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ATTACHMENT FOR TALKING MACHINES.

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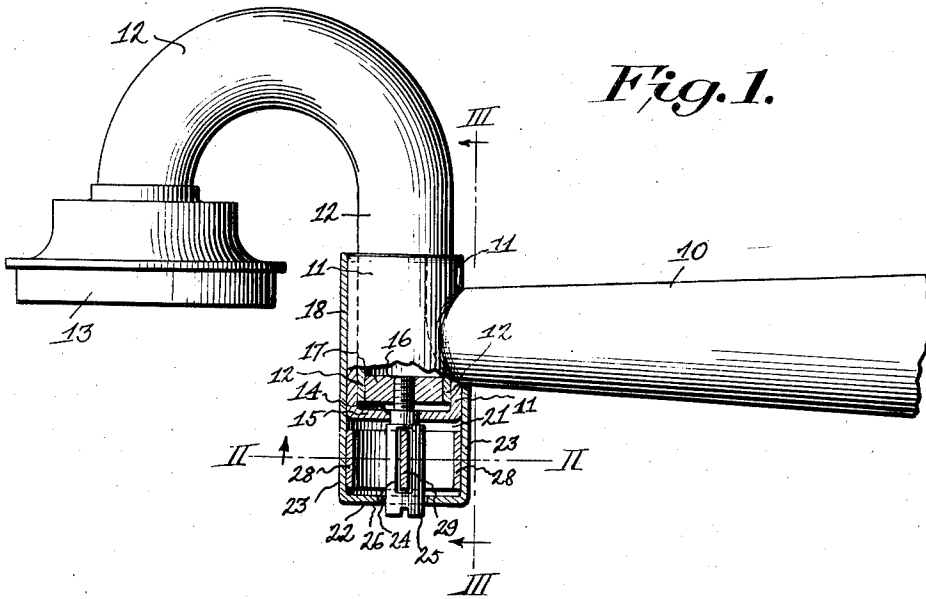


Fig. 1.

Fig. 2.

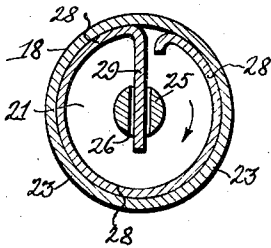


Fig. 3.

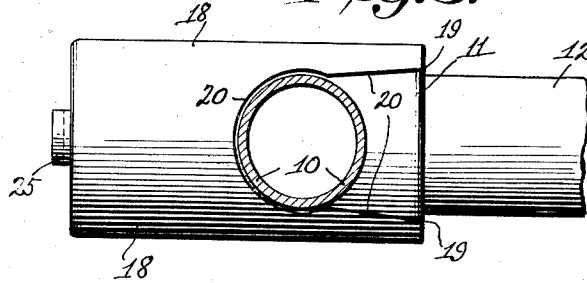


Fig. 4.

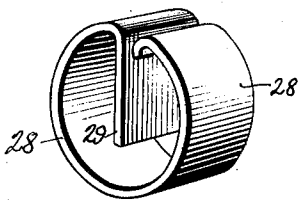
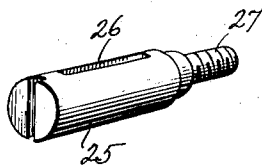


Fig. 5.



Witness

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ATTACHMENT FOR TALKING-MACHINES.

1,303,502.

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To all whom it may concern:

Be it known that we, RAYMOND R. RUNDELL, ALFRED E. OGDEN, and FREDERICK S. ELLETT, citizens of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented new and useful Improvements in Attachments for Talking-Machines, of which the following is a specification.

Our invention relates to a device which may be attached to the existing and standard forms of talking machines and has for its purpose the effecting of a retarding action of the downward movement of the sound box tube or movable horn arm of a victrola, should the said sound box be accidentally or prematurely released while the stylus is being lowered and adjusted in position on a record, thereby preventing any possible injury to the stylus or scratching or mutilation of the record.

The objects of our invention are to provide an attachment of the character above indicated which comprises a minimum number of parts capable of being easily and cheaply manufactured, repaired and assembled, and at the same time enable the same to be readily and quickly attached to the standard talking machines without in any way disturbing or altering the organization and arrangement of the parts of the talking machine to which said attachment is connected.

