H. H. MURRAY & W. D. LA RUE.

BRAKE FOR TALKING MACHINES.

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1,196,265.

Patented Aug. 29, 1916.

Fig. 1.

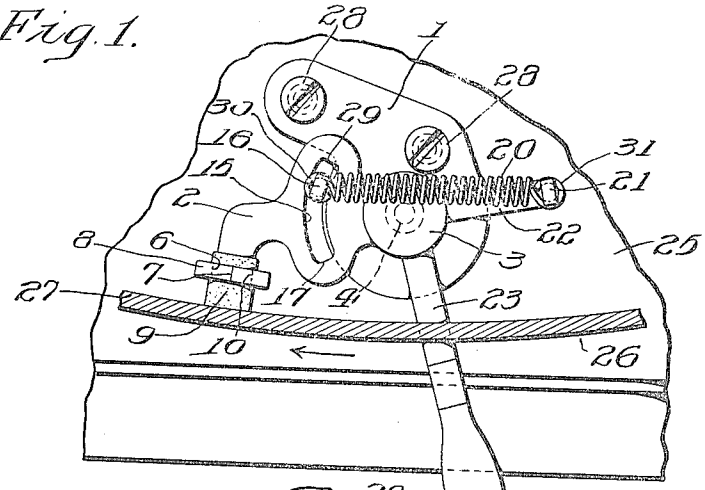


Fig. 2.

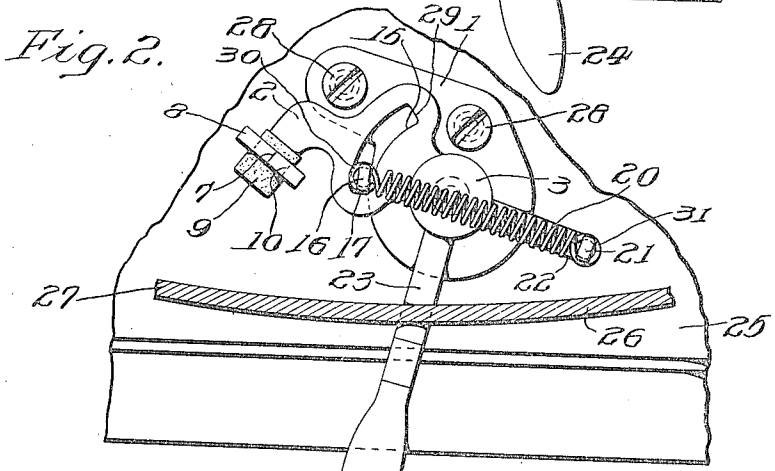
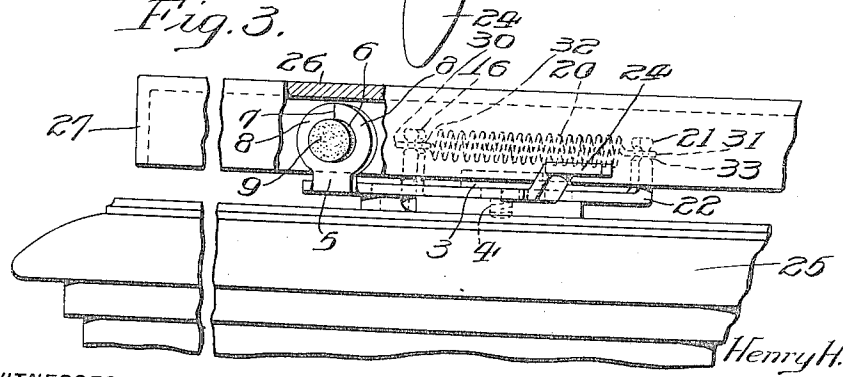


Fig. 3.



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BRAKE FOR TALKING-MACHINES.

1,196,265. Specification of Letters Patent. Patented Aug. 29, 1916.

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To all whom it may concern:

Be it known that we, HENRY H. MURRAY and WILLIAM D. LA RUE, both citizens of the United States, and residents of Riverton, county of Burlington, and State of New Jersey, and city of Camden, county of Camden, and State of New Jersey, respectively, have invented certain new and useful Improvements in Brakes for Talking-Machines, of which the following is a specification.

