed horns. This latter movement soon wears the washer.

A wall F^3 lying between the drawer and its mechanism and the horn screens the horn to a considerable degree from the vibrations of the record table.

In describing an embodiment of my invention as above I do not mean to limit myself to the exact construction shown. So far as I am aware the arrangement of a phonograph in a table or other like article of furniture capable of other uses in distinction from the cabinet, which is a specific device constructed for that purpose alone, is new with me, and I have shown what seems to me a simple way of combining the two structures so that the desired result may be secured, that result being a plain or ornamental table the top of which may be used for writing or other purposes to which a table is ordinarily put. The table frame or body acts as the container and the drawers form the closures therefor. It is evident, however, that the operative parts of my invention may be embodied in a cabinet or otherwise.

In the form of my invention shown the drawer must be opened nearly 90 degrees before the record table will stop or power will be shut off and the record table will begin its rotation shortly after the drawer begins to close. This is a convenient arrangement because it brings the record to a stop at the point when it can easily be removed from its table, but the mechanism can be otherwise arranged if desired.

It will be seen that the horn is curved so that its mouth is flush with the front of the

flooring on which the record table is supported and this enables the table to be made with two drawers, alike in front, the one containing the record table and the other exposing the horn.

What I claim as my invention is:—

1. A device of the kind described comprising a container provided with a closure, a record table support mounted on said closure, a motor, a record table rotatably mounted on said table support, connections between said table and said motor whereby said table will be rotated, and means operable by said closure whereby said table and motor will be operably disconnected and said motor will cease to rotate said table.

2. A device of the kind described comprising a container provided with a closure, a table support mounted on said closure, a motor, a record table mounted on said table support, connections between said table and said motor whereby said table will be rotated, and means operable by said closure, when said closure has opened to a predetermined point, whereby said table and motor will be operably disconnected and said motor will cease to rotate said table.

3. In a device of the kind described, a table top having a flooring mounted below it, a motor mounted on said flooring, a drawer-front hinged between said top and said flooring, a record table support mounted on said drawer-front to be moved therewith, a record table mounted on said support, connections between said record table and said motor to rotate said record table, and means operable by the locating of said drawer-front in a predetermined open position to stop the rotation of said motor.

4. In a device of the kind described, a hinged drawer, a record table mounted thereon, means for rotating said record table, and means adapted to be engaged by said drawer-front when said drawer front is in a predetermined position whereby said rotating means will be rendered ineffective to rotate said record table.

5. In a device of the kind described, a hinged drawer, a record table mounted thereon, means for rotating said record table, and means adapted to be engaged by said drawer-front when said drawer front is in a predetermined position whereby said rotating means will be rendered ineffective to rotate said record table, said means comprising a push-rod.

6. In a device of the kind described, a hinged drawer, a record table mounted thereon, means for rotating said record table, means adapted to be engaged by said drawer-front when said drawer front is in a predetermined position whereby said rotating means will be rendered ineffective to rotate said record table, said means comprising a push-rod, and a spring adapted to return said push-rod to its normal position when said drawer is not in said predetermined position.

7. A phonograph table comprising a stationary member and a swinging member, a horn comprising two sections, one section being mounted on said stationary member and the other on said swinging member carrying a record table, a motor and means connecting said motor and said record table whereby when said motor and said record table are in operative relation said sections of said horn will be in register.

8. A device of the kind described comprising a container provided with a movable closure, a record table support mounted on said closure, a motor, a record table rotatably mounted on said table support, connections between said record table and said motor whereby said record table will be rotated, and means operable by said closure whereby said motor will cease to rotate said table.

JOSEPH JANES.