

P. FARB,
SPEED REGULATOR.
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1,321,195.

Patented Nov. 11, 1919.

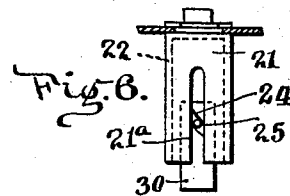
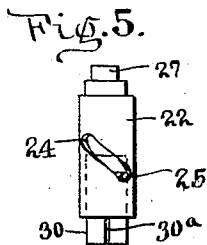
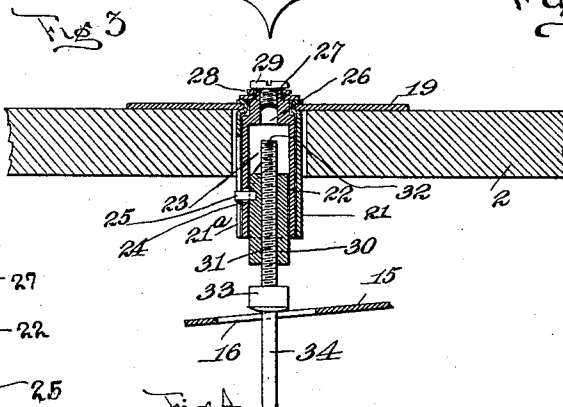
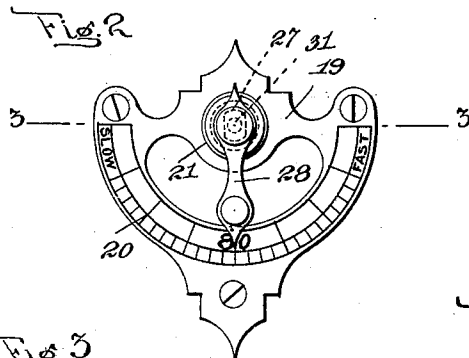
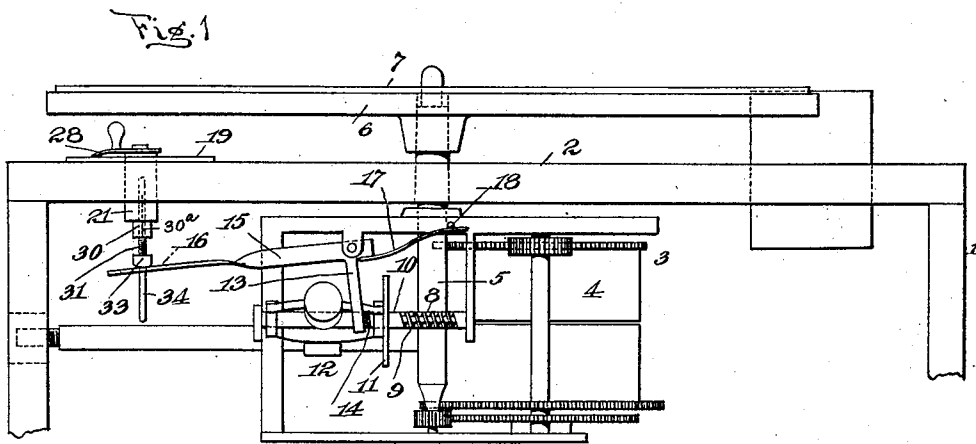


Fig. 4

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UNITED STATES PATENT OFFICE.

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SPEED-REGULATOR.

1,321,195.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PINCUS FARB, a citizen of the United States, and a resident of the city of Saginaw, county of Saginaw, and State of Michigan, have invented certain new and useful Improvements in Speed-Regulators, of which the following is a specification.

My invention relates to speed regulators for talking machine motors, whereby the speed of the motor may be easily and definitely regulated from the outside of the machine, and wherein the regulating apparatus will be concealed from view to prevent tampering therewith.

In the manufacture of talking machines, the motor is set to rotate the turn-table at a certain arbitrary speed, usually 80 revolutions per minute. This is the speed at which the turn-table of the recording machine rotates, and a record reproduced at such speed will give a perfect reproduction.