Other objects of the improvements will manifest themselves from the detailed description of the invention and manner of applying and using the same to be presently disclosed.

The invention consists of structural characteristics and relative arrangements of elements which will be hereinafter more fully described and particularly pointed out in appended claims.

In the drawings, in which similar reference characters indicate the same parts in the several figures,

Figure 1, is a plan view partly in section of a taper tube and sound box tube of a victrola with our invention attached.

Fig. 2, is an enlarged sectional view taken on line II—II of Fig. 1.

Fig. 3, is an enlarged sectional view taken on line III—III of Fig. 1.

Fig. 4 is a perspective view of the retarder

spring disconnected from the attachment, and

Fig. 5 is a perspective of the slotted stud forming a part of the invention.

In the drawings, 10 is the swinging or pivotally supported taper tube having a hollow end section 11, in which is rotatably supported the overhanging sound box tube 12 carrying the sound box 13, said foregoing construction and arrangement of parts being of the usual form adopted in the manufacture of the victrola and standard types of similar talking machines, and form no part of the present invention. In talking machines of the style herein disclosed and sold to the public, said sound box tube 12 is rotatably held within the end section 11 by means of an enlarged or shouldered screw which passes through the opening 14 in the closed end 15 of the section 11 and engages the screw threaded opening 16, of the inner closed end 17 of sound box tube 12, said shouldered screw being simply removed from the existing forms of victrola and without disturbing any of the construction and relation of parts to apply our invention, as will be presently described.

In applying our invention to the existing forms of talking machines of the character just explained, we provide an outer sleeve 18 having an open end 19 and a cut-out section or incision 20 extending from the open end 19 to its middle portion and of such contour as to adapt said sleeve 18 to be easily and snugly slipped over and clamped on the end section 11, and held from rotating on said section 11 by reacting against the taper tube 10, as shown in Figs. 1 and 3.

Said outer sleeve 18 is of such length as to form preferably an inner cylindrical chamber 21 between its closed end 22 and projecting cylindrical side 23 and closed end 15 of section 11, as clearly shown in Fig. 1. The outer closed end 22 of the sleeve 18 is provided with an opening 24, through which is adapted to be inserted a stud 25 having a longitudinal slot 26, and a screw threaded end 27, see Fig. 5, said threaded end 27 capable of passing through the opening 14 of the closed end 15 of section 11 and engaging the usual and previously formed screw threaded opening 16, as shown in Fig. 1. Within the chamber 21 is disposed a flat circular-shaped retarder spring 28, having

a central radial extension 29, see Fig. 4, so formed and arranged as to loosely fit into the slot 26 of the stud 25, so as to permit the stud 25 to have a slight angular rotary movement or lost motion and said outer side of the spring 28, is of such shape and curvature as to yieldingly bear against the inner cylindrical wall of the projecting cylindrical side 23, see Figs. 1 and 2, for purposes to be presently described.

The manner of assembling the parts as shown in Figs. 1, 2 and 3, is effected by first removing the screw which is provided in the usual victrola talking machine for engaging and retaining the sound box tube 12 in the hollow end extension 11 of the taper tube 10.

The central radial extension 29 of the retarder spring 28 is passed into the slot 26 of the stud 25, as shown in Fig. 2, and the spring 28 with stud 25 are pressed or inserted into the sleeve 18, so that the edge of said flat spring 28 rests against the interior of the closed end 22, and the head of the stud 25 projects through the opening 24 of said sleeve, as shown in Figs. 1 and 3. The sleeve 18 having its interior surface previously well lubricated, and with the stud 25 and spring 28 arranged as just described, is then slipped over the outer side of the end extension 11 and taper-tube 10, as shown in Figs. 1 and 3. After the sleeve 18 is so adjusted, the sound box tube 12 is pressed inwardly into the lubricated interior of the hollow end section 11, and held against rotation, and the stud 25 is rotated by means of a screw driver engaging its outer head, when the threaded end 27 of said stud 25, will engage and pass into the threaded opening 16 of the closed end 17 of sound box tube 12 and connect said sound box tube 12 with said stud 25, so that on the rotation or oscillation of the end of said sound box tube 12 in the hollow end section 11, the stud 25 will cause the retarder spring 28 to frictionally slide or engage the inner wall of the projecting cylinder 23, as shown in Figs. 1 and 2.

