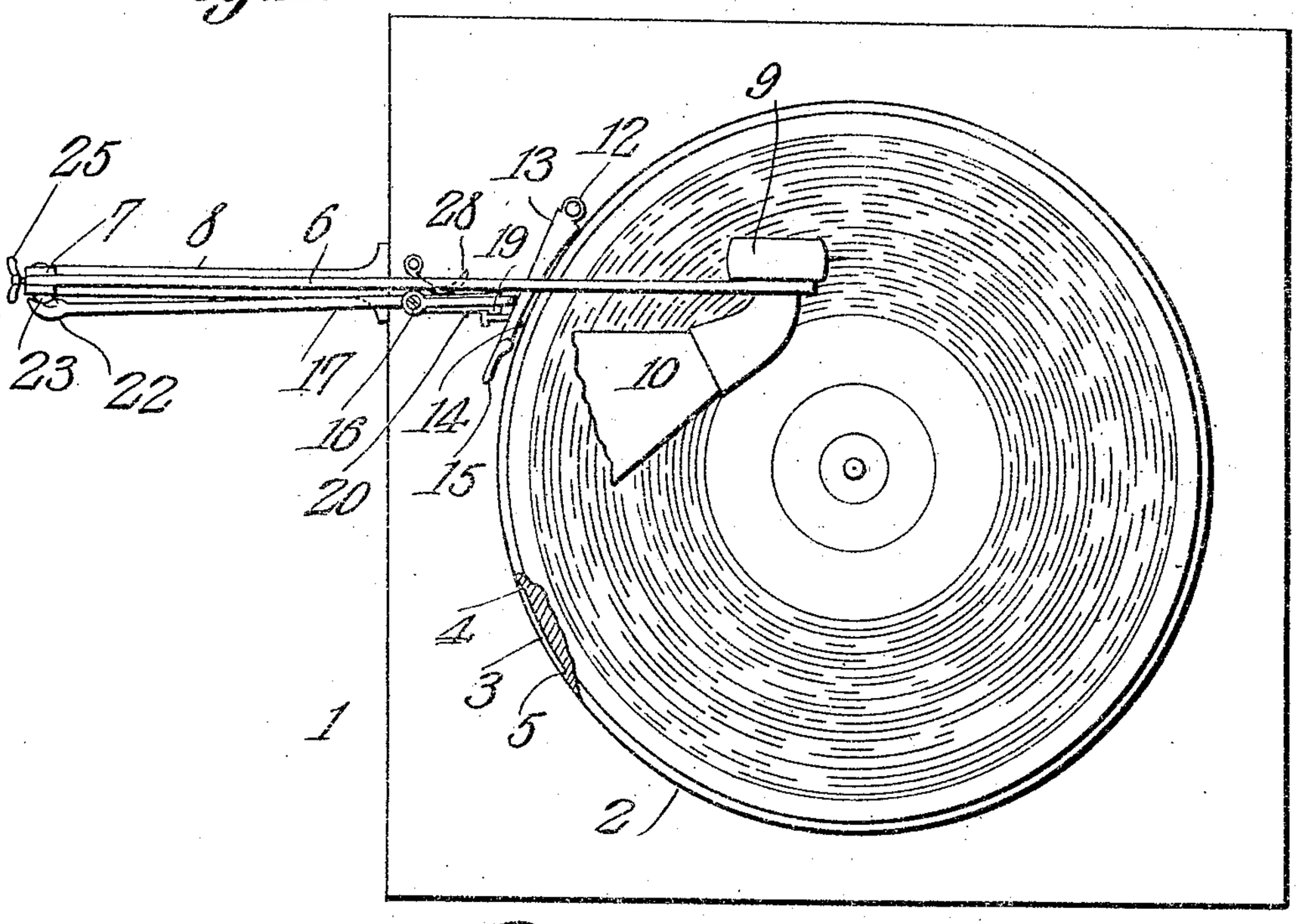
T. P. REED.

ATTACHMENT FOR SOUND REPRODUCING MACHINES.

APPLICATION FILED OCT. 30, 1908.

925,025. Patented June 15, 1909.

Fig. 1.



