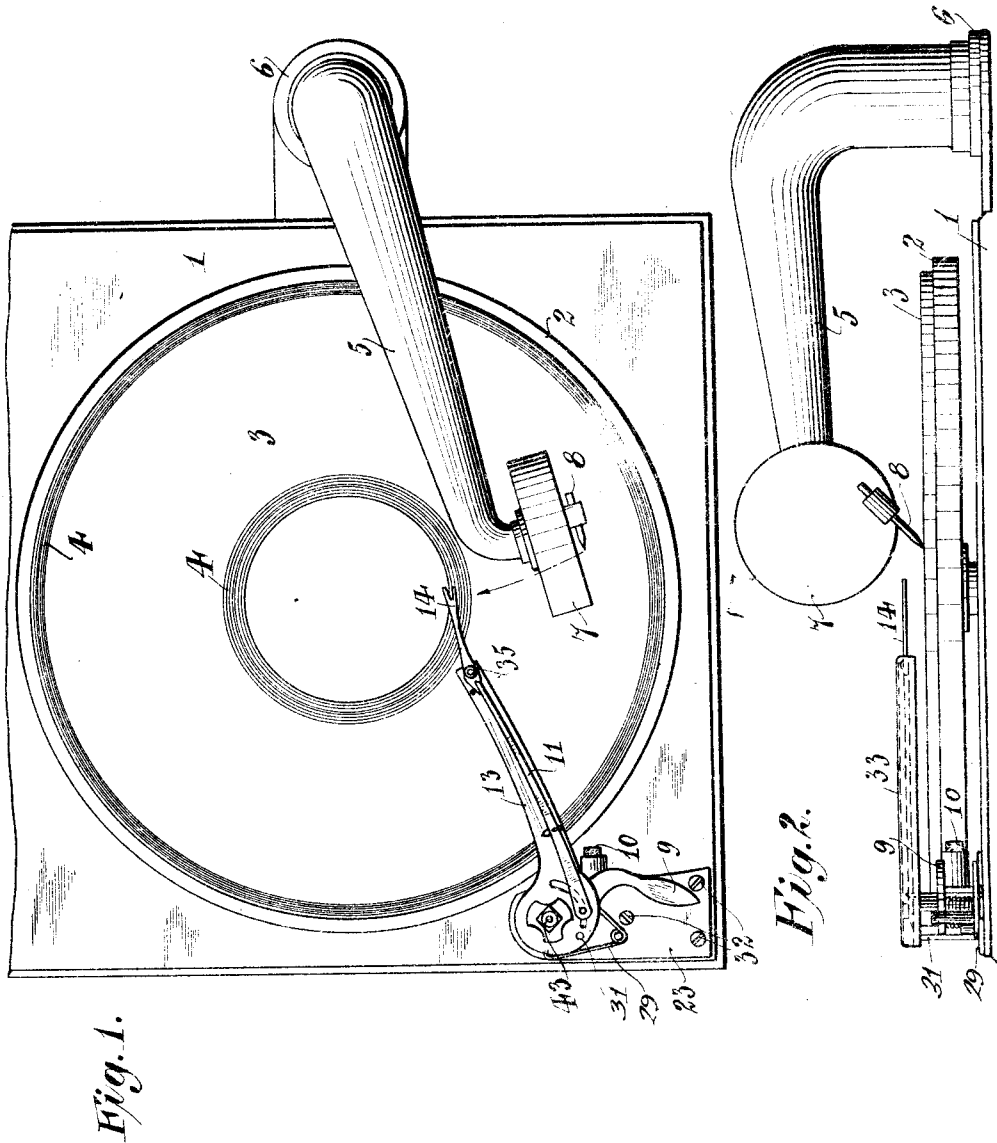


J. L. FIEDLER.
 AUTOMATIC STOP MECHANISM.
 APPLICATION FILED APR. 4, 1912.

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Patented Jan. 28, 1913.
 2 SHEETS-SHEET 1.

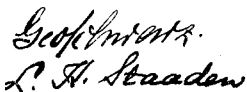


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1,051,569.

2 SHEETS—SHEET 2.



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AUTOMATIC STOP MECHANISM.

1,051,569.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN L. FIEDLER, a citizen of the United States of America, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Automatic Stop Mechanism, of which the following is a specification.

My invention relates to phonographs, graphophones and like sound-producing machines, in which a grooved record disk is rotated and which are provided with a pin or stylus carried by an arm and adapted to engage the grooves of said disk. In sound-reproducing machines of this kind the operator must watch the record disk, in order to stop the same, as soon as the music piece is finished, as the disk, otherwise, will continue to rotate and will be scratched by the sharp point of the stylus.

