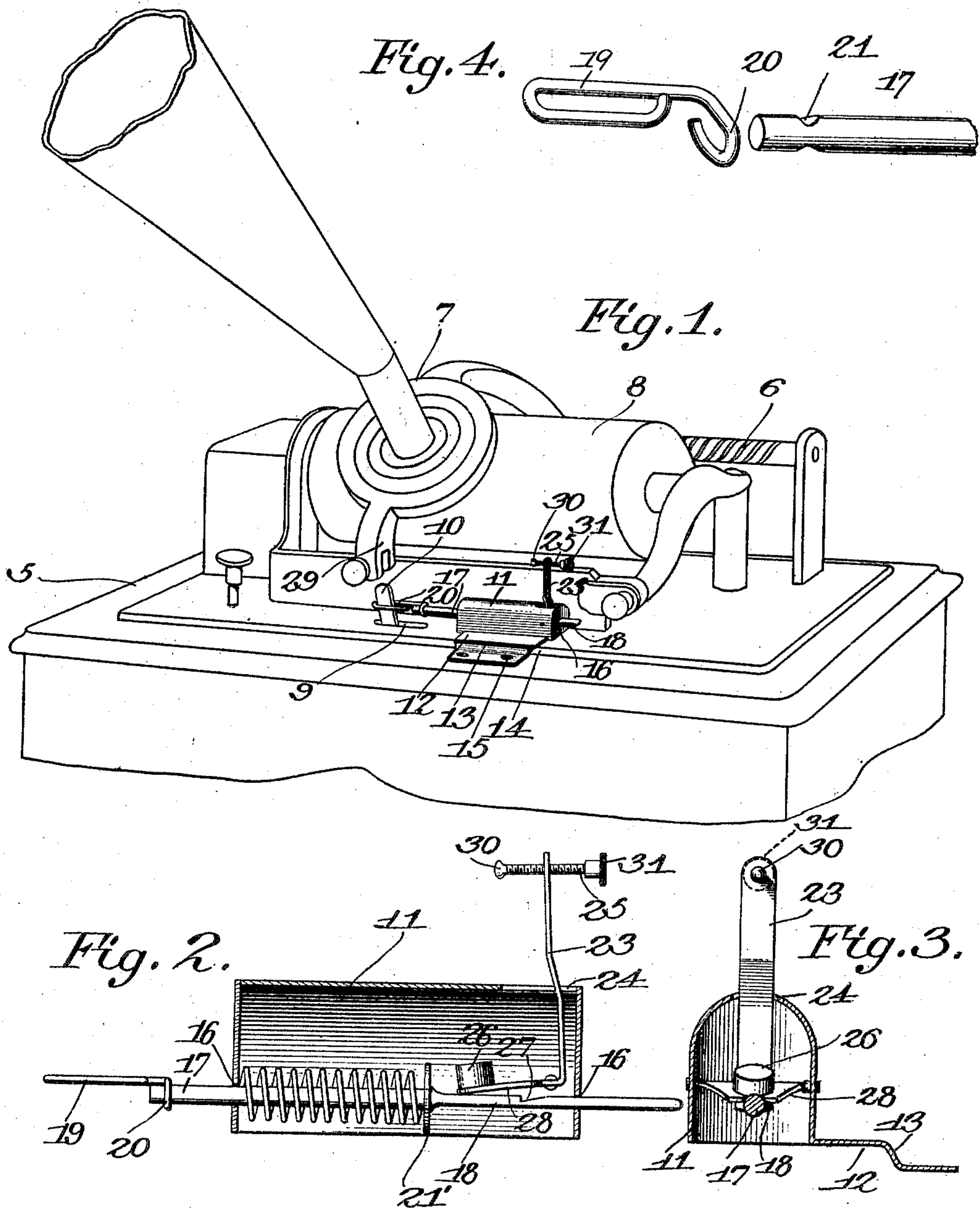


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Z. T. GROVER.
ATTACHMENT FOR PHONOGRAPHS.
APPLICATION FILED JAN. 24, 1905.