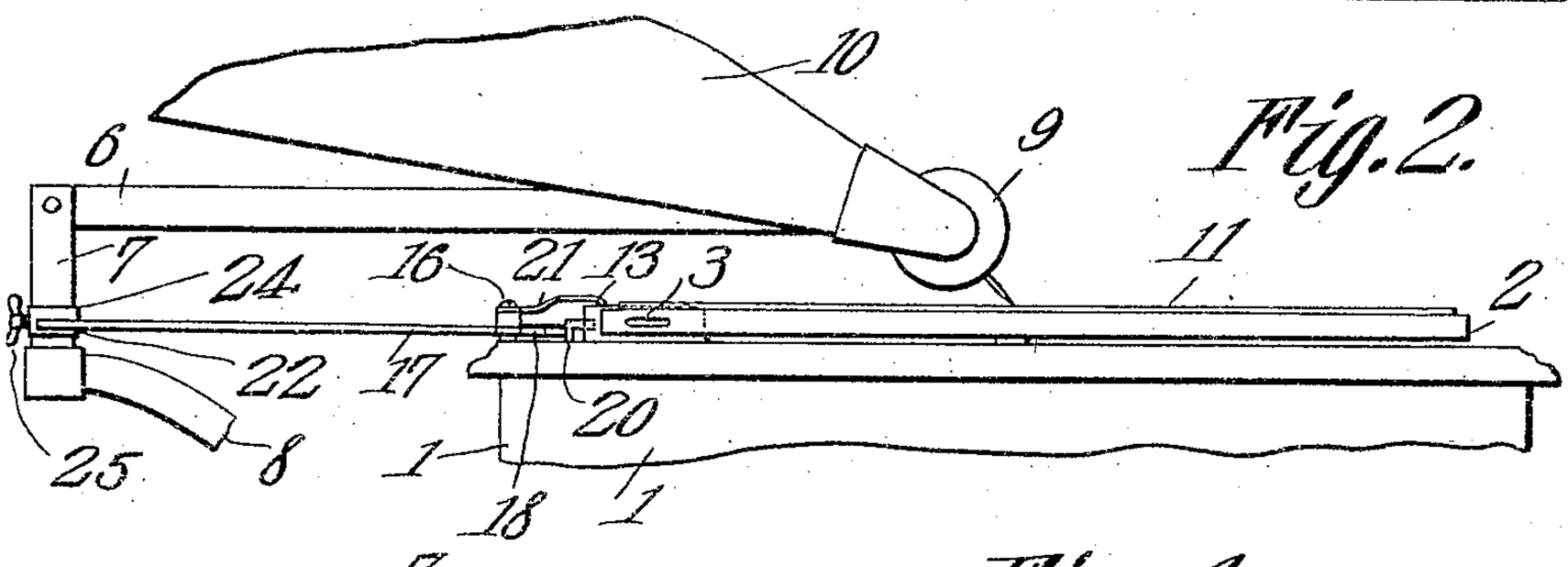


Fig. 2.

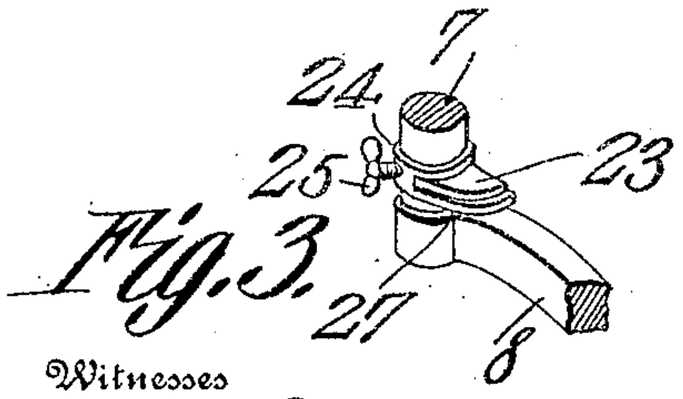


Fig. 3.

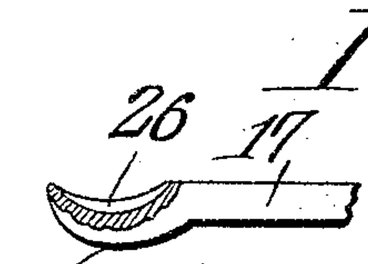


Fig. 4.

Witnesses

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ATTACHMENT FOR SOUND-REPRODUCING MACHINES.

No. 925,025. Specification of Letters Patent. Patented June 15, 1909.

Application filed October 30, 1908. Serial No. 460,357.

To all whom it may concern:

Be it known that I, THOMPSON P. REED, a citizen of the United States, residing at Richland, in the county of Pulaski and State of Missouri, have invented a new and useful Attachment for Sound-Reproducing Machines, of which the following is a specification.

This invention has reference to improvements in sound reproducing machines and its object is to provide a means whereby the sound box or sound box carrying arm or parts attached thereto will cause the stopping of the tablet carrying table at the end of the sound record.

The present invention is designed more particularly for use in connection with that type of sound reproducing machines wherein the sound record is produced in a flat or disk like tablet and the tablet is mounted on a flat circular table set in rotation by suitable mechanism and the sound box is propelled across the sound record tablet by the engagement of the sound reproducing stylus in the sound record groove, the sound reproducing machine being of the type known as the gramophone.