If, after the motor has been regulated, its parts should become disarranged as by limbering up after use, wear of the parts, or by accident, it is necessary to remove the motor board from the cabinet, move the governor brake, time the revolutions of the turn-table, set the indicator finger, and then replace the parts.

The objects of my invention are to provide a simple, cheap and effective means whereby the speed of a motor may be regulated without the necessity of removing any part of the casing, and to so arrange the operating parts that the appearance of the talking machine will not be marred.

A further object of the invention is the provision of means of the character described, which are extremely simple in construction, neat and attractive in appearance, thoroughly reliable and efficient in purpose, and inexpensive to manufacture.

With these and other objects in view to be more fully set forth hereinafter, the invention consists in the novel construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereinafter described in the specification and illustrated in the accompanying drawings considered together or separately.

The inventive idea involved is capable of receiving a variety of mechanical expres-

sions, one of which for the purpose of illustrating the invention, is shown in the accompanying drawings.

The invention will be first described in connection with the accompanying drawings, wherein similar reference characters are used to designate corresponding parts throughout the several views, and then more specifically defined and indicated in the appended claims.

In the drawings,—

Figure 1 is a side elevation of a talking machine embodying my invention, one side of the cabinet being removed;

Fig. 2 is a detail plan view of the invention;

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

Fig. 4 is a detail perspective view of the cylindrical nut.

Fig. 5 is a detail side elevation of the raising and lowering plug or sleeve, and

Fig. 6 is a detail side elevation of guide sleeve.

In carrying out my invention I provide a cabinet 1 of any preferred construction. The cabinet is provided with a motor board 2, to the under side of which a motor 3 is secured. The motor comprises a spring 4 and a turn-table spindle 5 extending through the motor board, carrying a turn-table 6 on which is supported a record disk 7.

The turn-table spindle 5 has a worm wheel 8 in mesh with a worm 9 on the shaft 10 of a governor 12, which carries a brake disk 11. A brake beam 13 is pivoted to the motor frame and carries a brake shoe 14 which co-operates with the disk 11. An arm 15 is attached to the beam 13 and has a slot 16 near one end thereof. A spring 17 secured to the brake beam 13, engages a stop 18 on the frame, and tends to retain the brake shoe out of engagement with the brake disk 11.

Secured to the upper surface of the motor board, to one side of the turn-table, is a plate 19 provided with a scale 20. A sleeve 21 is attached to the under side of the plate, and extends through the motor board. The sleeve has a longitudinal slot 21^a.

Carried within the sleeve 21 is a plug 22, having a large cylindrical bore 23 at one end, and a reduced cylindrical bore 26 at its opposite end, the bores being in axial align-

ment and forming a continuous communication throughout the plug. The plug is provided with a spiral slot 24 in its periphery.

A cylindrical nut 30, having a bore provided with internal threads, is arranged in the bore 23, and is movable longitudinally thereof. The nut is provided with a pin 25 which projects through the spiral slot 24 in the plug, and the longitudinal slot 21^a in the sleeve, whereby rotation of the plug will cause the nut to move longitudinally thereof.

A threaded pin 31 engages the threaded bore of the nut 30, and has a slot or kerf 32 in its upper end. The pin is provided with a collar 33 and an extension 34, which latter engages the slot 16 in the arm 15.

The upper end of the plug 22 has a non-circular head 27 with which engages a finger or pointer 28, said pointer cooperating with the scale 20.

The nut 30 is provided with a longitudinal slot 30^a in order that the nut may be pinched upon the screw 31 should the latter work loose at any time during the operation of the device.

A screw 29 threaded into the bore 26, retains the pointer in position, and secures the plug in position with the sleeve 21.

