E. L. AIKEN.

PHONOGRAPH.

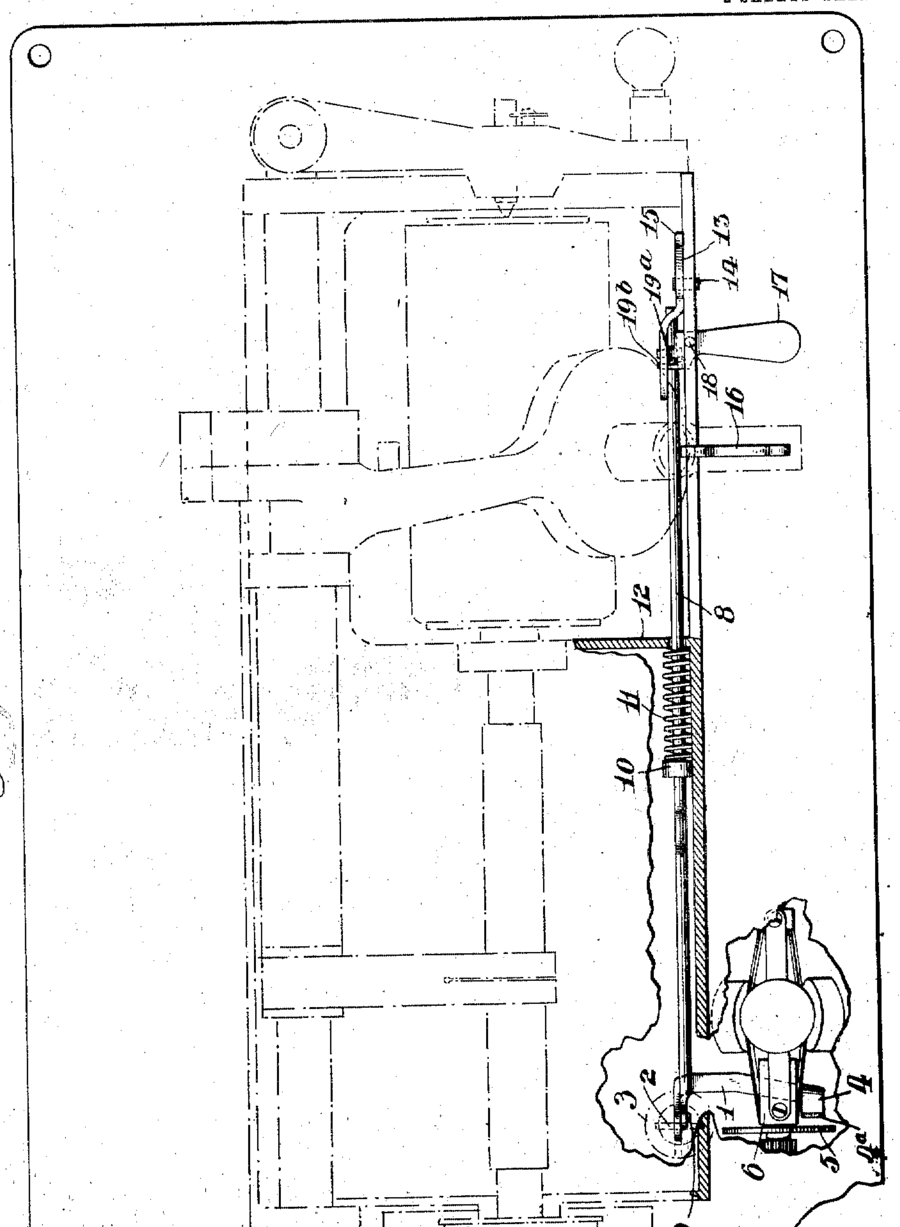
APPLICATION FILED JUNE 28, 1905.

1,002,479.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.

Fig. 1.



Attest:

Edgeworth Greene

Delos Holden

Inventor:

Edward L. Aiken

by Frank L. Dyer Atty

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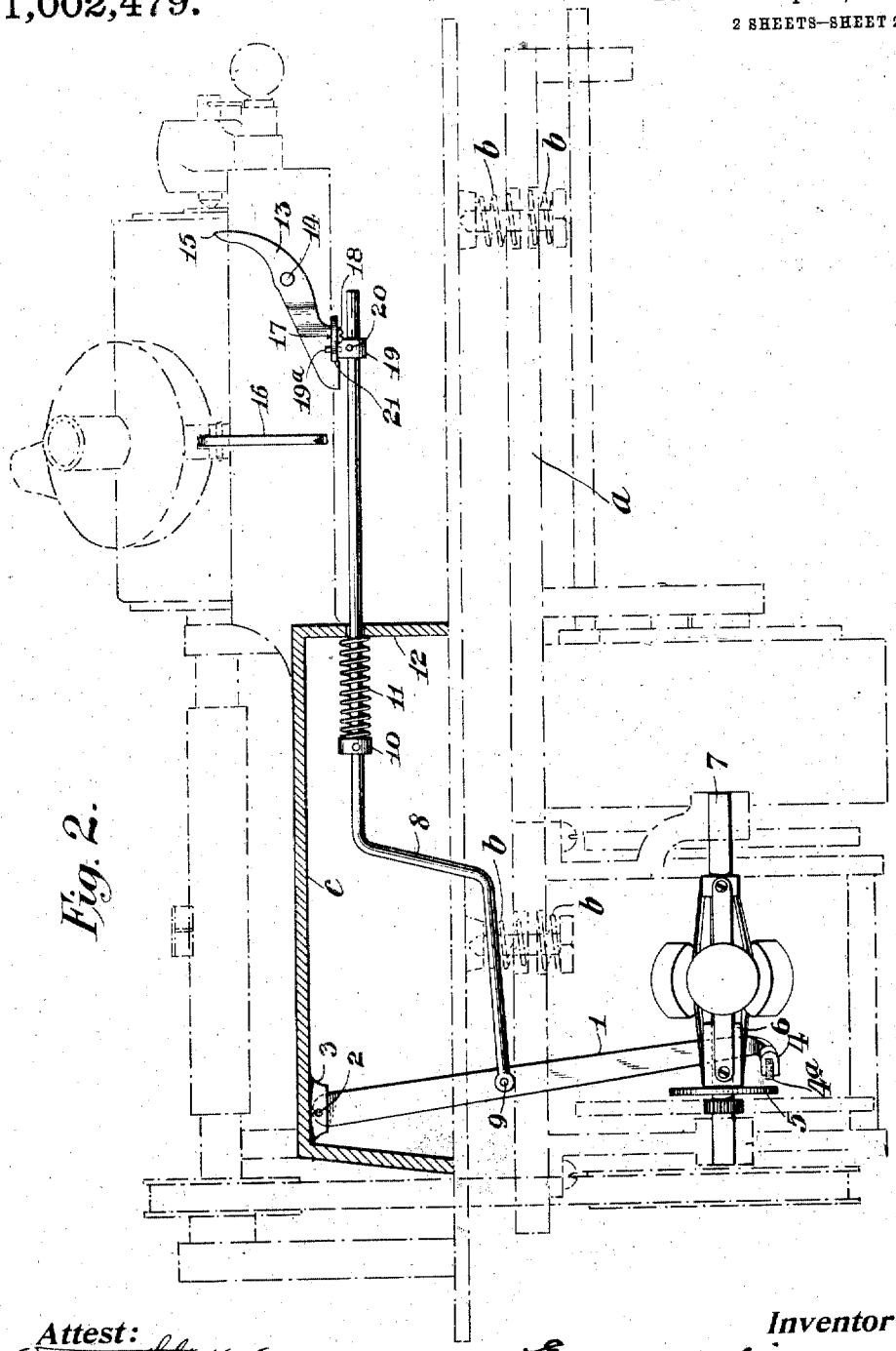

Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWARD L. AIKEN, OF EAST ORANGE, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THOMAS A. EDISON, INCORPORATED, OF WEST ORANGE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

PHONOGRAPH

1,002,479. Specification of Letters Patent. Patented Sept. 5, 1911.

Application filed June 28, 1905. Serial No. 267,337.

To all whom it may concern:

Be it known that I, EDWARD L. AIKEN, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Phonographs, of which the following is a description.

My invention relates to phonographs and similar talking machines, on which provision is made for automatically stopping the rotation of the mandrel when the end of the record has been reached, and more particularly to instruments of this character in which a spring motor is used for furnishing the driving power.

My invention has for its object the application of such means to phonographs as now built and on the market, preferably in such a way that the device will be for the most part concealed so as not to detract from the appearance of the instrument.

My invention also has for its object to simplify the construction in such a manner that the brake which is automatically applied for stopping the spring motor will also act as a frictional member for determining the speed of rotation of the motor during the operation of the instrument.

With these ends in view my invention consists in the features hereinafter set forth and claimed.

Reference is hereby made to the accompanying drawing, in which—

Figure 1 is a plan and Fig. 2 a front elevation showing in dotted lines a phonograph of ordinary construction and in full lines one form of device in which my invention may be embodied together with those parts of the phonograph to which it is applied and with which it coöperates.