While the invention is particularly adapted for use in the gramophone type of sound reproducing machines this does not preclude the use of the invention or operative parts thereof in connection with the type of sound reproducing machines wherein cylindrical tablets are used.

In accordance with the present invention there is provided a brake and stop member so situated with reference to the revolving table that when not restrained will engage the edge of the table and brake the same and ultimately positively engage the table in such manner as to hold the same against rotation until released. In connection with the brake mechanism there is provided a catch mechanism controlled by the swinging arm carrying the sound box so that when the sound box is in position to have the stylus engage the beginning of the record groove then the brake mechanism may be latched out of engagement with the table and when the sound box has traversed the record and reached the final portion thereof the brake mechanism will be released and the table will be automatically stopped.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings,

Figure 1 is a plan view of so much of a sound reproducing machine as is necessary for the understanding of the invention with the improved attachment applied thereto. Fig. 2 is a side elevation of the same, and Figs. 3 and 4 are detail views of a portion of the attachment.

Referring to the drawings there is shown a casing 1 commonly employed in instruments of this character for the reception and protection of the driving mechanism. On this casing there is mounted a revolving table 2 such as is commonly employed in sound reproducing machines of the character shown and in the edge or periphery of this table there is formed an elongated recess 3 having one end 4 sloping and ultimately merging into the periphery of the table and the other end 5 in the form of an abrupt shoulder substantially radial to the table. There is also shown in the drawings a swinging arm 6 mounted at the outer end on a swivel post 7 carried by a bracket 8 fast on the casing 1 and at the other end the arm 6 carries the usual sound box 9 to which sound box is connected the usual amplifying horn 10. There is also shown upon the table 2 a sound record tablet 11 of the usual disk type.

Pivoted at one end to the casing 1 by means of a pivot 12 is a brake shoe 13 in operative relation to the periphery of the table 2 and this brake shoe is provided on its active face near the free end with a projecting stud 14 adapted to engage in the recess 3 when the brake shoe is free to move toward the edge of the table 2. The end of the brake shoe remote from the pivot 12 is formed into a finger hold 15 by means of which the brake shoe may be manipulated in a manner to be described.

Mounted on a pivot stud 16 rising from the top of the casing 1 is a lever 17 having a short end 18 projecting toward the brake shoe 13 and this short end terminates in a tooth 19 adapted to engage a finger 20 fast on the shoe 13 and the parts are so proportioned that when the finger 20 is engaged behind the tooth 19 the brake shoe 13 is held out of engagement with the periphery of the table 2.

Along the stud 16 there is made fast a spring 21, preferably a leaf spring suitably bent to engage against the face of the brake

shoe 13 remote from the face designed to engage the periphery of the table 2 and this spring is of such strength and so shaped as to tend always to force the brake shoe against the edge of the table 2 with sufficient force. At the same time the spring 21 will yield to a force applied to the finger hold 15 so that the brake shoe may be moved out of active engagement with the periphery of the table 2 until the finger 20 is caught behind the tooth 19 and the brake shoe is thereby held against the action of the spring 21 out of engagement with the table 2.

The longer end of the lever 17 is continued until adjacent to the swivel post 7 where the end of the lever 17 is formed to a head 22 adapted to be engaged by a cam 23 projecting from a collar 24 encircling the post 7 above the bracket 8 and held thereto by a set screw 25 so that the sleeve 24 may be adjusted rotatively about the longitudinal axis of the post 7.

Since the post 7 is removed a considerable distance from the casing 1 and therefore the long arm of the lever 17 is of considerable length, it is advisable to support the outer end or head 22 of this long arm of the lever and for this purpose the head 22 may be provided with a recess 26 into which there fits a tongue 27 on the cam 23. This in no manner interferes with the action of the cam 23 and at the same time serves to support the outer or free end of the lever 17. Of course any other means for the same purpose may be used.

A spring 28 on the casing 1 and engaging the shorter end 18 of the lever 17 serves to maintain the head 22 in constant engagement with the cam 23 and also tends to move the tooth 19 toward the finger 20 when the outer end of the lever 17 is released from the action of the cam 23.

The parts are so proportioned that when the sound box 9 is in position to engage the beginning of a record impressed in the tablet 1 which record is in the form of a spiral groove having its initial turns at or near the periphery of the record tablet 11, the cam 23 is in such position as to be out of active engagement with the head 22 and the spring 28 thereby forces the lever 17 in a direction to bring the tooth 19 into the path of the finger 20. Now the brake shoe 13 is moved by the operator in a direction away from the table 2 until the finger 20 snaps behind the tooth 19 and is there held, the position of the brake shoe 13 under these conditions being such that the stud 14 is out of engagement with the periphery of the table 2 as is also the active face of the brake shoe 13.