The operation is as follows:

It being noticed that the turn-table is running too fast for example, the screw 29 is removed. A screw driver is then inserted through the bore 26 and engaged in the slot 32 in the pin 31, and the pin is rotated in the clock-wise direction. The nut 30 being held against rotation by the engagement of the pin 25 in the slot 21^a, the rotation of the screw 31 will drive the same downward, the collar 33 will depress the arm 14, and move the beam 13 and brake shoe 14 toward the disk 11, until the shoe reaches such a position relatively to the disk, that the shoe will be engaged by the disk when the motor reaches the desired speed, 80 revolutions per minute for example. The screw 29 is then replaced.

It will be understood that the operator must time the turn-table until its speed reaches that of the character 80 on the plate 19; this is accomplished in any well known manner.

Should the operator desire to play certain records, at a speed different from that at which the motor is set, it is simply necessary to turn the pointer 28 toward the right or left of the scale. This will rotate the plug 22, and the engagement of the pin 25 with the spiral groove 24 will move the nut 30 and arm 15 in the desired direction.

In accordance with the provisions of the patent statute, I have described the principle of my invention together with the apparatus which I now consider to represent the best embodiment thereof, but I desire it understood that my invention is not confined to

the particular form of apparatus herein shown and described, the same being merely illustrative, and that the invention can be carried out in other ways without departing from the spirit of my invention, and, therefore, I claim broadly the right to employ all equivalent instrumentalities coming within the scope of the appended claims, and by means of which objects of my invention are attained, and the new results accomplished, as herein set forth, as it is obvious that the particular embodiment herein shown and described is only one of many that can be employed to attain these objects and accomplish these results.

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

1. A device of the character described, comprising a plate, a plug carried by and extending through the plate, a nut within the plug, a screw carried by the nut, said screw being within the plug, there being an opening in the plug permitting access to the screw, whereby the latter may be rotated, and means for preventing rotation of the nut.

2. A device of the character described, comprising a plate, a scale on the plate, said scale having a designating character thereon, a plug carried by and extending through the plate, a nut within the plug, a pointer carried by the plug and cooperating with the scale, a screw carried by the nut, said screw being within the plug, there being an opening in the plug permitting access to the screw, whereby the latter may be rotated, and means for preventing rotation of the nut.

3. A device of the character described, comprising a plate, a sleeve carried by the plate, a plug within the sleeve, said plug having a bore, a cylindrical nut within the bore of the plug, said nut having a bore with internal threads, a threaded pin engaging the bore of the plug, a slot in said pin, whereby the latter may be rotated, and means for preventing rotation of the nut.

4. A device of the character described, comprising a plate, a plug carried by and extending through the plate, a nut within the plug, a screw carried by the nut, said nut having a longitudinal slot and adapted to engage the screw, said screw being within the plug, there being an opening in the plug permitting access to the screw, whereby the latter may be rotated, and means for preventing rotation of the nut.

5. A device of the character described, comprising a plate, a scale on the plate, said scale having a designating character thereon, a plug carried by and extending through the plate, a nut within the plug, a pointer carried by the plug and cooperating with the scale, a screw carried by the nut, said nut having a longitudinal slot and adapted to

engage the screw, said screw being within the plug, there being an opening in the plug permitting access to the screw, whereby the latter may be rotated, and means for preventing rotation of the nut.

6. A device of the character described, comprising a plate, a sleeve carried by the plate, a slot in the sleeve, a plug within the sleeve, said plug having a bore, a projection on the plug engaging the slot, a cylindrical nut within the bore of the plug, said nut having a bore with internal threads, a pin engaging the bore of the plug, said pin having a screw thread on a portion of its length, a collar on the pin, a slot or kerf in said pin, whereby the latter may be rotated, and means for preventing rotation of the nut.

7. A device of the character described,

comprising a stationary scale, a rotatable plug carrying a pointer adapted to cooperate with the scale, a nut carried by the plug, a member carried by the nut and adapted to cooperate with the governing mechanism of a spring motor, means for preventing rotation of the nut, means carried by the nut and cooperating with the plug to move the nut longitudinally by the rotation of the plug, and means for moving the member relatively to the nut.

This specification signed and witnessed this 10th day of May, 1918.

PINCUS FARB.

Witnesses:

E. H. JENNINGS,
K. L. MAHONEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."