In the device shown, a lever 1 is pivoted at 2 to a lug 3 secured to or integral with the body of the instrument. The lower end of the lever extends laterally from the body thereof and is formed with a socket 4 for receiving a piece of felt or other yielding material 4^a to be pressed against the face of the disk 5 carried in a well known manner by the sleeve 6 of the governor shaft 7. During the operation of the instrument the lever 1 occupies the position illustrated in the drawing, whereby the felt 4^a is withdrawn into such a position as to allow the motor to start and gain speed until the face of the disk 5 is brought into frictional engagement therewith, at which time the motor will be running at such speed as to produce the usual number of revolutions per minute of the mandrel, and will be prevented from gaining additional speed. The lever 1 is normally held in the position shown, by a rod 8 pivoted thereto at 9 and extending longitudinally of the instrument. A collar 10 is fixed to an intermediate portion of the rod and a coil spring 11 surrounds the same, being placed between the said collar and the vertical web 12 of the body of the instrument. The tension of the spring tends to move the rod 8 longitudinally toward the left and thereby press the block 4^a of the lever 1 against the governor disk 5 to stop the motor. The rod 8 is, however, normally held against such movement by a latch 13 pivoted at 14 to the frame and having a portion 15 which projects in the path of the rear portion of the lift lever 16. One end of the rod 8 is provided with a collar 19, secured thereto by a pin 20, and having a vertical pin 19^a. A lever 17 is pivoted at 18 to the frame, and has a slot 19^b to receive the pin 19^a. The rod 8 is held against the tension of the spring 11 by the shoulder 21 of the latch 13 against which the short arm of the lever 17 presses.

It will be obvious that when the lift lever 16 reaches the projection 15 of the latch 13 it will cause the same to turn on its pivot 14, whereby the shoulder 21 will be raised above the end of the lever 17 and the tension of the spring 11 will thereupon draw the rod 8 toward the left, thereby causing the block 4^a carried by the lever 1 to be pressed against the governor disk 5 and to thereby stop the motor. The pin 19^a is always in engagement with the lever 17, and the latter is useful as a hand lever for placing the spring under tension when it is desired to operate the phonograph. It can be dispensed with, if desired, in which case the rod 8 will carry a projection or shoulder for engagement with the shoulder 21 of the latch 13. Obviously the projection 15 may, if desired, be replaced by a longitudinally adjustable rod, so that the latch 13 may be tripped at any desired position with respect to the record carried by the mandrel.

It should be noted that the attachmen described is carried entirely by the main

frame or body *c* of the phonograph and is not connected in any way with the motor frame *a*. The frame *a* is preferably floated between springs *b*, *b*, so that vibrations set up by reason of the operation of the motor and gearing will not be transmitted to the body of the instrument, which means for supporting the motor frame is described and claimed in Letters Patent No. 798,478, dated Aug. 29, 1905. Consequently, the insulation of the body of the instrument from the vibrations set up by the motor is not interfered with by the application of the present invention to the instrument.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a phonograph, the combination of a body, a motor, a traveling carriage actuated thereby, a member rotatable by the said motor, a pivoted lever movable into engagement with said member, a longitudinally movable rod attached at one end to said lever and having its opposite end projected without said body, means within said body tending to move the rod longitudinally a hand lever connected to said rod pivotally, a latch for normally holding the lever against the force of said means, said latch having an arm projecting into the path of the carriage, substantially as set forth.

2. In a device of the class described, the combination of the motor having a sliding governor disk, a longitudinally movable rod, a friction pad adapted to engage said disk and connected to said rod, a spring applied to said rod and adapted to cause the pad to engage said disk and stop the motor, and holding means connected to said movable rod, and comprising a hand lever for placing said spring under stress and a latch for holding said lever against the action of the spring, substantially as set forth.

3. In a phonograph or allied talking machine, in combination with the main frame or body carrying springs and a traveling sound box carriage, of a motor frame floated between said springs, driving mechanism including a motor, governor and governor disk carried by said motor frame, and releasable means carried by the body of the instrument and out of contact with the motor frame for pressing against said governor disk to stop the motor, said means being released by the sound box carriage, substantially as set forth.

4. In a phonograph or allied talking machine, in combination with the main frame or body carrying springs and a traveling sound box carriage, of a motor frame floated between said springs, driving mechanism carried by said motor frame, and releasable means carried by said body and out of contact with said motor frame for stopping the motor, said means being released by the sound box carriage, substantially as set forth.

5. In a phonograph or allied talking machine, in combination with the main frame or body carrying springs, and a traveling sound box carriage, of a motor frame supported by said springs, driving mechanism including a motor, governor and governor disk carried by said motor frame, and releasable means carried by the body of the instrument and out of contact with the motor frame for pressing against said governor disk to stop the motor, said means being released by the sound box carriage, substantially as set forth.

6. In a phonograph or allied talking machine, in combination with the main frame or body carrying springs, and a traveling sound box carriage, of a motor frame supported by said springs, driving mechanism carried by said motor frame, and releasable means carried by said body and out of contact with said motor frame for stopping the motor, said means being released by the sound box carriage, substantially as set forth.

This specification signed and witnessed this 26th day of June 1905.

EDWARD L. AIKEN.

Witnesses:
DELOS HOLDEN,
FRANK L. DYER.

Correction in Letters Patent No. 1,002,479.

It is hereby certified that in Letters Patent No. 1,002,479, granted September 5, 1911, upon the application of Edward L. Aiken, of East Orange, New Jersey, for an improvement in "Phonographs," an error appears in the printed specification requiring correction as follows: Page 1, line 9, for the word "on" read *in;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 10th day of October, A. D., 1911.

[SEAL.]

E. B. MOORE,