The parts of the invention having been so assembled and adjusted, the operation of the invention is as follows:

After the playing of a record and it is desired to elevate the sound box 13 and disconnect its stylus from the record, all that is necessary is to repeat the usual operation of partially rotating the sound box tube 12 in its bearing in the hollow end section 11, when the stud 25 connected thereto will carry and correspondingly rotate the spring 28 in a clock-wise direction, as indicated by the arrow in Fig. 2, which movement has a tendency to wind up and decrease the diameter of said spring 28, and hence reduce the frictional effect of the spring against the inner wall of the extension 23 of sleeve 18, and hence permit the sound box 13 with its stylus to be freely moved to its inactive or

non-playing position and be supported on the usual sound box rest, not shown. When it is desired to adjust the sound box 13, so that its stylus will rest on the rotating record, the sound box tube 12 is depressed and rotated in a direction opposite to that just described and against the frictional resistance offered by the retarder spring 28, as the tendency of said spring is to expand when rotated counter clock-wise, and should said sound box 13 be prematurely or accidentally released from the operator's hand before the stylus is properly placed on the record its downward movement will be immediately retarded or checked and prevent an impact or improper contact between the stylus and the record which would tend to permanently destroy the reproducing qualities of the record and disarrange or injure the stylus. After the stylus has been gradually adjusted and seated in the reproducing groove of the record, said stylus and sound box 13 with its connected sound box tube 12 may respond equally as well to all the undulations and oscillations required to properly follow the groove in the record as heretofore, and no frictional resistance of the spring 28 is required to be overcome as the lost motion between the stud 25 and the radial extension 29 of spring 28, due to the enlargement of the slot 26, permits the sound box tube 12 and sound box 13 to have sufficient free up and down or oscillating movement without being resisted by the spring 28 in the slightest degree, and thereby avoiding any additional wear on the records or any part of the talking machine and at the same time preserving the volume and tone reproducing qualities of the original instrument. It will also be seen that any degree of friction for the retarder spring 28 can be obtained by increasing or decreasing the initial expansion of the free end or diameter of said spring.

It will be seen from the foregoing disclosure, that we have provided a particularly simple and efficient construction for the purposes set forth and of such a form and size as to be adapted to any standard form of talking machine without affecting the usual and artistic appearance or design of the instrument or destroying the tone reproducing qualities thereof.

It is obvious that various other forms and modifications may be made without departing from the essential features and principle of our invention and we do not wish to be understood as limiting ourselves to the specific and preferred construction herein shown and described, or that the said invention could only be applied to the victrola talking machine.

What we claim is:—

1. An attachment for talking machines, comprising an element having a chamber

therein and adapted to be secured to move with a talking machine swinging tube, a spring within said chamber and having frictional engagement with said element, and means for connecting said spring with a sound box tube rotatably supported on said swinging tube.

2. An attachment for talking machines, comprising an element having a chamber therein and adapted to be rigidly secured to a talking machine swinging tube, a flat coil spring within said chamber and having frictional engagement with said element, and means for connecting said spring with a sound box tube rotatably supported on said swinging tube.

3. An attachment for talking machines, comprising a hollow sleeve having a chamber and so constructed and arranged as to be adapted to be slipped over a talking machine swinging tube, a flat retarder spring coiled within said chamber and having frictional engagement with the interior of said sleeve, and a stud for connecting said spring with a sound box tube rotatably supported on said swinging tube.

4. An attachment for talking machines, comprising a hollow sleeve having a chamber and so constructed and arranged as to be adapted to be slipped over a talking machine swinging tube, a flat retarder spring coiled within said chamber and having frictional engagement with the interior of said sleeve, and a slotted stud for connecting with a lost motion, said spring with a sound box tube rotatably supported on said swinging tube, whereby the stud may have a limited rotary movement in either direction independent of the spring.

5. An attachment for talking machines, comprising a hollow sleeve having a chamber and adapted to be rigidly secured to a talking machine swinging tube, a coil spring within said chamber and having frictional engagement with said sleeve, said spring so constructed and arranged as to contract when rotated in one direction and expand when rotated in the opposite direction, and means for connecting said spring with a sound box tube rotatably supported on said swinging tube.