The main objects of this invention are to provide a simple and effective brake adapted for use in talking machines; to provide in combination with a turntable having an annular flange, an improved brake arranged beneath the turntable and adapted to engage the inner surface of said flange; and to provide other improvements as will appear hereinafter.

In the accompanying drawings, Figure 1 is a top plan view of a brake constructed in accordance with this invention, and in its operative position with respect to the turntable of a talking machine, the turntable being shown in fragmentary horizontal section; Fig. 2 a similar view of the same showing the brake in its inoperative position; and Fig. 3 a fragmentary elevation of the same.

Referring to the drawings, one embodiment of this invention includes a flat base plate 1, preferably made of a sheet of mild malleable steel or other similar material, and adapted to be secured to any fixed support. Superimposed upon the plate 1 is a lever 2, preferably made of a sheet or plate of the same material as the base plate 1, and having a substantially flat main portion. This lever 2 is pivotally connected to the base plate 1 by means of a pivot 3, which extends through the lever 2 and is threaded into the base plate 1, as at 4, or which may be riveted or otherwise rigidly secured to the base plate 1 in any suitable manner.

The lever 2 has a transverse extension 5, which is bent upwardly in a plane substantially at right angles to the main portion of the lever and is perforated with a substantially circular opening 6, and the wall surrounding the opening is bifurcated or split radially as at 7 above the circular opening to form two oppositely disposed segmental jaws. Clamped between these jaws 8 is a cylindrical friction pad or shoe 9, preferably made of yielding material such as leather or other suitable material, the pad or shoe being slightly compressed intermediate of its ends by the jaws forming a shallow annular groove 10 in which the jaws 8 engage to hold the pad securely in position.

Between the friction pad 9 and the pivot 3, the lever 2 is increased in width, and is provided with a segmental slot 15 coaxial with the pivot 3. In the slot 15 engages a fixed stop 16, which is preferably formed by bending upwardly into a plane substantially perpendicular to the main portion of the base plate, an extension of the base plate 1. This stop 16 projects above the lever 2 and is adapted to limit the movement of the lever 2 about its pivot 3, and to determine the normal inoperative position of the lever 2 by engaging against the corresponding end wall 17 of the slot 15.

For moving or "snapping" the brake pad 9 into operative position against the movable member, and for holding the brake pad either in operative position or in an inoperative position determined by the fixed stop 16, there is provided yielding means, which in this instance is in the form of a spiral spring 20, one end of which is secured to the upper end of the fixed stop 16, and the other end of which is secured to an upwardly bent end 21 of an arm 22, projecting from the lever 2 in a plane therewith, and integral or rigid therewith. The free end 21 of the arm 22 is arranged on the side of the pivot 3 opposite the stop 16, and so that when the lever 2 is in an inoperative position against the stop 16, there will be a slight tendency on the part of the spring to hold the lever in this position, but so that when the lever 2 is moved from its inoperative position against the stop 16, toward an operative position, the line of action of the spring will be moved accordingly from one side of the axis of oscillation of the lever to the opposite side, passing through this axis momentarily during this movement. When the line of action of the spring 20 intersects the axis of the lever 2, the spring will not tend to move the lever in either direction, and in this position the spring may be considered to be upon a "dead line", and the lever 2 upon a "dead center."

For moving the brake lever 2 manually about the pivot 3, an actuating arm 23 projects laterally from the lever 2, integral or

rigid therewith, and preferably in a direction substantially radial with respect to the pivot 3. The outer end of the arm 23 may be enlarged as at 24 to form a suitable handle.

This improved brake is shown as applied to a talking machine, comprising the usual or any suitable cabinet 25, upon which is mounted a horizontal rotary turntable or disk record support 26. The turntable 26 is spaced above the cabinet 25, and is provided with a downwardly projecting marginal flange 27, integral or rigid therewith. The brake, with the exception of the outer portion of the actuating arm 23, is arranged beneath the turntable and surrounded by the marginal flange 27, the base plate 1 being rigidly secured to the top of the cabinet 25 by means of screws 28, or in any other suitable manner, and the brake pad 9 being arranged to be thrown in a horizontal plane into and out of contact with the inner surface of the flange 27. The actuating arm 23 and its handle 24 project outwardly from the flange 27 of the turntable, the arm 23 being freely movable in a horizontal plane beneath the lower edge of the flange 27.