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ATTACHMENT FOR PHONOGRAPHS.

No. 811,633.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ZENAS TARBLE GROVER, a citizen of the United States, residing at South New Berlin, in the county of Chenango and State of New York, have invented a new and useful Attachment for Phonographs, of which the following is a specification.

This invention relates to certain improvements in phonographs, graphophones, and similar sound-producing machines, and more particularly to a novel form of mechanism for automatically operating the motor-brake after the sound-box has entirely completed the reproduction of the record.

The object of the invention is to provide a simple, inexpensive, and efficient device of this character capable of being used in connection with any of the well-known forms of sound producing and recording machines and which will automatically apply the brake to the motor, and thereby positively stop the latter when the machine has finished playing a record.

A further object of the invention is to provide a trip-lever adapted to be engaged by the reproducer-arm to automatically apply the brake, said trip-lever being provided with a longitudinally-adjustable pin or screw whereby the device may be set for stopping the actuating-motor at any predetermined time.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportion, and minor details of construction may be resorted to, without departing from the principle or sacrificing any of the advantages of this invention.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a phonograph, showing my improved brake-applying device applied thereto. Fig. 2 is a longitudinal sectional view of the device detached. Fig. 3 is a transverse sectional view of the same, and Fig. 4 is a detail perspective view of the connecting-link and a portion of the rod detached.

Similar numerals of reference indicate cor-

responding parts in all the figures of the drawings.

The improved brake-applying device may be used in connection with any of the approved forms of phonographs or graphophones in which a motor is employed for reciprocating the sound-box carriage, and by way of illustration I have shown the device attached to the well-known "Edison" type of machine, in which 5 represents the cabinet or stand, 6 the threaded traversing or feed shaft, and 7 the sound-box mounted for travel on said shaft over the surface of the cylindrical record 8.

Extending through a slot 9 in the cabinet or stand is a brake-lever 10, operatively connected with a spring, weight, electric, or other motor, (not shown,) the latter being arranged within the casing and connected by a belt or suitable gearing to the traversing-shaft 6 for moving the sound-box carriage over the surface of the record. The several parts of the machine above described are of well-known construction and form no part of this invention, the essential feature of which consists of a housing or casing 11, containing the mechanism for automatically applying the brake. The casing 11, which is preferably formed of a single piece of metal, is mounted on the top of the stand or cabinet to one side of the brake-lever, as shown, and is provided with a laterally-extending flange 12, having a shoulder 13 to accommodate the base 14 of the machine; and one or more openings adapted to receive screws or similar fastening devices 15, by means of which the casing is secured in position on the cabinet.

The opposite end walls of the casing are provided with alined openings 16 for the reception of a spring-actuated bolt or rod 17, one end of which is flattened laterally, as indicated at 18, while the opposite end thereof is provided with a link 19, which fits over the free end of the brake-lever. The link 19 is detachably secured to the rod 17 and is provided with an angularly-disposed terminal spring ring or loop 20, which engages a recess 21 in the end of said rod, so as to prevent accidental displacement of the former. Loosely mounted on the rod 17 is a washer or disk 21, which bears against the flattened portion 18 of the rod, and mounted on said rod and interposed between the washer and one end of

the casing is a coil-spring 22, the normal tendency of which is to exert a longitudinal pull on the brake-lever when the link is in engagement therewith. Pivoted within the casing 5 11 above the rod 17 is a bell-crank trip-lever 23, the long arm of which extends through a slot 24 in the top of the casing and is provided with a threaded opening for the reception of an adjusting-screw 25, while the short arm of 10 the lever is weighted, as indicated at 26, and adapted to engage a locking-notch 27 in the flattened end of the rod 17 when said trip-lever is in set position. It will thus be seen that when the free end of the rod 17 is forced 15 rearwardly the short arm 28 of the trip-lever will drop by gravity and engage the notch in the rod 17, and when the sound-box has entirely completed the reproduction of the record the depending arm 29 of the former will 20 engage the screw 25 and tilt the trip-lever, thereby permitting the spring to force the rod 17 forward and apply the brake to the actuating-motor.