Now, the object of my invention is to provide means for automatically arresting the record disk and preventing its further rotation, as soon as the piece has been played.

In the drawings attached hereto, Figure 1 shows a portion of a phonograph of the usual construction, showing my new mechanism in operative position, the cover being removed; Fig. 2 is a side view; Fig. 3 shows my new mechanism on a larger scale, part of the grooved record disk and a portion of the base plate of the phonograph being shown, the position of the trigger-carrying arm being the same as that shown in Fig. 1; Fig. 4 is a side-view of my new mechanism, showing the cover thereof in longitudinal section; Figs. 5 and 5^a show the arm, carrying the plug, in plan and side-view respectively, Fig. 6 shows my new mechanism in plan view without the cover, and Fig. 7 is a cross-section on the line 7-7 of Fig. 4.

With reference to Figs. 1 and 2, 1 is the base-plate of a phonograph, 2 the disk carrier, adapted to be rotated by a spring motor (not shown), 3 the record disk, adapted to be mounted on said carrier so as to rotate therewith and provided with the sound-reproducing grooves 4. (In the drawing in Figs. 1 and 3 only some of these grooves are shown). 5 is the tone arm, pivoted at 6 and carrying at its free end the sound box 7 and stylus 8. All these parts are of known construction and operate in the usual way, *i. e.* while the record disk 3 is revolving with its carrier 2, the stylus 8 is moved across the

disk in the grooves thereof in the direction of the arrow shown in Fig. 1.

My new stop mechanism, shown in detail in Fig. 6 comprises the following parts, *viz.*, the arm 9, carrying the plug 10, of rubber or any other suitable material, the bar 11 connected with the arm 9 by pin 12, the trigger supporting arm 13 and the trigger 14. The latter is provided with a notch 15, adapted to receive the free end of bar 11 (see Figs. 1 and 3), which, in this position, holds the arm 9 in its inoperative position. A spring 16 is provided to hold the bar 11 in engagement with the trigger 14, the spring 16 being secured with one end to a pin 17 on the under side of arm 13 and engaging with its free hook-shaped end 18 the bar 11, said hook-shaped end 18 extending through a slot 19 in arm 13. To permit the bar 11 to move from its position shown in Figs. 1 and 3 to the position shown in Fig. 6, in which the trigger 14 has been released, the arm 13 is provided near its fulcrum with a curved slot 20, through which slot passes the pin 12 connecting bar 11 with arm 9. The arm 9 carrying the plug 10 is placed under the control of a coil spring 21, one end of which is secured to a stud 22 and the other end bearing against said arm 9 in such a way that when said arm is in its inoperative position, the spring 21 is compressed as shown in Figs. 2 and 4. The arm 9 is adapted to move about a pivot pin 43 secured to a plate 23, which plate also carries the stud 22, just referred to, which stud extends upwardly from the plate 23 far enough to form, at the same time, an abutment for said arm 9 to limit its rearward movement *i. e.* its movement away from the record disk. Between the arm 9 and arm 13 the pin 43 is surrounded by a bushing 24 bearing with its upper end against the under side of arm 13. Against the upper face of the circular-shaped end of arm 13 bears a friction-washer 25, which is held on pin 43 by a nut 26, whereby the friction between the said washer and the arm 13 can be increased or decreased at will. From arm 9 depends a pin 27 adapted to be placed in engagement with an inclined shoulder 28, formed on one end of a bent spring 29, which is pivotally secured to the plate 23 at 30 and adapted to engage with its other end a pin 31, depending from arm 13, for the purpose hereinafter described. The plate 23, carrying the operative parts,

can be easily secured to the base-plate 1 of the phonograph, or other reproducing machine, by means of screws 32, as shown in Figs. 1 and 3. A resilient cover plate 33 made of thin sheet metal and provided with shallow grooves 34 (Fig. 7) is placed over the arm 13, as shown in Fig. 4, which cover-plate can be easily removed and replaced, as the side walls thereof are easily forced apart to permit the longitudinal edges of arm 13 to enter the grooves 34 referred to, whereby the plate 33 is held in position.