The arrangement and construction are such that a slight movement of the handle 24 will throw the brake lever from an inoperative position against the fixed stop 16 to an inoperative position out of contact with the stop where the line of action of the spring 20 will be upon a "dead line," and further slight movement of the handle 24 in the same direction will move the free end 21 of the arm 22, so that the line of action of the spring 20 will be spaced inside of the axis of oscillation of the lever and the spring will be in a position to move or snap the brake pad 9 into engagement with the inner surface of the flange 27, the brake pad being movable through a greater angle from the dead line position of the spring into operative position than it is movable from the "dead line" of the spring into an inoperative position, determined by the fixed stop 16. It is therefore apparent that only a very slight amount of movement of the handle 24 in one direction will be necessary to throw the brake pad 9 from an inoperative position into an operative position against the flange 27, and that a greater, and considerable, amount of movement of the handle 24 in the opposite direction will be necessary to throw the pad from an operative position into an inoperative position where it will be retained by the spring. Any liability of the brake being accidentally thrown into the latter position from an operative position is therefore reduced to a minimum.

The segmental slot 15 is so proportioned that when the friction pad 9 is in operative position against the flange 27 of the turntable 26, the inner end wall 29 of the slot 15 will be spaced inwardly a short distance from the fixed stop 16, as shown in Fig. 1, and would prevent an excessive displacement or disarrangement of the friction pad 9 and its lever 2, under the influence of the spring 20, if the turntable 26 should be removed for any reason, or if the brake as a whole should be removed from the cabinet 25.

The distance between the fixed stop 16 and the inner end wall 29 of the slot 15, when the pad 9 is in operative position, is preferably merely sufficient to permit the friction pad 9 to be held in continuous engagement with the inner surface of the flange 27 by the force of the spring, and to provide the necessary amount of play to compensate for the gradual wearing away of the friction pad when in operation.

To hold the spring 20 securely in position between the fixed stop 16 and the end 21 of the arm 22, and at the same time to permit of the free oscillation of the spring about the fixed stop 16 without buckling, the ends of the spring 20 are bent to form two terminal circular eyes 30 and 31, and the upper end of the fixed stop 16 and the upper end 21 of the arm 22 are provided with corresponding annular grooves 32 and 33 in which the terminal eyes of the spring engage respectively.

In the preferred form of the invention, shown in the drawings, the arrangement and construction are such that the brake pad 9 when in operation exerts a dragging action upon the turntable, the turntable rotating in the direction indicated by the arrow in Fig. 1, and the pad 9 being spaced from the pivot 3 in the direction in which the adjacent portion of the turntable is rotating. The spring 20 is at all times under tension, and when the brake pad 9 is in operative position (as shown in Fig. 1) the spring holds the pad against the inner cylindrical surface of the flange 27 with sufficient force to retard the rotation of the turntable gradually, and eventually to stop the same without any abrupt or jarring action, such as is incident to some brakes and which would tend to injure the machine. In stopping the turntable, the force of the spring may, however, be supplemented by pressure applied manually or otherwise upon the handle 24.

Although only a single form has been described in which this invention may be embodied, it is to be understood that the invention is not limited to any specific construction, but might be embodied in various forms to meet various requirements, without departing from the spirit of this invention or the scope of the appended claims.

Having thus described this invention, we claim and desire to protect by Letters Patent of the United States:

1. A brake comprising frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from an operative position, and yielding means secured to said stop and to said frictional means for holding said frictional means either in an inoperative position or in an operative position, said yielding means being normally under a tension tending to contract the same.

2. A brake comprising frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from an operative position, and yielding means secured to said stop and to said frictional means and arranged either to hold said frictional means in the inoperative position determined by said stop, or to "snap" said frictional means into and then to hold said means in an operative position, said yielding means being normally under a tension tending to contract the same.

3. A brake comprising frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from an operative position, and yielding means secured to said stop and to said frictional means and arranged either to hold said frictional means in the inoperative position determined by said stop or to "snap" said frictional means into and then to hold said means in operative position, said yielding means being arranged to act at all times in a straight line which oscillates about said stop as an axis from one side to the opposite side of the axis of oscillation of said frictional means, said yielding means being normally under a tension tending to contract the same.

4. A brake comprising a lever mounted to oscillate about a fixed axis and provided with a slot, a fixed stop projecting through said slot to limit the movement of said lever, and yielding means connecting said lever and said stop.