6. An attachment for talking machines, comprising a hollow sleeve having a chamber and adapted to be rigidly secured to a talking machine swinging tube, a flat coil spring within said chamber and having frictional engagement with the interior of said sleeve, said spring so constructed and arranged as to contract when rotated in one direction and expand when rotated in the opposite direction, and a stud having a lost motion connection with said spring for attaching said spring to a sound box tube rotatably supported on said swinging tube.

7. An attachment for talking machines,

comprising a hollow sleeve adapted to be slipped over the hollow end extension of a talking machine taper tube and having a chamber disposed within said extension, a spring movable within said chamber and so constructed and arranged as to be adapted to frictionally engage the inner wall of said sleeve forming the chamber, and means for connecting said spring with a sound box tube rotatably supported in the hollow end extension of the taper tube.

8. An attachment for talking machines, comprising a hollow sleeve adapted to be slipped over and rigidly secured to the hollow end extension of a talking machine taper tube and having a chamber disposed without said extension, a coil spring movable within said chamber and so constructed and arranged as to be adapted to frictionally engage the inner wall of said sleeve forming the chamber, and means for connecting with a lost motion said spring with a sound box tube rotatably supported in the hollow end extension of the taper tube.

9. An attachment for talking machines, comprising a hollow sleeve adapted to be slipped over and rigidly secured to the hollow end extension of a talking machine taper tube and having a chamber disposed without said extension, a flat coil spring movable within said chamber and so constructed and arranged as to be adapted to frictionally engage the inner wall of said sleeve forming the chamber and contract when rotated in one direction and expand when rotated in the opposite direction, and a slotted stud for connecting with a lost motion said spring with a sound box tube rotatably supported in the hollow end extension of the taper tube.

10. In a talking machine, the combination with a swinging taper tube, a sound box tube carried at one end by said taper tube and rotatable with respect thereto, a hollow body rigidly secured to said taper tube adjacent to the end of said sound box tube carried by said taper tube, a spring within said hollow body and in frictional contact therewith, and means connecting said sound box tube with said spring to transmit its rotary movement to said spring.

11. In a talking machine, the combination with a swinging taper tube, a sound box tube carried at one end by said taper tube and rotatable with respect thereto, a hollow body having a portion slipped over and rigidly secured to said taper tube adjacent to the end of said sound box tube carried by said taper tube, a spring within said portion of the hollow body not over the taper tube and in frictional contact therewith, and means connecting said sound box tube with said spring to transmit its rotary movement to said spring.

12. In a talking machine, the combination

with a swinging taper tube, a sound box tube carried at one end by said taper tube and rotatable with respect thereto, a hollow body having a portion slipped over and rigidly secured to said taper tube adjacent to the end of said sound box tube carried by said taper tube, a coil spring within said hollow body and in frictional contact therewith, and so constructed and arranged to contract when rotated in one direction and expand when rotated in the opposite direction, a stud having a lost motion connection with said spring and attached to said sound box tube to transmit its rotary movement to said spring in either direction after the lost motion connection has been taken up.

13. In a talking machine, the combination with a swinging taper tube having a hollow end extension, a sound box tube carried at one end by and rotatable in said hollow end extension, a hollow cylindrical body rigidly secured to said taper tube adjacent to the end of said sound box tube carried by said end extension, a spring within said hollow body and in frictional contact therewith, and means for loosely connecting said sound

box tube with said spring to transmit its rotary movement to said spring after taking up the loose connection or lost motion between said sound box tube and spring. 30

14. In a talking machine, the combination with a swinging taper tube having a cylindrical hollow end extension, a sound box tube carried at one end by and rotatable in said hollow end extension, a hollow cylindrical body having a portion slipped over and rigidly secured to said end extension and providing a chamber in proximity to the end of said sound box tube carried by said taper tube, a coil spring within said chamber of the hollow body and in frictional contact with the inner wall of said cylindrical body, and means for loosely connecting the rotatably supported end of said sound box tube to said spring after taking up the loose connection and lost motion between said sound box tube and spring. 35 40 45

In testimony whereof we affix our signatures.

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