The operation of my new device is as follows:—After a record disk has been placed on the rotatable carrier 2, the arm 13 of the automatic stop device is moved around pivot 43 to the position shown in Figs. 1 and 3, in which the trigger 14 at the free end of the arm is brought opposite the point in the groove of the record disk 1, where the stylus 8 is supposed to stop. The arm 9 carrying the plug 10 occupies the position shown in Fig. 1 and in full lines in Fig. 3, in which position the arm is held by reason of its connection with the bar 11, the forward end of which bar, in the position of the parts shown in Fig. 1 and in full lines in Fig. 3, engages the notch 15 in the tail portion of the trigger 14, the pin 12 connecting the arm 9 with the bar 11 being at, or near, the one extreme end of the curved slot 20 in the circular portion of arm 13. In this position of the parts, the coil spring 21 is fully compressed, arm 13 being held in position by the friction washer 25 and bushing 24. Now, as soon as the stylus 8, in moving across the record disk 1 from its outer periphery toward the center thereof comes in contact with the trigger 14, it will force the same sidewise about its pivot 35, to the position shown by the broken lines in Fig. 3. This will cause the forward end of bar 11 to leave the notch 15, and thus the arm 9 will be released and, under the force of its spring 21, will be impelled toward the record disk 1, so that plug 10 will be brought into frictional contact with the carrier 2 holding the latter against further rotation. This position of arm 9 and plug 10 is shown by the broken lines in Fig. 3. In order to reset the parts, it is merely necessary to move the arm 9 back to its original position in which bar 11 will also be again moved to the position, where its forward end will engage the notch 15 in trigger 14, whereby arm 9 is held against the tension of its spring 21. After the tone-arm 5 has been returned to its original position and a fresh stylus inserted, the same piece can be reproduced, and again the rotation of carrier 2 will be automatically arrested as soon as the stylus comes in contact with trigger 14. If another record disk shall be placed on the carrier, the arm 13 is moved to the side sufficiently to permit the record disk to be put in place,

after which the arm 13 is again adjusted over the disk to the proper position. If, for some reason, my device shall not be used, then both arms 9 and 13 are moved to the position shown in Fig. 6, in which position the pin 27 depending from arm 9 is brought in engagement with the shoulder 28 on one end of spring 29 above referred to, whereby the parts are retained in the position shown in Fig. 6, the pin 31 of arm 13 bearing against the other end of spring 29. Upon moving the arm 13 back to its operative position, (Figs. 3 and 4), pin 31 will swing the spring 29 around its pivot, thereby disengaging the shoulder (28) from pin (27) of arm (9), which arm thus will become automatically released, so that it can be reset, ready for operation.

As seen from the drawing, my device can be easily applied to any kind of reproducing machines in which a rotating record disk is used and my device can also be adapted to other machines of this kind, in which it is intended to automatically arrest a rotating element. Therefore, I do not wish to be limited to the construction as shown and described, as said construction may be varied to suit different conditions without departing thereby from the spirit of my invention.

I claim:—

1. Automatic stopping device for phonographs and like reproducing machines, comprising a movable arm, a trigger pivoted thereto so as to project from the forward end thereof, a second arm pivotally mounted independent of said movable arm, but operatively connected therewith and adapted to act as a brake, a coil spring in engagement with said second arm for moving the same into operative position, and a bar under the control of said trigger and operatively connected with the said second arm so as to normally hold the same in inoperative position.

2. Automatic stopping device for phonographs and like reproducing machines comprising a support, an arm movably mounted thereon, a trigger pivoted to the forward end of said arm so as to project therefrom, a second arm movably mounted on said support independent of said trigger carrying arm and adapted to act as a brake, a coil spring adapted to move said second arm into operative position, a bar under the control of said trigger and operatively connecting the same and said second arm, so as to normally hold the latter in its inoperative position against the tension of its spring, and retaining means on said support, adapted to hold all the parts in inoperative position.

3. Automatic stopping device for phonographs and like reproducing machines, comprising a supporting plate, an arm movably mounted thereon, a trigger pivoted to the

forward end of said arm so as to project therefrom, a second arm, pivoted to said plate independently of said first arm, a coil spring engaging said second arm and adapted to move the same into operative position, a projection carried by said second arm and adapted to act as a brake, a bar under the control of said trigger and adapted to normally hold said second arm in inoperative position, and a pin connecting said second arm with the said bar and extending through a curved slot in said first arm.

4. Automatic stopping device for phonographs and like reproducing machines, comprising a supporting plate, an arm movably mounted thereon, a trigger pivoted to the forward end of said arm so as to project therefrom, a second arm, pivoted to said

plate independently of said first arm, a coil spring engaging said second arm and adapted to move the same into operative position, a projection carried by said second arm and adapted to act as a brake, a bar under the control of said trigger and adapted to normally hold said second arm in inoperative position, a pin connecting said second arm with the said bar and extending through a curved slot in said first arm, a friction member for holding said first arm in position and a resilient cover adapted to be removably secured to said first arm.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN L. FIEDLER.

Witnesses:

LOUISE H. STAADEN,
ANNA HOYER.