The adjusting-screw is provided at one end 25 with an enlargement 30, adapted to receive the impact of the sound-box, and at the opposite end thereof with a milled head 31, by means of which the screw may be adjusted to adapt the device for stopping the motor at 30 any predetermined position on the record. The adjustability of the screw 25 is an important feature, inasmuch as the sound-waves reproduced on the record-cylinder terminate at varying distances from the end of the 35 same, and it is highly desirable to stop the motor as soon as the machine has completed the reproduction of the record in order to prevent injury to the stylus and to obviate the disagreeable rasping sound usually produced when the motor is allowed to run after 40 finishing the record.

It will of course be understood that the device may be used for applying any particular style of brake and that the same may be positioned at any convenient place on the machine and actuated by any of its moving 45 parts. It will also be understood that instead of employing a spring-pressed rod for operating the motor-brake a weight, lever, 50 spring, or similar device may be used without departing from the principle of the invention.

From the foregoing description it will be seen that I have provided an extremely simple and inexpensive attachment for phonographs, graphophones, and other sound-producing machines which is operable by the movement of the reproducer-arm to automatically apply the motor-brake. *

Having thus described the invention, what 50 is claimed is—

1. In a phonograph, the combination with a motor-brake, of a feed-shaft, a sound-box carriage mounted for travel on said shaft, a

trip-lever actuated by the sound-box carriage for controlling the brake, and an adjustable 65 impact-pin carried by the trip-lever.

2. In a phonograph, the combination with a motor-brake, of a feed-shaft, a sound-box carriage mounted for travel on said shaft, a weighted trip-lever actuated by the sound-box carriage for controlling the brake, and a 70 threaded impact-pin adjustably mounted on one end of the trip-lever.

3. In a phonograph, the combination with a motor-brake, of a feed-shaft, a sound-box carriage mounted for travel on said shaft, a spring-actuated rod connected to the brake and provided with a locking-notch, and a 75 trip-lever adapted to engage the notch in the rod to hold the same in set position, said lever 80 being actuated by the sound-box to release the rod and operate the brake.

4. In a phonograph, the combination with a motor-brake, of a feed-shaft, a sound-box carriage mounted for travel on said shaft, a 85 spring-actuated rod connected to the brake and provided with a locking-notch, and a pivoted bell-crank trip-lever the short arm of which is weighted and adapted to engage said notch for holding the rod in set position, said 90 lever being actuated by the sound-box carriage to release the rod and operate the brake.

5. In a phonograph, the combination with a motor-brake, of a feed-shaft, a sound-box carriage mounted for travel on said shaft, a 95 spring-actuated rod connected to the brake and provided with a locking-notch, a pivoted bell-crank trip-lever the short arm of which is weighted and adapted to engage said notch for holding the rod in set position, and an adjustable impact-pin carried by the long arm 100 of the lever for engagement with the said box-carriage.

6. In a phonograph, the combination with a motor-brake, of a feed-shaft, a sound-box carriage mounted for travel on said shaft, a 105 casing provided with aligned openings, a spring-actuated rod slidably mounted in the openings of the casing and provided at one end thereof with a locking-notch, a bell-crank 110 trip-lever pivoted within the casing and having its short arm weighted and adapted to engage the locking-notch for holding said rod in set position, the long arm of said lever passing through an opening in the top of the casing for engagement with the said box-carriage. 115

7. In a phonograph, the combination with a motor-brake, of a feed-shaft, a sound-box carriage mounted for travel on said shaft, a casing 120 provided with aligned openings, a rod slidably mounted in said openings and provided with a locking-notch, a detachable link engaging the rod and connected to the brake, a plate carried by the rod, a spring interposed between the plate and the casing, a bell-crank 125

trip-lever pivoted within the casing the short arm of which engages the notch in the rod for holding the latter in set position, and an adjustable impact-pin carried by the long arm
5 of the lever for engagement with the sound-box carriage.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in the presence of two witnesses.

ZENAS TARBLE GROVER.

Witnesses:

CHAS. LITTLEFAIR,
ALLAN L. MORSE.