5. A brake comprising a lever mounted to oscillate about a fixed axis, a fixed stop arranged to determine the inoperative position of said lever, and yielding means secured to said lever and to said stop, said yielding means being normally under tension tending to contract the same.

6. A brake comprising a brake lever mounted to oscillate about a fixed axis and provided with a slot, a fixed stop engaging in said slot, and yielding means connected to said lever and to said stop at points upon opposite sides of said axis respectively.

7. A brake comprising a lever mounted to oscillate about a fixed axis, a brake shoe carried by said lever, a fixed stop between said axis and said shoe, and yielding means connecting said stop and said lever at points upon opposite sides of said axis respectively.

8. The combination with a rotary member provided with an annular flange, of a brake including a brake shoe, a lever carrying said shoe and mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said shoe away from flange, and yielding means secured to said stop and to said lever to hold said lever either in operative or in inoperative position, said yielding means being normally under a tension tending to contract the same.

9. A brake comprising frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from an operative position, and yielding means secured to said stop and to said frictional means at points upon opposite sides of said axis respectively for holding said frictional means either in an inoperative position or in an operative position.

10. A brake comprising frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from an operative position, and yielding means secured to said stop and to said frictional means and normally held extended to hold said frictional means either in an inoperative position or in an operative position.

11. A brake comprising frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from an operative position, and yielding means secured to said stop and to said frictional means at points upon opposite sides of said axis respectively, and normally held extended to hold said frictional means either in an inoperative position or in an operative position.

12. A brake comprising frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from said operative position and yielding means secured to said stop and to said frictional means at points upon opposite sides of said axis respectively and arranged either to hold said frictional means in an inoperative position determined by said stop or to "snap" said frictional means into and then to hold said means in operative position, said yielding means being arranged to act at all times in a straight line which oscillates about said stop as an axis from one side to the opposite side of the axis of oscillation of said frictional means.

13. A brake comprising a frictional means mounted to oscillate about a fixed axis, a fixed stop arranged to limit the movement of said frictional means away from an op-

erative position, and yielding means secured to said stop and to said frictional means and normally held extended, said yielding means being arranged to hold said frictional means in an inoperative position determined by said stop, or to "snap" said frictional means into and then to hold said frictional means in operative position, said yielding means being further arranged to act at all times in a straight line which oscillates about said stop as an axis from one side to the opposite side of the axis of oscillation of said frictional means.

14. A brake comprising a lever mounted to oscillate about a fixed axis, a fixed stop arranged to hold said lever in an inoperative position, and yielding means connected to said lever and to said stop at points upon opposite sides of said axis respectively.

15. A brake comprising a lever mounted to oscillate about a fixed axis, a fixed stop arranged to hold said lever in an inoperative position, and yielding means connected to said lever and to said stop at points upon opposite sides of said axis respectively, said yielding means being held extended to pull said lever into an operative position.

16. The combination with a rotary member provided with an annular flange, of a brake comprising frictional means arranged to engage the inner surface of said flange, a fixed stop arranged to limit the movement of said frictional means away from said flange, yielding means secured to said stop and to said frictional means and operative to hold said frictional means in an inoperative position determined by said stop, or to hold said frictional means in an operative position against the inner surface of said flange, and means extending outside of said flange for actuating said brake.

17. The combination with a member provided with an annular flange arranged to rotate in a predetermined direction, of a brake comprising frictional means mounted to oscillate about a fixed axis and arranged to engage the inner surface of said flange at a point spaced from said axis in said direction, a fixed stop arranged to limit the movement of said frictional means away from said flange, and yielding means secured to said stop and to said frictional means and operative to hold said frictional means in an inoperative position determined by said stop, or to hold said frictional means in an operative position against the inner surface of said flange.

18. In a brake, the combination of a base plate, a brake lever pivoted on said base plate to oscillate into and out of operative position, a pin and slot connection between said base plate and said brake lever to limit the oscillation of the latter, and yielding means connected to said base plate and said brake lever, respectively, at points on opposite sides of the pivotal axis of said brake lever, one of said connecting points being said pin.

In witness whereof we have hereunto set our hands this 26th day of January, A. D. 1912.

HENRY H. MURRAY.
WILLIAM D. LA RUE.

Witnesses:
J. L. STEWART,
J. D. MYERS.