The sound box is fed across the tablet 11 by the rotation of the latter and because of the spiral form of the sound record groove until the stylus of the sound box approaches the end of the sound record groove at the inner edge of the annular zone occupied by the sound record groove.

In sound records of the disk type there are always a few turns of the groove at the end of the record which are left free from sound and the cam 23 is so timed in operation that as the sound box 9 approaches the end of the record groove the cam 23 will have moved the long arm of the lever 17 so that during the few final blank turns of the groove the tooth 19 is moved out of the path of the finger 21 and the brake shoe 13 is then free to be moved toward the periphery of the table 2 by the action of the spring 21. Under these conditions as soon as the rotation of the table 2 has brought the recess 3 into coincidence with the stud 14 the latter drops into the recess 3 riding down the inclined end 4 and the active face of the brake shoe 13 is brought into engagement with the periphery of the table 2 thus tending to stop its rotation which is rapidly slowed down by the braking action of the shoe 13 and ultimately the rotation of the table 2 is positively stopped by the engagement of the stud or pin 14 with the abrupt shoulder 5 at the end of the recess 3, it being understood that the direction of rotation of the table 2 as viewed in Fig. 1 is clockwise. The rotation of the sound record tablet is thus automatically arrested without attention on the part of the operator and the continued rotation of the tablet often to the injury of the same by the stylus, because of inattention on the part of the operator, is thereby avoided.

It will be understood of course that the invention is not limited to the exact structure shown since such structure may be changed in many particulars without in any manner departing from the salient features of the invention, for instance the invention is equally applicable to the taper arm type of sound reproducing machine as well as to the type illustrated in the drawings.

By using the brake and positive stop the sound record disk is arrested in its rotation and yet without shock or jar.

What is claimed is:—

1. An attachment for sound reproducing machines comprising a brake member having a brake and a positive stop element independent of the braking surface, and means for causing the active engagement of the braking surface and positive stop with the tablet carrier of the machine in the order named.

2. In a sound reproducing machine, a brake member having a braking surface and a positive stop element independent of the braking surface, a tablet carrier adapted to be actively engaged by the braking surface of the brake member and also provided with means for coacting with the positive stop element of the brake member, and means for causing the engagement of the braking sur-

face and positive stop with the tablet carrier of the machine in the order named.

3. An attachment for sound reproducing machines comprising a brake member having a braking surface and a positive-stop element independent of the braking surface, a tablet carrier adapted to be actively engaged by the braking surface of the brake member and also provided with means for coacting with the positive-stop element of the brake member, a lever having a catch member at one end adapted to hold the brake member in inactive position, and a cam adapted to be carried by the sound box supporting arm of the machine in operative relation to the lever to actuate the latter to unlatch the brake member.

4. In a sound reproducing machine, a sound-record-tablet-carrying table having a peripheral recess formed therein, a brake shoe in operative relation to the periphery of the table and provided with a stud projecting from its active face, and means controlled by the movement of the sound box over the record tablet for holding the brake against action and for releasing it to action.

5. In a sound reproducing machine, a record-tablet-carrying table having an elongated recess formed in its periphery, said recess having one end abrupt and the other sloping, a brake shoe in operative relation to the periphery of the table and having a stud projecting from its active face and adapted to engage in the elongated slot in the periphery of the table, and means controlled by the movement of the sound box over the record tablet for holding the brake against action and for releasing it to action.

6. In a sound reproducing machine, a sound-record-carrying-table having an elongated slot formed in its periphery, said slot having one end with an abrupt wall and the other end with a sloping wall, a brake shoe in operative relation to the periphery of the table and provided with a projecting stud on its active face adapted to engage in the elongated slot in the table, a spring tending to force the brake shoe toward the table, a lever having one end formed to engage and hold the brake shoe in inactive position, and a cam member carried by the sound box supporting arm of the machine and adapted to engage the lever to move the same out of latching relation to the brake shoe.

7. In a sound reproducing machine, a rotatable sound-record-tablet-carrying table having in its periphery an elongated slot with one end wall abrupt and the other end wall sloping, a spring actuated brake shoe in operative relation to the periphery of the table and provided with a projecting stud on its active face adapted to engage in the elongated slot on the table, a lever formed at one end with a catch member adapted to engage the brake shoe and hold the same in inactive position, and a cam member carried by the swinging arm supporting the sound box of the machine and in operative relation to the said lever, said cam member being adjustable on said arm to determine the time relation of its active engagement with the lever.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMPSON PAXSON REED.

Witnesses:
NELLIE REED,
H. R. REED.